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Compilation and Analysis of Integrated Regional Input-Output Tables for NUTS 2 Regions in Ireland

by

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A Thesis submitted for the Degree
of Doctor of Philosophy
September, 2011

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Head of Department: Mr. Martin Kenneally
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To my Mum and Dad

Evelyn and Liam

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Abbreviations & acronyms:

ASI	Annual Services Inquiry
BMRB	British Market Research Bureau
BMW	Border, Midland and Western region
BoP	Balance of Payments
CAP	Common Agricultural Policy
CBC	Census of Building and Construction
CEC	Commission of the European Communities
CFC	Consumption of Fixed Capital (or depreciation)
CGE	Computable General Equilibrium Model
CIE	Córas Iompair Éireann
c.i.f.	Customs, insurance and freight inclusive
CIF	Construction Industry Federation
CILQ	Cross Industry Location Quotients
CIP	Census of Industrial Production
CN	Combined Nomenclature (Classification of Goods)
COD	Census of Distribution
COE	Compensation of Employees
COICOP	UN Classification of Individual Consumption by Purpose
CPA	Product Classification of Economic Activity
CSO	Central Statistics Office
CTA	Commodity (product) Technology Assumption
DAFF	Dept. of Agriculture, Fisheries & Food
DfT	Dept. for Transport UK
EEC	European Economic Community
E-IO	Environmental Input-Output
EPTR	Export Profits Tax Relief
ERDF	European Regional Development Funding
ESA	European System of Accounts
ESAM	Environmental Social Accounting Matrix
ESB	Electricity Supply Board
ESDP	European Spatial Development Perspective

ESF	European Social Fund
ESRI	Economic and Social Research Institute
EU	European Union
FAPRI	Food and Agricultural Policy Research Institute
FDI	Foreign Direct Investment
FISIM	Financial Intermediation Services Indirectly Measured
FOB	Free On Board
FTE	Full Time Equivalent
FSS	Farm Structure Survey
GDA	Greater Dublin Area
GDP	Gross Domestic Product
GFCF	Gross Fixed Capital Formulation
GOS	Gross Operating Surplus
GNI	Gross National Income
GNP	Gross National Product
GRIT	Generation of Regional I-O Tables
GVA	Gross Value Added
HAZMAT	Hazardous Materials
HBS	Household Budget Survey
HSE	Health Service Executive
IBEC	Irish Business and Employers Confederation
IDA	Industrial Development Authority
ITA	Industry Technology Assumption
I-O	Input-Output
KAU	Kind-of-Activity Unit
KM	Kilometre
LQ	Location Quotients
MFA	Material Flow Accounts
MNE	Multinational Enterprise
MV	Mega Vars
MW	Mega Watts
NACE	Industrial Classification of Economic Activity

NACE-CLIO	Industrial Classification of Economic Activity for I-O
NAMEA	National Accounting Matrix - Environmental Accounts
NESC	National Economic and Social Council
NDP	National Development Plan
NIE	National Income & Expenditure
NOS	Net Operating Surplus
NPISH	Non-Profit Institutions Serving Households
NSB	National Statistics Board
NSS	National Spatial Strategy
NST/R	EU Standard Classification for Transport Statistics
NUI	National University of Ireland
NUTS	Nomenclature of Territorial Units
OAP	Old Age Pensioner
OPs	Regional Operational Programmes
PIOT	Physical Input-Ouput Table
POWCAR	Place of Work - Census Anonymised Records
ProdCOM	Products of the European Community
QNHS	Quarterly National Household Survey
R & D	Research & Development
RDS	Regional Development Strategy for Northern Ireland
REEIO	Regional Economy-Environment Input-Output
RFTS	Road Freight Transport Survey
RIMS	Regional Input-Output Modelling System
RI-O	Regional Input-Output
RPC	Regional Purchase Coefficient
R-SIOT	Regional Symmetric Input-Output Tables
R-SUT	Regional Supply & Use Tables
R-TSA	Regional Tourism Satellite Account
SAM	Social Accounting Matrix
SBS	Structural Business Statistics
SE	Southern and Eastern region
SEAI	Sustainable Energy Authority of Ireland

SDR	Supply-Demand Ratio
SFADCo	Shannon Free Airport Development Company
SILC	Survey of Income & Living Conditions
SIOT	Symmetric Input-Output Tables
SLQ	Simple Location Quotients
SNA	UN System of National Accounts
SUT	Supply and Use Tables
TER	Total Electricity Supply
TSA	Tourism Satellite Account
ULW	Un-Laden Weight
UK	United Kingdom
UN	United Nations
UNWTO	United Nations World Tourism Organisation
VAT	Value Added Tax

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Abstract:

In 1966, Roy Geary, Director of the ESRI, noted "*the absence of any kind of import and export statistics for regions is a grave lacuna*" and further noted that if regional analyses were to be developed then regional Input-Output Tables must be put on the "*regular statistical assembly line*". Forty-five years later, the lacuna lamented by Geary still exists and remains the most significant challenge to the construction of regional Input-Output Tables in Ireland. The continued paucity of sufficient regional data to compile effective regional Supply and Use and Input-Output Tables has retarded the capacity to construct sound regional economic models and provide a robust evidence base with which to formulate and assess regional policy.

This study makes a first step towards addressing this gap by presenting the first set of fully integrated, symmetric, Supply and Use and domestic Input-Output Tables compiled for the NUTS 2 regions in Ireland: The Border, Midland and Western region and the Southern & Eastern region. These tables are general purpose in nature and are consistent fully with the official national Supply & Use and Input-Output Tables, and the regional accounts. The tables are constructed using a survey-based or bottom-up approach rather than employing modelling techniques, yielding more robust and credible tables.

These tables are used to present a descriptive statistical analysis of the two administrative NUTS 2 regions in Ireland, drawing particular attention to the underlying structural differences of regional trade balances and composition of Gross Value Added in those regions. By deriving regional employment multipliers, Domestic Demand Employment matrices are constructed to quantify and illustrate the supply chain impact on employment.

In the final part of the study, the predictive capability of the Input-Output framework is tested over two time periods. For both periods, the static Leontief production function assumptions are relaxed to allow for labour productivity. Comparative results from this experiment are presented.

Chapter 1: Introduction

1.1 Regional Economies

In Ireland there are currently clear and significant regional disparities; not only in terms of infrastructure but also in economic performance. While these differences exist across all local areas and regions, they can be best quantified by contrasting the NUTS 2 regions i.e. the Border, Midlands and Western region (BMW) with the Southern and Eastern region (SE)[1] as a significant amount of data are available for these regions.

The latest CSO report on *County Incomes and Regional GDP 2008* (CSO, 2011c) reveals clear disparities: In 2008, the indices of GVA per person at basic prices (State = 100) for the BMW region were 69.9 compared with 111.0 for the SE region. In contrast, the indices of disposable income per person, which are probably a better measure of regional disparity, show a less pronounced but nonetheless clear gap between the regions, with the BMW region at 91.5 for 2008 compared with 103.1 for the SE region.

While these data point to a gap between the regions, to understand entirely the full complexity and diversity of the regional economies, their infrastructure and relationships, regional Input-Output (I-O) tables are necessary. Only with a set of regional I-O (RI-O) tables can the indirect effects and interdependencies between specific sectors or the economy as a whole be examined *vis-à-vis* other regions. Understanding such interdependencies and disparities is of critical importance for achieving the aims set out in strategic policy instruments, such as the National Development Plans and National Spatial Strategy.

[1] See Appendix 2 for breakdown of NUTS regions in Ireland.

1.2 Measuring Regional Economies

I-O Tables are a very useful tool for understanding an economy as they provide a detailed summary of the transactions of all goods and services within an economy for a given reference period. They also provide an integrated framework where all the various production statistics are reconciled or balanced.

The CSO produce reliable, symmetric, I-O tables for the Republic of Ireland, the most recent national I-O tables being for the year 2005 (CSO, 2009). However, despite regional economies within Ireland being sufficiently diverse to warrant separate tables, there are no integrated official or un-official sub-national I-O tables for the Republic of Ireland, making analysis at the sub-national or regional level very difficult.

> "*If unbalanced regional development is to be avoided and regional disparities to be reduced,…then inter-regional effects need to be estimated, which implies regional I/O models or some near equivalent*"
>
> (Henry, 1977: 5)

Specifically, it is this deficit in Ireland's data infrastructure that is addressed in this study. By adopting a "bottom-up" approach and using primary data, a set of fully integrated, regional Supply and Use (SUT) and I-O Tables will be compiled for the NUTS 2 regions of Ireland. Where sufficient data were not available, as was the case for estimating inter-regional trade flows (i.e. imports and exports in and out of the regions) synthetic data or estimates were generated from a wide range of alternate data sources (see Chapter 7). Deriving estimates of inter-regional trade flows was one of the more significant challenges of the study.

> "*In spite of its recognised importance, interregional trade flows established between regions of the same country constitute precisely the hardest data to find among the set of data necessary to implement input-output models*"
>
> (Sergento, 2009: 23)

The benefit of this "bottom-up" approach is that it is achievable and yields robust results that are regionally comparable and consistent with the national SUT and I-O Tables, and the regional accounts published by CSO.

The specific objectives and motivation for this study, along with a broad outline of the methodological approach used, are detailed in sections 1.3 – 1.5. This study makes a number of important contributions to the understanding of regional economies in Ireland, these are summarised in section 1.6.

1.3 Objectives

The primary objective of this study is the compilation of an accurate set of general purpose, regional Supply and Use (R-SUT) and symmetric Input-Output (R-SIOT) Tables for the NUTS 2 administrative regions in Ireland that are consistent fully with both the official SUT and I-O Tables for the State and the regional accounts.

R-IO Tables can be put to a range of uses (e.g. as the basis for compiling regional satellite accounts or computable general equilibrium models). Some potential uses of these tables will be demonstrated by:

1. Presenting a comparative statistical analysis of the NUTS 2 regions in Ireland;

2. Deriving direct and indirect employment coefficients to generate Domestic Demand Employment Matrices for the NUTS 2 regions, allowing employment to be attributed effectively to demand e.g. how many jobs can be attributed to exporting?

3. Testing the short-term forecasting capacity of R-IO tables.

1.4 Motivation

This study is motivated by two primary goals:

1. To address the continued absence of sub-national or regional SUT and RI-O Tables which has retarded capacity to construct sound regional economic models in Ireland, and provide an evidence base with which to formulate and evaluate regional policy; and

2. To test the feasibility of measuring and testing estimates of inter-regional trade flows, so that the direction and quantum of flows are robust and have been compiled, as far as possible, from existing data. This last point is very important, as any additional respondent burden, or survey costs, will limit the usefulness or repeatability of this technique in the future.

1.5 Broad methodological approach

The approach taken to constructing the R-SUT and RI-O is similar (in as far as is possible) to that taken by the CSO when compiling official State tables. The tables are built-up from primary data rather than using non-survey techniques, such as location quotient or similar methodologies to estimate the regional dispersal of economic activity. The tables are constructed using a survey-based or "bottom-up" approach rather than employing modelling techniques. However, two "Top-down" constraints are imposed: (1) the tables must be consistent with the national SUT and I-O Tables; and (2) the tables must be consistent with the regional accounts. This approach should yield the most robust and credible tables possible. In this approach, particular care and attention is given to estimating the magnitude and direction of inter-regional trade flows.

Consequently, in addition to the usual intermediate tables[2], the construction of balanced R-SUT requires the compilation of an additional set of tables: *Regional Use Tables for Domestic Imports*. These tables are central to the R-SUT and RI-O as they describe the inter-regional trade between the regions (see Appendix 10.1 and 10.2).

In order to maintain consistency with national tables, the R-SUTs are industry-by-product tables and the RI-O Tables are symmetric product-by-product tables. The reference year used is 2005, corresponding with the latest available official national I-O Tables.

In line with national tables, the R-SUT and RI-O are compiled at NACE A60 x P60 (or 2 digit NACE[3] Section level) yielding a 58 x 58 matrix. However, unlike national tables (in order to suppress confidential data) the regional matrices are

[2] By intermediate tables, it is usually meant: (1) Use Tables for (International) Imports; (2) Trade Margins Tables; (3) Product Subsidy Tables; (4) Product Tax Tables and (5) Use Tables for Domestic Output.

[3] NACE is the EU classification of economic activity. In all cases the version of NACE referred to is NACE Rev.1.1.

condensed, or aggregated, and disseminated as 48 sector tables rather than 53 sector tables. The detailed regional 48 x 48 tables are presented in Appendices 7 - 16.

Regional tables are compiled for the NUTS 2 administrative regions in Ireland. There are two reasons for selecting the NUTS 2 regions. Firstly, most official statistics are compiled at NUTS 2 region, making the objective feasible or achievable (at least in theory). Secondly, as EU regional and cohesion funding is targeted at NUTS 2 level, NUTS 2 RI-O tables will be relevant for regional policy.

It should be noted that the NUTS regions referred to in this study are the regions of the Republic of Ireland. Although Northern Ireland is another region of the island of Ireland, it falls outside the scope of this analysis. Thus any trade movements or movements of funds between the Republic and Northern Ireland are considered internationally traded goods or services and are thus already captured by the national SUT and I-O tables.

1.6 Contribution

This study makes a number of important contributions:

1. This study provides the first comprehensive set of R-SUT and RI-O Tables for Ireland. While there have been a number of regional tables compiled in the past, these have always been for a single region in isolation, limiting their usefulness for comparative analysis;

2. At a national level, the R-SUT and RI-O tables contribute to an understanding of the complex relationships that exist between regions in Ireland, and help identify the supply and value chains that exist within and between the regional economies;

3. The tables provide a platform for the construction of regional economic models, such as that recommended by the Economic and Social Research Institute in Ireland (2006) in their ex-ante evaluation that preceded the 2007 – 2013 National Development Plan. In addition, they facilitate the development of the new satellite accounts (e.g. environmental, tourism or transport) and social accounting matrices where the sub-national aspect is becoming recognised increasingly as important;

4. This study demonstrates that robust, sub-national survey-based SUT and I-O tables can be constructed largely from existing data sources, and provides an inventory of existing data sources and techniques that can be used to compile and test inter-regional trade flows;

5. The resultant tables also provide a mechanism for the testing the plausibility or quality of non-survey and hybrid modelling techniques;

6. The availability of domestic and total RI-O tables will facilitate the quantification and understanding of regional feedback and spill-over effects.

1.7 Presentation

This study is presented in ten chapters:

- Chapter 2 (The Regions and Regional Policy in Ireland) provides a broad context to the study by giving some historical background to the establishment of NUTS 2 regions in Ireland and some of the wider economic and political issues that have shaped regional policy in Ireland since the 1960's.

- Chapter 3 (National & Regional Input-Output Tables) summarises the conceptual framework underlying the I-O system and explains how it relates with the wider national accounts system. The main methodological approaches for compiling regional I-O tables are also detailed in this chapter and related Appendix 3.

- Chapter 4 (National & Regional Input-Output Tables in Ireland) provides some additional or more focused context by summarising the main official and unofficial I-O and SUT that have been compiled in Ireland.

- Chapter 5 (Compiling Regional Supply & Use Tables) presents both the national and regional SUTs in aggregated 6 x 6 matrix format so that the results can be compared. The methodology used to regionalise the main transaction elements of the tables is also detailed.

- Chapter 6 (Compiling Regional Intermediate Tables) outline the methodology used to regionalise the national intermediate tables (i.e. Tables for Trade Margins, Products Taxes, Product Subsidies and also International Imports).

- Chapter 7 (Compiling Regional Use Tables for Domestic Imports and Domestic Output) details the methodology used to derive the most important and elusive of intermediate tables, the Use Tables for Domestic Imports. In other words, the approach used to determine the quantum and

direction of inter-regional trade flows between the regions (i.e. domestic imports and exports). The derivation of the regional Use Tables for Domestic Output is also outlined.

- Chapter 8 (Compiling Regional Input-Output Tables) outlines the conceptual and practical methodological issues involved in transforming the SUT into an I-O Table (e.g. balancing). The derivation of the Leontief multipliers is also detailed.

- Chapter 9 (Results and Applications) gives an analysis of the aggregate results, showing the relationships between the I-O Tables and International Trade Statistics and Balance of Payments. The analysis clearly illustrates the importance of multinational enterprises for Ireland and the regions and, as a consequence, raises questions as to the suitability of the standard metrics used for comparative regional analysis i.e. GVA. Direct and indirect employment multipliers are also derived and used to forecast regional final demand over two discrete time periods.

- Chapter 10 (Conclusion) presents a concise overview of some of the key results arising from this study and notes some consequent implications. Some suggestions for future research are also outlined.

- Appendices 7 to 16 present the detailed (43 x 43 matrix) R-SUT, intermediate and RI-O Tables. Throughout the text, 6 x 6 matrix tables are utilized for ease of exposition.

Chapter 2: The Regions and Regional Policy in Ireland

2.1 Introduction

> *"Although the island of Ireland can meaningfully be regarded as a region of the larger EU economy, the interest in the regional distribution of economic activity within the country remains high. Policy makers are continually faced with the question, explicitly or implicitly: How much national economic growth should be traded off for a better regional balance?"*
>
> (Clinch et al, 2002: 96)

Regional development and the factors that determine regional performance are not isolated but mutually reinforcing. Consequently, regional policy should not be thought of as a policy but rather an amalgam of many different policies and strategies, covering the full spectrum of industrial, macro-economic and social activity. Successful implementation therefore requires the coherent inter-linking and integration of the full range of policies: macro-economic; education; industrial; transport; energy; telecommunications; health; social; sports and culture; rural; environment; and housing. In other words, all government policies impact on regional development, not just those policies specifically designed as 'regional policies' - "*Regional policy is relevant to all policy*" (WDC, 2010:1). If overall regional policy is to be successful it must also produce sustainable results. Thus, any regional policy that simply supports regional convergence and incomes via transfers, without developing regional productivity, will fail in the long run. Consequently, the formulation of coherent regional policy, planning and analysis requires a holistic understanding of how economy and society integrate.

This chapter outlines briefly the history and structures of the NUTS 2 regions in Ireland to give some context to the study. These regions form the basis of this study and will be presented in Chapter 9 and Appendices 6 - 15 as regional Input-Output tables. A summary of regional policy in Ireland, highlighting some of the defining moments in that history, is also presented to provide a broad context to

the overall study and demonstrate why a statistical or analytical framework is so important.

Section 2.2 outlines briefly the background and structures of the NUTS 2 regions. Sections 2.3 – 2.8 summarise the defining moments and drivers for regional policy in Ireland using Whitaker's *Economic Development* as a start point. Section 2.9 describes some of the challenges for regional policy today and highlights the limitations of current data infrastructure. The chapter is concluded in Section 2.10.

2.2 The Administrative (NUTS) Regions in Ireland

Traditionally, the 26 counties have been the administrative building blocks of Irish society and economy. That changed in 1993 when the creation of the EU following the Maastricht Treaty[4] led to the adoption of the NUTS regions in Ireland. The NUTS 3 level regional authorities (or 8 planning regions) were established in January 1994 by the Local Government Act, 1991 (Regional Authorities) Establishment Order 1993.

The NUTS 2 regions, the Southern and Eastern (SE) region and the Border, Midland and Western region (BMW), which are amalgamations of NUTS 3 regions, were only composed by the Irish Government and agreed with the European Commission in 1999[5] when it emerged that Ireland (as a single region) would no longer qualify for Objective 1 funding[6]. This new designation allowed the BMW region to retain full Objective 1 status for the period 2000 – 2006 while the SE region was designated as an Objective 1 "Phasing Out" region[7].

[4] Formally the Treaty on European Union.

[5] See Appendix 1 for details of composition of the NUTS regions.

[6] EU Funding designed to assist regions with per capita GDP of 75% or less than the EU average (over 3 reference years).

[7] This meant the SE regions still qualified for EU support but on a sliding and declining scale.

This decision was driven by concerns for financial advantage rather than by a commitment to democratic regionalisation (Hayward, 2006). O'Hara et al (2003: 12) support this view, stating that the SE and BMW Regional Assemblies were established at the insistence of the EU, in order to devolve the management of the European operational programmes. They also note that public administration in Ireland is highly centralised but that regional bodies have limited powers.

The BMW region ceased as an Objective 1 status region on 31st December 2006. Between 2007 and 2013 the region has been granted Objective 2 "Phasing-in" status under the Regional Competitiveness and Employment Objective, allowing the region to receive support from both European Regional Development Fund (ERDF) and European Social Fund (ESF). The SE region is now an Objective 2 status region.

Figure 2.2.1 – NUTS 2 Regions of Ireland



The disadvantage of the NUTS 2 and 3 regions in Ireland is that they don't correspond to any longstanding, sub-national cultural, historical or economic frameworks or institutions and have no public identity. From an analysis perspective, this poses difficulties as many data are not assembled in line with the NUTS structure. From a policy perspective the artificial nature of the NUTS 2 regions also presents challenges, as a region (from a spatial perspective) should be appropriate to policy setting and co-ordination (CEC, 1999)[8]. From an Irish perspective, a more meaningful or appropriate two-region delineation might be the Greater Dublin Area (GDA)[9] and the Rest of the Country. Clinch et al (2002) support this view, noting that a Dublin and Rest of Ireland designation would yield economic and demographic parity, thus engendering more effective competition between the two regions.

The SE region has a predominantly urban population which is concentrated in a relatively small number of centres (Dublin, Cork, Waterford and Limerick), the largest being the Dublin metropolitan area. It is the wealthier of the two regions but caution must be exercised when drawing conclusions regarding the overall region as the statistics are heavily influenced by the dominance of the Dublin Region. In contrast, the BMW region is sparsely populated and essentially rural in character with only 32% of its population living in towns with more than 1,500 persons (CSO, 2007). Of the two regions, the BMW region has a high dependence on agriculture and, relative to the SE, less industry and services (particularly financial) and a greater reliance on government expenditure[10]. In

[8] At the 2009 North-South Research Forum (Dundalk), C. McHugh, Senior Policy Advisor on Enterprise Policy in Forfas noted that for enterprise policy the concept of region has been left "*deliberately fuzzy*" and further noted that from a policy perspective, the NUTS 3 Border region was the most "*incoherent of the regions*".

[9] The GDA comprises of the four Dublin councils and the counties Kildare, Meath and Wicklow.

[10] Regarding the BMW acronym, Clinch et al (2002: 100) had this to say "*We...applaud the no doubt deliberate irony by the anonymous civil servant in the Department of Finance who named the ostensibly impoverished region after one of the world's leading luxury car brands*".

addition, the BMW region has a weak industrial structure characterised by a concentration in traditional, low value-added industries. The R&D/technology capacity of the region is fragile with limited capacity to attract or absorb knowledge-based industries (BMWRA, 2011: 101).

A selection of regional indicators is provided in Table 2.2.1 as an illustration of the disparities that exist between the two regions.

Table 2.2.1 – Selected Indicators for NUTS 2 Regions

Indicator	SE	BMW	State
	000's	*000's*	*000's*
Population - Persons (2006)	3,103	1,132	4,235
In Employment - Persons (Q3 2010)	1,383	469	1,852
	Unit	*Unit*	*Unit*
Population Density - Persons per KM^2	85	35	62
Unemployment rate (Q3 2010)	13.5%	15.1%	13.9%
Participation rate (Q3 2010)	62.2%	58.6%	61.2%
Indices of Disposable Household Income (2007)	102.7	92.5	100
Indices of Per Capita GVA (Basic Prices) (2007)	111.2	69.3	100

Source: CSO (2005 & 2006, 2007j, 2011c)

The SE region is physically the larger of the two regions, with a total area of 36,414 KM^2 compared with 33,252 KM^2 in the BMW region. The overall density of population in Ireland is very low, with only 62 persons per square km, but for many rural parts of Ireland, average densities are much lower. The BMW region has an average only 35 persons per sq. km, compared with 85 persons in the SE. This low density has cost implications for the supply and maintenance of physical infrastructure and a variety of essential public and private services nation-wide, but particularly in the more rural and lowest densely population regions.

Table 2.2.1 shows a significant gap in per capita GVA between the SE and BMW regions. However caution, should be exercised when making international or

regional comparisons with Gross Domestic Product (GDP) or GVA as they are a poor measure of regional disparity in an open economy such as Ireland.

GVA and GDP measure the value of goods and services produced within a state, or region, regardless of the location of ownership of the factors of production generating the output. Consequently, Irish GDP tends to overstate national and regional product, due to unusually large net factor outflows from the country attributable mostly to profit outflows from foreign-owned enterprises as a consequence of the country's favourable tax regime. These profit repatriations by multinational enterprises (MNEs) make GDP a misleading index of economic welfare in Ireland. The phenomenon of profit repatriations by MNEs which renders GDP deficient as a welfare measure at the national level becomes even more magnified at the regional level, where dependency of a region's output on multinational investment can be much more apparent than at the national level. These problems are not unique to Ireland (MacFeely, 2004) but, given our small size and extreme openness, the effects have a much bigger impact, and perhaps highlight the inadequacy of conventional national accounts.

Added to this difficulty is the fact that at regional level, unlike at the national level for Ireland which has only one land border, a significant fraction of the labour input which produces the output in a given region may reside in a different region. Regions where there is substantial inter-regional commuting will be susceptible to distortions, as for example in the GDA region which exerts a magnetic pull, causing large numbers of workers to commute to Dublin from the Mid-East region. These commuters contribute to the output of the Dublin region but the income of the Mid-East region (Bradley and Morgenroth, 1999).

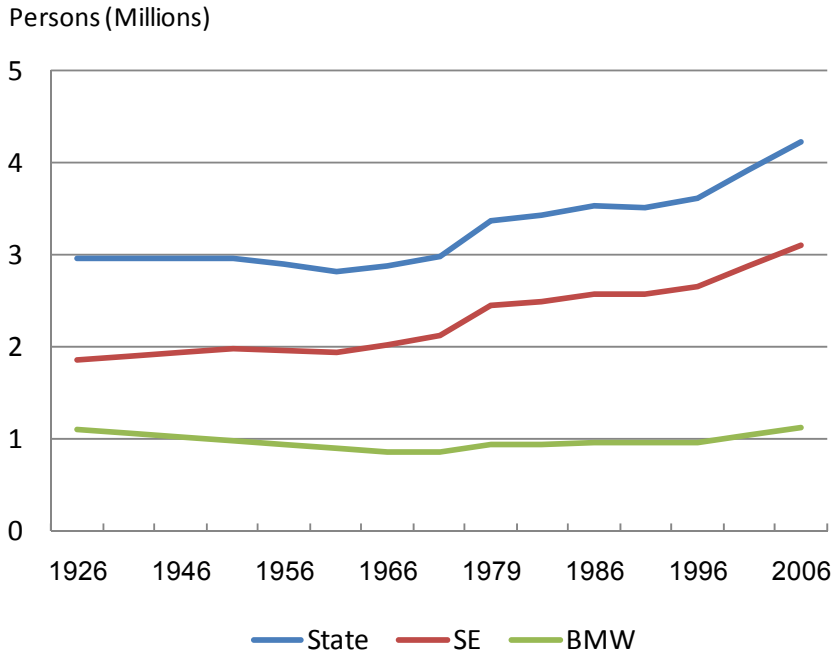
2.3 The Regional Policy debate begins

> *"Promoting balanced regional development has been a long-term public policy objective ever since the establishment of the Congested Districts Boards at the turn of the century. However, although Regional Development Organisations were set up in 1969, there has not been a clearly articulated strategy for regional policy"*
>
> (Boyle et al: 1999: 155)

The 1950's are, with some justification, remembered as the "lost decade" of the Irish economy. Ireland's overall growth performance was one of the worst in Europe (Kennedy, 1988). The post-war boom was over and Irish industry, having exhausted the limited potential of the domestic market, stagnated. Meanwhile, a persistent decline in the population and continually rising emigration exacerbated problems and contributed to the high dependency rate.

Figure 2.3.1 shows the net decline in population between 1951 and 1961 was some 142,000 or approximately a 5% fall. Seventy-percent of this decline (almost 100,000 thousand persons) came from counties that are now classified within the BMW region. The highest rates of emigration occurred in the least urbanised counties, in particular Leitrim, Monaghan, Mayo, Longford and Donegal where above-average declines in agricultural employment coupled with below-average growth in manufacturing employment (Buchanan, 1968).

Figure 2.3.1 – Population of Ireland, 1926 - 2006



Source: (CSO, 2007j)

The resultant decline in per capita GDP and the grave balance of payments situation, made worse by the Korean War, the Suez Crisis and declining tourist receipts despite rationing and travel restrictions in the UK eased, prompted a change in orientation (O'Hagan, 1978; Kennedy, 1988; O'Donnell, 1998). It was realised that Irish enterprises would have to become more export focused in order to expand, but after years of sheltering behind protective tariffs, Irish industry had grown inefficient and remained typically small-scale and technologically unsophisticated. In addition they had not developed any exporting or marketing expertise. These grim facts, combined with an overly restrictive fiscal policy, ensured the re-orientation into the world economy would be slow and painful.

By the late 1950s, there was a general acceptance that Irelands' policy of isolationism and self-sufficiency had failed. Whitaker's 1958 *Economic Development* (Dept. Finance, 1958a) or "Grey Book" and the subsequent White Paper, *Programme for Economic Expansion* (Dept. Finance, 1958b), heralded a radical change in thinking. It proposed an integrated programme of national

development, advocated free trade and if necessary borrowing. This change resulted subsequently in an open and outward focused economic policy. This new strategy involved the reduction of tariffs, the opening up of goods and capital markets and the development of a more corporatist approach to economic management.

Policy makers of the day had, therefore to try to develop a national economic policy that found a balance between regional development and maximising the national productivity and welfare of the state. On the one hand, an economic and industrial policy had to be devised that delivered a convergence of living standards and productivity between Ireland and other countries of Europe. On the other hand, a remedy to rural decay and emigration was desperately needed. But the question remained; could rural and regional balance be achieved without making concessions to national performance? Whitaker and the *Capital Investment Advisory Committee* (Dept. Finance, 1958c) both argued that Ireland should be treated as a single economic entity and that economic policy should be targeted at improving general economic and social conditions. *"Special subsidisation of remote areas by more extensive grants for industrial development is wasteful and retards progress in areas better situated*" (Whitaker, 1958: 19). In other words, the dispersal of factors of production and public goods at sub-national level would undermine the overall national strategy. This view shouldn't be entirely surprising, as the Irish economy had to raise income levels, industrialise production, liberalise trade, internationalise products and disentangle itself from UK dependency, both in terms of trade but also in terms of standards, specifications and measurement systems, before it could worry about regional distribution (Nolan et al, 2000).

Not everyone agreed with Whitaker and in acknowledgement of the growing urban-rural divide some argued that decentralisation of industry should be considered. In response to *Economic Development,* Ó Nuallain (1959: 119) countered "*the economic disadvantages of placing new industries outside of the Dublin area may not be so great as is generally thought*". Ó Nuallain did,

however, warn against distributing industry across "*every little town in Connacht*" and argued in favour of a more selective approach, specifically growth centres: "*far better, I think, to select five or six centres, of which Sligo and Galway would be two such centres, as potential industrial nuclei, which would constitute strategic growing points from which an impulse towards economic growth would spread to the surrounding districts*" (1959: 120).

The location of industry was crucial to the debate as industrial policy was seen as the only policy instrument available to accelerate regional expansion and reduce income and social disparities (Buchanan, 1968; O'Farrell, 1975). The industrial policy pursued also stemmed from the need to create jobs in rural Ireland in order to compensate for declining agricultural prospects, contain rural unemployment and emigration and prepare an inefficient indigenous industry, badly in need of modernisation, for life without protective tariffs. In fact, industrial dispersal was seen not only as the most suitable mechanism for regional policy but was also seen as the antidote to rural decay (Telesis, 1982). Therefore, to understand regional policy in Ireland, it is important to understand Irish industrial policy.

2.4 Industrial Policy in Ireland

> "*The only clear semblance of a regional policy which can be identified is the existence of measures such as regionally differentiated industrial grants*"
>
> Boyle et al (1999: 155)

Industrial policy reflected the changes outlined above and began to focus on the generation of sustainable manufacturing employment and the distribution of those jobs across the regions. In 1952, following the Undeveloped Areas Act, the recently established Industrial Development Authority (IDA) had for the purposes of regional policy (i.e. differentiated grant assistance) split Ireland into 2 regions;

a "Designated" and a "Non Designated" region[11]. By 1956, the IDA had begun offering tax relief on export profits (Export Profits Tax Relief – EPTR) but, given the precarious state of indigenous industry, there was little take up. Having failed to stimulate local industry, the IDA, of necessity, shifted their attention towards attracting foreign-owned, export-oriented enterprises. Industrial policy therefore became synonymous with the provision of assistance to foreign-owned manufacturing enterprises and the promotion of Ireland as a low tax, export base. Hence the repeal of the 1932 and 1934 Control of Manufacturers Acts in 1965. Thus, the policy of attracting foreign investment to Ireland began initially as a regional one and only later developed into a national industrial policy (McAleese, 1997). SFADCo the Shannon Free Airport Development Company was also established in 1959 to complement this policy and boost employment at the airport and surrounding hinterland.

The primary aim of Irish industrial policy, through attracting foreign manufacturing firms to Ireland, was the creation of employment (Telesis, 1982: 220). Secondary to this was an attempt to cultivate a modern, indigenous manufacturing industry through the transfer of technology and management skills. It was also hoped that the presence of foreign direct investment would create a sub-supply market in Ireland through linkages with indigenous industry i.e. that new Irish businesses would emerge to provide industrial goods and services, such as raw materials, components or sub-assembled goods to proximate foreign enterprises. In the absence of any explicit policy for the development of the distributive trade or services sectors, it appears that here too, industrial policy indirectly carried that responsibility. It was hoped that commercial and other services, such as transport, repair, banking and insurance, utilities would develop around these manufacturing enterprises, without actually having to be nurtured by

[11] See Appendix 2 for breakdown of IDA designated/non-designated regions. The composition of these IDA regions was quite similar to the NUTS 2 regions, with the exception of Offaly and Westmeath which were in the non-designated or SE equivalent region and Clare, Cork (West) and Kerry which were in the designated or BMW equivalent region.

the State. Industrial policy became a panacea, not just for manufacturing but also for services and, by default, regional policy.

The focus of financial supports towards manufacturing wasn't unreasonable, as the capital costs required to establish or modernise a manufacturing plant were generally substantially higher than for most services industries. Also, as Buchanan (1968) points out, the ability for policy to influence the location of services was much more limited. Despite the lack of assistance, paradoxically, services sectors have enjoyed the highest growth in employment (although roughly a third of this has been public sector). Table 2.4.1 shows that between 1951 and 2006 the average annual growth rates for industry and services were 0.7% and 2.0% respective.

Table 2.4.1 – Total "At Work" (PES Basis)[12] by Broad Economic Sector, 1951 – 2006

NACE Rev 1.1	Agriculture 1 - 5	Industry 10 - 41	Construction 45	Services 50 - 95	Total
	000's	*000's*	*000's*	*000's*	*000's*
1951	497.8	194.8	85.8	438.6	1,217.0
1961	379.9	197.6	59.6	415.4	1,052.5
1966	333.5	219.6	74.1	438.7	1,065.9
1971	272.0	236.0	84.0	457.0	1,049.0
1976	232.0	241.0	84.0	507.0	1,064.0
1981	196.0	262.0	101.0	587.0	1,146.0
1986	172.4	96.3	212.2	614.2	1,095.1
1991	154.7	98.3	224.7	655.8	1,133.5
1996	138.0	105.3	249.9	804.0	1,297.2
2001	115.6	315.2	179.3	1,043.4	1,653.5
2006	110.9	285.9	259.8	1,284.1	1,940.8

Source: CSO (see Footnote)

[12] PES basis was used as the ILO measure of employment but was not introduced in Ireland until 1997. The time series was assembled using Census of Population data (Vol. 3) for 1951, 1961 and 1966. The Labour Force Survey was the source for the years 1971 – 1996. Thereafter the Quarterly National Household Survey (Q2) was used.

Since the 1960s, with a few exceptions, such as tourism policy (where natural resources were already spatially dispersed), regional and spatial distribution issues have largely been delegated to the IDA by what Gleeson (2006) referred to as integrating regional and industrial policy objectives. Many years earlier, O'Hagan (1978:271) had reached the same conclusion, identifying IDA grant schemes as the principal mechanism for trying to correct regional imbalances. This strategy continued throughout the 1970's, albeit supplemented by funding made available through the *Common Agricultural Policy* (CAP). The CAP supported farm incomes by guaranteeing prices for the main agricultural commodities and thus acted as a mechanism for income redistribution. For Ireland, with agricultural activity well dispersed around the country, the CAP was viewed by default as supporting balanced regional development.

2.5 The Buchanan Report

Given the wide range of issues facing policy makers at the time, added to the uncertainty as to whether regional policy contributed to or detracted from national performance, it is perhaps not surprising that little priority was given to regional concerns. Whitaker was opposed to the dispersal of factors of production or public goods at sub-national level, arguing this would undermine national targets.

Within a decade this view was being reassessed. The difficult balancing act of achieving a convergence of living standards and productivity with other European countries and finding a remedy to rural decay and emigration remained. But so too did the question; could rural and regional balance be achieved without making concessions to national performance? Advocates of regional policy argued that far from being counter productive, regionally differentiated policies would actually contribute to national growth by making fiscal policy more effective (O'Farrell, 1970). But even within this camp, there was no agreement between what O'Neill (1973) described as the "Dispersionists" and the "Centralists", over what type of regional policy was best suited to Ireland i.e. between "even dispersal" or "growth centre" models.

This debate culminated in the United Nations (UN) commissioning of a regional study on behalf of the Irish Government in 1968; *Regional Studies in Ireland* or what became known as the Buchanan Report (1968). Buchanan came down in favour of regional policy and suggested that regional planning was actually central to the solution. As noted earlier, Buchanan was of the view that industrial policy was the best policy instrument available to support regional development and create employment in rural Ireland. The report proposed a new "Centralist" policy orientation, advocating concentration of industrial employment in a limited number of national and regional growth centres.

Buchanan proposed a move away from the existing dispersal approach and recommended instead developing targeted growth centres[13] where 75% of all new industrial employment for the next 20 years would be concentrated. The proposal provided a single growth centre for each of the nine planning regions, with two exceptions. Dublin, Cork and Limerick-Shannon were identified as national growth centres, while Waterford, Galway, Dundalk-Drogheda, Sligo and Athlone were the suggested regional centres. The Donegal planning region did not get a regional centre as Letterkenny was deemed too small, whereas Dundalk and Drogheda were both sufficiently large to be centres, so the North-East planning region would have two growth poles. The crucial point was that sufficiently large centres or poles were needed, and these poles must be able to attain a critical mass sufficient to compete with Dublin.

In 1972, the 'new' Industrial Development Authority (IDA) launched their five-year (1973 – 1977) Regional Industrial Plans. These plans were the first full articulation of government regional industrial policy (Gleeson, 2006). They were also an explicit rejection of the growth centre model advocated by Buchanan. The plans formally rejected the concentration policy in favour of dispersed regional policy (Bradley and Morgenroth, 1999). O'Leary (2002) argues this was done for reasons of political expediency.

[13] Similar to the nuclei proposed by Ó Nuallain in 1959.

2.6 "Europeanisation" of Regional Policy

In 1973, two significant events impacted on Ireland, relegating sub-national regional policy to the "back seat". Firstly, Ireland joined the European Economic Community (EEC) and, secondly, the first occurrence of the of two major oil crises.

Ireland entered EEC in a confident and exuberant mood. Over the previous 15 years, Ireland had enjoyed a period of continual fiscal expansion. The Irish economy had begun to pick up, GNP had increased and brought with it a marked improvement in living standards, the decline in population had been arrested and emigration had slowed. The Anglo Irish Free Trade Area Agreement negotiated in 1965 had opened up the potential for agricultural and industrial exports. Ireland had moved from being a predominantly agricultural to an industrialised country. Great expectations were now being pinned on the prospect of additional funding anticipated from Europe, but most especially from the CAP.

Entry into the European Economic Community (EEC) in 1973 was to have crucial implications for economic and regional policy in Ireland. In preparation for entry into the EEC, the final protective barriers, behind which Irish industry could shelter, were being removed. In the context of an emerging European regional policy and the European funding framework, Ireland was designated as a single Objective 1 region in accordance with the views of the Irish Government. This resulted in a re-focus from a sub-national towards a more international regional policy, or more specifically a national strategy geared towards maximising the benefits (as a single region in Europe) from Structural, Cohesion and, in particular, Agricultural funds (Kinlen, 2003). In fact, much of the debate on whether or not to join the EEC centred on the benefits and implications of the CAP for Ireland (Barrington & Cooney, 1984; McAleese, 2002)

But other events were soon to give expectations a more pessimistic air. The first of two oil crises in the 1970's impacted at the end of 1973. Oil prices increased

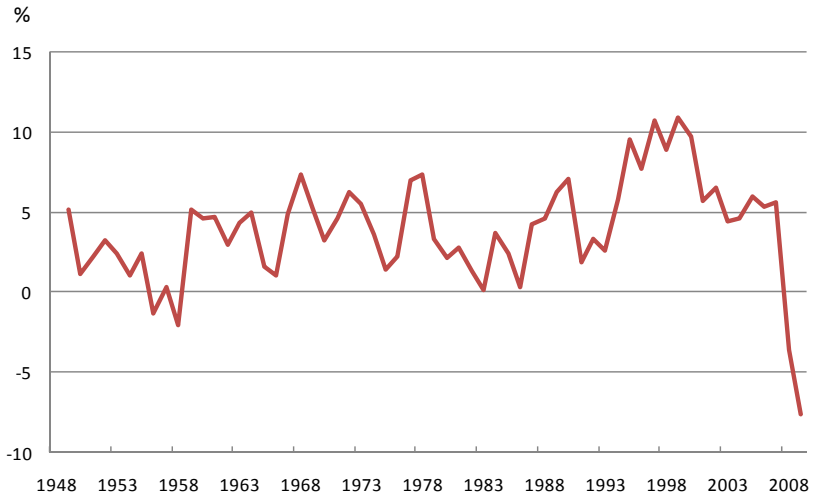
by a factor of 10 and other energy prices and general inflation soon followed in their wake. As roughly 70% of Ireland's energy was imported, this created balance of payments problems and from 1974 – 1976, contributed to a slowdown in economic growth. A growing population and, in particular, a rapidly growing labour force, put increasing pressure and strain on public finances and reduced per capita income still further. This first oil crisis was met by continued fiscal expansion and the strong recovery experienced after the 1974-1976 recession was driven largely by public spending and borrowing. Despite the recovery in demand, both at home and abroad, Ireland's fiscal policy became pro-cyclical and remained expansionary (O'Hagan, 1995).

By the time the second oil crisis impacted in 1979, heralding a world economic downturn, Irish economic policy had distilled to one of survival and by whatever means possible. By this time, industry had surpassed agriculture in relative importance and performance of this sector became the barometer for Ireland's economic strength (O'Hagan, 1978). This was especially apparent for employment and was reflected in industrial policy, which throughout the recession of the 1980's prioritised job creation over the location of new firms (Boyle, 1999; FitzGerald, 1999). Gleeson (2006) also notes the decline in importance of spatial issues during the 1980's as unemployment increased. The abolition in 1987 of the Regional Development Organisations (established in 1969) due to budgetary constraints (McAleer, 2007) was further evidence that regional policy was taking a back seat to national priorities.

The period 1980 – 1987 was one of prolonged recession (see Figure 2.6.1) and by the decade Ireland's economic, social and political strategy was in ruins (O'Donnell, 1998). The economy was running a sizeable current budget deficit and with real interest rates now positive, and 40% of national debt being foreign owned, 35% of all tax revenues were diverted to servicing that debt. A vicious cycle began as borrowings were increasingly just servicing the crippling debt that had been incurred during the 1970's. Despite significant employment growth, unemployment continued to rise. In addition much of this employment growth

had been in the public sector and this was no longer sustainable, especially as fiscal policy turned deflationary. By 1987, the debt/GNP ratio was approaching 130% and there were real fears of national insolvency (O'Donnell, 1998). By the late 1980's, there was massive unemployment, public finance imbalances, falling living standards and wholesale emigration of Ireland's young and educated (commonly known as the "brain drain"). To add to the woes, Chernobyl and fears of further Libyan terrorism attacks put a major dent in tourism receipts from the US.

Figure 2.6.1 – Volume GDP % Changes, 1948 - 2009



Source: CSO (2000; 2003c; 2005a; 2007k; 2009c)

During the mid-1980's, the CAP also underwent a serious crisis; one of legitimacy. This stemmed from the realisation that farm modernisation and the 'productivist' model was generating significant over production and creating "*butter mountains*" and "*wine lakes*". The EEC budget was exhausted (O'Connor, 1986) and the CAP was contributing arguably to social and regional imbalance while at the same time absorbing 70% of the EC's budget. This was completely disproportionate to agriculture's relative economic importance (Crowley, 2003). Reforms led to a fall in prices and the introduction of milk quotas where, from a regional perspective, it called into question the rationale that the CAP was an implicit regional policy.

In 1987, further impetus for the 'Europeanisation' of regional policy came with the ratification of the Single European Act and the prospect of a single market. That same year, the Government launched the Programme for National Recovery (1987 – 1990). Central to this programme were National Pay Agreements and the beginnings of what became known as "Social partnership". For Ireland, this unique model of centralised wage determination involved extensive consultation and agreement between the social partners (i.e. trade unions, employers, farming interests and other major interest groups) and as a trade-off for wage restraint and income tax cuts, the unions got to participate in the economic decision making.

2.7 The "Celtic Tiger" and the re-emergence of Regional Policy

> *"In the space of a single generation, Ireland has moved from being the poor man of Europe to becoming one of the richest countries in the world. In 1987, Ireland's GDP per capita was less than two-thirds of the European Union average. By 2003, Irish GDP per capita had climbed to 125% of the EU-15 average"*
>
> (Tansey, 2006:12)

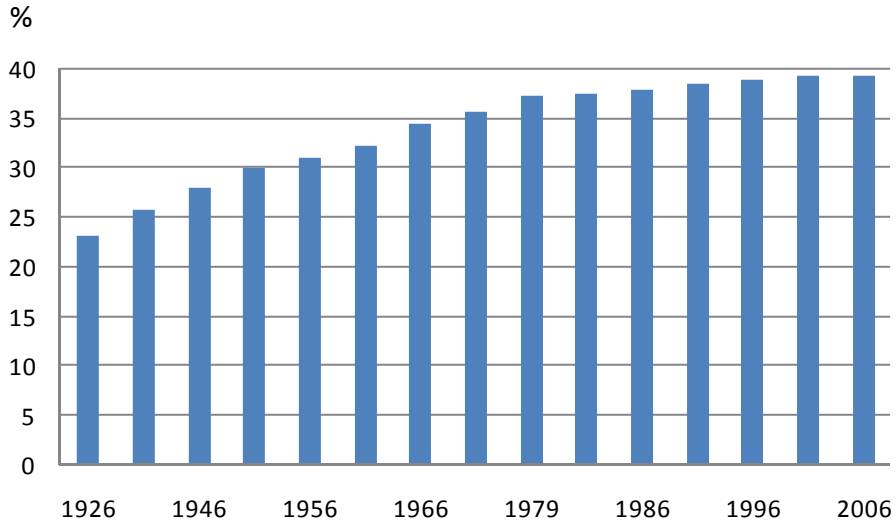
Up to and including the period of the Celtic Tiger economic policy had essentially been geared towards convergence with western European living standards. While this worked at a national level, it resulted in a divergence at regional level. This divergence arose primarily from unsustainable development in the Dublin, Mid-East and South-West regions and put regional issues and spatial planning back on the agenda (Bradley & Morgenroth, 1999; O'Leary, 1999; McAleese, 2000).

Although the first *National Development Plan (1994 – 1999) or NDP*, which coincided with the "*unofficial birth date*" of the Celtic Tiger (McAleese, 2000) did not highlight regional development as a pressing issue, concerns over regional imbalance were beginning to re-emerge. During this period, the Irish economy underwent a major transformation with unprecedented economic growth reversing the trends of the 1980s. This phenomenal growth led to a convergence of Irish

living standards, in terms of per capita GDP, towards the EU average (Tansey, 2006). While all regions benefited, however, there was evidence of a growing divergence or imbalance between the GDA and others.

Around this period, regional policy which had been largely neglected since the early 1970's but more particularly since the recession of the 1980s, began to resurface as an issue. The re-emergence of regional and spatial issues was in response to unbalanced regional growth, increasing congestion problems and infrastructural pressures developing in the larger urban areas but, most particularly, in and around the "*dispersed city*" (NSS, 2002:22) that the GDA had become. This re-focus on regional policy emerged therefore due to problems associated with rapid economic success rather than problems associated with economic failure. Regional divergence and unsustainable development in the Dublin, Mid-East and South-West regions placed regional issues back on the policy agenda (O'Leary, 1999) with the *National Development Plan (NDP) 2000 – 2006* making balanced regional development an explicit and key objective.

Figure 2.7.1 – GDA, Percentage share of Total Population



Source: CSO (2007j)

Figure 2.7.1 shows the share of population living in the GDA has grown from 23% in 1926 to 39% in 2006. Concerns regarding the unsustainable growth of the

GDA had been flagged as far back as 1970's (O'Farrell, 1970) yet no clear policy or strategy had been developed in response. Thus, it is unlikely that the explicit goal of balanced regional development in the *2000 – 2006 NDP* and the subsequent *National Spatial Strategy (NSS)* arose solely from the merits, or necessity, of spatial planning or regional development.

There was, of course, another significant impetus for the resurgence in interest on spatial and sub-national regional issues and the re-shaping of regional policy. In 1999, having exceeded the threshold for Objective 1 designation, the European Commission accepted arguments advanced by the Irish Government and removed Objective 1 status from the country as a whole and split Ireland into two NUTS 2 regions for funding purposes. Arguably, it is this change, more than any other, that prompted the *NDP 2000 - 2006* to highlight balanced regional development as one of four core objectives and led to the establishment of the BMW and SE regional assemblies to manage Regional Operational Programmes (OPs). Kinlen (2003) supports this view, arguing that the regionalisation of Ireland was a pragmatic response in order to "optimise" EU funding rather than any real commitment to the creation of meaningful regional structures. Gleeson (2006) also argues that the *NSS* only came about because the European Commission removed Objective 1 status from the country as a whole. The loss of Objective 1 status for the state (and specifically the SE region) and the consequent reduction in structural/cohesion funds meant that the main source of funding for achieving balanced regional development was the national exchequer.

It is worth noting that the *NDP 2000 – 2006* highlighted regional development as a fundamental objective of the plan whereas the *NDP 1994 – 1999,* while addressing regional issues under a number of headings, had never referenced regional development as a pressing issue. It is also worthy of remark that regional development as outlined by the *NDP 2000 – 2006* aligns exactly with the NUTS II regions as defined for European funding purposes.

In 1999, in preparation for the *NDP 2000 – 2006*, the Economic and Social Research Institute (ESRI) argued that a National Spatial Development Strategy should also be formulated. This strategy should among other things examine how best to achieve balanced regional development highlighted by the *NDP 2000 – 2006* (Fitzgerald, 1999).

2.8 The National Spatial Strategy

> *"Since the changes in Irish society and the economy are not evenly spread across the country, national averages are no longer enough to understand the economic and social changes in different areas of the country. As a consequence, there are new demands for detailed geographic breakdown of the full range of social and economic data. The publication of the government's National Spatial Strategy in 2002 underlines the importance attached to the geographical dimension."*
>
> (NSB, 2003: 13)

The *National Spatial Strategy (NSS)* published in 2002 was the "*first formal articulation of spatial policy*" in more than two decades (Gleeson et al, 2006) and was described by Fitzgerald et al (2003) as the most important regional policy document since the Buchanan Report. The purpose of the strategy was to provide a broad strategic, twenty-year national development framework with the specific aim of correcting the spatial imbalance that had been amplified during the economic boom of the 1990s. In effect a framework that would guide government departments and agencies when implementing policies or making investments with a spatial dimension.

The *NSS* was formulated in recognition that the unsustainable growth of the GDA was promoting an increasingly dispersed pattern of spatial development. The report noted that despite various industrial policies, foreign enterprises display a

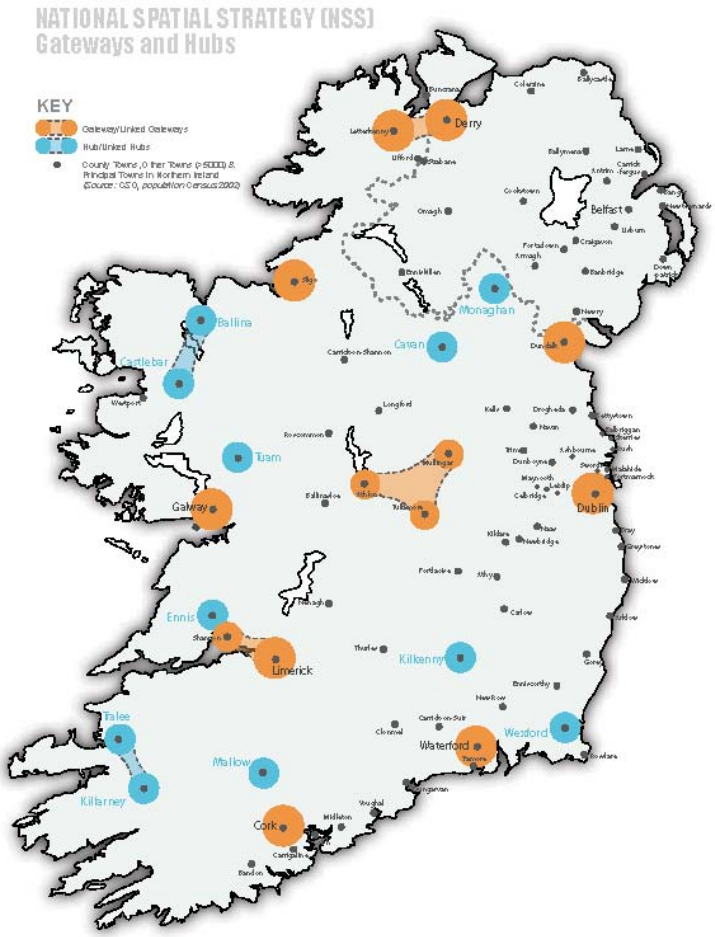
clear preference for proximity to larger urban centres[1], most particularly Dublin, and in 1999, the GDA accounted for 47.9% of national GVA. This concentration of economic activity had created congestion and an unwelcome "*socio-economic geography*" (DELG, 2002: 14) since it was around such urban areas that the greatest population growth had occurred. This, furthermore, was critically important for the development and provision of services, since an adequate population concentration was necessary to generate "*points of consumer demand*" (DELG, 2002: 96). Consequently, and in a return to the 'centralist' approach advocated by Buchanan in 1968, one of the key aims of the strategy was to develop strategically-located, national *gateways*. These *gateways* would become engines of regional and national growth, spurring growth throughout their wider spheres of influence and generating sufficient critical mass to counter-balance the GDA.

Importantly, the *NSS* took an "all island" view and was explicitly cognisant of the Regional Development Strategy of Northern Ireland (RDS) – "*Shaping the Future*" (DRDNI, 2001). The *NSS* identified the existing cities of Dublin, Cork, Limerick, Galway and Waterford as *national gateways*. In addition, it identified four new *national-level gateways*; Dundalk, Sligo, Letterkenny/Derry and Athlone/Tullamore/Mullingar. The approach of linking towns was similar to that used by Buchanan in 1968 when Dundalk and Drogheda were paired. Dundalk was selected owing to its strategic position on the Dublin-Belfast corridor which the Letterkenny/Derry pairing emerged due to the fact that Derry was identified by the RDS as a 'regional city' in the North-West. The Athlone/Tullamore/Mullingar conglomerate was picked for the Midlands since none of these three towns could individually develop sufficient critical mass due

[1] Modern firms like to cluster geographically around labour markets, sub-supply sectors and knowledge networks, with availability of skilled labour and specialised human capital (Clinch et al, 2001; Doring, 2010).

to significant numbers of long-distance commuters to the GDA. It should be noted that the gateways varied enormously in size, location and development.

Figure 2.8.1 – National Spatial Strategy Gateways & Hubs



Source: DELG (2002)

The *NSS* also identified nine strategically-located, medium-sized *hubs* that would act as economic bridges between the gateways and their wider rural areas and would support and be supported by the gateways. The following towns would act as 'capitals' for their surrounding hinterlands; Cavan, Ennis, Kilkenny, Mallow, Monaghan, Tuam, Wexford, Ballina/Castlebar and Tralee/Killarney (Figure 2.8.1). Gateways and hubs were to be linked via radial and linking corridors along with international access points.

Crucially, the *NSS* recognised that policy formulation must be multi-dimensional and co-ordinated, and that "*tailored*" policies would be required (NSS, 2002:18). This conceded that any successful strategy must integrate sectoral policies, such as education, industrial, transport, energy, telecommunications, health, social, cultural, environmental, rural and housing policy.

The concept of balanced regional development also underwent some evolution since the 2000 – 2006 NDP. The 2000 – 2006 NDP defined balanced regional development to mean the achievement of regional equity or a reduction in disparities between the regions. This approach was in line with EU regional policy of more balanced distribution of economic activities and population over the national territories[1]. By 2002, the definition used in the NSS had changed to focus on regional competitiveness or efficiency - "*balanced regional development means developing the full potential of each area to contribute to the optimal performance of the State as a whole – economically, socially and environmentally"* (NSS, 2002: 11). Again, this change reflected the evolution in European regional policy (which was developing in response to the growing internationalisation and globalisation of markets) where policy was shifting from redistribution of resources to an attempt to stimulate regional potential in what Maillet (1997) describes as fourth generation regional policies. The NSS also mirrored the European Spatial Development Perspective (ESDP) in that it reflected the polycentric city system and associated urban-rural partnerships (O'Hara et al, 2003).

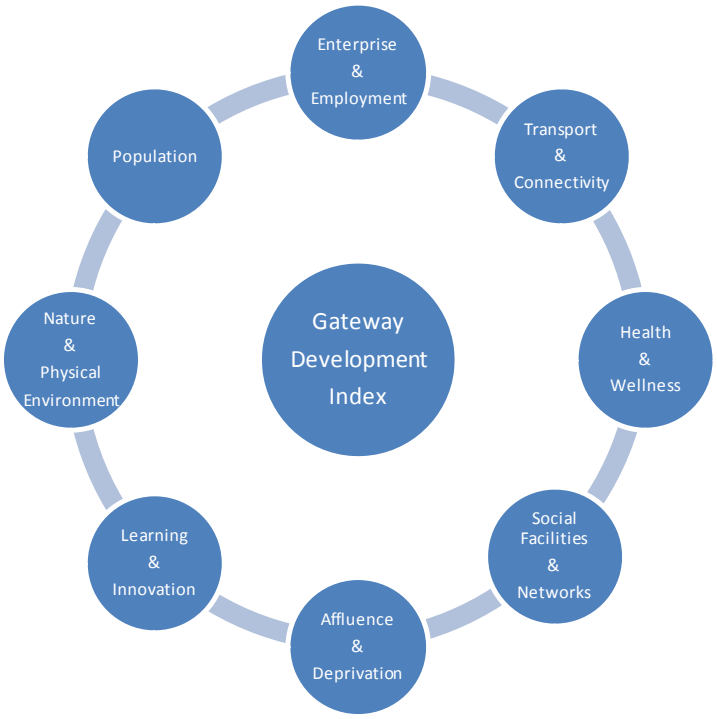
While some have argued that regional equity was not sustainable, as a target it had the advantage of being measurable. In contrast, potential does not lend itself easily to measurement which is somewhat ironic given the explicit emphasis the NSS

[1] In particular Article 130A of the Maastrict Treaty that states "*In particular the Community shall aim at reducing disparities between the levels of development of the various regions and the backwardness of the least favoured regions, including rural areas*", European Commission (1992).

placed on monitoring programmes, highlighting the need to develop "*appropriate performance indicators*" (NSS, 2002:122).

The need to benchmark the relative performance of *gateways* and *hubs* led to the development of *Gateway Development Indices*. The objective of these indices was to monitor the progress of the *gateways* in achieving their objectives under the NSS and the impact of the NDP and Regional Operational Programme investment. These prototype indices were intended as composite quality of life indices, made up of eight distinct domains[1] (Fitzpatrick Associates, 2009) – see Figure 2.8.2. An initial set of pilot indices were compiled for 2008 with the intention of updating them in 2010 and 2012. However at the time of writing, these indices have not been updated.

Figure 2.8.2 – Component Domains of Gateway Development Index



Source: Fitzpatrick Associates, 2009

[1] (1) Population, (2) Enterprise and Employment, (3) Learning and Innovation, (4) Natural and Physical Environment, (5) Transport and Connectivity, (6) Health and Wellness, (7) Social Facilities and Networks and (8) Affluence and Deprivation.

In any event, thirteen months after the publication of the NSS, Charlie McCreevy's[1] 2003 decentralisation policy reverted to the 'Dispersionist' model and can be viewed arguably as another formal rejection of the 'Centralist' model. O'Toole argues that the NSS was not "*simply ignored but actively destroyed*" sending a "*clear signal that the whole idea of organising space in a rational way was being abandoned*" (2009: 173). Despite this, a third NDP (2007 – 2013) was published in 2007 which once again highlighted balanced regional development as a key target. The 2007 plan defined balanced regional development as "*supporting the economic and social development of all regions in their efforts to achieve their full potential*" (Dept. of Finance, 2007: 57) which was consistent with the definition used in the NSS i.e. maximising the potential of the region. The "*significant restriction of the availability of regional aid for the period of the plan*" (Dept. of Finance, 2007: 64) was noted in the 2007 – 2013 plan but clarified that the BMW region would continue to qualify for regional aid throughout 2007 – 2013 as an "*economic development region*" whereas the SE would only qualify on the basis of unemployment criteria.

Like the NSS before it, this plan stressed the importance of developing appropriate indicators to inform the allocation of central Government NDP investment over the period of the plan, but also envisaged the construction of a "*regional economic model*" (Dept. of Finance, 2007: 76) to be developed under the aegis of the Dept. of the Environment, Heritage and Local Government spatial planning monitoring and research programme. The programme would also "*support the establishment of the monitoring framework and outcome indicators...against which progress towards the objective of more balanced regional development can be measured*" (Dept. of Finance, 2007: 76 – 77).

[1] Minister for Finance at the time

2.9 The Re-nationalisation of Regional Policy

> "*Regional policy is now effectively financed from the national exchequer*"
>
> (O'Hara et al, 2008: 1)

Until recently, regional policy in Ireland has been influenced heavily by the European Union. In what could be described as pragmatic regionalism, much of Ireland's regional policy has been conceived nationally (to maximise transfers from the Structural and Cohesion funds) but delivered regionally. So, apart from Objective 1 cohesion funding in the BMW region, regional policy has effectively been re-nationalised. What the consequential implications are for regional policy is unclear. If behaviour in previous recessions is any guide, then given the scale of the current economic downturn, regional policy will most likely not be a priority in the near future. Nevertheless, the growing body of research noted above suggests that, if properly harnessed, all regions can contribute to the national economy. This will require a broader and more comprehensive regional policy than developed heretofore and certainly one with less reliance on industrial policy.

For many years it has been argued that industrial policy offers the best mechanism for implementing regional policy. Even now the *NSS* envisages a "*pivotal*" role for the IDA and Enterprise Ireland (EI) in fostering regional development. However, with industry[1] becoming a declining contributor to total employment and currently accounting only for 13% of total employment (CSO, 2011), a new and wider approach to regional planning is clearly required. Quill and Teahon (2010), in their structural analysis of the economy from 1957 to 2006, demonstrate clearly the shift in the balance of the economy towards services and away from manufacturing. Fitzgerald supports this view, highlighting the diminishing importance of industrial policy as an effective instrument of regional

[1] NACE Rev.2, sections B – E i.e. Mining & Quarrying (B), Manufacturing (C), Electricity & Gas (D) and Water Supply & Sewage (E).

policy, particularly when the labour supply is tight (1999:105). Furthermore he emphasises that more attention must be given to "*social and recreational infrastructure*", along with tackling the supply of urban transport, water and housing. The importance of tourism as a stimulus to rural and remote economies (and thus as a mechanism for regional balance) has also been highlighted (Morgenroth and Fitzgerald, 2006).

The IDA (2005) emphasise this point, noting that the aims of the *NSS* cannot be achieved by the IDA alone, highlighting among other issues the importance of boosting and developing research capacity in the universities. Regional development and accumulation of 'knowledge capital' or 'ideas capital' is one of the key infra-structural deficits that must be addressed if regional balance is to be achieved (Boyle, 1999). Doring et al (2006 and 2010) support the importance of knowledge capital, noting that economic development is empirically higher at locations with universities and scientific research institutions in close proximity – conducive to knowledge transfer and generation of academic based "spin-off" companies. This poses a real challenge as the *Report for the Joint Committee on Finance and the Public Service* on progress on the *NDP* (Dept. of Finance, 2006) highlighted the fact that the BMW region doesn't have adequate capacity to absorb R&D funding due to the relatively low concentration of high value-added industry.

It is also not clear what real capacity or potential the gateways and hubs have for development and expansion without significant investment across a range of infrastructure and services. The *Assessment of Water and Waste Water Services for Enterprise* report, published by Forfas in 2008, illustrates this problem. The report shows that serious water or waste water deficits already exist in Athlone, Dublin, Ennis, Galway, Kilkenny, Letterkenny, Mullingar, Tullamore and Waterford - all cities and towns identified in the National Spatial Strategy as *gateways* or *hubs* and therefore targeted for further expansion. "*Analysis of the future supply of and demand for water and waste water capacity indicates that current and planned future infrastructure will not be sufficient to cater for the*

expected increases in demand by enterprise in certain centres in the medium term" (Forfas, 2008: 13). As Hickey (2008) highlights, water supply will most likely become a more serious and pressing regional issue by 2050 as the anticipated impacts of population congestion and climate change start to converge.

Unsustainable growth of the GDA also remains an issue of concern. The most recent (M2F1 Traditional) population projections to 2026 (CSO, 2008) are summarised in Table 2.9.1.

Table 2.9.1 – Actual and Projected Population of NUTS Regions 2006 and 2026 (M2F1 Traditional)

Region	2006	2026	Absolute Difference	Percentage Change	Average Annual Increase
	000	000	000	%	%
BMW	1,133	1,465	333	29.3	1.3
SE	3,100	4,231	1,130	36.5	1.6
GDA	1,662	2,413	751	45.2	1.9
SE Rem	1,439	1,818	379	26.3	1.2
Total	4,233	5,696	1,463	34.6	1.5

Source: CSO (2008)

Notwithstanding the uncertainty around population projections, particularly at a regional level and the debate one could have over the assumptions embedded in these projections, there is little reason to assume that the broad thrust, predicting growing regional divergence, is inaccurate. In 2006, the GDA accounted for 39% of the national population but by 2026 this could increase to 42%, implying an additional population of 751,000 for that region. Such an absolute population growth may be at the extreme end of the projections but the GDA share of the future population may not be, particularly if the recent resurgence of emigration follows previous patterns and impacts most on the poorest regions.

Changes in the definition of balanced regional development will also make evidence-based regional policy more difficult. While regional issues received more emphasis within many Government Department reports and plans there is arguably still a way to travel. Today, many policies remain essentially national in outlook and are '*spatially blind*' (Moylan, 2011). As evidence of this, a BMW Regional Assembly submission to the National Economic & Social Council (2005) highlighted a number of key reports (such as, Enterprise Ireland's *Ahead of the Curve,* National Competitiveness Council's *Annual Report* and Central Statistics Office's (CSO) *Measuring Ireland's Progress*) where regional targets, regionally differentiated policies, regional indicators or regional data were not provided or acknowledged. More recently, the same criticism can be levelled at the *National Recovery Plan 2011 – 2014* (Dept. of Finance, 2010). This is a serious deficit when one considers the importance given by the National Statistics Board (NSB) and policy makers to evidence-informed policy (NSB, 2003; NSB, 2009).

From an information perspective, the infrastructure supporting the compilation of regional or sub-national statistics in Ireland is sub-standard and dysfunctional. A White Paper on Rural Development (Dept. of Agriculture, 1999: Section 6) noted "*the provision and maintenance of an adequate level of infrastructure is central to the economic and social development of rural areas and to the achievement of balanced regional development*". What was meant by "infrastructure" was not clearly defined but the definition should not be limited to physical infrastructure, such as roads, sewage, transport etc. but should also include "*data infrastructure*". Yet such critically important infrastructure is noticeable only by its unacknowledged absence and poses a significant challenge for the production of regional and local statistics. The absence of postcodes, which makes the compilation of many sub-national statistics prohibitively expensive, is a clear example. Furthermore, multiple institutional territories exist in Ireland. In addition to the NUTS regions used for the purposes of EU funding and most official statistics, a myriad of other regional classifications exist, ranging from health, environmental or police regions to tourism regions, none of which

correspond to NUTS. There are perhaps good reasons why all state bodies and institutions are not spatially organised on the same basis, but from an overall administrative perspective an equally strong case could be made that in a small country like Ireland, a single regional structure and classification system might yield more efficient outcomes.

2.10 Conclusion

> "*Despite the rhetoric of trying to achieve more balanced regional development, in reality the goal has remained largely aspirational and without very clear regional targets*"
>
> (Kinlen, 2003: 3)

Since the late 1950's, the priority given to regional issues has ebbed and flowed with Ireland's economic and political fortunes. This inconsistency has stemmed from the uncertainty as to whether regional development undermines or supports national development. As a consequence, sub-national regional issues have remained secondary to national ones. Despite a National Spatial Strategy and two National Development Plans having set balanced regional development as a core objective, there is little evidence to date to suggest this objective is being achieved. Both the Buchanan Report and the National Spatial Strategy were rejected formally by the Governments of the day (in both cases for reasons of political expediency), while changes to the definition of balanced regional development, from equity to competitiveness, have left regional policy trying to hit a moving target. As a result it can legitimately be argued that regional policy is still struggling for recognition.

The inconsistent priority given to regional issues has led in general, to a reactive regional policy that has typically been short-term and opportunistic in perspective. Since joining the EEC, for example, Ireland's regional policy has been shaped in ways to optimise funding. What this means for future regional policy, as the Irish regions have moved to 'Phasing out' status, is unclear, but the artificial nature of

the NUTS 2 regions leaves them exposed to risk of manipulation or alteration in an attempt to maximise funding. The incoherent and artificial nature of the regions, particularly at NUTS 2 level, poses a wider problem; if the regions themselves don't make sense from a policy perspective then it raises questions as to their sustainability and suitability as a basis for credible analysis and policy decisions. The multiple regional structures used across the public sector is, no doubt, a reflection of this problem. Irrespective of the EU funding position, there is now a growing consensus that unbalanced economic growth, or underperforming regions, will undermine and constrain national economic performance and that regional disparities must be addressed if national society and economy are to function efficiently. There also appears to be broad agreement that regional development should be 'Centralist' rather than 'Dispersionist'.

Today, as Ireland grapples with a major economic and financial crisis, the achievement of balanced regional development (however defined) has become a more complex proposition. Any cohesive regional policy must now address the legacies of poor economic and spatial management. These centre on two themes: (1) the current recession, manifesting itself in rising unemployment, the return of emigration and the decline in provision of services, particularly in many rural locations and (2) the problems left over from unsustainable economic growth, such as congestion and infrastructural pressures in the main urban centres but, most particularly, in the GDA, ghost estates left over from a housing bubble and unsustainable, low-density and dispersed settlement patterns in rural areas. Furthermore, as the relative importance of manufacturing declines, industrial policy will be a less effective regional policy instrument and can no longer act as its primary instrument.

To be effective in a globalised and increasingly knowledge-based society and economy, regional policy must broaden its reliance beyond industrial policy and traditional infrastructure. In future, an increasing focus of regional economic policy must be the creation of innovative networks and structures (Doring, 2010).

Arguably these structures include a functioning data infrastructure whose absence has already been noted above. This change in emphasis has been evident in European Commission thinking for sometime, as their 2001 guidelines for European regional policy criticised the concentration on measures to reduce regional development shortcomings like energy and transport networks as being conceptually out of date (European Commission, 2001). In the reformulated or revised EU regional policy for 2007 – 2013, while funding is still available for convergence (i.e. financial assistance for regions where economic development lags behind) and strengthening competitiveness, two-thirds of available finance has been earmarked for developing local and regional, knowledge-based relationships (European Commission, 2004).

Despite a growing body of national and international work supporting the contributions of regions to the national economy, the ambivalence shown by successive Irish Governments towards the implementation of regional strategies, such as Buchanan or the NSS, suggest the debate over whether regional policy undermines or supports national policy aims that began in the 1960's continues to be unresolved. Arguably, this debate has been allowed to continue unresolved in Ireland because no regional economic models, such as the type recommended by Fitzgerald and Morgenroth (2006) in their ex-ante evaluation of the *NDP 2007 – 2013,* have been built. The dysfunctional data infrastructure operating across the wider public service mitigate against the efficient compilation of regional statistics, making their production prohibitively and un-necessarily expensive. In turn, the continued paucity of regional data sufficient to compile regional Supply and Use (SUT) and I-O tables has retarded the capacity to construct such regional economic models and provide an evidence base from which to formulate and assess regional policy.

Chapter 3: National & Regional Input-Output Tables

> *"[Input-Output] reveals the fabric of our economy, woven together by the flow of trade which ultimately links each branch and industry to all other"*
>
> (Leontief, 1966: 15)

3.1 Introduction

This chapter provides some historical and theoretical background to the I-O framework. The chapter is made up of eight sections. Section 3.2 gives a short précis on the origins of the I-O system. Sections 3.3 and 3.4 outline the basic logic and assumptions underlying the I-O tables and the consequent strengths and weaknesses of that system. Section 3.5 details the mathematical expression of the I-O and Leontief Inverse, while section 3.6 explains the relationship between I-O tables and broader national accounts. In section 3.7 some of the challenges faced when compiling regional I-O tables are outlined as are some of the approaches used to overcome these challenges. Section 3.8 concludes the chapter.

3.2 Historical background to the Input-Output system

In 1758, French economist Francois Quesnay formulated the *Tableau Economique* describing the workings of a farm in terms of sales and purchases between producers and consumers[1]. Following this work, other classical economists, including Leon Walras, formulated general equilibrium models of the economy, but it is Wassily Leontief who is credited with developing the first empirical implementation of a general equilibrium model of the economy (Shackleton and Locksley, 1981).

[1] Not everyone it seems appreciates Quesnay's efforts. P.J. O'Rourke (2007:39) described the Tableau Economique as "a minutely labelled, densely zigzagging chart – part cat's cradle, part crossword puzzle, part backgammon board."

Leontief developed the inter-industry or Input-Output (I-O) system as a framework to facilitate what he termed systematic large-scale factual analysis. This centred on his concerns that economic theory was being developed without recourse to any factual information. The I-O approach endeavoured to reconcile empirical fact with economic theory.

> *"Input-Output approach is consciously aimed at concentration of the empirical data-gathering phase of economic analysis on direct observation of the structural characteristics of the particular economy concerned. All its other operational properties are then derived deductively, i.e. computed through insertion of these primary empirical data into appropriate theoretical general equilibrium formulae"*
>
> (Leontief, 1953:43)

The first I-O tables, entitled "*Quantitative Input and Output Relations in the Economic System of the United States*" were published in 1936 and were a 19-sector, closed empirical model of the United States economy for the years 1919 and 1929 (UN, 1999). In the same year, Keynes published his General Theory but whereas Keynes was concerned with the full utilisation of resources through monetary and fiscal management, Leontief addressed the same concern by balancing the structure of industry with the pattern of demand (Barna, 1954).

Leontief was honoured with a Nobel Prize in Economic Science in 1973 for his work on the development of I-O methodology. In 1968, Professor Richard Stone published work integrating the I-O framework into the wider system of national accounts (SNA) for which he was also awarded a Nobel Prize in Economic Science in 1984.

The first official I-O tables in Ireland were published by the CSO in January, 1970 and related to the reference year 1964 and included 33 productive sectors (CSO, 1970) – *see chapter 4.*

3.3 The Input-Output model

> *"I-O is an essentially useful instrument for describing the flows within the economy in a succinct manner and very useful for economic analysis especially when one seeks the effects throughout the whole economy of one or more specific causes"*
>
> (Geary, 1966: 1)

In a developed economy, all the different sectors of that economy, such as industry, households and government agencies consume each other's products. Industries are producing goods and services for other industries, while at the same time consuming products from other industries. So an economy can be said to be structurally inter-dependent. I-O was designed specifically in order to "*summarise and quantify these inter-industry linkages*" (Morrison & Smith, 1977: 69).

I-O models are a statistical representation of this inter-dependence or the inter-sectoral relationships that exist between the different sectors of the economy. They provide an accounting or analytical framework for representing inter-industry flows for a given time period, thus facilitating economic projections and analyses.

I-O models emphasise general equilibrium phenomena and are essentially a simplified general theory of production. "*I-O are concerned almost entirely with the nature of production*" (Cheney and Clark, 1959: 33). They are based on the premise that it is possible to divide all productive activities in an economy into sectors whose inter-relations can be meaningfully expressed in a set of simple input functions. Thus, they try and take account of the various production and consumption activities of industries that constitute a given economy and identify the interdependence that arises out of the fact that each industry employs outputs of other industries as raw materials. So I-O matches various flows of inputs into the productive process with the outputs which are consumed in final demand i.e. I-O tables record the "*flows of products from each industrial sector considered as*

a producer to each of the sectors considered as consumers" (Miller and Blair, 1985: 2).

I-O models facilitate "what if" or the impact analysis of an event such as the closure of a pharmaceutical sector due to new environmental protection regulations. Both direct and indirect impacts of such a shock can be calculated and traced, such as individual sectors of an economy are linked to the wider economy through a series of backward and forward linkages (Matthews and O'Toole, 2000). A backward linkage is where a change in the purchase of inputs in a sector impacts on the activity levels in the corresponding input supply industries, with consequential employment and income effects. A forward linkage is where a change in the supply of output from a sector induces changes in activity levels of other industries, again with potentially significant employment and income effects. A forward linkage can also be thought of as where "*one productive sector supplies output to other sectors and in the process transmits forward technological advances and productivity gains*" (McCarthy, 2005: 8). I-O models further facilitate analysis by tracing these backward and forward linkages through an economy. Changes to final demand can also be assessed, for example, the impact on household consumption, while impact on employment can be calculated if output per capita for each sector is known (see Chapter 9).

There are a number of variants of the I-O model; open and closed, static and dynamic. The closed model integrates all economic activity within a single framework and thus all transactions are regarded as intermediate. In contrast, the open model does not internalise every transaction in the economy and treats final demand as exogenous. For example, I-O models are often broadened in scope or "opened" to include the household sector in the inter-industry matrix. So, if the model is open in respect to consumer demand, then it implies that some of the determining factors for consumer demand are not included in the system. Although less elegant than the closed model, the open model is more satisfactory for practical work.

Static models describe the interdependence of an economy for a given point in time and typically show "*that if certain demands were to be met industries would have to operate at certain levels of output*" (Stone, 1961: 117). Static models do not, however, provide any answers if industries are incapable of the production level demanded. Dynamic models embody the concept of adjustment which is required to deal with issues like acceleration (e.g. where capital expenditure depends on the way output is changing), capacity (e.g. where discrepancies exist between the assets required and the assets available to meet current demand) and modelling for the future (e.g. where output levels in the future require capital expenditure now - where present capital expenditure is determined by future demand). The most commonly compiled I-O tables are open, static models.

I-O tables have a number of uses. They play an important role in the construction and reconciliation of national accounts, while also constituting the backbone of supplemental or satellite accounts[1], such as Tourism, Transport and Environment satellite accounts. They also provide the platform required to construct Computable General Equilibrium (CGE) models.

I-O models are based on 3 basic assumptions:

1. Each product or commodity is produced by a single industry or sector. The corollaries of this assumption are that (a) only one method is used for producing each commodity and (b) each sector has only a single primary output i.e. producers do not engage in any secondary production and consequently there is no real distinction between industries and products or commodities. This is known as the *homogeneity assumption*. Thus, the inter-industry transaction table (also known as the intermediate consumption table)

[1] Satellite accounts are supplementary estimates that do not change the official national accounts, including GDP. They provide greater detail than in the National Income and Expenditure accounts and allow analysis of a particular aspect of the economy. This is particularly useful for dispersed or fragmented sectors, such as tourism, that defy normal economic activity classifications.

must not only be square but symmetric. One commodity per industry is clearly a simplistic assumption, but it tallies with the production of official business statistics at the enterprise level, where total enterprise activity is coded to the predominant economic activity or NACE code of that enterprise.

2. Demand for inputs is in fixed proportion to total output (i.e. a linear production function), so the inputs purchased by each sector (i.e. the inputs required to manufacture or produce a good or service) are a function only of the level of output of that sector. Thus, an increase in total output will lead to a specific increase in each input category which is used in the production of the output (i.e. constant returns to scale). The ratio representing the amount of a given input required for a unit increase in gross output is defined as a technical coefficient.

3. The total effect of carrying on several types of production is the sum of the separate effects.

These underlying commodity or product technology assumptions have often been criticised as they result in an overly simplistic model. A brief summary of the strengths and weaknesses of the I-O model are outlined in the following section.

3.4 Strengths and weaknesses of I-O Tables

> "*The strength of the I-O approach lies in its explicit recognition of the interdependence of sectors of the economy, a factor which must be taken into account in planning or forecasting future economic structure*"
>
> (McGilvray, 1956: 59)

Like all formal economic models, the I-O system is derived from assumptions about economic behaviour and definitions of the variables used in the tables. Some of these assumptions have been criticised as overly simplistic, and it is important to review the strengths and weaknesses of the I-O system. As already noted, I-O models simply provide a framework for measuring the flows of inputs and outputs between various sectors of an economy and posses a number of advantages that make them particularly well suited to analysing structural change.

1. *Comprehensiveness and consistency.* I-O tables draw on a wide range of data sources to encompass all formal economic activity occurring within an economy. The tables themselves force a completeness and internal consistency, which allow them to play a fundamental role in the construction and evaluation of the national accounts.

2. *Interconnected system*. I-O tables facilitate analysis of the economy as an interconnected system of industries and products that directly and indirectly affect one another. Thus, I-O tables trace the linkages from raw materials or inputs, through various stages of intermediate production to the final sale of a finished good or product. The facility to analyse an economy's reaction to changes in economic environment, particularly any indirect effects, is a unique strength of I-O analysis.

3. *Direction and magnitude of change*. I-O tables facilitate the decomposition of structural change in the economy, helping to identify the source of change as well as the direction and magnitude of the change. It does so by enabling

changes to output to be linked with changes in inputs or other factors such as imports, exports and technology (i.e. the relationship or way in which industries link with each other). Thus, the link between inputs and outputs and employment can be isolated.

However, there are limitations to the I-O approach and it is important to understand these. The main problems or shortcomings of the I-O system are listed below:

1. *Constant returns to scale*. The I-O system assumes a constant return to scale i.e. the same relative mix of inputs will be used to create a product regardless of quantity. Thus economies of scale are not taken into account.

2. *One product per industry*. It is assumed that each industry only produces one product or output i.e. producers do not engage in any secondary production.

3. *Homogeneity of products within industry*. It is assumed that each good produced within a given industry is the same.

4. *Technical coefficients are fixed*. The I-O system assumes that each input required to produce a unit of output is constant. So, the amount of inputs purchased by a sector is determined solely on the level of output. No consideration is made for price changes, changes in technology or economies of scale. McGilvray also noted that "*this assumption of linear proportionality between inputs and outputs would appear to ignore the law of diminishing returns*" (1964: 50). The assumption that underlying technology is constant makes I-O more suitable to short-run rather than long-run forecast applications.

5. *No constraints on resources*. Supply is infinite and perfectly elastic i.e. production capacity is unlimited, so when the final demand for a product increases, it is supposed that the production or output of this product (and all

necessary intermediate products) will be available without any capacity restrictions.

6. *Efficient employment of resources*. There is no under employment of resources.

7. *Timeliness of I-O data*. There is a long time lag between the reference period and the availability of the data required to construct I-O tables. Hence, I-O tables tend to benchmark or be snapshots of an economy and its interconnections for a specific period.

Because these underlying assumptions are quite restrictive, it has been argued that I-O tables are not suitable for analysing a national economy or scenario modelling as they present too simplistic a model. However, Matthews and O'Toole (2000) have demonstrated for the agricultural sector in Ireland that by partially relaxing these assumptions, changes in agricultural output, prices and technology (or input coefficient structures) can be realistically captured. More generally, Barna has also suggested that "*It is better to have a crude model which works than an elaborate system of algebraic symbols without a numerical counterpoint*" (1954: 27).

3.5 Basic I-O Table and derivation of Leontief Inverse

An Input-Output table can be expressed in algebraic form. From the demand side, the interconnections can be expressed as:

$$x_i = y_i + z_{i1} + z_{i2} + z_{i3} + \ldots + z_{in}$$

Where:

z_{ij} represents the intermediate use of product i by industry j i.e. the sale of product i to industry j;

y_i represents the final use of product i; and

x_i represents the total output of industry i.

From the supply side, the I-O can be expressed as:

$$x_j = w_j + m_j + z_{1j} + z_{2j} + z_{3j} + \ldots + z_{nj}$$

Where:

w_j represents the value added in the production of j and m_j for the imports of product j.

For any specific product, the total output achieved on the demand or use side must equal the total output achieved on the Supply side i.e. $i = j$ and $x_i = x_j$.

The ratio representing the amount of a given input required for a unit increase in gross output is defined as a technical coefficient. The technical coefficient for any sector (a_{ij}) given the input required from industry i to produce a unit increase of industry j's output can be expressed as:

$$a_{ij} = {}^{z_{ij}}/_{x_j}$$

i.e. the total amount of product i (whether domestically produced or imported) that is used in the production of one monetary unit of industry j's output.

It is assumed usually that this input function is linear i.e. a fixed co-efficient production function. Thus, the demand side equation:

$$x_i = y_i + z_{i1} + z_{i2} + z_{i3} + \ldots + z_{in}$$

can be re-expressed as:

$$x_i = y_i + a_{i1}x_1 + a_{i2}x_2 + a_{i3}x_3 + \ldots + a_{in}x_n$$

If this holds for all industries and products, and there are n intermediate industries and products, then this can be extended to:

$$\begin{aligned}
y_1 &= (1 - a_{11})x_1 - a_{12}x_2 - a_{13}x_3 - \ldots - a_{1n}x_n \\
y_2 &= -a_{21}x_1 + (1 - a_{22})x_2 - a_{23}x_3 - \ldots - a_{2n}x_n \\
y_3 &= -a_{31}x_1 - a_{32}x_2 + (1 - a_{33})x_3 - \ldots - a_{3n}x_n \\
&\ldots \\
y_n &= -a_{n1}x_1 - a_{n2}x_2 - a_{n3}x_3 - \ldots + (1 - a_{nn})x_n
\end{aligned}$$

This can be expressed in matrix terms as:

$$\begin{vmatrix} (1 - a_{11}) & - a_{12} & - a_{13} & \dots & - a_{1n} \\ - a_{21} & (1 - a_{22}) & - a_{23} & \dots & - a_{2n} \\ - a_{31} & - a_{32} & (1 - a_{33}) & \dots & - a_{3n} \\ \vdots & \vdots & \vdots & \dots & \vdots \\ - a_{n1} & - a_{n2} & - a_{n3} & \dots & (1 - a_{nn}) \end{vmatrix} \begin{vmatrix} x_1 \\ x_2 \\ x_3 \\ \vdots \\ x_n \end{vmatrix} = \begin{vmatrix} y_1 \\ y_2 \\ y_3 \\ \vdots \\ y_n \end{vmatrix}$$

This matrix can be condensed to:

$$(I - A)x = y$$

This can be re-expressed to yield the Leontief inverse:

$$x = (I - A)^{-1}y$$

So, for an economy where only 3 aggregated sectors (1, 2 and 3) exist, say agriculture, industry and services, the output of that economy can be represented by a simple 3 x 3 matrix – See Figure 3.5.1. Each cell describes the industry output (x). So (z_{11}) represents the output of industry 1 that remains in industry 1 as input. (z_{12}) indicates the quantity of output from sector 1 supplied to industry 2 for use within industry 2 etc. Thus (z_{ij}) are the deliveries (or intermediate inputs) from industry i to industry$j$.

The destination of outputs produced by sector 1 can be identified by reading across the sector 1 row, whereas the inputs (intermediate inputs + primary factors) used by sector 1 (and their source) can be seen by examining the column for sector 1. The revenue generated from the output of a sector is exhaustively divided among the intermediate inputs and primary factors, and consequently the sum for each sector row and column must be the same.

Thus, at the heart of an I-O model is the transactions matrix which shows the extent to which each sector depends on the other sectors of the economy for its inputs. The inputs are usually expressed in value terms although they can also be expressed as proportions, or as a matrix of technical coefficients.

A 3 x 3 matrix I-O table can be expressed in algebraic form as:

Total output		Intermediate demand		Final demand
x_1	=	$z_{11} + z_{12} + z_{13}$	+	y_1
x_2	=	$z_{21} + z_{22} + z_{23}$	+	y_2
x_3	=	$z_{31} + z_{32} + z_{33}$	+	y_3

Where:

(x_1) is the Total Output (Final demand y_1 + intermediate inputs $\sum z_{ij}$) of sector 1.

Figure 3.5.1 – Basic I-O Matrix

		Outputs				
		Sector 1	Sector 2	Sector 3	Final Demand	Total Output
Inputs	Sector 1	z_{11}	z_{12}	z_{13}	y_1	x_1
	Sector 2	z_{21}	z_{22}	z_{23}	y_2	x_2
	Sector 3	z_{31}	z_{32}	z_{33}	y_3	x_3
	Value Added	v_1	v_2	v_3	$\sum y = \sum v$	
	Total Input	x_1	x_2	x_3		

The shaded area in Figure 3.5.1 represents the inter-industry transactions. This is the heart or nuclear part of the I-O table, and represents the intermediate consumption of several products made by different industries. In this case, composed of three production sectors (1, 2 & 3), y_1 is the final demand or final use of sector 1 i.e. final consumption of households, non-profit institutions serving households and general government plus gross capital formation (i.e. gross fixed capital formation and changes in inventories and acquisitions less disposal of valuables) plus net exports. So, final demand has 2 components, domestic (D) and foreign demand (E).

The total supply of each commodity (x_i) equals the total demand (i.e. intermediate and final demand).

$$x_i = \sum_j z_{ij} + y_i$$

Each sector appears in the accounting system twice; once as a producer of output and once as a user or consumer of inputs. As the I-O matrix is symmetric, it can also be written from the input (or column) side.

Total input		Intermediate inputs		Value added
x_1	=	$z_{11} + z_{12} + z_{13}$	+	VA_1
x_2	=	$z_{21} + z_{22} + z_{23}$	+	VA_2
x_3	=	$z_{31} + z_{32} + z_{33}$	+	VA_3

Where:

(VA_1) is the Value Added within industry 1 (i.e. the direct payments for primary inputs or factors, such as land, labour (wages) and capital). Like final demand, primary inputs are made up of Value Added and Imports. These additional complexities can be incorporated into the basic I-O matrix (Figure 3.5.2).

Figure 3.5.2 – General Structure of I-O Table

		Productive Sectors			Final Demand		Total Output
		Sector 1	Sector 2	Sector 3	Domestic Demand	Exports	x
Productive Sectors	Sector 1	z_{11}	z_{12}	z_{13}	D_1	E_1	x_1
	Sector 2	z_{21}	z_{22}	z_{23}	D_2	E_2	x_2
	Sector 3	z_{31}	z_{32}	z_{33}	D_3	E_3	x_3
Primary Inputs	Value Added	VA_1	VA_2	VA_3	D_V	E_V	V
	Imports	M_1	M_2	M_3	D_M	E_M	M
Total Input	x	x_1	x_2	x_3	D	E	X

Thus, total production in each sector equals the value of inputs purchased from the other sectors plus the value added in that sector.

$$x_j = \sum_i z_{ij} + VA_j \ \ (j = 1 \ldots n)$$

The separation of intermediate and final consumption of output, and the separation of produced and primary inputs, leads to 4 types of transaction. The basic I-O table can be broken down into 4 quadrants – See Figure 3.5.3.

Quadrant 1 accounts for the main part of the inter-industry flows. (z_{ij}) has already been described as the deliveries (or intermediate inputs) from industry i to industry j. (z_{ij}) can also be thought of as the amount of commodity i used by sector j in constant prices. Total intermediate demand (or use) of any commodity equals the total purchases from the other sectors.

Quadrant 2 contains the final demand (or use) of produced commodities and services, broken down by their types of use i.e.

$$C + F + G + E = Y$$

where:

C represents Private Consumption expenditure;

F represents Gross Fixed Capital Formation (or investment I);

G represents Government Consumption expenditure; and

E represents Exports.

Figure 3.5.3 – Basic I-O Quadrants

	Intermediate Demand	Final Demand	Total Output
Intermediate Input	1	2	
Primary Input	3	4	
Total Input			

A typical disaggregated I-O table for even the most complex economy will contain a high proportion of blank cells i.e. pairs of industries that do not trade with each other i.e. there are no inter-industry flows.

Quadrant 3 contains the use of primary inputs i.e. inputs not produced within the system. In a static model, existing capital stock is a primary input, as is land and labour. Total payments for primary inputs by each sector therefore correspond approximately to the value added.

$$VA + M = Y$$

where:

VA represents Value Added

M represents Import

Quadrant 4 contains the direct use of primary inputs for final use. An example of where this would happen is government employment. Although not a inter-industry transaction, direct consumption of primary inputs must be included to be consistent with national aggregates.

$$VA + M = C + F + G + E$$

Thus

$$VA = C + F + G + (E - M)$$

Thus, Value Added (VA) corresponds to Gross Domestic Product. At the aggregate level, GDP differs from value added by the amount of taxes (less subsidies) paid on products. This is the difference between basic prices (value added) and purchasers' prices (GDP).

$$GDP = C + F + G + (E - M)$$

3.6 I-O and System of National Accounts

"*National Accounts and I-O are in essence identical:*
I-O is merely a more detailed version"

(Geary, 1966: 16)

I-O tables trace the destination of outputs through the whole network of intermediate demand to the sources of inputs and link current production to final demand. Thus, I-O tables are an excellent means of describing and analysing the productive process of a complete economic system.

In many countries, I-O studies developed directly out of national income statistics, since national income estimates are based partially on production statistics. It was realised that a more accurate, or balanced, picture could be obtained of a national economy by constructing I-O tables in addition to the traditional set of national income tables. In Ireland, however, despite having a comprehensive Census of Industrial Production (CIP) since 1926, national income estimates have been derived primarily from income and expenditure, rather than production-side statistics. In no small measure this has been due to the lack of production statistics for the services sectors. This lacuna is now being addressed with the introduction of a number of additional comprehensive surveys: The Annual Services Inquiry in 1999 covering the traded services sectors, a survey of Building & Construction in 2010 and new structural statistics on the financial services sectors commencing in 2011.

Given the lack of comprehensive and systematic data beyond the manufacturing sector, and the lack of resources devoted to I-O production in CSO, official I-O tables were therefore compiled primarily as a consistency check against the national accounts income and expenditure approaches. I-O tables were still useful for identifying inconsistencies between income (company tax return data to the Revenue Commissioner data) and CIP and the Census of Distribution (COD)

which preceded the ASI but related to distributive trades only i.e. wholesale and retail.

Council Regulation No. 2223/96 on the European system of national and regional accounts in the Community (Eurostat, 1996) provides the legal basis for the European System of Accounts 1995 (more commonly known as ESA 95). The regulation obliges member states to compile Supply and Use Tables (SUT) and I-O tables. Ireland (CSO) had a derogation until December 2005, but now must compile SUT on an annual basis and I-O tables every 5 years (those ending with 00 and 05). Specifically, EU Member States must supply;

- Table 15: Supply table at basic prices, including transformation to purchasers' prices (A60 x P60), annual;
- Table 16: Use table at purchasers' prices (A60 x P60), annual;
- Table 17: Symmetric I-O table at basic prices (A60 x P60), 5 yearly;
- Table 18: Symmetric I-O table for domestic output at basic prices (A60 x P60), 5 yearly; and
- Table 19: Symmetric I-O table for imports at basic prices (A60 x P60), 5 yearly.

In 1998, the CSO published SUT for the first time and their integration into the I-O framework enhances their accuracy as they balance the supply and use of every commodity in the economy. The CSO compile and publish official symmetric I-O tables (SIOT) for Ireland, the most recent being published in 2009 in respect of the year 2005[1]. The next full I-O tables to be published by CSO will refer to reference year 2010, although the 2007 Supply and Use tables were published in 2011. The CSO publish national or state I-O tables and do not compile or publish any I-O or SUT at a sub-national or regional level.

[1] Full I-O tables were compiled for the year 2007 but were never officially published. These tables were kindly made available by CSO to the author. See Chapter 9.

National income and I-O are intimately connected. GDP is the sum of the added value of all sectors of an economy. These sector added values appear explicitly in the I-O tables, as do macro-economic entities such as consumption (household and government), capital formation (fixed and changes to stocks), imports and exports.

The final demand aggregates and components of value added (e.g. compensation of employees) are taken from the National Accounts and are used as control totals. As National Accounts are subject to revisions, the CSO noted that for its 2005 I-O tables, the concordance is with the totals as published for the year 2005 in the National Income and Expenditure 2007. In the 2005 tables, the CSO noted that "*a degree of balancing is necessary*" (CSO, 2009: 5) in order to construct the Supply and Use Tables and that the imposition of National Accounts totals "*creates difficulties in achieving complete reconciliation between data from many different sources used to complete the transactions tables"* (CSO, 2006b: 5). Consequently, a number of entries are residual. The concordance between the I-O table and the National Accounts is at a fairly aggregate level, since for many cases the sub-divisions are constructed on a different basis and are not comparable.

3.7 Regional I-O Tables

Regional I-O tables comprise regional SUT and the I-O tables based on them. The data in these tables improve the precision and add depth to regional accounts data. They describe the structure of production in the regions, relationships between economic activities and the dependence of regions on the product flows to other regions and abroad. Symmetric I-O tables describe interdependencies between economic activities.

Analysis tables derived from them can be used to study the importance of production and final use of economic activities for regional economies and employment.

3.7.1 Data Gaps

Since the I-O approach was first expounded by Leontief in the 1930s, empirical implementation has been hampered by lack of data and the costs of addressing such data gaps. This problem is evident particularly at the sub-national level. As Dewhurst noted "*Data for regional input-output tables are hard to come by and expensive*" (1992: 81).

In 1966, Roy Geary, giving a series of lectures on I-O tables, noted "*the absence of any kind of import and export statistics for regions is a grave lacuna*". Geary went on to suggest that "*much can be achieved however, with enthusiasm, a sense of the value of the exercise and a not too delicate statistical conscience*" (1966: 83). In 1975, O'Connor and Henry (1975: 19) highlighted the importance of regional I-O tables and noted their absence, but hoped that this deficiency would be soon rectified. In 1977, Henry (1977b) demonstrated the limitations imposed by the lack of regional data in his paper on regional I-O to the Social and Statistical Inquiry Society of Ireland. Commenting on Henry's paper, Geary noted that "*The main difficulty is that for regions, external trade figures are non-existent*" (1977b: 24). Over forty years later, the lacuna lamented by Geary in 1966 persists and remains the most significant challenge to the construction of regional I-O tables in Ireland. In 2007, Teagasc hosted a workshop[1] dedicated to I-O tables and CGE modelling. At this workshop, the importance of regional I-O tables were once again emphasised, as was the lack of inter-regional trade data. In October 2010, the CSO hosted a special symposium on the compilation, application and extensions of I-O analysis to mark the contribution made by Dr. Eamon Henry to this field. At this seminar MacFeely et al (2010) highlighted some of the challenges and potential solutions in estimating inter-regional flows.

[1] February 2007, Workshop

3.7.2 Survey versus Non-Survey

Regional I-O (R-IO) analysis is virtually the same as national I-O analysis except that the comparison is made between regions. R-IO tables describe how regional industries interact with each other, and with the outside world, through imports and exports. So the main difference between regional and national tables is the separating out of exports (and imports) of the region into (a) other regions and (b) abroad i.e. exports in the traditional sense. This is an important distinction, for as Riddington et al point out, local economies "*are normally very open*" (1994: 2). So even if one region produces commodity *x*, an increase in the demand for *x* may be met by increased imports rather than an increase in local production. For a regional I-O table, exports also include transfer income from other regions. Purchases from other regions are treated as if they were imports and sales to other regions are treated as exports. The dependence of a region on its own and on outside resources will, therefore, be apparent from R-IO tables.

Consequently, regional models have many advantages for policy makers, but are of particular importance in showing how policies, which may be of overall benefit to the nation, may work to the detriment of a particular region within the state. Indeed "*the construction of regional models may in many ways be a more important exercise than the preparation of country tables*" (O'Connor and Henry, 1975: 19).

A major problem with all types of I-O table construction is the availability of data. This is particularly true of regional I-O tables, which are especially data hungry. To overcome this problem, some analysts have constructed R-IO tables using synthetic data to overcome data gaps. "*The fundamental and all-pervading difficulty is lack of precise information at the regional level and the consequent necessity of making estimates which depend on the assumptions used to obtain them*" (Henry, 1977: 6).

As a result, regional I-O tables can be classified usually into one of three types of model:

1. Survey based model. Here, most of the data for the transactions table are sourced directly from primary regional data. If sufficient data are available, survey methods are generally thought to produce "*the most accurate table*" but are both expensive and time consuming and, as West (1990: 104) notes, "*strictly survey-based*" tables are virtually unachievable in practice. The methodological approach required for survey based I-O tables is best outlined in United Nations and Eurostat methodological handbooks (UN, 1999; Eurostat, 2008). This approach was used widely in the 1960's (Isard et al, 1966; Bourque and Weeks, 1969), but is less common today.

2. Non-Survey model. Non-survey models employ very little primary data and usually obtain regional data by adjusting the national I-O table. Often known as Top-down models, they are relatively inexpensive and quick to compile. There are a number of top-down approaches that can be used: Simple Location Quotients (SLQs) or coefficients, Supply-Demand Ratios (SDRs), the Regional Purchase Coefficients (RPC) method, the Cross-Industry Location Quotient (CILQ) or the Semi Logarithmic Location Quotients (RLQ) approach. These techniques usually estimate regional trade flows, often by modifying national coefficients to produce estimates of regional coefficients. It is generally thought that non-survey models achieve their objective of minimising cost and construction time but do so at the expense of accuracy (Flegg & Webber, 1997 & 2000; Comer & Jackson, 1997; Smith & Morrison, 1974; Round, 1978 & 1983 or Tohmo, 2004).

3. Hybrid. Between the two above extremes lies a broad spectrum of methods, variously termed "partial survey" or "hybrid" methods which

incorporate both survey and synthetically-produced estimates into the construction process. Hybrid models are the most common approach used to compile regional I-O tables and use as much primary data as possible before relying on secondary data. Hybrid models can usually provide a satisfactory compromise between cost, timeliness and accuracy. Typically, a "Top Down" approach is employed which maximises the use of published statistics (e.g. employment, earnings, production levels etc.) and other sources of published or unpublished regional data (such as industry reports, organisational studies etc). All of these data are put into the I-O tables, with any gaps being addressed by using a selection of non-survey methods. The GRIT (generating RI-O tables) model is the best known examples of this approach (Jensen et al, 1979 and 1988; West, 1981 & 1990)[1].

In recent years, there has been increasing focus on modelling the Supply and Use tables (SUT) rather than the end I-O tables. SUT are viewed by a growing number of researchers as being closer to the data (and reality) as they are exempt from the restrictive assumptions associated with I-O; for example, allowing industries to produce more than one product. Thus, SUT are increasingly being thought of as 'cleaner', more easily understood by users and potentially possessing broader application, particularly regarding environmental and trade modelling (Siddiqi and Salem, 1995; Eding at al, 1998; Juha, 1998; Madsen et al, 1998).

In deciding which approach to use, a number of issues need to be taken into consideration. What is the primary purpose or use of the table - will it be general or specific? What level of aggregation is required? How much primary data are available? Time constraints? West (1990: 112) notes that it might make sense to disaggregate some sectors of interest and aggregate all the others. This could simplify and speed of construction as detailed data will only be required for

[1] For a more detailed description of the most common non-survey and hybrid models see Appendix 3.

certain sectors. He also notes that if a general purpose model is required then the level of aggregation and data sources are critical probably shifting the choice towards the full-survey end of the spectrum.

3.8 Conclusion

This chapter has outlined the basic theoretical and mathematical logic of the I-O framework. In doing so, the principal strengths and weaknesses of the system have been detailed. The framework has also been contextualised by explaining the links and relationships with the broader system of national accounts.

Of particular relevance to this study, the various approaches to compiling regional I-O tables are also outlined, as are the challenges associated universally with inadequate data. The most common approach to overcoming data gaps is typically to use a range of non-survey methods to model regional I-O tables. In this study, a more data intensive, survey-based approach is used, which, as noted above, should yield a more robust set of tables than the alternate non-survey or hybrid methods.

Chapter 4: National & regional Input-Output Tables in Ireland

4.1 Introduction

This chapter provides a short summary of all the published official and unofficial I-O tables compiled in Ireland. There have been quite a number of official and unofficial I-O tables compiled in Ireland since the 1960's. The majority of these tables have been national in scope.

The official tables have been generally all-purpose in nature, whereas many of the unofficial tables compiled in Ireland have been constructed for a specific purpose. Initially, many of these unofficial tables were geared towards research of the agricultural industries, but in recent years there has been an evident shift in research focus towards environmental issues.

While there have been a number of regional tables compiled (all un-official), these have always been for a single region in isolation i.e. a complete set of I-O tables for all the regions that can be reconciled with state tables have never been compiled prior to this study.

Section 4.2 details the official I-O tables compiled in Ireland. Section 4.3 outlines the unofficial national and regional tables compiled. Section 4.4 provides a short conclusion.

4.2 Official I-O Tables in Ireland

There have been nine official I-O tables published for the Republic of Ireland. The first official set of I-O tables for Ireland were published by the CSO in 1970 and refer to the reference year 1964 (CSO, 1970). Thereafter, official I-O tables were published for 1969 (CSO, 1978), 1975 (CSO, 1983), 1985 (CSO, 1992), 1990 (CSO, 1997), 1993 (CSO, 1999), 1998 (CSO, 2004), 2000 (CSO, 2006) and 2005 (CSO, 2009). An I-O table for 2007 was completed in 2011 and were kindly made available to the author but, at the time of writing, these tables have not been

published. The 1998, 2000 and 2005 I-O tables were supplemented and enhanced by the publication of Supply and Use tables (SUT). Stand-alone SUT have also been published for 1998 (CSO, 2004), 2001 (CSO, 2007), 2002 (CSO, 2007), 2006 (CSO, 2010) and 2007 (CSO, 2011). SUT were also estimated by the CSO for the years 2003 and 2004 but these tables were never published. The tables published by CSO are open, static models.

The CSO I-O tables begin with a general description of what I-O tables are and then outline some of the principal features of the tables, such as classifications systems and issues surrounding reconciliation with national accounts. I-O tables use a vast array of data sources. For example, the national 2005 tables reference the following CSO data sources as used to compile the SUT and I-O tables:

- Annual Services Inquiry
- Balance of International Payments
- Census of Building and Construction
- Census of Industrial Production
- Fishery Statistics
- Household Budget Survey
- Household Travel Survey
- National Income and Expenditure
- Output, Input and Income in Agriculture
- Prodcom Product Sales
- Quarterly National Household Survey
- Supply and Use and Input-Output Tables 2000
- Supply and Use Tables 2001 and 2002
- Tourism and Travel
- Trade Statistics

These data are supplemented by additional "*published reports by government departments, semi-state bodies and financial institutions*" (CSO, 2009: 5).

The conventions adopted in constructing the I-O tables have been broadly the same over the years, with minor modifications, such as the treatment of imports. More significant changes were made 2004 with the introduction of the SUT for the 1998 tables and the change from "industry to industry" tables to "product to product" tables. It is, nonetheless convenient, to describe the 1964 table and outline changes to subsequent tables.

4.2.1 1964 Table

As noted above, the first official set of I-O tables for Ireland were published by the CSO in 1970 and refer to the reference year 1964 (CSO, 1970). The 1964 tables were constructed by CSO with the assistance of Dr. R. O'Connor of the ESRI. In constructing the 1964 tables, 150 classes of economic activity were identified but these were amalgamated or consolidated into 92 sectors. Transactions, direct coefficient and Leontief inverse coefficient tables were published for these 92 sectors and for 33 and 17 sector aggregations. For the 33 and 17 sector tables, industries were aggregated to form industry groups. The CSO noted that the 33 sector table conformed "*as far as possible*" (1970: 5) with the 35 sector model used as a standard by Common Market countries. Values of domestic production were given in producers' prices and those for imports are c.i.f. (customs, insurance and freight inclusive).

Imports in the 1964 model were classified as 'similar' or 'complementary'. In broad terms, 'similar' (or competitive) imports are those imports which are close substitutes for home-produced goods but also include commodities, which could, in the short term and using existing resources, be manufactured domestically. Similar imports were included in the inter-industry transactions (i.e. output of domestic and similar imports were added together in the same row); thus it is not possible to determine the extent to which inter-industry flows are of domestic or foreign origin. The CSO noted this approach (i.e. combining domestic component and similar input component of a commodity) "*is*

more stable over a number of years than the domestic component alone" (1970: 6). Separate columns and totals were also given for merchandise and invisible imports (but it is not possible to determine the sector of destination). Complementary imports (i.e. where raw materials and semi-produced goods were not available for domestic sources) were recorded in a separate row.

The value of joint products was transferred to the sector primarily responsible for production of those products, or in cases where no 'suitable' sector existed, an artificial row was introduced. In the 92 sector model, there were 5 artificial sectors created specifically to deal with by-products. Four additional artificial sectors were also created to overcome the problems of data availability (Sales by final buyers, Materials for repairs, Packaging and Residual business current expenditure). These were aggregated in the 33 and 17 sector models.

To reconcile row and column totals, household expenditure was treated as a residual. Also, for sectors whose output was generally not used by households, a column labelled "Apparent Surplus/Deficit" was used to balance the row and column totals. The report also details the source of data on exports, government expenditure, changes to stocks and gross domestic fixed capital formation. Tourism is treated separately from other invisible exports.

4.2.2 1969 Table

The 1969 I-O tables (CSO, 1978) also compiled 92, 33 and 17 sector tables. The main difference between these tables and the 1964 tables was in the treatment of imports. In the 1969 tables, similar imports were not included in the inter-industry transactions portion of the table. Instead both similar and complementary imports were shown as primary inputs, but given separate rows. Thus, only home-produced goods were entered into the inter-industry part of the tables. Since input data did not always

separate domestic and imported inputs, it was assumed that domestic supply and similar imports were distributed with the same proportions across all users of a sector's output. The CSO noted the distinction between the two classifications involved a "*certain degree of subjective judgement*" (1978: 6).

As in the 1964 tables, a number of artificial sectors were constructed to deal with by-products where no appropriate sector classification existed, or to overcome data availability problems. In the 1969 tables, 4 such sectors were inserted: Sales to Final Buyers, Materials for Repairs, Packaging and Residual Business Current Expenditure. These four artificial sectors were grouped into one for the 33 and 17 sector models.

4.2.3 1975 Table

The 1975 tables (CSO, 1983) were compiled as part of the statistical programme of the European Community. This resulted in a number of changes as the underlying definitions were brought into close agreement with the European System of Integrated Economic Accounts or ESA. The European sector or activity classification NACE-CLIO (R44) was also incorporated, albeit slightly aggregated for some service sectors to yield a 41 sector model. In addition to the 41 sector table, two 39 sector tables were compiled. One was merely a compression of the 41 sector table whereas the other was a reworking of the 1969 92 sector table to facilitate consistent comparison between the 1969 and 1975 tables.

One deviation from the ESA standard was to treat tourist expenditure as part of Invisible Exports rather than as part of Personal Expenditure. This was consistent with previous 1964 and 1969 tables.

The treatment of by-products was also changed in the 1975 tables. Transfers of by-products and adjacent products were listed outside the inter-industry transactions matrix. It was noted that these were not

included in the direct input coefficients and inverse matrix. Imports were again treated as primary inputs but they were not broken down into similar and complementary as was done in previous tables.

The tables are valued at basic prices for domestic production and c.i.f. for imports. It was noted that the basic prices of this formulation corresponded to producers' prices used in previous CSO tables (CSO, 1983: xi).

The introduction of the NACE-CLIO classification system also prevented the use of artificial sectors and hence the removal of the "Apparent Surplus/Deficit" balancing column. As a result, both the Personal Expenditure column (as in the past) and the Residual Business Current Expenditure column were used to achieve the balance. The VAT on Products row, which shows the difference between invoiced VAT on the products of a sector and the deductible VAT on purchases of the same sector's products, was also used to achieve balance.

4.2.4 1985 Table

The 1985 I-O tables (CSO, 1992) were compiled using a very similar methodology to that employed for the 1975 tables. The NACE-CLIO classification system was employed again yielding a transaction table with 41 sectors. Two sectors or branches were blank: Coking and Radioactive Materials, as they were non-existent in 1985. Once again the valuations were priced at basic prices.

The most significant change was in the treatment of By-products and Adjacent products. In the 1985 tables, these are treated as outputs of their producing sectors, without being transferred to another sector. In the notes, CSO stated this minor change was of "*trivial significance*" (CSO, 1992: xi). Another slight difference is that in 1985, a distinction was made

(once again) between similar and complementary inputs, a feature of the 1969 tables that had been dropped for the 1975 tables.

4.2.5 1990 Table

The 1990 tables again conformed to the ESA and used the same methodology as the 1985 tables. The sectoral classification remained NACE CLIO, valuations were in basic prices, where by-products and Adjacent products were treated the same as in 1985. Four artificial sectors were used in the compilation of the tables (but not published): Repair work, Materials for repair, Packaging and Residual business current expenditure. The transaction tables again comprised of 41 sectors, of which 39 were "*real*" (CSO, 1997: x) as the Coking and Radioactive Materials sectors remained blank (non-existent).

4.2.6 1993 Table

The 1993 tables (CSO, 1999) were more summary than the 1990 tables and were essentially just an update. Table 1 (the I-O transactions table) combined import and domestic flows, whereas in earlier years this table related only to domestic production. Hence the loss of the derived tables 2 (I-O Direct Input Co-efficients), 3 (I-O Inverse of domestic flows with Multipliers of Other Inputs) and 4 (I-O Distribution of Merchandise Imports c.i.f.). There were no methodological changes to those used in the 1990 tables; the underlying definitions were in close agreement with the ESA, by-products and adjacent products were treated the same as in 1990 and the classification system was NACE CLIO. Again it was a 41 sector table, valued at basic prices.

4.2.7 1998 Table

The 1998 tables (CSO, 2004) saw a number of significant changes being made to the official I-O tables. Most notably was the publication for the first time of Supply and Use tables (SUT) and also the switch from "industry by industry" tables to "product by product" for the I-O table itself. These changes were made in line with the recommendations of the ESA 1995 and were made possible, in no small measure, by the publication of PRODCOM[1] statistics for the first time in 1997 (with respect to 1994 data). To facilitate this change, a sectoral classification was also adopted; the 2 digit NACE Rev.1, known as A60 for industrial activity[2]. The product classification P60 is "*effectively the same*" (CSO, 2004: 4) as the A60 classification.

The Supply and Use tables were both constructed using a product by industry matrix. The former was valued at basic prices, whereas the Use tables were valued at purchasers' prices and c.i.f. for imports, in order to correspond with the source data. The I-O table itself was a 48 sector table valued in basic prices. I-O tables are derived from the SUT by employing the "*Commodity Technology Assumption*". "*The basic premise of the commodity technology assumption is that a given product uses the same input structure irrespective of the industry where it is being produced*" (UN, 1999: 91).

[1] PRODCOM – PRODuction COMmunautaire (Community Production).

[2] See Appendix 4 for full NACE/CPA listing

This assumption can be written as:

$$x_{ij} = \sum_{k=1}^{n} a_{ik} m_{jk}$$

where:

x_{ij} is the input of i required by industry j

m_{jk} is the product k manufactured by industry j

a_{ik} is the input of i required to produce a single unit of product k

Since an industry produces a number of products and each product requires a different set of inputs, the amount of inputs required by industry j will be the sum of the inputs i required for each of its products m_{ij}.

4.2.8 2000 Table

The 2000 tables (CSO, 2006) were a 48 sector table using, by and large, the same methodology as used for the 1998 tables. Once again, SUT were compiled and published and the I-O Tables were based on "product by product" relations. The A60 sectoral classification, NACE Rev.1, was used. A number of minor changes, however, were adopted in the compilation of the 2000 tables:

- The definition of output for manufacturing industry included a trade margin received by these industries on the sale of factored goods, where they were involved in this activity.

- The 2000 tables included the supply and use of FISIM[1]. The revenue from the margin on lending and borrowing is called financial intermediation services indirectly measured or FISIM. For the NIE 2004 (CSO, 2005a) the methodology for estimating and allocating the output of non-invoiced services produced by financial intermediaries (mainly banks) was changed (Eurostat, 1998). Prior to the NIE 2004, the margin earned on lending and borrowing was treated as intermediate consumption of a notional producer sector and so made no net contribution to GDP. Now FISIM is assigned to the different customer sectors and, as for other services, adds to GDP if consumed by government, non-residents or households as consumers i.e. the banks and other financial intermediation services are being treated as productive sectors. The CSO noted the overall effect of this re-allocation of FISIM has been to add 1.5 per cent to GDP in 2004 (CSO, 2005b).

- Household consumption expenditure (in final demand) did not include the imputed value of transfers from Central and Local Government. These were included rather in Government expenditure.

- The output of the Hotel and Restaurant services sector (in the Supply Table) was measured as the turnover less changes in stocks, and not by its gross margin as was the previous system.

[1] FISIM - Financial Intermediation Services Indirectly Measured

4.2.9 2005 Table

The 2005 tables (CSO, 2009) were a 53 sector table using, by and large, the same methodology as used for the 2000 tables. Once again, SUT were compiled and published and the I-O tables were based on "product-by-product" relations. The A60 sectoral classification, NACE Rev.1, was used. There were no significant changes adopted in the compilation of the 2005 tables.

4.2.10 Material Flow Accounts

Measuring the environmental impacts of consumption, or the flow of waste or energy through the economy, is not easy. Many of the same problems that confront the tourism sector are echoed for environmental issues. In 2009, the CSO published the first set of Material Flow Accounts (MFA) on a pilot basis (CSO, 2009a) to account for the extraction or production, transformation, consumption, recycling and disposal of material in order to asses their environmental impact. An MFA for 2008 was published in 2010 (CSO). There is growing pressure at European level to compile MFAs and Physical Input-Output Tables (PIOTs) on an annual basis[1].

A PIOT is more comprehensive than an MFA and provides more detailed information on the structure of material used and consumed within the national economy. PIOT essentially take the same approach as a normal I-O except that they are usually measured in terms of units of mass, or weight of the materials. An environmental PIOT would facilitate the construction of a NAMEA (National Accounting Matrix including Environmental Accounts) which is a type of environmental satellite account developed by Statistics Netherlands during the 1980's. A

[1] See Proposal for a Regulation of the European Parliament and of the Council on European Environmental Economic Accounts (Doc: 8133/11 COR 1/ENV 231/STATIS 26/ECO 27/FIN 199/CODEC 491.

NAMEA is a conceptual tool that links conventional national accounts and environmental accounts by jointly presenting environmental and economic data together, broken down by industry and household.

4.3 Un-official I-O Tables in Ireland

In addition to official I-O tables published in Ireland, a number of other tables have been compiled and disseminated. These tables are interesting as they include some regional studies and also as they are compiled using a range of techniques; both survey and non-survey based. A summary of these tables are presented in sections 4.3.1 – 4.3.13 below.

4.3.1 The first I-O tables compiled in Ireland

The first I-O tables compiled for Ireland were for the year 1956. These tables were compiled by the CSO in 1961 but were not published officially. The 1956 transactions table consisted of a 36 x 36 matrix and was a "*simple, open static type*" (McGilvray, 1964: 47). The tables were valued at current 1956 prices and net of distributive margins i.e. at producers' or sellers' prices. A distinction was made between competitive (or similar) imports and non-competitive (or complementary) imports but it was noted that "*a fairly high proportion of competitive imports are not strictly speaking competitive at all*" (1964: 65). The tables were later published unofficially by J. McGilvray (1964) when he used the table to perform tests on the stability of the direct requirement coefficients and assess four different methods of dealing with imports in an I-O table. A 29 sector version of the table was included in this paper, where 7 sectors with little or intermediate consumption were excluded. A highly aggregated, 9 sector version of these tables (re-priced to 1960) also appeared in Geary's (1963) paper "Towards an Input-Output Decision

Model for Ireland". It is interesting to note, the relative unimportance of traded services in this matrix, accounting only for 1 of the 9 sectors[1].

A second table was compiled by the CSO for the year 1960 and was again a 36 x 36 sector matrix. The 1960 tables were never published officially as they were *"somewhat conjectural because of the lack of detailed information on which to base reliable estimates*" (Geary, 1966: Foreword). These tables distributed all imports along a single row but otherwise used the same layout and methodology as applied in the 1956 tables and were valued in producers' prices. The table was made available unofficially to Roy Geary for his series of lectures given in the ESRI in 1966.

Although not strictly an I-O table, the dynamic model of the Irish economy presented to the Statistical and Social Inquiry Society of Ireland in 1961 by Paddy Quinlan (Quinlan, 1961) is nevertheless worthy of mention. This 10 sector econometric model of the Irish economy tried to overcome the static nature of I-O tables. While dealing with the whole economy, the model focused on the agricultural sector, where data were sourced from the 1955 – 1957 Farm Surveys. Interestingly, in his Economy Structure Tables, Quinlan presented inputs as "how got" and outputs as "how spent".

4.3.2 An Agricultural Table

O'Connor and Breslin (1968) of the ESRI produced an I-O table for reference year 1964. The purpose of this table was to quantify the inter-relationships between various farming enterprises of the Irish economy and certain industries, which were directly or indirectly dependent on farming. The table comprised a 32 sector, inter-industry transactions

[1] The 9 sectors used were: Agriculture, Food processing, Drink & Tobacco, Textiles & Apparel, Metals, Engineering & Vehicles, All other manufacturing, Construction, Electricity, Gas & Waterworks and Services.

matrix, of which 16 sectors were purely farming, 12 were related industrial sectors and 4 were artificial sectors. For the purposes of publication, however, two more aggregated versions were compiled. Version "A1" was an "unadjusted" aggregated 15-sector model, made up of 11 purely agricultural sectors (corresponding closely to the classifications used by CSO for agricultural output) and 4 non-farming sectors (animal Slaughterings, milk processing, grain milling & animal feed and other intermediate). Version "A2" was an "adjusted" version, made up of 18 sectors, where transfers relating to joint products were adjusted for in the transactions table. The three additional sectors were artificial sectors (calves/cows/skim, wool and hides/skins/fats/offals), specially introduced to deal with the transfers.

4.3.3 The ESRI Tables

In addition to the tables published by CSO and other authors, a number of I-O tables have been derived for several intermediate years, all by Dr. Eamon Henry[1] of the ESRI who deserves special mention. Dr. Henry began his I-O work at CSO by compiling the 1956 tables mentioned above. Thereafter, he published 33 sector tables for the years 1964 and 1968 (1972). The next set of tables were compiled in respect of the year 1974 (1977) and consisted of 18 industrial sectors. This table was based on the National Accounts for 1974, but since many of the necessary data were unavailable, Henry recommended that the table "*be regarded as a possible rather than an actual 1974 IO transactions table*" (Henry, 1977: 2). This table was used to analyse possible changes in the pattern of household expenditure due to a number of alternative energy conservation

[1] Once described as the "Mr. Input-Output of Ireland" and "Our national Wassily Leontief" by Roy Geary – see discussion of Henry's paper "Problems of Designing and Using Regional Input-Output Models for Ireland, Illustrated by 1974 Numerical Data" in Journal of the Statistical and Social Inquiry Society of Ireland.

schemes. Henry also compiled a 19-sector table for the year 1976 (1980). This report contained a detailed appendix describing the procedures used to derive the table. This table was updated in Henry (1981) for the industrial sectors using new data from the Census of Industrial Production.

4.3.4 The Cork Regional Study

In 1974, the Department of Town Planning of Cork Corporation undertook an ambitious study of the Greater Cork Area (Cork Corporation, 1976). It covered 39 sectors and was compiled for the reference year 1973. This study focused on manufacturing and services sectors and was based on extensive survey work. The enterprises surveyed accounted for 81% of the relevant labour force, and with a reported response rate of 80% actual coverage of the labour force was 65%. The agricultural, defence and religious sectors were excluded specifically from the study. In addition to the summary report outlined above, the Corporation produced a series of 46 working papers documenting the process of compiling an I-O table, including one for each sector of the economy. In addition to the typical output, income and employment multipliers, the study also generated some interesting "floorspace" multipliers.

4.3.5 The Forestry Table

Ni Dhubhain et al (1994) constructed a regional 16-sector I-O table for "Western Ireland" as part of a wider study including rural Scotland and rural Northern Ireland. The purpose of the table was to investigate the social and economic implications of increased afforestation. The table was constructed using the Generation of Regional Input-Output Technique or GRIT (see Appendix 3) rather than from primary data. For the purposes of this table, Western Ireland was defined as those regions classified as disadvantaged or severely disadvantaged under EC Directive 268/75[1]. The

[1] Counties classified as disadvantaged were Donegal, Monaghan, Cavan, Leitrim, Longford, Sligo, Roscommon, Mayo, Galway, Clare, Kerry and Cork.

table was based on the official 1985 I-O tables published by CSO. The Agriculture, Forestry and Fishing sectors were dis-aggregated, as were Saw-milling, Wood Products and Wooden Furniture into Agriculture, Forestry Planting, Forestry Harvesting, Fishing, Timber Processing, Wood Products and Wooden Furniture, using supplementary data from National Accounts, Census of Industrial Production and "superior" data from Coillte Teo (the Irish Forestry Board) and from a special 1992 Wood Processor Survey. The tables were updated to reference year 1989 and aggregated into a 16 sector table.

4.3.6 The South-West I-O Model

Garhart, Moloney, O'Leary and Donnellan (1996) constructed a 30 sector I-O table for the Cork-Kerry region for the reference year 1994. The authors note that while reliable state level I-O tables are provided by CSO *"regional economies within the nation are sufficiently diverse to warrant separate study*" (1996: 1). The Cork-Kerry region provides an interesting case study where there is a high concentration of multi-national chemical and electronic industries located near Cork City, whereas the tourism and food co-operative industries dominate elsewhere in the region. The table was based largely on primary data obtained from extensive survey work and controlled by regional accounts estimates provided by CSO. A preliminary report presented an aggregated 10 sector model and outlined the methodology used to construct the table along with general findings. The full results were otherwise never published.

4.3.7 The BMW Social Accounting Matrix

Fannin and Johnson (2004) constructed a regional I-O table for the year 2000 for the BMW region of Ireland. This was a highly aggregated 7 sector table (Agriculture, mining, manufacturing, construction, wholesale, transport and services). The purpose of this I-O table was to derive a 36 product and industry sector, regionally-balanced, Social Accounting

Matrix (SAM) which was also constructed for 2000. The SAM was built in partnership with the BMW Regional Assembly, the CSO, University of Missouri, NUI Galway and the Letterkenny Institute of Technology. One of the limitations of this project was that an I-O and SAM was only constructed for one region, the BMW region, which limited analytical facility.

4.3.8 The FAPRI[1] Agricultural Sector Model

O'Connor & Matthews (2000) disaggregated the official 1993 I-O tables to construct a more detailed table of the agri-food sectors for 1993. The official tables aggregated agriculture, forestry and fishing into a single sector, which were disaggregated into 10 agricultural sub-sectors, comprising of 4 livestock sectors, 4 crop sectors and separate sectors for forestry and fishing. The Other Feed Products sector in the CSO tables was also broken down to identify separately a Farm Animal Feed sector. Beverages and Tobacco were amalgamated into a single sector and the 37 remaining sectors published by CSO were combined into 21 sectors to produce a 33-sector table. This I-O table was compiled to support the FAPRI[2] - Ireland agricultural CGE model which was built to test alternative scenarios for the Irish agricultural sector.

4.3.9 The IMAGE Model

Dixon (2006) compiled a 66 sector I-O table for year 2003. This table was based on the official 1998 CSO 48 sector tables but projected forward and expanded to 2003 using macro-economic and other available aggregate data (e.g. NIE 2003, HBS 1999-2000, ASI 2003 etc). This I-O table was used to support the IMAGE 2 CGE model.

[1] Food and Agricultural Policy Research Institute

[2] FAPRI – Food and Agricultural Policy Research Institute

4.3.10 The Energy-Economy Model

Wissema (2007) compiled a 26 sector SAM derived from the 1998 CSO Supply and Use tables. The CSO tables were aggregated into a 26 sector model but with additional disaggregation for the energy sectors to yield an Environmental Social Accounting Matrix (ESAM). The Mining & Quarrying, Other Manufacturing and Electricity & Gas sectors were disaggregated into 7 sectors: Coal, Peat, Crude Oil, Oil Products, Natural Gas, Electricty and Renewable Energy. The resultant CGE model was used to examine how carbon tax rates might affect emissions targets.

4.3.11 The Environmental I-O table

O'Doherty and Tol (2007) of the ESRI derived an environmental I-O table (E-IO) for reference year 2000 by combining the official CSO I-O tables for the same year with the CSO Environmental Accounts for 1997 – 2004. The model comprised of 19 sectors, 13 pollutants and 5 waste classifications and water use. This model was used to answer questions such as; which sectors of the economy produce the largest quantities of pollutants, and which sectors add the most value, considering the environmental damage they cause? The authors note that issues such as waste, water and eutrophication are not national issues but regional and that further analysis would require using a regional I-O model or regionalising the national results.

4.3.12 The first I-O model for Northern Ireland

An I-O model for Northern Ireland, for reference year 2002, was constructed by Ziping Wu of Queen's University Belfast and Paul Keatley of the Agri-Food and Biosciences Institute. This I-O model has 22 sectors, geared heavily towards analysis and evaluation of CAP initiatives. Hence it has 10 Agricultural sectors, 8 Food Processing sectors, 1 Marketing sector, 2 Input sectors and a residual All Other, or Rest of the Economy

sector. There is no official I-O table for Northern Ireland, so Wu and Keatley had to use a wide variety of sources and deal with a significant amount of inconsistent data. Their ultimate aim is to further dis-aggregate the residual All Other sector in order to widen the possible use of the I-O model. They also hope to extend the I-O model into a SAM and to develop a CGE model for Northern Ireland which will be used to assess policy.

4.3.13 Reworked 1975 – 2000 Tables

Keogh and Quill (2009) reworked the published I-O tables from 1975 to 2000 to produce a consistent set of tables by aligning the classifications and accounting practices. The tables were compiled with 19 product and commodity groups and were compared using bi-proportional adjustment to identify and analyse the structural change that had taken place in the economy since 1975.

4.4 Conclusion

Since the 1960's, Ireland has seen a considerable number of official and unofficial I-O and related tables compiled and published. In recent years and in response to EU legislation, the CSO has begun publishing annual Supply and Use tables and related Material Flow Accounts. Within the research community, a range of I-O tables have also been compiled using a variety of techniques. Increasingly, these tables are being geared towards addressing environmental and energy policy questions.

Despite the clear and well-articulated demand for regional economic models to support regional policy, there has only been one attempt to compile a regional I-O/SAM since the creation of the NUTS 2 Regional Assemblies; the Fannin & Johnson model (2004). Although this study made extensive use of primary data, the tables were for the BMW region only which limited the comparative value of the tables.

Chapter 5: Compiling Regional Supply & Use Tables

5.1 Introduction

This chapter provides an overview of the Supply and Use framework and the data and methodology used to regionalise the national tables.

Supply and Use tables (SUT) provide a detailed picture of the supply of goods and services by domestic production and imports and of the use of goods and services for intermediate consumption and final use (final consumption, gross capital formation and exports). As the name suggests, Supply tables detail the supply of goods and services to the economy, either by domestic industries or through imports. Use tables detail the use of those goods and services, either through intermediate or final consumption. Use tables also show how the components of value added (compensation of employees, net production taxes, consumption of fixed capital and net operating surplus) are generated by industries in the domestic economy. Thus, balanced Supply and Use tables link industries with products into a single coherent framework. The SUT also form the basis for deriving symmetric I-O tables by applying assumptions (in this case, the product technology assumption).

According to Eurostat "*the Supply and Use system is the best framework for compiling both GDP at current and at constant prices in an integrated approach*" (2008: 17). There are three different approaches to the estimation of Gross Domestic Product (GDP): production or output; expenditure; and income. In theory, the three measures should produce the same result. In practice this is rarely the case, however, as each approach is based on different sources, each with their own coverage gaps and measurement errors. Consequently, the definitive estimate of GDP can only emerge after some confrontation and calibration has been done, typically referred to as 'balancing'. The Supply and Use tables provide a structure that enables these different sources to be confronted in a coherent way, with the aim of achieving a single measure of GDP. In doing so, they provide a balanced and complete picture of the flows of products in the

economy and illustrate the relationships between producers and consumers of goods and services.

From a national accounts perspective, the SUT provide a powerful tool for checking consistency between the statistical data used in the three different approaches outlined above. They also provide a useful conceptual framework for ensuring that definitions and concepts are consistent across the national accounts.

The Supply and Use tables therefore provide a detailed matrix of the national accounts, broken down by industry and product. In Ireland, the official tables for 2005 were symmetric and were compiled using a 58 industry x 58 product matrix. This was aggregated to a 53 x 53 matrix when disseminated to suppress some confidential information.

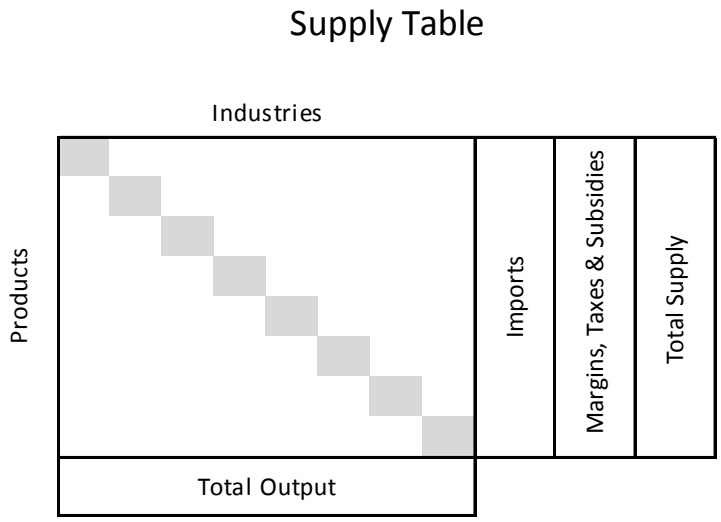
National and regional SUT incorporate a number of intermediate tables as columns, such as product taxes and subsidies, margins, and international imports. Regional SUT are no different from their national counterparts except that they require an additional set of intermediate tables; Use Tables for Domestic Imports which detail the magnitude and direction of inter-regional trade flows. Given the importance of the Use Tables for Domestic Imports for regional SUT and I-O, they are treated separately in chapter 7.

This chapter is divided into 10 sections. Sections 5.2 and 5.3 detail the Supply Table framework and present aggregated (6 x 6 matrix) national and regional Supply Tables for 2005. Sections 5.4 and 5.5 detail the Use table framework, along with aggregated national and regional tables. Sections 5.6 and 5.7 summarises some of the issues involved with reconciling and revaluing the Use tables and outlines the methodological approach used to compile the R-SUT, including some of the challenges and limitations associated with enterprise confidentiality. Sections 5.8 and 5.9 detail respectively the data sources and methodologies used to derive the regional Supply and Use tables. Section 5.10 concludes and summarises the chapter.

5.2 Supply Tables

A Supply table maps out domestic supply as well as making allowance for imports, margins, taxes and subsidies on products. A simplified representation of a Supply Table is presented in Figure 5.2.1.

Figure 5.2.1 – Supply Table Framework



A Supply table is a product – industry table, where products are shown on the rows and industries are shown on the columns. Industries are classified to NACE by their predominant or main activity (i.e. by whatever economic activity accounts for the largest share of their output). This predominant activity is shown along the diagonal (shaded) axis of the supply table. The off-diagonal values represent secondary economic activity. The production of products characteristic for an industry is known as primary output, while the production of other products not characteristic of that industry is called secondary output. Although business statistics in Ireland are compiled using *enterprise* rather than *Kind-of-Activity* (KAU) as the statistical unit, levels of reported secondary activity were relatively low in 2005 (2.5% overall – See Table 5.3.1).

5.3 National & Regional 2005 Supply Tables

The official 2005 national Supply (and Use) tables are compiled by CSO and were published in 2009 (CSO, 2009). An aggregated six sector version of the table is presented here.

Table 5.3.1 – 2005 National Supply Table at basic prices, €m

NACE Rev. 1.1	Agriculture, Forestry & Fishing 1 - 5	Manufacturing 10 - 41	Construction 45	Distributive Trades & Communications 50 - 64	Business Services 65 - 74	Other Services 75 - 95	Total Domestic Supply	International Imports c.i.f.	Trade Margins	Taxes less Subsidies	Total Supply (Purchasers' Prices)
Agriculture, Forestry & Fishing	7,200	-	-	-	-	-	7,200	1,061	655	-1,085	7,832
Manufacturing	-	106,752	-	87	74	32	106,945	56,072	18,761	11,032	192,810
Construction	-	2	38,440	-	-	-	38,442	9	-	3,632	42,083
Distributive Trades & Communications	31	3,235	-	48,751	562	-	52,579	12,268	-19,416	1,923	47,354
Business Services	62	2,518	322	736	81,367	295	85,301	43,038	-	3,287	131,626
Other Services	70	2	-	92	-	40,730	40,893	369	-	188	41,451
Output	7,364	112,509	38,762	49,666	82,003	41,057	331,360	112,819	-	18,977	463,156

Source: (CSO, 2009d)

As noted earlier, secondary production only accounts for 2.5% of total domestic production. However, Table 5.3.1 shows that for the manufacturing sector (NACE 10 – 41), secondary production accounts for over 5% of total domestic sector production.

Goods and services produced in Ireland are given at basic prices (i.e. the price received by the producer for provision of their goods or services, net of any production taxes or subsidies, but not including any transport charges), and these reflect the amount retained by the producer. Total supply is transformed to purchasers' prices by adjusting for trade margins, product taxes, product subsidies and imports. This price is the actual price paid by the purchaser or consumer.

The CSO report draws particular attention to the treatment of the distribution sector. This note is worth summarising. For the distribution sectors (i.e. NACE 50 – 52: the Motor Trades, Wholesale and Retail sectors) output is the gross margin (i.e. sales less goods purchased for direct resale).

The regional Supply tables for the SE and BMW regions are presented below in Tables 5.3.2 & 5.3.3.

Table 5.3.2 – 2005 Southern & Eastern Supply Table at basic prices, €m

NACE Rev. 1.1	Agriculture, Forestry & Fishing 1 - 5	Manufacturing 10 - 41	Construction 45	Distributive Trades & Communications 50 - 64	Business Services 65 - 74	Other Services 75 - 95	Total Domestic Supply	International Imports c.i.f.	Domestic Imports c.i.f.	Trade Margins	Taxes less Subsidies	Total Supply (Purchasers' Prices)
Agriculture, Forestry & Fishing	4,369	-	-	-	-	-	4,369	737	1,432	475	-606	6,406
Manufacturing	-	90,986	-	77	72	23	91,159	47,423	3,667	15,587	8,704	166,541
Construction	-	1	29,252	-	-	-	29,254	7	-	-	3,113	32,374
Distributive Trades & Communications	22	2,390	-	41,358	537	-	44,307	10,572	1,526	-16,062	1,474	41,817
Business Services	44	1,950	245	663	72,801	221	75,925	41,060	1,170	-	2,896	121,051
Other Services	45	1	-	64	-	30,388	30,498	301	368	-	149	31,316
Output	4,480	95,328	29,497	42,163	73,410	30,633	275,512	100,101	8,164	-	15,730	399,506

Table 5.3.3 – 2005 Border, Midland & Western Supply Table at basic prices, €m

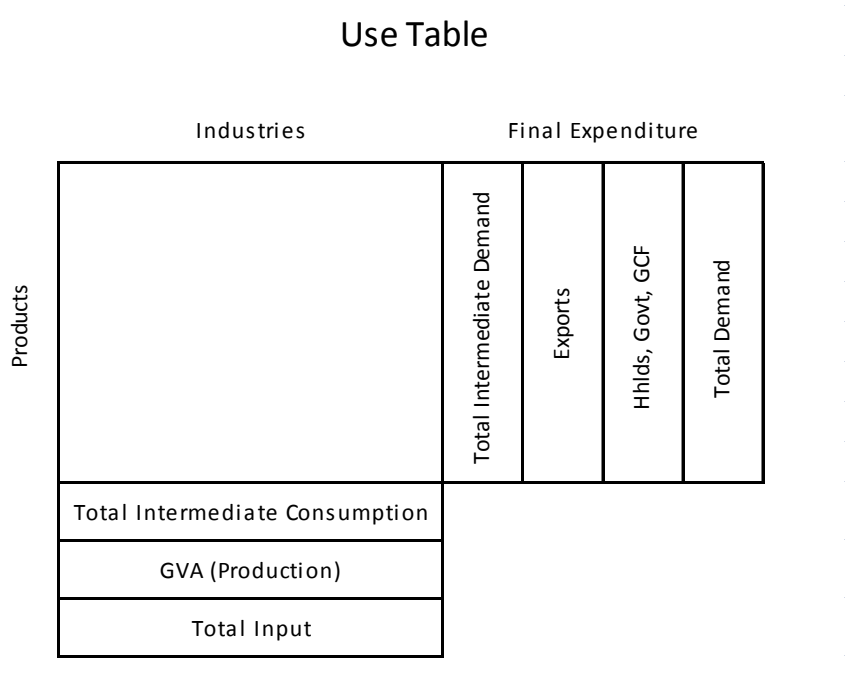
NACE Rev. 1.1	Agriculture, Forestry & Fishing 1 - 5	Manufacturing 10 - 41	Construction 45	Distributive Trades & Communications 50 - 64	Business Services 65 - 74	Other Services 75 - 95	Total Domestic Supply	International Imports c.i.f.	Domestic Imports c.i.f.	Trade Margins	Taxes less Subsidies	Total Supply (Purchasers' Prices)
Agriculture, Forestry & Fishing	2,831	-	-	-	-	-	2,831	324	1,111	180	-478	3,968
Manufacturing	-	15,766	-	10	2	9	15,786	8,649	5,178	3,174	2,327	35,114
Construction work	-	1	9,187	-	-	-	9,188	1	480	-	519	10,189
Distributive Trades & Communications	9	845	-	7,393	24	-	8,272	1,697	2,642	-3,354	448	9,704
Business Services	18	568	77	73	8,567	74	9,376	1,978	4,330	-	391	16,075
Other Services	25	1	-	28	-	10,341	10,395	69	623	-	40	11,126
Output	2,884	17,181	9,264	7,503	8,593	10,424	55,848	12,718	14,363	-	3,247	86,176

Comparing Tables 5.3.2 and 5.3.3 a number of patterns are evident. Domestic Output in the SE region is approximately 5 times larger than that of the BMW region. Secondary production is slightly higher in the BMW region than in the SE region (3.3% compared with 2.4%). The Structures of the two economies are quite different, for example, Construction, Business Services and Other Services account for 11%, 27% and 11% respectively of Total Domestic Production in the SE region compared with 17%, 15% and 19% for the BMW region.

5.4 Use Tables

A Use table is a product-by-industry table mapping out intermediate and final consumption by industry i.e. products used by domestic industries and consumption by households, non-profit organisations serving households (NPISH), capital formation (GFCF) and exports. The Use table also shows the components of value added by industry i.e. Compensation of Employees (COE), taxes and subsidies on production (i.e. non-product or overhead), capital depreciation and net operating profits. A representation of a Use table is presented in Figure 5.4.1.

Figure 5.4.1 – Use Table Framework



There are a number of important differences between Use tables and Supply tables:

- Use tables are valued at purchasers' prices (i.e. the amount paid by the purchaser less any deductible taxes plus and transport charges) rather than basic prices;

- No differentiation is made between the goods and services required to produce primary and secondary output;

- The Total Use table does not distinguish between the use of goods and services that were produced domestically from those that were imported. In order to derive I-O tables for domestic production this distinction must be made and hence a Use table for Imports must also be compiled.

5.5 National & Regional 2005 Use Tables

Aggregated six sector versions of the national and regional tables are presented below in Tables 5.5.1 – 5.5.3.

Table 5.5.1 – 2005 National Use Table at purchasers' prices, €m

NACE Rev. 1.1	Agriculture, Forestry & Fishing 1-5	Manufacturing 10-41	Construction 45	Distributive Trades & Communications 50-64	Business Services 65-74	Other Services 75-95	Total Inter-Industry	Final Consumption & GFCF	International Exports F.O.B.	Total Uses
Agriculture, Forestry & Fishing	1,479	3,934	74	251	6	67	5,810	1,343	678	7,832
Manufacturing	2,394	32,732	10,492	7,965	2,429	4,713	60,724	40,594	91,492	192,810
Construction	79	193	10,078	165	646	650	11,811	30,272	0	42,083
Distributive Trades & Communications	131	8,311	358	7,917	4,201	1,398	22,316	15,403	9,634	47,354
Business Services	376	31,653	3,096	6,311	34,376	4,484	80,296	21,244	30,086	131,626
Other Services	174	490	467	688	728	4,665	7,212	33,762	477	41,451
Intermediate Consumption	4,632	77,312	24,565	23,296	42,387	15,977	188,169	142,619	132,368	463,156
COE	531	10,975	9,384	13,216	10,969	20,889	65,963			
GOS	3,489	23,769	4,788	12,461	28,569	4,044	77,120			
Taxes less Subsidies	-1,288	452	25	694	78	147	108			
Value Added	2,732	35,197	14,196	26,371	39,616	25,080	143,191			
Output	7,364	112,509	38,762	49,666	82,003	41,057	331,360			

Source: (CSO, 2009d)

Table 5.5.2 – 2005 Southern & Eastern Use Table at purchasers' prices, €m

NACE Rev. 1.1	Agriculture, Forestry & Fishing 1 - 5	Manufacturing 10 - 41	Construction 45	Distributive Trades & Communications 50 - 64	Business Services 65 - 74	Other Services 75 - 95	Total Inter-Industry	Final Consumption & GFCF	International Exports F.O.B.	Domestic Exports F.O.B.	Total Uses
Agriculture, Forestry & Fishing	960	2,460	70	240	6	63	3,798	1,057	440	1,111	6,406
Manufacturing	1,373	28,042	8,394	6,741	2,182	3,477	50,208	31,022	80,133	5,178	166,541
Construction	43	156	7,508	150	427	453	8,737	23,157	-	480	32,374
Distributive Trades & Communications	70	6,304	289	7,385	3,896	1,039	18,983	11,421	8,772	2,642	41,817
Business Services	184	28,567	2,349	5,631	32,182	3,381	72,293	15,951	28,478	4,330	121,051
Other Services	104	396	401	591	650	3,140	5,283	24,973	437	623	31,316
Intermediate Consumption	2,734	65,925	19,010	20,738	39,343	11,552	159,302	107,581	118,260	14,363	399,506
Compensation of Employees	353	8,450	7,072	10,691	9,699	15,780	52,045				
Net Operating Surplus	1,646	17,815	3,105	7,763	17,740	1,777	49,846				
Consumption of Fixed Capital	429	2,772	292	2,396	6,553	1,405	13,848				
Taxes less Subsidies	-682	367	18	575	74	119	471				
Value Added	1,746	29,403	10,487	21,426	34,067	19,081	116,210				
Output	4,480	95,328	29,497	42,163	73,410	30,633	275,512				

Table 5.5.3 – 2005 Border, Midland & Western Use Table at purchasers' prices, €m

NACE Rev. 1.1	Agriculture, Forestry & Fishing 1 - 5	Manufacturing 10 - 41	Construction 45	Distributive Trades & Communications 50 - 64	Business Services 65 - 74	Other Services 75 - 95	Total Inter-Industry	Final Consumption & GFCF	International Exports F.O.B.	Domestic Exports F.O.B.	Total Uses
Agriculture, Forestry & Fishing	519	1,474	4	11	-	4	2,012	286	238	1,432	3,968
Manufacturing	1,021	4,690	2,098	1,224	248	1,236	10,516	9,572	11,359	3,667	35,114
Construction	35	37	2,570	15	218	197	3,073	7,115	-	-	10,189
Distributive Trades & Communications	61	2,007	70	532	305	359	3,333	3,982	863	1,526	9,704
Business Services	192	3,086	747	680	2,194	1,103	8,003	5,293	1,609	1,170	16,075
Other Services	69	94	67	97	78	1,525	1,929	8,789	40	368	11,126
Intermediate Consumption	1,898	11,388	5,555	2,558	3,044	4,425	28,867	35,038	14,108	8,164	86,176
Compensation of Employees	178	2,525	2,312	2,525	1,269	5,109	13,918				
Net Operating Surplus	1,146	2,650	1,273	1,794	2,965	480	10,309				
Consumption of Fixed Capital	268	532	118	508	1,310	381	3,117				
Taxes less Subsidies	-606	86	6	118	4	29	-363				
Value Added	986	5,793	3,709	4,945	5,549	5,999	26,981				
Output	2,884	17,181	9,264	7,503	8,593	10,424	55,848				

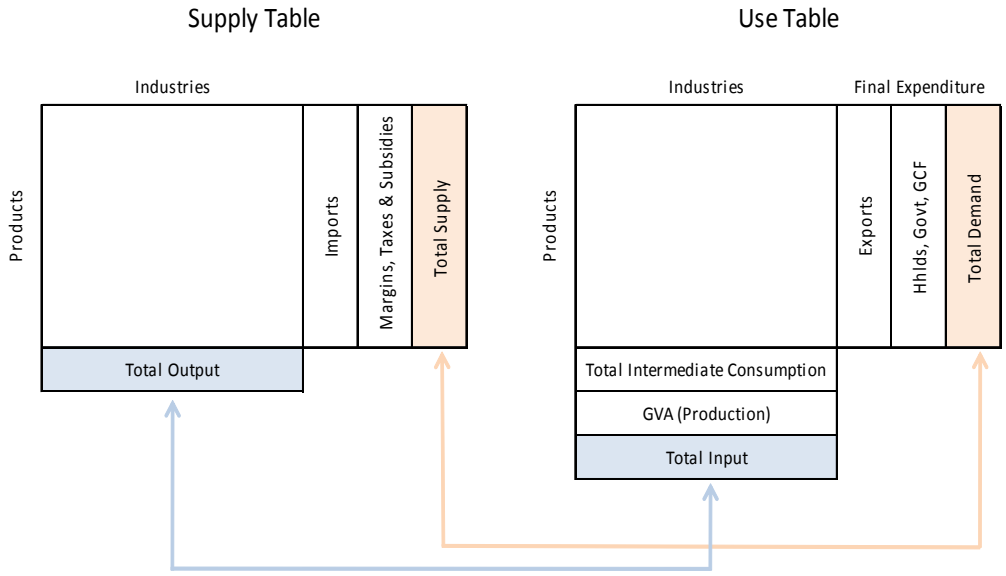
Comparing Tables 5.5.2 and 5.5.3, the dominance of the SE region is again evident. Final consumption & Gross Fixed Capital Formation accounts for 27% of Total Uses in the SE region compared with 41% in the BMW region. Also of note, Compensation of Employees (COE) accounted for 45% of GVA in the SE region compared with 52% in the BMW region (See Chapter 9 for further discussion on these points).

5.6 Reconciliation and Valuation

Between the Supply and Use tables (once balanced) two critical identities must hold:

(1) Total output for each industry must equal total input for each industry;
(2) Total supply of each product must equal total use of each product (see Tables 5.3.2 & 5.3.3 and 5.5.1 & 5.5.2, also Appendices 7 & 8).

Figure 5.6.1 – Balanced Supply - Use Framework



In order to achieve balance between the Supply and Use tables, the differences in valuation between the two tables must be reconciled. The valuation of output data (Supply table) is based on the prices at which the products were sold or *basic prices*. This is the price received by the producer for the good or service provided

less net product taxes (i.e. VAT, excise duties etc.) payable as a consequence of production. Thus the basic price measures the amount retained by the producer.

The valuation of product data for the compilation of the Use tables is based on the prices that had to be paid by the purchaser of the product or service. These are known as *purchasers' prices*. The Supply tables are transformed from basic prices to purchasers' prices in the final columns by taking into account margins and net taxes.

5.7 Methodological Approach for Compiling R-SUT

The basic approach used to compile the regional tables is the same as that used to construct the national tables. In broad terms, the same data sources are used, although these were supplemented by other data sources where regional splits were not available from the original primary source material. Even though a "bottom up" approach was used (i.e. built up from original data) the data were at all stages reconciled with or constrained by the national SUT. This approach was useful for two reasons:

(1) In the compilation of national tables several very fine adjustments, or refinements, are made to individual cells (for example, where the scope of primary survey data excluded some economic activity). Probably the most extreme example of this is the construction sector where, owing to the scope limitations of the Census of Building & Construction (CBC) which covers only enterprises with 20 or more persons engaged, output was supplemented by additional data. The net effect of adding an estimate for smaller enterprises and sub-contracting increased output from €14.6bn to €38.8bn. Where supplementary adjustments were made in the national tables but the overall impact was small, i.e. the main data sources accounted for at least 95% of the total output (or consumption), these secondary refinements were ignored and the regional distribution of activity was calculated on the basis of the primary data sources alone but applied to the national data to ensure consistency. However, in all cases

where the primary data source accounted for less than 95% of total output, the regional distribution of activity took into account both primary and supplementary estimates.

(2) The regional tables sum exactly to the national tables at every cell and aggregate level.

So the construction of the R-SUT is basically a "bottom up" approach but with a "top down" constraint imposed. This is useful particularly where adequate regional data were not available and the regional distribution was imputed from proxy or synthetic data.

The basic approach for allocating or apportioning activity to region was to attribute output (or consumption) to where activity was invoiced or booked. Broadly speaking, this is same approach used to compile national and regional turnover/purchases estimates in business statistics. For single location enterprises, all activity is booked to that location irrespective of where customers or suppliers may be located. If an enterprise had local units (e.g. retail units or sub-offices) in both regions, then output was split between the regions based on turnover generated by each local unit, again irrespective of where customers or suppliers are situated. Occasionally, this approach can produce an unusual result. For example, insurance services, where the bulk of sales are made direct from the head office, via internet or phone, regional activity can be artificially skewed towards one region (in this case, the SE region).

As the SBS or Structural Business Statistics (i.e. the ASI, CIP and CBC) are one of the main data sources used, it is worth noting the regional estimates for the industrial and services/construction sectors are compiled using different methodologies. For the industrial sectors (NACE 10 – 41) sourced from the CIP, regional data are compiled directly from local unit data, which provides an accurate picture of regional activity, both in terms of location and actual economic activity. For the non-financial traded services (NACE 50 – 64, 70 – 74 and 92 –

93) and the construction sector (NACE 45) regional activity is imputed from summary local unit data. The main difference therefore is that for the manufacturing sectors, local unit and enterprise activity are not necessarily the same (i.e. their NACE may be different) whereas for the services and construction sectors local unit and enterprise activity are always the same. For enterprises in the construction sector in particular this is reasonable. For many of the services industries it is not an unreasonable outcome either, as many services industries with local units, such as retailing or accommodation, tend to be homogenous industries. Nevertheless, this approach may result in some underestimation of secondary activity.

The approach and data sources used to estimate regional activity for the agricultural, forestry and fishing sectors, the financial sectors and the non-traded services sectors varied. Equally, the distribution of final demand across the regions required a wide variety of data sources and approaches. A detailed description of the sources and methodologies used for each sector are provided in Sections 5.8 and 5.9, along with a summary list of the data sources used to compile the R-SUT and intermediate tables in Appendix 5 (Data Sources).

Although a considerable amount of data were required to construct the R-SUT quite a number of additional estimations, adjustments and imputations were necessary. In many cases, these adjustments were straight forward, others less so. Much of the data used to compile the R-SUT are confidential and cannot be detailed beyond what is presented in the following sections. I have outlined what I consider to be the major, or more interesting, adjustments (within the constraints just noted), rather than detailing every step ad-nauseum.

5.7.1 Confidentiality

As noted earlier, the R-SUT and R-IO are compiled as a 58 x 58 product/industry matrix. The same level of detail cannot be disseminated, however, as all business statistics are subject to confidentiality. In order to protect the identity and interests of individual enterprises, primary and secondary confidentiality rules are applied.

The CSO (using Eurostat rules) defines a breach of primary confidentiality as occurring when any of the following conditions arise:

(1) There are less than three enterprises in the relevant cell (i.e. NACE sector classified by region);

(2) One unit in the relevant sector accounts for more than 80% of the total; or

(3) Two units in the relevant sector account for more than 90% of the total.

A sector is identified as having a breach of secondary confidentiality when the dissemination of that sector indirectly reveals information about a confidential sector. In Ireland, confidentiality poses particular challenges owing to the rather unique structure of the economy, with very large multinational enterprises (MNEs) dominating their respective sectors. This challenge is exacerbated when compiling sub-national data. The confidentiality rules are applied to all primary economic variables, such as employment, turnover and value added. Confidential cells are suppressed through aggregation rather than perturbing data.

The suppression of confidential data in these tables is done in line with CSO treatment of structural business statistics data and correspond with the levels of detail made available for 2005 data. See Appendix 4

(Suppression of Industries to Protect Confidentiality) which summarises the level of aggregation for confidentiality purposes.

5.8 Compilation of the Regional Supply Tables

A full list of the data sources used to compile the regional Supply and Use tables are listed in Appendix 5. A summary of the approach taken for each industry is detailed below.

The allocation of the agricultural, forestry and fishing activity in to the regions was reasonably straight forward. The main data sources used were the *Output, Input and Income in Agriculture – Final Estimates* report (CSO, 2006c), the 2005 *Census of Agriculture* (CSO, 2006d) and the Coillte Teoranta 2005 *Annual Report & Accounts* (Coillte Teoranta, 2006). Supply is agricultural output at basic prices (i.e. the price received by the producer less any taxes payable or subsidies received as a consequence of production. It excludes any trade margins and therefore is the price retained by the producer). Adjustments were made for income derived from the provision of tourism services i.e. B&B/Guest House (NACE 55) and/or recreation services (NACE 92). Values for Other Business Services (NACE 74) and Other Services (NACE 93) were also derived from the Census of Agriculture. Other "non-timber" income generated by the Forestry sector, such as renting land (NACE 70) and provision of recreational services were also taken into account.

Agricultural output from agricultural activity (i.e. the diagonal cell) was distributed between the regions on the basis of regional data published in Tables 1 and 2 of the *Regional Accounts for Agriculture* (CSO, 2007h). Regional distribution of activity for the off-diagonal cells (i.e. output from non-agricultural activity) was estimated using Table 41 of the *2005 Farm Structure Survey* (CSO, 2007f). By assuming a pro-rata relationship between farms and output, the regional split for NACE sectors 55, 74, 92 and 93 were estimated based on the number of farms engaged in these or similar activities – See Table 5.8.1.

Table 5.8.1 – Agriculture: Estimation of Regional off-diagonal Activity

Number of Farms reporting non-agricultural activity				
	Farm Tourism	Recreational Activities	Contractual Services	Other
	Units	*Units*	*Units*	*Units*
BMW	500	100	700	2,400
SE	700	200	1,100	3,300
State	**1,200**	**300**	**1,800**	**5,700**

Source: 2005 FSS - Table 41

Regional Factors				
	Hotel & Restaurant	Recreation	Business Services	Other Services
NACE	55	92	74	93
BMW	0.417	0.333	0.389	0.421
SE	0.583	0.667	0.611	0.579

Source: (CSO, 2007f)

For Forestry (NACE 2) the distribution of regional activity for the diagonal cell was estimated using number of hectares under woodland from Table 40 of the 2005 FSS. For the off-diagonal cells NACE 70 (real estate services), the same factor was re-used. For Recreational services (NACE 92), the split used for Agriculture was applied.

For NACE 5 (Fishing) special tables were produced by the Department of Agriculture, Food and Fisheries giving the total value of fish catch in 2005 by every port in the country and abroad. Any catch landed outside the Republic was subtracted (this accounted for approximately 22% of the value of the total catch) and was a slightly different approach to the "booked/invoice" approach employed elsewhere in the tables. Fish catch could not otherwise be attributed to region as no information on the vessels landing the catch was available. Ports were classified to the two regions and total value of catch was aggregated to give an overall regional output distribution.

Industry (NACE 10 – 40): Allocating regional activity for the industrial sections of the Supply Table was relatively straight forward. Two main data sources were used: the 2005 Census of Industrial Production (CSO, 2007a); and the 2005 ProdCOM (CSO, 2007b). The CIP or Census of Industrial Production breaks down total turnover into 4 constituent parts:

1. Goods produced by the enterprise;
2. Industrial services provided by the enterprise to others;
3. Goods resold without further processing (i.e. goods merchanted or factored);
4. Other items of turnover (e.g. licence fees or royalties).

Parts 1 and 2 i.e. goods produced and industrial services are aggregated and are treated as the total value of output generated from the predominant activity of enterprises in their respective activity sectors (i.e. the diagonal cells). Other items (part 4) were treated as business services (i.e. NACE 74). Part 3, turnover from Goods resold (i.e. factored goods) less the value of purchases of Goods for resale without further processing, and the value of the change in stocks of Goods for resale without further processing, were used to derive the wholesaling value or gross margin.

ProdCOM provides turnover by product data for the industrial sectors. These data provide most of the off-diagonal breakdowns. Theoretically, the sum of the product turnover corresponds to the turnover generated from the goods produced and industrial services recorded in the CIP. At a microdata level, this is indeed the case for many enterprises. At the aggregate level, however, it is not necessarily the case. There are a number of reasons for this mismatch. ProdCOM only measures industrial products, so any turnover generated from non-industrial secondary activity such as, for example, financial services will not be recorded in the ProdCOM statistics. Also, the reference periods may not match exactly; the CIP is based on a financial year, which varies from enterprise to enterprise whereas ProdCOM is based on a calendar year. Finally, the ProdCOM is published about 6 months in advance of the CIP and, consequently, both systems

are often forced to use slightly different input data, either due to differing response rates or imputed data. The CIP and ProdCOM stand independently and are not calibrated or benchmarked. For the purposes of the regional Supply Tables, the ProdCOM data were calibrated to the CIP. Arguably, the reverse could also be done but, as a greater amount of CIP data was used and as these tend to contain more "final" data, calibrating to the CIP provided more internal consistency.

In the compilation of the national SUT and I-O tables, the CIP and ProdCOM data were supplemented with export data from International Trade and the Balance of Payments (BoP). The impact of the adjustments made by incorporating these additional data varied across the sectors, but was typically less than 2% although in some cases (e.g. NACE 33 – Medical, Precision & Optical Instruments) it was as large as 7%.

The regional distribution for the diagonal cells was calculated using regional gross output, as calculated from the 2005 CIP local unit data. The regional distribution for the off-diagonal cells were constructed using 2005 ProdCOM data. Because different concepts are employed in both surveys, "gross output[1]" in the CIP and "net selling value[2]" in the ProdCOM, a product-industry matrix could not be properly constructed. Instead, the aggregate product value was split into BMW and SE regions, and these factors were applied across the rows. For the non-

[1] Gross Output is defined in the SNA (1993, § 6.38) as the value of those goods or services that are produced within an establishment that become available for use outside that establishment.

[2] Net Selling Value is defined by CSO for the purposes of compiling ProdCOM as the value of sales for each product relates to the net selling value i.e. the net amount (excluding VAT) invoiced to customers. This value includes amounts charged by enterprises to customers for transport of goods by their own vehicles and packaging costs. Excluded from this definition are: duties and taxes payable on the goods e.g. excise duties; separately charged freight costs; any discounts granted to customers; goods resold with further processing i.e. goods merchanted or factored.

industry products, regional factors were calculated using the residual "other turnover" from the CIP. As these factors were industry based, they were applied down the columns.

Construction (NACE 45): Determining the value of output for construction poses quite a challenge. The CBC or Census of Building and Construction (CSO: 2007c) measures only activity of enterprises with 20+ persons engaged. As much of the construction and building activity in Ireland is undertaken by smaller enterprises, this poses a significant gap in the data. Using Table A2.1 of the DKM Economic Consultants review of the construction industry (DKM, 2007: 87), this gap can be filled to some extent. However, the DKM value for Total Construction Output does not include payments made to sub-contractors and it also includes VAT, so a number of further adjustments are required. The official measure of Construction output of €14.6bn published in the CBC for large enterprises is, therefore, adjusted to cover smaller enterprises and make allowance for the value of sub-contracting, yielding a grossed value of €38.8bn.

To capture the regional distribution of this activity a weighted average between employment and output was used. A regional breakdown of output for large enterprises (i.e. those with 20 or more persons engaged) was derived from the 2005 CBC. However, this accounted only for about 38% of construction output. A special table was compiled from the Quarterly National Household Survey, where regional employment for the construction sector was cross-classified by enterprise size class. Regional activity for smaller enterprises was estimated on this basis. These two estimates of regional activity were weighted together by total output (by size class) to yield an overall regional activity profile for the construction sector. This factor was also applied to the off diagonal activity allocated to rental equipment (NACE 71).

Traded Services (NACE 50 – 74 & 93): The main source used for the traded services was the 2005 ASI (CSO, 2007d), providing turnover at NACE division level along the diagonal. The Supply Table is constructed at NACE division (i.e.

2 digit) level rather than aggregating more detailed NACE group or class (i.e. NACE 3 or 4 digit) estimates. Consequently, very little off-diagonal information can be gleaned from the ASI, as most turnover by product fall within the same NACE division (2 digit aggregation) i.e. little or no turnover is generated by activity outside the division to which enterprises are classified.

There are however a few exceptions. For example, in the 2000 ASI (CSO, 2003a) supplementary data for the Motor Trades sector (NACE 50) was compiled and published, giving product breakdowns for total turnover. The motor trades are one of the sectors where turnover is generated outside its own NACE division. For example, in 2000, 4.8% of total turnover was generated from forecourt sales – NACE 52.2 and 11.5% was generated from the wholesale of solid liquid and gaseous fuels and related products (CSO, 2003a: Table 44).

For the Distributive Trades (NACE 50 – 52), the diagonal value is very close to the gross margin (or turnover less purchases for direct resale) with some refinements made for a select number of off-diagonal values (for example, forecourt retail sales made by garages, which are classified under motor trades). Regional distribution was estimated using the gross margins as derived in the ASI. As the off-diagonal cells represent the same activity, albeit taking place within a different NACE division, the same regional ratios were applied as that used for the diagonal cell.

For NACE 55 (Hotels and Restaurants) the diagonal value is based on turnover. A number of adjustments were made to this value but, most significantly, the turnover generated from Bars is adjusted upwards to take account of the purchase of alcohol from household consumption in NACE 15 (Food and Beverages). The diagonal ratios were derived from the regional turnover from the 2005 ASI. The off-diagonal cells for NACE 51 and 52 (i.e. where enterprises classified to NACE 55 generated turnover from wholesaling or retailing activity) were estimated using the regional turnover generated from wholesale and retail activity respectively (again sourced from the 2005 ASI). The off-diagonal cells for NACE 72 and 74

(i.e. where enterprises classified to NACE 55 generated turnover from computer services and business services activity) relate to the activity of an individual enterprise exporting these services. In this case, all activity was attributed to head offices, situated in the SE region.

The basic turnover data for NACE 60 (Land Transport Services) from the ASI only accounts for 70% of the output reported in the national Supply Tables. This difference arises from adjustments made to a number of specific sub-sectors, most notably taxis, LUAS, buses and freight. Consequently, when allocating output for between regions, a number of steps were required. The ASI data were allocated to the regions from the micro data. Thereafter, separate regional activity for each of the CIE companies (Bus Eireann, Irish Rail and Dublin Bus) and LUAS was calculated using a variety of passenger data (after adjustments for free travel for the elderly). Additional adjustments were made for freight, using data from the CSO Road Freight Transport Survey. These sectors were weighted together, using the weights applied in the calculations of the national tables. The off-diagonal cells for NACE 51 (i.e. where enterprises classified to NACE 55 generated turnover from wholesaling) were estimated using the regional turnover generated from wholesale activity respectively (again sourced from the 2005 ASI). Off-diagonal NACE 52 was estimated by calculating a ratio based on the weighted average of the purchases for direct resale for the 3 CIE companies. The off-diagonals for NACE 55 was estimated largely from CIE catering and is attributed to the SE region. The off-diagonal for NACE 63 is estimated from CIE harbour income (Rosslare) and was attributed to the SE region.

For NACE 61 and 62 (Water and Air Transport Services), the regional estimates are based on regional split for turnover from ASI. For off-diagonals NACE 51, 65 and 74, output was generated by a single airline and attributed to its head office based in SE region. For off-diagonal NACE 64, this is again attributable to a single airline operating in both regions. In this case, the regional split was estimated using 2007 (CSO: 2008a) passenger numbers through the regional

airports on the assumption passengers (irrespective of region) will have the same propensity to purchase telecommunications services equally.

Regional estimates for Auxiliary transport services and travel agencies (NACE 63) were calculated using turnover less purchases for direct resale. The off-diagonal cell NACE 74 was generated by activity for a small number of enterprises, such as the Irish Aviation Authority and Aer Rianta. This activity was attributed to the SE region.

For NACE 64 (Post and telecommunication services) the regional diagonal split was estimated based on turnover from the ASI. The off-diagonals for NACE 51 and 72 were attributed to a select number of telecoms providing services abroad. These enterprises are all based in the SE region and, consequently, the full national value was attributed to SE region.

The regional diagonal split for NACE 65 (Financial intermediation services) was estimated using a weighted average output approach, where the total output for 65.11, 65.21, 65.22 and 65.23 was attributed totally to the SE region (based on Balance of Payments microdata). Output for 65.12 (Retail Banking), which accounted for €12.1bn or 81% of total NACE 65 production revenue, was first divided into banks that had a retail or high street presence in Ireland and those that did not. Banks with a high street presence accounted for almost 51% of the total production revenue for 65.12. The regional activity for these banks was estimated using the value of mortgage draw downs for property by region during 2005 for all of the major retail banks and building societies. The weighted output for 65.12 was estimated as 0.888 for the SE and 0.112 for the BMW region. When weighted to the overall NACE 65, these ratios were diluted to 0.909 for the SE and 0.091 for the BMW (see Figure 5.8.2).

Table 5.8.2 – Financial Intermediation: Estimation of Regional Activity

NACE	Description	Output Weight	SE ratio	BMW ratio	SE output	BMW output
65.11	Central Banking	0.592	1	0	0.6	0.0
65.12	Other Monetary Intermediation	81.018	0.888	0.112	71.9	9.1
65.21	Financial Leasing	3.194	1	0	3.2	0.0
65.22	Other Credit Granting	13.397	1	0	13.4	0.0
65.23	Other Financial Intermediation	1.799	1	0	1.8	0.0
65	Financial Intermediation	100	0.909	0.091	90.9	9.1

For NACE 67 (Services auxiliary to financial intermediation), the diagonal ratios were estimated using unpublished data from the ASI. The off-diagonal for NACE 66 re-used this ratio. Production revenue generated from other business services (NACE 74) were attributed to SE region.

Turnover less stocks from the ASI 2005, plus an adjustment for consumption of housing (based on Table 13 of the NIE), was the basis for calculating the regional activity of Real Estate Services (NACE 70). The regional split for consumption of housing was estimated using 2006 Census of Population data. A special tabulation was compiled, giving average rent for all private dwellings in both regions. This was multiplied by the number of units in both regions to estimate an aggregate weekly imputed rent. Overall regional factors were calculated by weighting the two sets of factors (based on turnover and housing consumption).

For NACE 71 (Renting services of machinery and equipment) turnover data from the ASI was supplemented by additional data on aircraft leasing sourced from the Balance of Payments, positively adjusting the total output by almost 48%. The regional activity, as measured by the ASI, was weighted with the aircraft leasing data (which was attributed totally to the SE region) to yield overall regional activity ratios. The off-diagonal for NACE 50 arises from margins linked to car leasing and was attributed to the SE region. Equally, NACE 65 activity involved financial export activity and was attributed to the SE region. For rows NACE 51

and 52, regional activity was disaggregated based on regional purchases for direct resale from the ASI 2005.

For Computer and Related Services (NACE 72), the diagonal split was estimated using the regional turnover from the ASI 2005 while all off-diagonal row activity was estimated directly from the micro-data. For NACE 30, 31 & 32, activity was generated by a single enterprise whose sole activity in Ireland is based is the SE region. For NACE 51, 64 and 65, activity for the BMW region was generated by a select number of enterprises. In these cases regional activity was attributed to the BMW region (if appropriate) on the basis of turnover, or in one case employment data, where an insufficient breakdown of turnover data was available.

The national estimates for NACE 73 (Research & Development Services) and NACE 74 (Other Business Services) are basically ASI 2005 turnover, with some minor adjustments for changes in stocks. The regional estimates are based on regional turnover from ASI 2005.

For NACE 75 (Public Administration and Defence), a simple location quotient approach was taken, as most of the output for administration and defence involves wages and salaries. Consequently, the regional factors were calculated on the basis of employment sourced from the QNHS (CSO, 2005 & 2006) on the assumption that there is no real disparity of income in these sectors between the two regions (although it is likely there will be proportionately more senior staff in the SE region).

In the calculation of total output for NACE 80 (Education), total output was first calculated for a number of different sectors, namely: Primary; Secondary; Third Level; Pensions; Private education; Semi-States and Government. The same approach was taken in calculating an overall regional factor, in that a regional split was calculated for each sector. These sector factors were weighted using the

sector output from the national calculations to yield an overall weighted average (see Table 5.8.3).

Table 5.8.3 – Education: Estimation of Regional Activity

	Primary	Secondary	Third Level	Pensions	Private	Semi-states	Govt	Total
Sector Weight	25.013	27.384	24.510	7.921	10.457	3.128	1.587	100
BMW	0.253	0.276	0.237	0.247	0.247	0.247	0.000	
SE	0.747	0.724	0.763	0.753	0.753	0.753	1.000	
BMW	6.328	7.558	5.809	1.956	2.583	0.773	0.000	25.007
SE	18.684	19.826	18.701	5.964	7.874	2.355	1.587	74.993

Using special tables provided by the Dept. of Education, the regional factors for the Primary sector were calculated by using total number of teachers in each region. The secondary factors were based on the number of pupils in each region (and assuming that teacher-pupil ratios are broadly similar in each region). Factors for Third Level were calculated using Total Recurrent Income for the main universities based on HEA data. For Pensions, Private and Semi-States (e.g. FAS), ratios were calculated using the average QNHS NACE 80 employment data for 2005. All central Government output was attributed to the SE region. For the off-diagonal R&D services (NACE 73) the Third Level ratios were reused.

For NACE 85 (Health & Social Work) separate regional factors were calculated for public and private healthcare. The public factors were calculated using the HSE 2005 Provisional Outturns (pay and non-pay) for the eight HSE regions (Dept. of Finance, 2006b: Vote 40, PP.189 - 191) – see Table 5.8.4.

Table 5.8.4 – HSE 2005 Provisional Outturns (Current Pay and Non Pay)

HSE Regions	SE Region	BMW Region
	€ 000's	€ 000's
Corporate	20,250	
Eastern Regional Area	2,142,922	
Midland Area		528,552
Mid-Western Area		693,270
North-Eastern Area	680,853	
North Western Area		612,850
South Eastern Area	876,791	
Southern Area	1,159,407	
Western Area		978,477
Total	4,880,223	2,813,149
Public Factors	0.634	0.366

The private factors were estimated using the 2004 – 2005 Household Budget Survey (CSO, 2007e). From expenditure for items 794 – 806 (which includes doctors fees, hospital charges, medicines etc.) average expenditure was calculated for each NUTS 3 region, which was then weighted by the NUTS 3 populations to estimate an average expenditure for each NUTS 3 region – see Table 5.8.5. These were then aggregated to NUTS 2. The off-diagonal for product NACE 24 relates to blood products. This was estimated on the basis on population distribution between the two regions using the assumption that the population supplies blood in equal proportion in both regions.

Table 5.8.5 – Regional Average Household Expenditure on Medical Expenses & Fees weighted by Regional Population

	Border	Dublin	Mid-East	Midlands	Mid-West	South East	South West	West	State	Factors
Medical expenses-	€	€	€	€	€	€	€	€	€	
794 Doctor										
795 Dentist	0.98	4.47	1.76	1.54	1.51	1.57	2.91	3.35	2.70	
796 Optician	0.10	0.20	0.67	0.68	0.93	0.09	0.29	0.11	0.32	
797 Medicines on prescription	3.16	6.32	5.16	4.18	3.52	4.22	3.59	3.94	4.54	
798 Other medicines	0.63	1.06	0.91	1.05	0.91	0.62	1.19	0.68	0.90	
799 Hospital charges	2.92	7.04	7.70	14.93	5.75	3.29	7.96	9.23	6.92	
800 Pain relievers	0.41	0.58	0.74	0.59	0.50	0.44	0.48	0.42	0.52	
801 Indigestion relievers	0.13	0.15	0.14	0.16	0.09	0.10	0.11	0.21	0.14	
802 Cough mixtures	0.15	0.24	0.19	0.13	0.21	0.27	0.27	0.22	0.22	
803 Medical disinfectants	0.16	0.10	0.12	0.19	0.13	0.10	0.11	0.16	0.13	
804 Vitamins & supplements	0.66	1.16	0.87	0.91	1.20	0.94	1.22	0.85	1.01	
805 Alternative/complimentary medicine	0.16	0.65	0.38	0.31	0.22	0.12	0.41	0.26	0.37	
806 Home help payments	0.06	0.01	0.04	0.00	0.00	0.00	0.03	0.00	0.02	
Total	9.52	21.98	18.68	24.67	14.97	11.76	18.57	19.43	17.79	
	000's	*000's*	*000's*	*000's*	*000's*	*000's*	*000's*	*000's*	*000's*	
Population 2006	468.4	1,187.2	475.4	251.7	361.0	460.8	621.1	414.3	4,239.8	
	€ 000's	*€ 000's*	*€ 000's*	*€ 000's*	*€ 000's*	*€ 000's*	*€ 000's*	*€ 000's*	*€ 000's*	
SE (Average Expenditure)		26,094.1	8,879.7		5,404.6	5,419.5	11,534.4		57,332.3	0.754
BMW (Average Expenditure)	4,458.9			6,208.6				8,049.4	18,716.9	0.246

The private and public regional factors were weighted using government and non-government expenditure on health, yielding overall regional factors of 0.655 for the SE region and 0.345 for the BMW region.

For NACE 90 (Sewage and Refuse Disposal Services), the diagonal values from the 2005 Use table were as weights. The regional distribution from each industry diagonal (sourced from the regional Supply tables) were applied to the Use table weights to yield weighted average regional factors.

For NACE 91 (Membership of Organisations) enterprise micro-data from the CSO Central Business Register (and supplemented by searches on the web) were classified to the regions on the basis of location (head office). In cases where organisations had regional offices i.e. had a presence in both regions, turnover for these organisations was divided on the basis of the industry they represented e.g. the Construction Industry Federation (CIF) was allocated on basis of construction. A weighted average (turnover weights) was used to derive an aggregate regional distribution for the industry as a whole.

For NACE 92 (Recreation), the ASI 2005 turnover was positively adjusted to take account of activity not included in the survey. Turnovers for NACE 9210, 9220, 9231, 9240 and 9250 (sourced from the Revenue Commissioners) were added, increasing the turnover for the overall sector by approximately 35%. Regional distribution was estimated using ASI turnover data supplemented by additional turnover data sourced from the Revenue Commissioners to cover the recreation sectors not within scope of the ASI. Enterprises with activity in Film (NACE 9210), Radio & TV (9220), Artistic & Literary Creations (9231), Library (NACE), Museums & Zoos (NACE) were classified to the appropriate regions by going through micro-data and attributing region (and total turnover) to the location of the head office. A weighted average (turnover weights) was used to derive an aggregate regional distribution for the industry as a whole.

For NACE 93 (Other Services), state totals are derived from the ASI turnover with some minor adjustments for stocks. The regional distribution was estimated using the ASI 2005 regional turnover figures.

NACE 95 (Private households with Employed Persons) deals with cleaners, butlers etc. Two methods were investigated. The first was based on the assumption that purchases of personal services are likely to be closely related to household income. Using "Disposable Household Income" sourced from the County Incomes and Regional GDP 2005 results (CSO, 2008c), regional factors were derived. The second approach (and the one adopted) used data from the Household Budget Survey. Items 857 – 864 of the HBS (CSO, 2007e: Table 3) were used to calculate average household expenditure on personal services for each of the NUTS 3 regions. This was weighted by NUTS 3 populations and then aggregated up to NUTS 2 – see Table 5.8.6. Although these two approaches did not yield a significantly different result, the later gave a slightly higher share to the SE region (79% compared with 76% from method 1).

Table 5.8.6 – Regional Average Household Expenditure on Domestic Services weighted by Regional Population

	Border	Dublin	Mid East	Midlands	Mid West	South East	South	West	State	Factors
	€	€	€	€	€	€	€	€	€	
857 Chimney cleaning/sweeping	0.07	0.03	0.09	0.10	0.10	0.01	0.16	0.10	0.08	
858 Care attendant/assistant	0.00	0.02	0.03	0.48	0.00	0.39	0.16	0.05	0.11	
859 Gardener	0.20	0.62	0.93	0.11	0.12	0.64	0.49	0.48	0.50	
860 Au pair	0.07	1.16	0.16	0.45	0.58	0.58	0.75	0.31	0.62	
861 Nurse	0.03	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.01	
862 Housekeeper	1.40	3.45	2.43	1.24	1.06	2.52	1.21	0.92	2.03	
863 Other domestic services	0.28	0.56	0.12	0.07	0.18	0.20	0.21	0.10	0.28	
864 Child care (inc. baby sitting)	5.92	10.69	10.16	10.87	6.84	7.56	4.61	5.81	7.88	
Total - Domestic Services	7.97	16.53	13.92	13.33	8.88	11.9	7.6	7.77	11.51	
	000's	*000's*	*000's*	*000's*	*000's*	*000's*	*000's*	*000's*	*000's*	
Population 2006	468.4	1,187.2	475.4	251.7	361.0	460.8	621.1	414.3	4,239.8	
	€ 000's	*€ 000's*	*€ 000's*	*€ 000's*	*€ 000's*	*€ 000's*	*€ 000's*	*€ 000's*	*€ 000's*	
(SE) AverageExpenditure		19,624.0	6,617.0		3,205.9	5,484.0	4,720.6		39,651.5	0.794
(BMW) Average Expenditure	3,732.9			3,354.7				3,218.9	10,306.6	0.206

Imports: The regional distribution of imports was imported directly from the total uses column of the Regional Use tables for Imports. Construction of those tables is described in Chapter 6.

Trade Margins, Product Taxes and Subsidies: The regional distribution of Trade Margins, product taxes and subsidies were imported directly from the total uses columns of their respective intermediate tables on Trade Margins, Product Taxes and Product Subsidies. The construction of these tables is described in Chapter 6.

5.9 Compilation of the Regional Use Tables

A full list of the data sources used to compile the regional Use tables are listed in Appendix 5. A summary of the approach taken for each industry is detailed below.

For NACE 1 (Agriculture), regional factors were estimated using the special breakdowns of regional intermediate consumption used in the compilation of the Agricultural Output, Input and Income tables. This gave detailed data and thus

regional factors for NACE 01, 15, 23, 24, 34, 40, 65 and 74. The regional splits for residual products were imputed using nearest neighbour or total activity patterns.

Regional factors for Forestry (NACE 2) were estimated using special tabulations provided by DAFF on the number of hectacres under conifer and broadleaf plantation for each region. Using Teagasc (2008) data, it was assumed that it takes 40 years to grow mature conifers and 55 years for broadleaf. It was then assumed that the input costs of growing both types of tree are the same (pro-rata). Consequently, the cost of producing a broadleaf for any given year is 38% more expensive than producing a conifer. This ratio was applied to the regional conifer/broadleaf plantation data to calculate an overall ratio for regional intermediate consumption. These factors were applied to all products (rows) in the Forestry sector.

For NACE 5 (Fisheries), the Irish Fleet (Sea Fishing Vessels) Register 2009 and sourced from the Dept. of Agriculture, Fisheries and Food was used to estimate the total gross tonnage for trawlers registered in each region (no historic register is maintained for previous years). In 2009, the addresses associated with the 2,078 vessels registered were codified to the NUTS 2 regions. Total gross tonnage rather than number of vessels was used as the basis for estimating value of regional activity, on the assumption that running costs, such as fuel consumption, purchases of food, equipment, nets etc. will all increase more or less pro-rata in line with tonnage. A further assumption was made that vessels operate from the county of registration. These factors were applied to all products (rows) in the Fishing sector.

Allocation of regional activity for the Industry sectors (NACE 10 – 40) was based on two main sources. For industry-to-industry purchases (i.e. materials covering NACE 1 - 41) a special supplementary "*Materials Purchased*" survey was conducted alongside the 2005 CIP for the compilation of the national 2005 SUT and I-O tables. This survey asked responding enterprises to detail the materials

purchased (i.e. both expenditure and product information) and provided very detailed information for most product groups. The micro-data from this survey were codified into regional data and re-weighted to compile regional aggregates. Separate regional factors were then derived for each product heading by industry. In cases where no precise product expenditure was available from the survey, a proxy, based on average regional split for each industry, was derived. For purchases of services by industrial enterprises, the CIP purchases of services data were used. This provided specific regional factors for NACE sectors 51, 60, 61, 62, 71, 72, 73, 74. For rows (NACE 23 and 40) separate regional factors were calculated based on purchases of electricity, gas and oils (heating, motor etc.) sourced from the 2005 CIP. For all other services sectors, regional factors were imputed based on the residual "other goods and services" category.

Local Authority Financial Outturns 2007 sourced from Department of Environment, Housing and Local Government (DEHLG, 2009) were used to estimate the regional distribution of Water services (NACE 41). Specifically, Programme Group 3 - Water Supply and Sewage (Public Water Supply Schemes) data for each county and city council were aggregated to estimate regional factors. These factors were applied to all products (rows) in the Water Services industry.

For Construction (NACE 45), intermediate consumption was calculated using data from the CBC. Using purchases data, regional factors at product level were calculated for a number of NACE divisions (NACE 23, 40, 50, 52, 65, 66, 70, 71 and 74). Two residual factors were then computed. The first for materials, based on total materials purchased, was applied to all products (rows) from 1 – 41 that did not have a tailor-made regional factor (e.g. NACE 23 and 40). The second set of factors, calculated for services, was based on "other purchases of services". No adjustments were made for purchases patterns of small and micro enterprises. This services factor was applied to all services products that didn't have a specific factor.

For traded services (NACE 50 – 55, 60 – 67, 70-74 and 92 – 93), intermediate consumption was calculated using a combination of data from the 2004, 2005 and 2006 ASI. This was done as purchases information in the ASI is collected on a three year rotating basis to keep respondent burden to a minimum. Thus by using 3-year data a comprehensive set of purchases information was available. Using these data regional factors at product level were calculated for a number of NACE industries (NACE 21, 23, 41, 55, 60, 63, 64, 65, 66, 70, 71, 72, 73, 74 and 90). NACE 67 was imputed on the basis of NACE 66. For NACE 73, if no primary data were available, this was imputed based on NACE 72. For rows (NACE 23 and 40), separate regional factors were calculated based on purchases of electricity, gas and oils (heating, motor etc.) sourced from the 2005 ASI. For all other products (goods and services), regional factors were imputed using the residual "Other goods and services" category.

For NACE 75 (Public Administration and Defense), the same factors used for the Supply Table were reused. These factors were calculated using a simple location quotient approach where calculations were based on regional employment sourced from the QNHS.

Detailed regional intermediate consumption for NACE 80 (Education) was estimated by re-applying regional factors calculated for each of the education sectors (primary, secondary, third-level, private etc.) in the Supply table to the detailed product/services consumption data taken from the workings of the national Use table. The intermediate consumption for each education sector was then weighted to estimate overall consumption of each product.

The primary source for compiling regional factors for NACE 85 (Health) was the Department of Finance Revised Estimates for Public Services (2006). Separate regional factors were compiled for the Health Services Executive (HSE), for purchases of health services by the health sector itself, for health schemes and for a residual 'Other'. The revised estimates report provides detailed expenditures (or outturns) for pay and non pay for each of the HSE regions. As these regions do

not correspond to the NUTS regions, some minor adjustments, or reallocations, had to be made (primarily for the North-Eastern HSE region that straddles both the SE and BMW NUTS regions – this was done on the basis of relative regional populations). The pay element was used to estimate factors for COE. The non-pay element was used to estimate factors for the HSE element of Health. For Health to Health services, the biggest element (grants to voluntary hospitals) was estimated by using details provided in the Vote report, where all major grants to hospitals are detailed. These were coded to the NUTS regions, and the residual other was split evenly between the two regions.

Table 5.9.1 – Purchases of Health to Health Services by Region, 2005

	Purchase of health by health	Total Expenditure	Regional Factors		Regional Expenditure	
			SE	BMW	SE	BMW
		€ 000's			*€ 000's*	*€ 000's*
H1	GMS payments to doctors	504,409	0.787	0.213	396,749	107,660
H2	Grants to certain voluntary hospitals	1,780,455	0.937	0.063	1,667,648	112,808
H3	Domiciliary care transfers	42,071	0.732	0.268	30,815	11,256
H4	Res care transfers	323,262	0.732	0.268	236,777	86,485
H5	Foster care transfers	73,562	0.732	0.268	53,881	19,681
H6	Hospital treatment purch group	64,000	0.732	0.268	46,878	17,122
H7	Treatment benefit	65,500	0.732	0.268	47,976	17,524
H8	Total purchase of health by health	2,853,259			2,480,725	372,534
	Regional Factors - Health		0.869	0.131		

Factors for GMS payments were estimated using HBS data (household expenditure on prescription and non-prescription medicines) – see Table 5.9.1. All other residual health to health purchases (such as domiciliary, residential and foster care transfers, hospital treatment purchases etc.) were split on the basis of population. For schemes, the HBS medicines expenditure was used again to split subsidies for drug purchases. For payments for medical goods supplied to households and the residual (milk for mothers and children), regional populations were used. These factors were then weighted together using the weightings from the national table.

For NACE 90 (Sewage & Refuse), the financial outturns from the Local Authority Outturns 2007 (ibid) for Programme Groups 3 & 5 - Water Supply & Sewage (Public Water Supply Schemes) & Environmental Protection (Waste Disposal) for each county and city council were aggregated to estimate the overall regional distribution of expenditure.

For NACE 91 (Membership of Organisations) the factors used in the regional Supply tables, where enterprise micro-data from the CSO Central Business Register, supplemented by searches on the web, were classified to the regions on the basis of location (head office) were reused.

Final Household Consumption was allocated between the two regions by taking average weekly household consumption from the 2004/05 HBS (CSO, 2007e) and weighting this by the number of households in each region. This provided an estimate of actual weekly expenditure for each region. A concordance was then constructed between NACE and COICOP[1] so that household consumption could be allocated to economic activity. Regional factors were then calculated from the regional expenditure bundles.

For NPISH (Non-Profit Institutions Serving Households) which is primarily made up of education, charities and trade associations etc. a variety of sources were used. For NACE 15 (Food & Beverages), the number of persons in consistent poverty for each region was used as the basis to distribute consumption between the two regions using the assumption that this expenditure was made primarily by charitable institutions. These data were sourced from the 2005 SILC (CSO, 2006h) Use of educational services (NACE 80) was distributed between the regions by calculating a weighted total regional distribution using the worksheets for the education sector (see NACE 80 above). Similarly, the use of Health services (NACE 85) was distributed between the regions by calculating a weighted total regional distribution for HSE, Health-to-Health, Schemes and

[1] COICOP is the UN system for Classification of Individual Consumption by Purpose

Other health services expenditure (using data already compiled to derive estimates for Health sector).

For NACE 91 (Membership of Organisations) the regional factors calculated for use in the intermediate consumption matrix were recycled without alternation and used.

By and large, to estimate the use of Final Government Expenditure in the regions the regional distributions calculated for the intermediate consumption matrix were reused. For NACE 41 (Water Distribution), factors based on water supply and sewage (public water supply schemes) were used again i.e. the intermediate consumption factors for NACE 41. The same approach was adopted for NACE 90 (Sewage & Refuse) where the intermediate consumption factors taken from the 2007 Local Authority Outturns Water Supply & Sewage (Public Water Supply Schemes) & Environmental Protection (Waste Disposal) were reused. For NACE 73 (R&D) and NACE 80 the aggregate regional factors calculated for use of Education services (NACE 80) by NPISH were re-applied. For NACE 75, the regional factors calculated for intermediate consumption in NACE 75 were used again. For NACE 85 (Health), the same factors used for NPISH were used where total intermediate consumption for all health sectors was allocated between regions.

For Gross Fixed Capital Formation (GFCF), net capital acquisitions (i.e. capital acquisitions less capital disposals) were used to generate regional factors. For the traded services divisions (NACE 70, 72, 74 & 92), data were sourced from ASI 2005 while data for industry and construction, were taken from the 2005 CIP and 2005 CBC respectively. The public administration element (NACE 75) of GFCF was disaggregated using the same factors as used to split intermediate consumption for NACE 75 (i.e. using a simple location quotient approach where calculations were based on regional employment sourced from the QNHS.

Changes in inventories were allocated to regions using CIP stocks data with changes to total stocks being estimated by comparing opening and closing stocks for 2005. For any stocks that could not be properly attributed to a region, the stocks were allocated to the region where the head office of the enterprise was located. For the forestry and fishing sectors, the diagonal factors for intermediate consumption were simply re-used. For the agriculture sector the stocks of animals (less capital/breeding stocks) and crops data from the 2005 June and December Agriculture Surveys (CSO, 2006i) and (CSO, 2006j) were used to allocate inventories between the two regions.

International exports (i.e. exports from the region to outside Ireland) from each region were calculated using export data compiled for Structural Business Statistics (i.e. the CIP and ASI). For Agriculture, the factors were based on live exports data provided by the DAFF. For Forestry and Fishing the total domestic supply for each region (as calculated in the Supply Table) was used to estimate regional factors.

The regional distribution of production taxes and subsidies (i.e. non-product taxes such as local authority rates and motor tax) and non-product subsidies, such as passenger transport subsidies to bus and airline companies and other training, employment and marketing subsidies, was estimated using a number of sources. For most industry and traded services sectors, factors were based on 2005 CIP, CBC and ASI data. For Agriculture, Forestry and Fishing, regional distributions were calculated using the regional taxes and subsidies data taken directly from the regional accounts. The same approach was used for non-traded services (such as NACE 80, 85, 90 and 91) where the regional distribution estimation was based on "other services" taken from the regional accounts.

For Compensation of Employment (COE), Net Operating Surplus (NOS) and Consumption of Fixed Capital (CFC) or depreciation, regional factors were calculated by using the regional aggregates compiled for the regional accounts. Regional accounts, compiled at NACE Section were disaggregated to NACE

division (i.e. NACE 2 digit) using supplementary data from the Structural Business Statistics. Personnel Costs (sourced from ASI, CIP and CBC) were used to disaggregated COE, while for NOS and CFC, industry GVA (sourced from ASI, CIP and CBC) was used as a proxy to disaggregate the regional accounts aggregates.

5.10 Conclusion

This chapter has outlined the basic methodological approach and data sources used to regionalise the national SUT to derive regional tables. A "bottom-up", data-intensive approach was used, which has entailed the use of a wide variety of data sources (in particular micro-data). This approach demonstrated that there are sufficient primary data to regionalise the national Supply and Use tables.

Comparing the regional Supply tables shows that domestic output for the SE region is approximately 5 times larger than that of the BMW region and that the structures of the two economies are quite different. For example, Construction accounted for 17% of domestic production in the BMW region compared with 11% in the SE region. The regional Use tables also evidence the dominance of the SE region, where Final Consumption & Gross Fixed Capital Formation accounts for 27% of Total State Uses compared with 41% in the BMW region.

The regional Use tables also showed that secondary production is slightly higher in the BMW region than in the SE region, but importantly, it is low in both regions (3.3% and 2.4% respectively). This is an important finding in the context of the type I-O model used (see Chapter 8).

Chapter 6: Compiling Regional Intermediate Tables

6.1 Introduction

This chapter summarises the methodology and data sources used to regionalise the intermediate tables. These tables are an integral part of the Supply tables but are not typically published (with the exception of the imports tables) except for the totals, which appear as columns in the Supply table.

The intermediate tables incorporate: and are detailed in Appendices 9 – 14:

- Use Tables for International Imports;
- Use Tables for Domestic Imports;
- Product Taxes Tables;
- Product Subsidies Tables;
- Trade Margins Tables; and
- Use Tables for Domestic Output.

Once the transaction element of the Supply Table is compiled an additional number of intermediate tables (for each region) are required to complete the table so that the SUT can be balanced. The totals from these tables appear as columns in the Supply tables.

The product taxes, subsidies and margins tables are valuation matrices of the same dimension as the Total Use tables. These tables show how much margin and taxes, less subsidies, must be deducted to transform the Total Use Tables from purchasers' prices to basic prices. The Use tables for Imports (both International and Domestic) are required to transform the Total Use tables to Use Tables for Domestic Output which, in turn, are required to derive regional SIOTs for domestic product flows.

The methodology used to regionalise these tables and the Use table for International Imports are outlined in sections 6.2 – 6.5. Given the importance of the regional Use Tables for Domestic Imports for RI-O tables, the compilation of those tables, and the derivation of the Use Tables for Domestic Output, are outlined in more detail in Chapter 7.

6.2 Regional 2005 Use Tables for International Imports

The regional Use Tables for International Imports are similar to Total Use tables as they show the consumption of goods and services by industries, households and government. However, in this case the tables are confined to imported goods/services from the *Rest of the World* i.e. imports from neighbouring regions within Ireland are not included.

Most of the import data used to regionalise the national Use Tables for International Imports (i.e. imports from outside Ireland) were sourced from Structural Business Statistics (i.e. the CBC, CIP and ASI). For the Agriculture, Forestry and Fishing sectors, the Regional Accounts for Agriculture 2004 – 2006 (CSO, 2007h) and the Agricultural Output, Input and Income 2005 – Final Estimates (CSO, 2006c) were used. These data allowed the total imports (known from the national Use Tables for International Imports) of each product or commodity to be distributed between the two regions. In order to distribute these regional product imports across the industries, the use (consumption) patterns or profiles from the regional Total Use Tables were reused on the assumption that regional consumption and imports are closely correlated.

6.3 Regional 2005 Gross Margin Tables

For the state tables, trade margins for NACE 50, 51 and 52 are distributed across the industry products (NACE 1 – 41) using a wide variety of data sources before being aggregated into an overall trade margin. In order to construct regional Trade Margins tables, the overall product trade margins ($\sum x$) used in the Supply

table were first disaggregated into their 3 constituent parts (x_{50}, x_{51}, x_{52}) i.e. product trade margins from NACE sectors 50, 51 and 52 (motor, wholesale and retail) – see Table 6.3.1. These splits were taken directly from worksheets used to calculate the national tables.

Table 6.3.1 – Trade Margins by Industry

NACE	Total		50	51	52
1	$\sum x_{1}$	=	x_{150}	x_{151}	x_{152}
2	$\sum x_{2}$	=	x_{250}	x_{251}	x_{252}
3	$\sum x_{3}$	=	x_{350}	x_{351}	x_{352}
4	$\sum x_{4}$	=	x_{450}	x_{451}	x_{452}
.	.		.	.	.
.	.		.	.	.
.	.		.	.	.
41	$\sum x_{41}$	=	x_{4150}	x_{4151}	x_{4152}

These disaggregated calculations (i.e. for NACE 50, 51 and 52) were used to construct product weights to which regional factors for NACE 50, 51 and 52 were applied.

Regional factors for NACE 50, 51 and 52 were derived from gross margins from the ASI, as they account for most of the total trade margin. These regional factors were then applied to the disaggregated product weights to derive weighted average product trade margins for each region. These product margins were then rescaled, so that the total of the trade margins for the product rows summed exactly to the total trade margins for NACE 50, 51 and 52 in each region.

Final regional factors for each product were derived from the rescaled total product trade margins. The appropriate regional product factor was applied across all industries (columns) for that product (row) to allocate total product trade margin between the regions. Some final rescaling was then required to ensure that

each individual column summed to zero and not simply the total columns. The assumption being here that the only output in NACE 50 – 52 is the margin, which is generated from purchases to the other sectors and thus is a zero sum game. See Appendix 11.

6.4 Regional 2005 Product Tax Tables

Similar to product subsidies, the absolute value and regional distribution (at NUTS 3 level) of Product Taxes is known from Table 14 (Total GVA of each Region at Factor Cost, Basic Prices and Market Prices 2005) of the *2005 County Incomes and Regional GDP* annual estimates. Unlike subsidies, however, the value of product taxes was not revised during the compilation of national SUT and remained valued at €20,655 million.

In order to construct the regional Product Tax Tables, the individual regional product consumption patterns or profiles taken from the regional Use Tables (and adjusted to exclude NPISH, Government Consumption Expenditure and Exports) were used to distribute the taxes across the industries at a regional level. This was done on the assumption that as product taxes (e.g. taxes such as VAT, customs and excise duty, stamp duty and VRT) are transaction taxes, their distribution will be aligned closely with consumption in each of the regions. Some small calibration was then applied to ensure the overall distribution of regional product taxes was consistent with the regional allocation published in Table 14 of the *2005 County Incomes and Regional GDP* report and still summed to the national estimates at individual product and industry level. See Appendix 12.

6.5 Regional 2005 Subsidies Tables

The absolute value and regional distribution (at NUTS 3 level) of Product Subsidies is known from Table 14 (Total GVA of each Region at Factor Cost, Basic Prices and Market Prices 2005) of the *2005 County Incomes and Regional GDP* annual estimates (CSO, 2008c).

For product subsidies, there are two large interventions: Agriculture and Land Transport Services. Using additional (unpublished) data compiled for the *Output, Input and Income in Agriculture 2005 – Final estimates* (CSO, 2006c), regional subsidies paid to agriculture were calculated. The main subsidy for Land Transport (NACE 60) is the payment to CIE by the Department of Social Welfare in respect of the Free Travel Scheme. The subsidy to Dublin Bus was allocated in its entirety to the SE region while Irish Rail, Bus Eireann and other city bus service activities were allocated to region of origin on the basis of passenger numbers (of origin). These services were weighted together by total passenger numbers for each service. The OAP activity for each of the transport services was imputed by taking the population of persons aged 65 and over from the 2006 Census of Population for each region and applying that ratio pro-rata to the NACE 60 ratios.

For the remaining sectors where smaller subsidies applied (NACE 10, 11, 15, 50, 51, 52, 62, 74 and 92), the national estimates from the national SUT were distributed between the regions, using a single ratio derived from the regional distribution of product subsidies in Table 14. Total product subsidies, as presented in Table 14, are valued at €1,643 million whereas they are valued at €1,678 million in the Supply Tables, which are published later and incorporate revisions. As one of the stated constraints of the R-SUT is that it must sum to the national tables, the value of €1,678 million was used. Some re-scaling of individual product regional distributions was therefore required to ensure the total of €1,678 million was preserved while, at the same time, preserving the regional distribution of regional GVA. These final regional factors were then applied to

the Product Subsidies Table for the State to derive tables for the SE and BMW region. See Appendix 13.

6.6 Conclusion

Intermediate tables are integral to the SUT. The product taxes, subsidies and margins tables are necessary to complete the Supply table and transform the Total Use tables from purchasers' prices to basic prices. The Use Tables for Imports (both International and Domestic) are required to transform the Total Use Tables to Use Tables for Domestic Output which, in turn, are required to derive regional SIOTs for domestic product flows. The full regional intermediate tables are detailed in Appendices 9 – 14.

Chapter 7: Regional Use Tables for Domestic Imports and Domestic Output

7.1 Introduction

This chapter outlines the methodology and data sources used to compile the inter-regional trade flows between the SE and BMW region and the subsequent construction of the regional Use Tables for Domestic Imports and Use Tables for Domestic Output.

The regional Use Tables for Domestic Imports is similar to the Use Tables for International Imports in that it shows the consumption of goods and services by industries, households and government of imported goods/services, except in this case only inter-regional imports are included i.e. imports from the neighbouring region.

The regional Use Tables for Domestic Output are similar to the Total Use tables, except that they have been re-valued from purchasers' to basic prices (by deducting margins and net taxes) and both international and domestic imports have also been deducted. The residual is domestic output.

This chapter is divided into 11 Sections. Section 7.2 outlines the methodological issues with sections 7.3 – 7.7 detailing the methodology and data sources used to estimate the inter-regional trade for goods, traded services, building & construction services, non-traded services and electricity respectively. Section 7.8 details how commodities were allocated to industries in order to compile the final regional Use Tables for Domestic Imports while section 7.9 outlines the derivation of the regional Use Tables for Domestic Output. Section 7.10 describes how the regional Use Tables for Domestic Output are used as feedback in order to balance the SUT. Section 7.11 concludes the chapter.

7.2 Methodological Approach

The R-SUT and RI-O have an additional complication over and above that normally encountered when compiling a set of national tables; the requirement for Use Tables for Domestic Imports which capture the direction and value of inter-regional trade.

Consequently, regional Supply tables must have an additional imports column i.e. imports must now be distinguished between international and domestic imports. These domestic imports columns must be supported by corresponding Use Tables for Domestic Imports. As there are only two NUTS 2 regions, the domestic imports for one region must equal the domestic exports from the other, emphasising that inter-regional trade flows cancel out at the national level. The regional Use Tables for Domestic Output (i.e. the Total Use Tables adjusted for margins, taxes, subsidies and imports) used to compile the I-O tables must take account of all imports (i.e. both international and domestic imports).

Inter-regional trade was estimated using a variety of data sources. The movement of goods were estimated using transport freight statistics and then converted to values using average import prices. The regional imports and exports of services and construction were estimated using supplementary data collected as part of the 2006 ASI and CBC on regional purchases and sales. Non-traded service sectors were imputed based on the traded element of those sectors. So, for example, the behaviour of local authority refuse collection was imputed based on the behaviour of private enterprises in NACE 90. While necessary, this approach has some risks as it is not clear if private enterprises are more likely to purchase locally than public enterprises who may subscribe to a centralised purchasing agreement. Regional imports of electricity were estimated from average electricity transmissions for summer and winter periods, sourced from the Eirgrid Transmission Forecast Statements. A brief summary of these methodologies are described in sections 7.3 – 7.7.

7.3 Inter-Regional movement of Goods

The CSO Road Freight Transport Survey (RFTS) provided the main platform for estimating the value of inter-regional movement of goods. The RFTS provides details on the origin-destination of goods at NUTS 3[1] level, type of goods and commodities that are carried and the broad industry type or purpose to which these commodities are delivered and used for. The RFTS provides information on the carriage of goods for 59 commodity groups, classified to NST/R (the standard EU commodity classification for transport statistics). It also provides 10 broad industry type/purpose classifications. For each region of destination (i.e. importing region), therefore, a 10 x 59 matrix was constructed.

The 59 commodity and 10 broad purpose classifications were mapped to NACE Rev.1.1. A concordance from NST/R commodity groups to NACE division exists through an intermediary classification, the international trade CN classification i.e. the commodities coded to NST/R were first mapped to the corresponding CN codes and then to NACE. The detail available from the NST/R, once converted to NACE divisions, provided tonnage for NACE 1, 10, 13, 14, 15, 17, 20, 21, 23, 24, 27, 28 and 29. The total for agriculture was apportioned across NACE 2 and 5 (forestry and fishing). Thereafter, the two main residuals "mixed loads" and "miscellaneous articles" were valued, summed and distributed across the NACE sectors for which no specific information was available. The distribution of products across industries was constructed using unbalanced preliminary Domestic Use Tables (i.e. Total Use less international imports) for each region.

While every effort was made to avoid the double counting of domestic transportation of goods en route from/to international import/export, it is possible that some of the goods included in the estimates for inter-regional trade were already included in regional international imports/exports. Issues may also arise around transportation of equipment (NACE 29), which may not necessarily

[1] See Appendix 1

involve a purchase transaction but may have only been leased or rented, in which case turnover would also be captured in NACE 71.

Another complication exists in that the RFTS captures only the activity of lorries with an un-laden weight (ULW) over 2 tonnes. Furthermore, only Irish-registered vehicles fall within scope of the survey. Consequently, a number of adjustments were made for small vans, cabotage and additional sea, air and rail freight. The net effect of these adjustments was to increase the volumes of inter-regional goods freight reported by the 2005 RFTS by approximately 8%; from 25.9 million to 27.9 million tonnes. In Sections 7.3.1 – 7.3.6 below, a description of the adjustments made for small vans, cabotage and additional sea, air and rail freight is given.

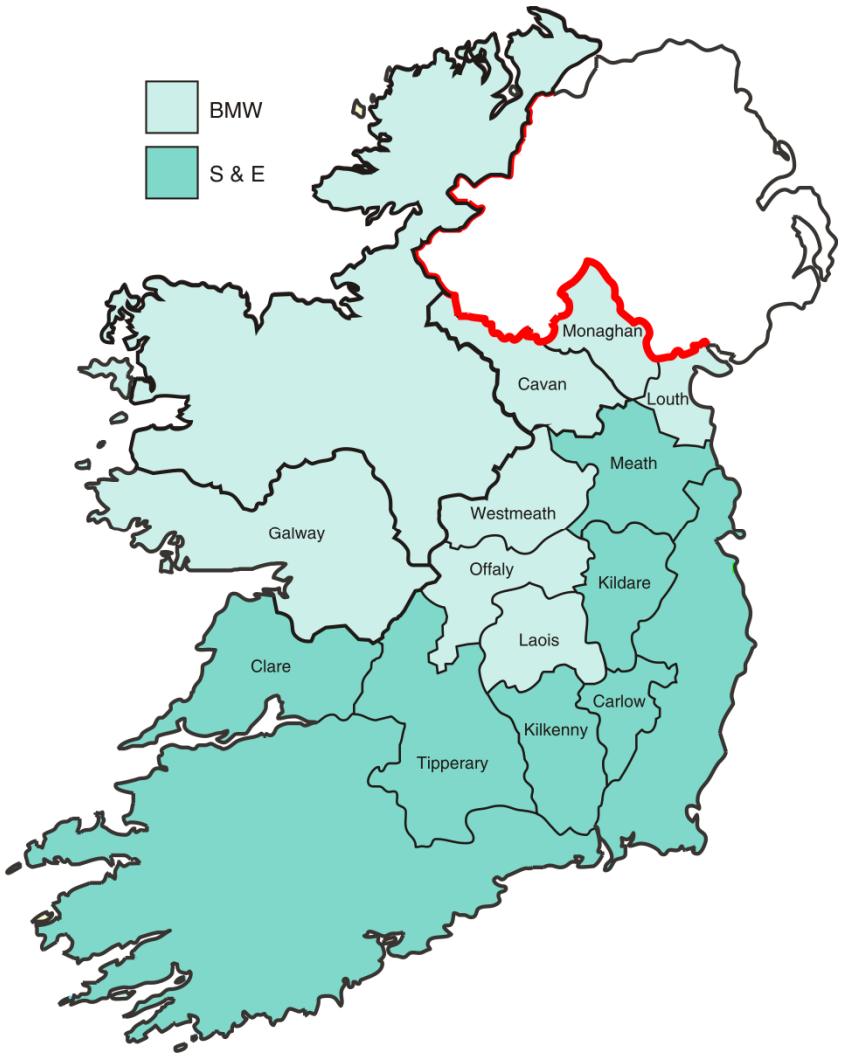
7.3.1 – Adjustments for goods carried by Van

As noted above, most freight in Ireland is transported by vehicles with an un-laden weight exceeding 2 tonnes. However, some goods are transported by small vans (i.e. with an ULW of less than 2 tonnes) and this activity must be accounted. Unfortunately, there exists almost no data on van activity in Ireland. What is known from the CSO Total Road Vehicle-KMs, first published in the 2008 edition of the *Transport* compendium (CSO, 2009), is the total mileage of small vans in each county. In 2005, there were approximately 222,000 small vans in Ireland, each driving an average of 60 kilometres per day. These vans clocked up almost 4.9 billion kilometres during 2005.

Using UK (Department for Transport, 2009) and Norwegian data (Statistics Norway, 2009), it is surmised that small vans in Ireland typically do not undertake long deliveries. This is borne out by Irish averages of roughly 60km per day. Therefore, van activity in counties not lying along the BMW/SE border were excluded on the grounds that cross-border deliveries made by small vans were most likely to occur in counties that lie along the border. Consequently, van activity for the Cork, Dublin,

Kerry, Limerick, Waterford, Wexford and Wicklow counties were excluded from the SE region. Equally, van activity for Donegal, Leitrim, Longford, Mayo, Roscommon and Sligo were also excluded (see blank areas in Figure 7.3.1). Assuming that the county of registration (i.e. where vehicle was registered in 2005) is the same county where vehicle actually operated (which is not necessarily the case) total kilometres under consideration were reduced from 4.9 billion to 1.8 billion.

Figure 7.3.1 – Regional Border Counties for which Small Van Activity Included



Using the UK Department for *Transport 2008 Van Activity Baseline Survey* (DfT, 2009) data as a comparator for Irish behaviour, and assuming that all journeys (irrespective of purpose) are the same length, 72% of journeys (mileage) are excluded on the grounds that they are not being used for the delivery or collection of goods i.e. only 28% of van journeys involve the movement of goods, the rest are used for other purposes, such as carriage of own equipment, private purposes etc. This reduces the van mileage within scope to 511 million KMs.

The Statistics Norway *Transport Performance for Vans & Small Lorries* (Statistics Norway, 2009) further estimates that only 42% of van journeys (mileage) taken for the purposes of delivery or collection of goods are actually laden. Applying this proportion further reduces van mileage to almost 215 million kilometres. Again, using the Norwegian data, a kilometres/tonnes ratio can be derived. Applying this ratio converts the 215 million KM to 1.2 million tonnes carried. (see - Table 7.3.1).

Table 7.3.1 – Estimated Inter-Regional Small Van Kilometre and Tonne Activity, 2005

Region of Origin	Total KM for Counties on the BMW/SE Border	Proportion of Journeys for Delivery or collection of Goods	Total KM for Delivery or Collection of Goods	Proportion used for Laden Journeys	Total KM for Laden Delivery or Collection of Goods	Kilometres - Tonnes ratio	Total Tonnes carried
	000's		*000's*		*000's*		*000's*
SE	1,007,879	0.28	282,206	0.42	118,526	0.0056	664
BMW	817,799	0.28	228,983	0.42	96,173	0.0056	539
State	1,825,678		511,189		214,699		1,202

Source: (CSO, 2009; Statistics Norway, 2009; DfT, 2009)

This suggests that vans could account for as much as 3% of inter-regional goods transportation. As there are no information on what type of commodities vans carry in Ireland, these 1.2 million tons were used as a

minor weighting or calibration factor applied to the total heavy freight data excluding commodities such as heavy building materials, timber and other chemical and hazardous materials (HAZMAT) which would not be transported by small vans. The 1.2 million tonnes attributes all laden goods movements by small vans from the appropriate counties to inter-regional traffic, which of course is unlikely. However, the exclusion of all small van activity from non-adjoining region counties is also unlikely, so the estimate of 1.2 million tonnes is used (in the hope that any under-estimation from the non-adjoining or non-border set of counties offsets any over-estimation from the border counties).

7.3.2 – Adjustments for goods cabotage

Cabotage is defined as a consignment that is loaded and unloaded (i.e. collected *and* deposited) in Ireland by a foreign operator. In 2008, a data exchange programme was established between the EU Member States, where road freight information provided to Eurostat under EC Regulation 1172/98[1] could be provided to the other EU statistical offices. Using these data, all foreign vehicle activity (reported to their road freight surveys) in Ireland were assessed. International imports and exports have already been dealt with, so it is the residual cabotage activity that is of interest. From the data provided, only some 50,000 tonnes of goods were reported as being transported domestically via foreign vehicles. These trucks appear to have been primarily from Denmark, Austria and Luxembourg and the main products carried were cereals, potatoes, oils & seeds and stimulants & spices. The volumes of goods carried were small and, in any event, all the activity reported took place in the SE region. However, the volumes reported seem improbably small (possibly a function of sample design as freight movements to and from Ireland would be of limited concern to NSIs in many larger European countries) and in any event not

[1] Council Regulation 1172/98 on Statistical Returns in Respect of the Carriage of Goods by Road

all EU member states participated in the data exchange programme. Crucially, no data were provided for UK or Northern Ireland vehicles operating in Ireland and these vehicles are presumably those most likely to engage in cabotage in Ireland.

In 2009, the final results for the Survey of Foreign Road Goods Vehicles United Kingdom were published by the UK Department for Transport (DfT, 2009b). This report estimated that cabotage accounted for 3% of all goods moved within the UK. If the UK penetration rate is applied to Ireland it would mean that an additional 9.1 million tonnes may have been loaded and unloaded by foreign registered vehicles in 2005 (303.9 million tonnes of freight were moved around Ireland by Irish registered vehicles in 2005 (CSO, 2006e)). Of course, not all of this freight would have been moved between the two regions.

Most foreign hauliers enter the Republic of Ireland via Dublin Port, Rosslare, Cork or via the M1 from Northern Ireland i.e. into the SE region. Any hauliers delivering to the SE region are highly unlikely to travel to the BMW region in search of cabotage. Consequently, it is assumed that any cabotage originating in the SE region will terminate in the SE region. Thus, any inter-regional cabotage will originate (load) in the BMW region and terminate (unload) in the SE region. In other words, foreign hauliers who originally deliver to the BMW region may pick up loads en route back to Dublin, Rosslare, Cork or Dundalk.

The 2005 Road Freight Transport Survey indicates that only 9.5% of total domestic freight moved by road was inter-regional (i.e. at the NUTS 2 level). Applying this ratio to the cabotage estimate gives an inter-regional cabotage figure of approximately 865,000 tonnes of which less than 400,000 tonnes were shipped from the BMW to the SE – see Table 7.3.2. The total cabotage adjustments were distributed across the NST/R commodity groups to exclude goods and materials that are unlikely to

have been moved by cabotage, such as petroleum products, cements and HAZMATs.

Table 7.3.2 – Estimated Domestic Cabotage in Tonnes, 2005

Irish Registered Vehicles - Total Tonnage	UK Cabotage Penetration Rate	Estimated Cabotage in Ireland - Tonnes	Inter-Regional Freight Ratios	Inter-Regional Cabotage
000's		*000's*		*000's*
303, 866	0.03	9,116	0.095	865
of which:	*BMW to SE*		*0.044*	*397*

Source: (CSO, 2006e; DfT, 2009b)

7.3.3 – Goods carried by Rail

In 2005, an estimated 1.5 million tonnes of freight were transported by rail. Of this, over 1.2 million tonnes or 81% of all rail freight did not involve any inter-regional movement. Based on special tables provided by CIE for 2005, an estimated residual 284 thousand tonnes moved between the regions. This involved the movement of Guinness, oil, cement, shale and timber. Approximately 66% of rail freight moved from BMW region to SE region – See Table 7.3.3.

Table 7.3.3 – Inter-regional Rail Freight Activity, Tonnes Moved 2005

Commodity	Total Inter-Regional Rail Freight	Region of Origin - BMW	Region of Origin - SE
	000's	*000's*	*000's*
Guinness	61	-	61
Oil	4	-	4
Cement	20	20	-
Shale	75	43	32
Timber	124	124	-
Total	284	187	97

Source: (CIE, 2005)

7.3.4 – Goods carried by Air

In 2005, only 23,000 tonnes of domestic freight were shipped by air. No data are available on what type of freight was shipped, but presumably it was primarily mail and parts. All of this traffic was between Dublin, Cork and Shannon which are in the SE region. While there may have been some leakage in and out of the West and Galway via Shannon this should be captured in the small vans adjustments. In any event, the overall tonnage was so small that no additional adjustments were made for air freight.

7.3.5 – Goods carried by Sea (Coastal)

In 2005, 1.87 million tonnes of freight were shipped by sea between Irish ports. However, there are only two ports of any significance in the BMW region, Galway and Killibegs and as both of these ports fall below thresholds for detailed reporting, the CSO maritime statistics only compile basic volume data for these ports. From the data available, it is estimated that approximately 1.5 million tonnes or 80% of total coastal freight moved within the SE region (CSO, 2006k). The main inter-regional shipments were oil products (370,000 tonnes) which were imported by the BMW region from the SE. A small amount of iron/iron ore (2 tonnes) was imported by the SE from the BMW region.

7.3.6 – Adjustments to Freight Volumes

A number of commodities or services were excluded from freight data as they are also included in the services data. For example, laundry, mail and refuse are treated as services (NACE 64, 90 and 93) and hence these were deducted from freight volumes, removing a total of 133,000 tonnes of inter-regional laundry/mail/refuse. The services data are seen as superior data, in that they overcome the shortcomings detailed in Section 7.3.7.

Furthermore, freight supplying the Motor Trades, Retail and Wholesale industries (NACE 50, 51 and 52) were also deducted from freight totals for the same reason. This removed a further 18.9 million tonnes of freight.

7.3.7 – Converting Volumes to Values

Average import prices per tonne of commodity for 2005 sourced from the international trade data were used to convert the estimated inter-regional tonnage into monetary values. Import prices rather than export prices were used as it was reasoned that these would correlate better, or be more consistent, with the values used in the international imports table. This approach, while necessary, has a number of limitations or short-comings that are worth noting:

1. Average international import prices were used and these may not have been the appropriate prices to apply to goods being traded domestically. This could be problematic particularly for commodities such as chemicals where internationally-traded prices could contain a large element of value added or be complicated by transfer pricing;

2. The same average prices were used to value commodities going in either direction i.e. the average tonne of commodity *x* had the same price whether commodity *x* was being imported by the SE region or the BMW region;

3. The volume of trade reported in the Road Freight Survey is classified to an aggregate NSTR commodity code. Consequently, the exact specifications of the commodity are unknown. Hence a weighted average aggregate price per tonne was applied. This allows a wide margin for error i.e. to significantly undervalue or overvalue the loads being transported between the regions. For example, broad headings such as "*Toxic Chemicals"* or "*Vehicles, Machinery, Appliances and Parts thereof*" leave plenty of room for interpretation. This problem

was even more pronounced for headings such as "*Mixed Loads*" or "*Miscellaneous Articles*". For example, the freight data contains 1.66 million tonnes of "mixed loads" (or approximately 6% of total inter-regional freight tonnage), of which 692,000 tonnes were moving from the BMW to the SE and 972,000 tonnes from the SE to the BMW.

The value of goods exported from the SE to BMW region was priced initially at €10.6bn with the corresponding value of exports from the BMW to SE region being €12.bn. However, these values were excessively high when compared with the residual domestic regional production. Consequently, the values were reduced using a crude calibration methodology where a ratio of total export tonnage from each region over total domestic freight tonnage (adjusted for cabotage, vans, rail etc.) was calculated. These ratios were applied to the value of the goods element of Total Use. This reduced SE exports of goods to €5.8bn and BMW exports to €4.9bn. This is a very significant reduction. One possible contributing explanation may be a double counting between international and domestic trade. Although every effort was made to exclude international imports and exports from domestic trade flows, the possibility remains that hauliers who collect/deposit freight at ports may legitimately record a journey as a domestic one, when in fact the ultimate origin/destination of goods is outside the state. The valuation issues noted earlier may also have been a contributing factor.

7.4 – Inter-Regional flows of Traded Services

The inter-regional flows of traded services were estimated using results of a one-off, supplementary survey incorporated into the 2006 Annual Services Inquiry. This survey asked a sub-sample of the sampled enterprises to apportion their turnover and purchases between the SE region, the BMW region or international trade. Enterprises were asked to apportion the value of their turnover between exports and the two NUTS 2 regions. For both purchases for direct resale and purchases of other goods and services, enterprises were also asked to apportion between imports and purchases from either of the two NUTS 2 regions.

A total of 4,036 enterprises returned information on inter-regional trade. Although questions had been asked regarding both turnover and purchases, the quality of the turnover data was far superior to that of the purchases data i.e. responding enterprises appeared to have a much clearer knowledge of the value and location of their customers than they did regarding their suppliers. Certainly the partial non-response for the purchases questions was markedly higher than for the turnover questions. In many instances, purchases for the inter-regional trade part of the questionnaire did not correspond with (or make sense *vis-à-vis*) data provided in the main body of the questionnaire.

As the scope of this study is two regions, the inter-regional sales (or domestic exports) from one region should correspond with the inter-regional purchases (or domestic imports) in the other. In other words, the domestic exports from one region must equal the domestic imports for the other, and *vis-a-versa*. However, as noted above, this was not the case. As the scope of the study is only two regions, rather than try and calibrate sales and purchases, the turnover data were used exclusively. As the Supply and Use tables are symmetric the regional exports (sales) could be transposed so that services products were converted to regional imports (purchases) by industry sector. Equally, industry output was converted to commodity inputs. Thus, turnover generated by the Business Services industry (NACE 74) located in the SE region from exporting to the BMW region, equalled the value of Business Services commodities (services) imported by the BMW region from the SE.

Rather than try and price adjust the 2006 values back to 2005 values, the sample data were simply weighted to the 2005 values as estimated in the 2005 regional Supply tables (which of course equal the regional Use tables) rather than the ASI 2006. This overcame two obstacles. Firstly, as already noted, the need to deflate the 2006 values to 2005 prices would require an extensive range of services deflators and, secondly, the need to adjust for differences in scope between the ASI and Supply table aggregates.

7.5 – Inter-Regional flows of Non-Traded Services

In recent years, the scope of traded services has extended into some sectors traditionally considered non-traded, such as health, and waste collection. The 2006 ASI study on inter-regional trade covered enterprises in NACE 85 (Health & Social Work Services) and 90 (Sewage and Refuse Disposal Services). The traded element of these services did not report any inter-regional trade in 2006 and thus was the basis for imputing zero inter-regional trade for the sectors as a whole (traded and non-traded). The same pattern was applied to NACE 75 (Public Administration and Defence) and 80 (Education).

As noted earlier, imputing the behaviour of local authority or Government behaviour on that of private enterprises, although unavoidable, is not without risks. For example, public enterprises (unlike private enterprises) may be more likely to purchase through centralised purchasing agreements than purchase locally.

7.6 – Inter-Regional flows of Building & Construction Services

The CBC measures enterprises with 20+ persons engaged and for these enterprises a survey, similar to that described for services was conducted. For the construction sector, a total of 102 enterprises returned information on inter-regional trade (approximately only 10% of enterprises surveyed). Their responses suggested that enterprises with their HQ based in the SE region, generated approximately 29% of their turnover in the BMW region. In contrast, enterprises with their HQ in the BMW region did not report generating any turnover in the SE region.

Construction enterprises with 20+ persons engaged account only for 37% of total turnover for NACE 45. In order to compile the Supply Tables, adjustments for construction were made using results from the DKM Economic Consultants review of the construction industry (see DKM, 2007: 87). Additional adjustments were also made to take account of payments made to sub-contractors and VAT.

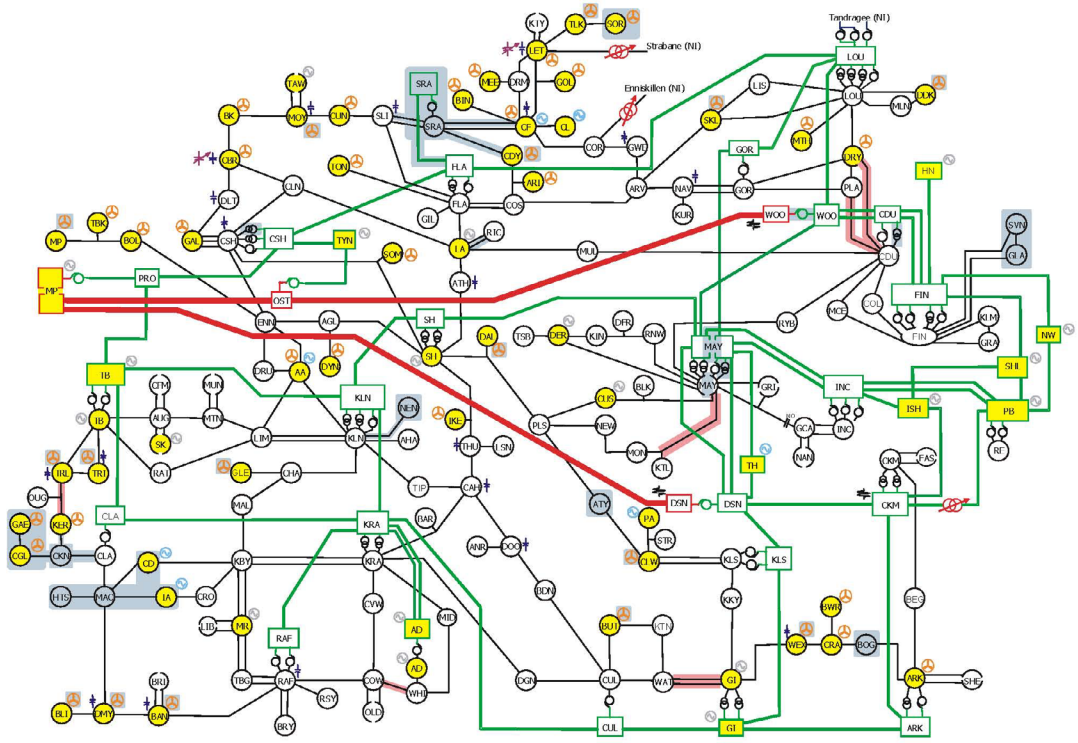
So the official measure of Construction output of €14.6bn published in the CBC for large enterprises is adjusted to cover smaller enterprises and make allowance for the value of sub-contracting. This yielded an estimated value of €38.8bn.

It was assumed that smaller building enterprises (i.e. those with less than 20 persons engaged) are only involved in local work and, consequently, are not involved in cross-regional activity. Thus, approximately 11% of the total SE construction turnover was generated from exports to the BMW region, which equates to roughly €4.2bn. However, there is some double count here as large volumes of building materials have already been accounted for in the inter-regional movement of goods. Consequently, when these purchases (such as timber, stone etc.) are deducted, this was reduced to €0.8bn. There remains uncertainty as how best to treat sub-contractors, which are very important to the construction industry and possibly account for as much as 55% of output. For the purposes of this study, it has been assumed that sub-contractors, like smaller building contractors, are not involved in cross-regional activity. This assumption may lead to an underestimate of imports of construction services in either or both direction.

7.7 – Regional Imports of Electricity

Accessing reliable information on regional production and consumption of electricity in Ireland proved surprisingly difficult. The best available source proved to be the Eirgrid Transmission Forecast Statement 2005 - 2011 (Eirgrid, 2005). See Figure 7.7.1 for schematic of electricity transmission system in Ireland.

Figure 7.7.1 – Schematic of Irish Electricity Transmission System (December 2004)

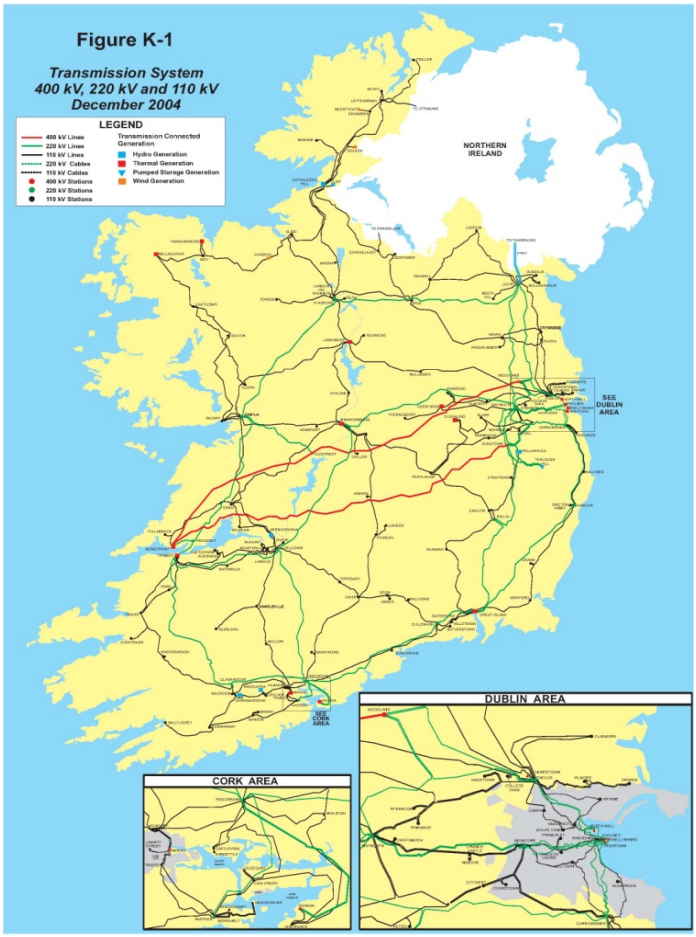


Source: (Eirgrid, 2005)

The appendices to these reports (J and K) provide average electricity flows (and direction) in terms of megawatts (MW) and megavars (MV) between each node on the grid. The approach taken was to map each node to county (see Figure 7.7.2) and then isolate the nodes where electricity was transmitted between the SE and BMW regions. The detailed grid charts provide the megawatts (active) and megavars (reactive) of electricity leaving one node and reaching another. As megavars are not traded the calculations were based on the "inbound" megawatts

figure (i.e. electricity lost during transmission was not counted). Annual flows of electricity between the regions was estimated by taking the simple arithmetic average of the transmissions for Summer and Winter 2005-06 and the Summer Night Valley and Winter Peak demand for 2005 (Eirgrid, 2006).

Figure 7.7.2 – Map of Irish Electricity Transmission System (December 2004)



Source: (Eirgrid, 2005)

Converting MW to monetary values was problematic, as insufficient information was available on the relative consumption between residential and enterprises (by size class, sector and region). Hence, any meaningful average price was impossible to calculate. Instead, an alternate methodology was adopted where the simple arithmetic average transmissions for Summer and Winter 2005-06 were

calculated using the Summer Night Valley and Winter Peak demand for 2005 (Eirgrid, 2006) – See Table 7.7.1 and Appendix 6.

Table 7.7.1 – Flow of Electricity between NUTS 2 Regions (MW), 2005

	Summer '05	Winter '05	2005
	MW	*MW*	*MW*
Imports from SE	236	443	340
Imports from BMW	178	297	238
Peak/Valley (TER)	1,803	4,828	3,316
	%	*%*	*%*
Imports from SE	7.1	13.4	10.2
Imports from BMW	5.4	9.0	7.2

Source: (Eirgrid, 2006)

These simple averages were compared with the total average TER (Total Electricity Supply) to calculate ratios. These ratios were applied to the electricity element of NACE 40 (approximately 45%) from the Total Use Tables 2005 net of imports. Only total intermediate consumption plus final household demand was included. The result (adjusted for final balancing) was electricity worth approximately €413 million was imported by the BMW region from the SE while €133 million worth of electricity flowed from the BMW region to the SE.

7.8 – Allocating Inter-regional Imports (commodities) to Industry/Use

The broad industry type/purpose classification used in the RFTS is not an international classification so a concordance to NACE was constructed. Some classifications were a straight forward match, for example "Delivery of goods to road works or building sites" was mapped directly to NACE 45 – Construction work. However, the majority of industry type/purpose classifications were insufficiently specific to attribute the freight directly to a NACE activity. Consequently, the profiles of each commodity distribution across industries

(sourced from the preliminary regional Use Tables for Domestic Output) were used to apportion the freight values. These product-industry use profiles were used to distribute the value of domestic imports (products) across the industry sectors so that the regional Use Tables for Domestic Imports could be tabulated.

7.9 – Regional Use Tables for Domestic Output

Once the preliminary SUT have been compiled for each region, the regional Use Tables for Domestic Output can be derived and, thereafter, the R-SUT can be balanced.

The Use Tables for Domestic Output are simply the Final Use tables with imports removed (thus converting the tables from Total Use to Domestic or Intra-Regional). Furthermore, to transform the Total Use Tables, priced in purchasers' prices to basic prices, taxes less subsidies and margins must also be removed. Combining these two steps, the transformation of Total Use tables to Tables for Domestic Output can be expressed as:

$$U_{Rn}^{D} = U_{Rn}^{T} - M_{Rn} - T_{Rn} + S_{Rn} - I_{Rn}^{I} - I_{Rn}^{D}$$

Where:

U_{Rn}^{D} and U_{Rn}^{T} are Use Tables for Domestic Output and Total Use tables for region *Rn* respectively**.**

M_{Rn} are Trade Margins for region *Rn.*

T_{Rn} and S_{Rn} are Product Taxes and Subsidies for region *Rn.*

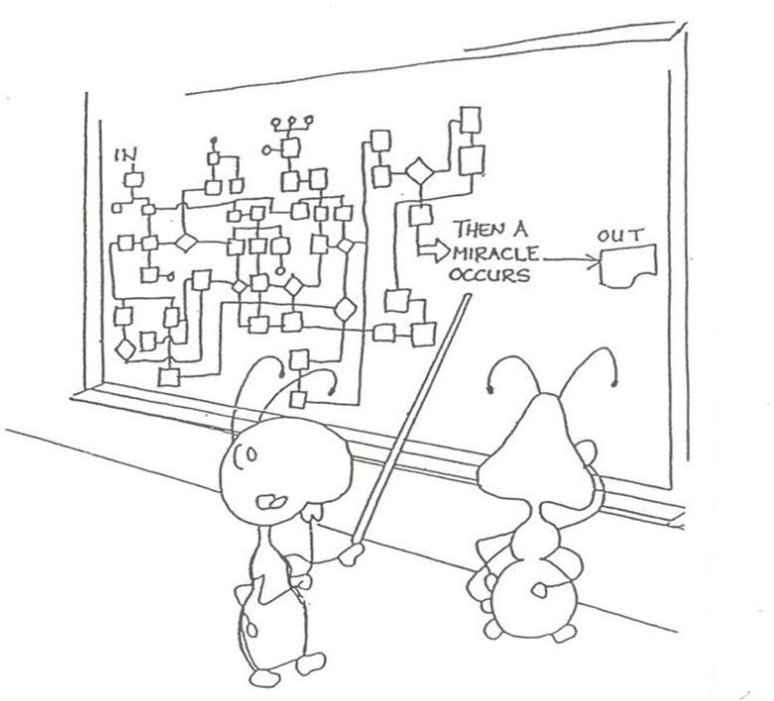
I_{Rn}^{I} and I_{Rn}^{D} are International and Domestic Imports for region *Rn.*

Any negative cells that appear in the preliminary Use Tables for Domestic Output must be examined and adjusted i.e. there cannot be negative use. At this stage, the outcomes arising from errors in calculations will be identified easily. These

errors must be traced back through the tables to establish where problems arise. In some cases, problems arise from clerical errors made during the tabulation stage, in other cases the problems arise from mismatches in data sources and the extent of these mismatches only really become apparent once the Use Tables for Domestic Output are derived. These mismatches are addressed in the first stage reconciliation or "balancing".

7.10 – First Stage "Balancing"

Figure 7.10.1 – "Balancing" in a Nutshell[1]



Compiling the Supply and Use tables is a complex task that involves pulling together and confronting data from a large number of sources (see Figure 7.10.1 and Appendix 5 – Data Sources). Confronting data typically involves reconciling discrepancies since it is not unusual for different sources to occasionally yield data that are at odds or inconsistent with other sources. There are a variety of reasons why this might happen, ranging from: survey error; differences in scope

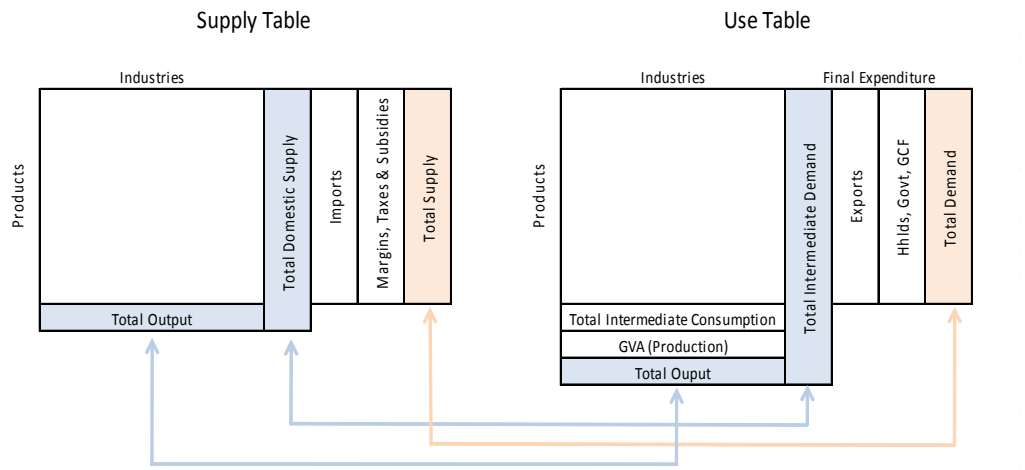
[1] I don't know the original source of this cartoon. I came across it in a presentation unrelated to I-O or national accounts, but I thought it neatly summed up 'balancing'.

or reference periods between sources; to clerical errors or backlogs in administrative registers. Furthermore the quality of respective data sources is not always clear and it can be hard to determine which estimation methodologies are superior. Even if discrepancies can be identified and explained, they still need to be reconciled so that the actual differences disappear. Automatic reconciliation is not possible and, consequently, a certain amount of conflicting data must be carefully confronted and reconciled, either by calibration or weighting to get a usable match. Reconciling different estimates or "balancing" as it is typically referred to, can be a subjective exercise, and requires the compiler to make judgement calls on data sources. The Eurostat methodological I-O handbook notes helpfully "*For balancing no general theory or useful mathematical programs are available*" (Eurostat, 2008: 208).

Prior to balancing, the discrepancy in total output between the tables for the SE region (Total Supply ≠ Total Use) was approximately 1.5%. However, the same absolute difference in the BMW region represented a discrepancy of the order of 7% reflecting the relative size of the two economies. Discrepancies for individual sectors varied considerably more (or less) from the average, but the majority fell within 5% for the SE region.

There are a number of relationships that are basic to the I-O model and must be respected. Once the R-SUTs have been compiled, the total output from Supply and Use tables must balance for each region and with each other.

Figure 7.10.2 – Basic Relationships within Supply – Use Tables



Furthermore, the Use Tables for Domestic Output should be reconciled so that no negative cells exist in the tables. In effect, this means all of the intermediate tables (Trade Margins, Product Taxes, Product Subsidies, International and Domestic Imports) for each region must all be reconciled and make sense *vis-à-vis* their respective Total Supply and Use tables. At the same time, each of the regional intermediate tables (Margins, Taxes etc.) must also sum to their respective national tables.

When balancing the R-SUTs it was important to ensure that the regional Supply and Use tables summed to their respective national tables. It was also critical that the regional GVA was consistent with that published by the regional accounts. Consequently there were three basic steps for consistency checking: (1) Ensure R-SUT and intermediate tables summed to national equivalents; (2) Ensure regional GVA is consistent with the regional accounts; and (3) Ensure all cells in the Use Tables for Domestic Output are positive.

Thus balancing the R-SUTs was quite a complex operation. The tables were balanced manually to ensure one region wasn't balanced at the expense of the other. In broad terms the approach adopted was to balance the regional Use table to the corresponding Supply table because, as noted earlier, purchases data are

generally of inferior quality to that of turnover. Typically, this approach would have been used for Manufacturing and Traded Services. However, for some NACE sectors where estimates on both the Supply and Demand side were gleaned from a combination of sources there was no reason to assume that the regional distribution for the supply side was any more accurate than the demand side. In such cases where it was not clear cut whether the supply or demand side was the superior estimate, the approach to balancing varied. A good example of this is the Fishing Sector (NACE 5). As the main components of GVA came directly from the regional accounts only minor adjustments were made to the allocation of COE, NOS and CFC.

Initially a 5% threshold or limit was set. For industry sectors where supply and use for both regions were within 5% of each other, the data were simply checked for errors and if none were found the data were deemed of sufficiently good quality to simply calibrate. For industries where the 5% threshold was exceeded for either region, the regional allocations were re-examined. As noted earlier, most industries fell under the 5% threshold for the SE region, whereas several exceeded the threshold in the BMW region as the same absolute difference had a relatively larger impact, given the smaller size of the BMW economy. In a small number of cases, errors made during tabulation were found and corrected bringing the mismatch below the 5% threshold. Once it had been determined that calculation errors were not the source of the mismatch, the remaining cells were calibrated as appropriate.

7.11 Conclusion

Inter-regional flows are at the heart of compiling R-SUT and RI-O. These flows require additional tables to be compiled (Use Tables for Domestic Imports) which are represented by additional columns (imports and exports respectively) in both the Supply and Use tables. These additional tables/columns generally increase the complexity of the reconciliation and balancing exercise.

As noted earlier, despite the volume of data now available, significant data gaps still remain. Thus, a significant amount of synthetic data were derived in order to compile the Use Tables for Domestic Imports. While every effort was made to avoid double counting and other errors, some of the estimates of inter-regional trade flows could not be inserted into the R-SUT without significant adjustment.

Balancing the R-SUT and full reconciliation with the regional Use Tables for Domestic Output and the corresponding national tables proved to be a challenging, iterative and often subjective exercise.

The regional Use Tables for Domestic Imports and Domestic Output are available in Appendices 10 and 14 respectively.

Chapter 8: Compiling Regional Input – Output Tables

8.1 Introduction

This chapter gives a summary outline of the different methodologies and assumptions available to derive I-O tables. The benefits of the Product or Commodity Technology Assumption (the assumption used in this study) are also briefly detailed.

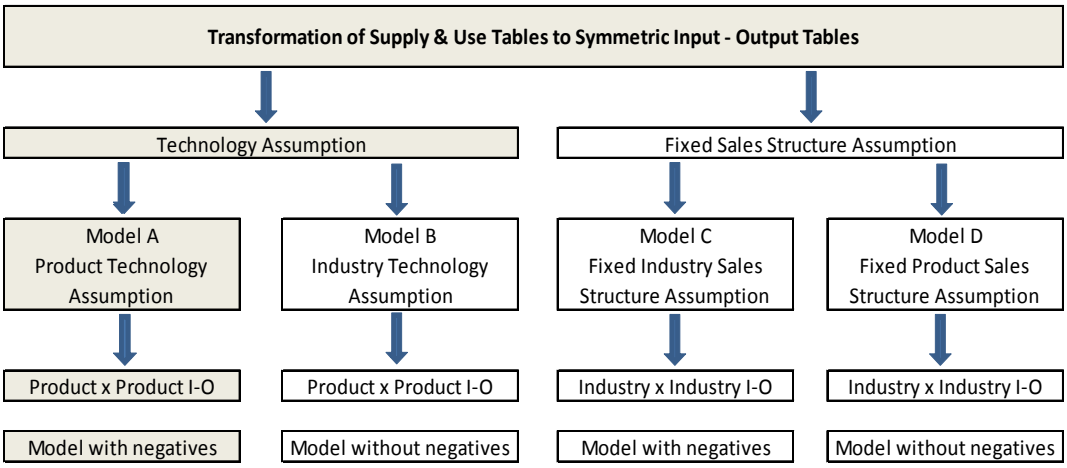
The chapter is divided into 7 sections. Sections 8.2 – 8.4 explains how symmetric I-O tables are derived, outlines the broad steps involved in the final stage of balancing and details some of the main differences between an I-O and a Use table. Section 8.5 presents the national and regional I-O tables in aggregate form, while section 8.6 outlines the derivation of the Leontief Inverse or Multiplier tables. Section 8.7 concludes the chapter.

8.2 Derivation of Symmetric I-O Tables

There are typically two types of symmetric I-O table: product-by-product tables and industry-by-industry tables. In turn, there are four basic approaches or methods for deriving these tables by transforming SUT into SIOT:

(1) Product Technology Assumption (Model A) – each product is produced in its own specific way, irrespective of the industry where it is produced;
(2) Industry Technology Assumption (Model B) – each industry has its own specific way of production, irrespective of its product mix;
(3) Fixed Industry Sales Structure Assumption (Model C) – each industry has its own specific sales structure, irrespective of its product mix; and
(4) Fixed Product Sales Structure Assumption (Model D) – each product has its own specific sales structure, irrespective of the industry where it is produced.

Figure 8.2.1 – Summary of Transformation Options



From Figure 8.2.1 it is evident that the main distinction is not between the two technology assumptions (product and industry) but between technology assumptions and sales structure assumptions. The differences between product-by-product and industry-by-industry tables are caused by the existence of secondary production[1]. Miller and Blair (1985) state that the industry technology assumption (ITA) is the superior approach when secondary products are by-product in nature whereas the product or commodity technology assumption (CTA) is the better approach when secondary products are subsidiary production.

While the different approaches or models have theoretical strengths and weaknesses, the SNA (1993: 15.147) states:

> "*From the theoretical point of view, the product (commodity) technology model seems to meet the most desirable properties, i.e. the axioms of material balance, financial balance, scale invariance and*

[1] Secondary products are typically divided into two categories: subsidiary products and by-products. Subsidiary products are secondary products that are technologically disassociated from the primary product. By-products are outputs that are the unavoidable result of the primary production process and are therefore technologically related to the primary product.

price invariance. It also appeals to common sense and is found a priori to be more plausible than the industry technology assumption".

Model A, based on the product technology assumption (shaded in Figure 8.2.1) is the approach used to derive the national I-O tables in Ireland. Consequently, the same approach has been adopted to derive the RI-O as one of the stated constraints is to ensure the RI-Os are consistent with the national tables.

A product-by-product I-O table describes the technological relations between products and homogeneous units of production. The intermediate or symmetric part of the table describes, for each product, the amounts of products that were used to make that product, irrespective of what industry produced that commodity or product. Product-by-product I-O tables are theoretically more homogeneous in their description of the transactions than industry-by-industry tables although industry-by-industry tables are closer to statistical sources and observations. The more secondary activity reported in the SUT, the greater the differences between product-by-product and industry-by-industry tables. In Ireland (for 2005), the reported secondary activity (i.e. subsidiary products, by-products or joint products) was relatively low, accounting for only 2.5% of total output[1] and consequently the differences between the product-by-product approach and the industry-by-industry approach should not be very significant[2]. Thus, I-O tables for Ireland are good multi-purpose tables, suitable for productivity analysis and economic impact studies.

[1] Secondary activity varies across economic sectors. For example, for the Manufacturing sectors, secondary activity accounted for 5.1% of total output in those sectors. In contrast, for Business Services, secondary activity accounted for less than 1% of total sector output.

[2] It should be noted that the statistical unit used to compile Structural Business Statistics in Ireland is the Enterprise rather than Kind-of-Activity-Units (KAUs) and activity is coded to the primary or pre-dominant activity. Although secondary activity is identified and can be deducted or reclassified from total, nevertheless reported secondary activity would be expected to be lower than in countries where the statistical unit is KAU.

The symmetric I-O tables (SIOT) are derived from the Supply table and Use tables, the Use Tables for Domestic Output and the Use Tables for International and Domestic Imports. The transformation of these tables into the final I-O tables follows from the commodity or product technology assumption (see Chapter 3).

The Product Technology Assumption states:

> "*Each product is produced in its own specific way, irrespective of the industry where it is produced*"
>
> (Eurostat, 2008: 311)

So it is assumed that there is only one way to produce each product. Consequently, for each product the same proportions of products and factor inputs are used to make one unit of the product irrespective what industry has made the product. This assumption holds even where the product is a subsidiary, by-product or joint product. The product technology assumption is only invalid when a product is made in a different way.

The product technology assumption model requires that for each product a primary producer is defined. Thus, when calculating a product-by-product I-O table using the product technology assumption, the secondary products are transferred from the industries where they are actually produced to the industries in which they are the primary product. In this process, the columns are transformed from industries to products.

Using the 6 x 6 tables for the SE region as an example, this process is illustrated in Figure 8.2.2. In the SE Supply table (S) €172 million worth of secondary manufacturing (or off-diagonal) activity is transferred from distributive trades, business and other services (i.e. NACE groupings 50 – 64, 65 – 74 and 75 – 95) to the primary producing sector (NACE 10 – 41). As there is no longer any secondary production, the adjusted Supply table q has become diagonal and the

original Supply table S has been transformed from a product-by-industry matrix to a product-by-product matrix. One of the main drawbacks of the product technology assumption is that it may give rise to implausible results when the I-O tables are derived, most notably negative cells (see section 8.2 – Second Stage Balancing).

Figure 8.2.2 – Transferring Secondary Products to Primary Producers

S - Supply Table
with secondary Products

Industry	1 - 5	10 - 41	45	50 - 64	65 - 74	75 - 95	
Product							
1 - 5	4,369	-	-	-	-	-	4,369
10 - 41	-	90,986	-	77	72	23	91,159
45	-	1	29,252	-	-	-	29,254
50 - 64	22	2,390	-	41,358	537	-	44,307
65 - 74	44	1,950	245	663	72,801	221	75,925
75 - 95	45	1	-	64	-	30,388	30,498
Output	4,480	95,328	29,497	42,163	73,410	30,633	275,512

q - Adjusted Supply Table
with primary producers only

product	1 - 5	10 - 41	45	50 - 64	65 - 74	75 - 95	
Product							
1 - 5	4,369	-	-	-	-	-	4,369
10 - 41	-	91,159	-	-	-	-	91,159
45	-	-	29,254	-	-	-	29,254
50 - 64	-	-	-	44,307	-	-	44,307
65 - 74	-	-	-	-	75,925	-	75,925
75 - 95	-	-	-	-	-	30,498	30,498
Output	4,369	91,159	29,254	44,307	75,925	30,498	275,512

The model can then be formulated by the following matrix multiplication:

$$\textit{Use Table} = \textit{I-O coefficient matrix} * \textit{Supply Table}$$

Thus, the I-O coefficient can be expressed as:

$$\textit{I-O coefficient matrix} = \textit{Use Table} * \textit{inverse(Supply Table)}$$

The SIOT is then calculated by multiplying the I-O coefficients with the corresponding product output levels. Typically, the resulting matrix will contain many negative cells and there are a number of reasons why these may occur:

(1) The product technology assumption underpinning the I-O tables does not hold perfectly true across all sectors i.e. that there exists a product that is made in two different ways. Consequently, negatives may arise when one manufacturing process uses inputs that are not used by the other process.

(2) In principle, the SUT records economic transactions between KAUs (Kind of Activity Units). In practice, however, the statistical unit used to compile business data in Ireland are local unit or enterprise rather than KAU. Consequently, enterprises that sub-contract rather than use an in-house production system will show different input structures. The same may be true between enterprises that are relatively more or less vertically integrated.

(3) Problems may also arise for the non-traded or non-market sectors. Here, output is valued as the sum of the inputs or costs incurred in production, with operating surplus fixed at zero. This is applied to the producing unit rather than the product.

(4) The level of detail at which the SUT are compiled plays an important role. The greater the level of detail the greater the chance of homogeneity in the data. As data are aggregated, heterogeneity is unavoidable as multiple industries and production functions are bundled together.

(5) Negatives may also arise if there are errors in the data. This is a useful aspect of I-O tables from a national accounts perspective, as their compilation can be used as a tool to check the quality and plausibility of data.

To quote from the 1993 SNA manual again:

> "*The automatic application of this method [i.e. the product technology assumption] has often shown results that are unacceptable, insofar as input-output coefficients sometimes appear extremely improbable or even impossible. There are even numerous examples of the method leading to negative coefficients which are clearly non-sensical from an economic point of view. Improbable coefficients may partly be due to errors in measurement and partly due to heterogeneity (product-mix) in the industry of which the transferred product is the principle product. Heterogeneity results from working on aggregate data with a high occurrence of non-characteristic products*" (15.147).

Although it is not practicable to measure objectively whether negatives arise from the product technology assumption or errors in the data, in reality the effects of non-sampling errors, such as misclassifications and weighting biases probably have a bigger impact than problems arising from secondary production.

As the aim is to compile symmetric RI-O tables that are fully compatible with the R-SUT, all negative cells, particularly any significantly large cells (i.e. where negative cells accounts for more than 1% of total product output) must be analysed carefully. Once any changes or corrections have been made (e.g. changes to the product or industry classification, assignment of products to primary industry or simply correction of errors) the SIOT can be calculated again. Perfect homogeneity does not exist in reality. So, when any corrections have been made and any remaining negative cells are of an acceptable level (i.e. negatives are considered normal "noise" arising from a compilation process with unavoidable heterogeneity and acceptable statistical error) the final regional SIOT (R-SIOT) can be derived.

The derivation of the I-O matrix can be expressed as follows:

$$X_p = U * S^{-1} * q$$

Where:

X_p is the product by product I-O table

U is the Use Table for Domestic Output at basic prices

S is the Supply Table (Domestic produce part where row totals = vector q)

q is symmetric matrix with row totals of S along the diagonal

8.3 2nd Stage (Final) Balancing

As noted above, negative cells may appear in the R-SIOT for a number of reasons. Once any remaining errors have been corrected, the remaining negative cells must be dealt with. In theory, there are a number of approaches ranging from merging industries, changing primary producer, apply industry technology assumptions on a limited basis within the product technology framework, introduce new products or make manual corrections. In most cases, there are insufficient data to adopt the above approaches and, consequently, the manual corrections approach was used.

In deriving the SIOT for the SE region, only 8 negative cells exceeded the 1% threshold (the largest accounting for 3.5% of the total sector output). These negative cells occurred in NACEs 2, 11, 14, 19 and 35. In all but one case, these negative cells arose in the value added rows of the tables (i.e. COE, NOS and CFC). As further investigations did not reveal any calculation errors and these values had been reconciled with the regional accounts, no adjustments or corrections were made. Reciprocal errors were found in the BMW matrix and for the same reasons no adjustments were made to the input data.

The residual negative cells were removed in one of two ways:

(1) For negative cells in the domestic matrix, the positive equivalent from the Use Table for Domestic Output was used as a replacement i.e. the negative value was overwritten with the original balanced version from the Use Table for Domestic Output; and

(2) For negative cells in the value added rows, half of the positive equivalent was taken from the Use Table for Domestic Output i.e. the negative value was overwritten with the original value divided by two (this is in pragmatic recognition that the values for COE, NOS and CFC typically account for a very large element of total GVA).

Once the negative cells had been overwritten, the balance within the SIOT was corrupted i.e. the rows no longer equal their corresponding columns. Consequently, the R-SIOT had to be rebalanced. This second stage balancing of the final RI-O tables was more straightforward than the first stage balancing of the R-SUT. With the exception of a few sectors noted above, where at least one cell had a negative value exceeding 1% of total sector input, this balancing was largely cosmetic. This final stage balancing was completed using a mechanical program "RAS".

8.4 Understanding SIOT

The SIOT shows the use made of domestically produced commodities or products in the manufacture or provision of other products. It should be noted that the structure of the I-O tables has a number of differences from the Use tables, most notably:

1. The SIOT is a product-by-product table (rather than an industry-by-product table) and shows the use of products in the production of other products.

2. Purchases are valued at basic prices (rather than purchasers' prices).

3. The I-O table is a domestic table and thus shows the use made of domestically-produced commodities in the production of other goods i.e. imports have been netted out. For the RI-O, this means that both international and domestic imports have been subtracted. Information on the imports is included in the rows beneath the domestic product matrix.

8.5 National & Regional I-O Tables

The full 48 x 48 RI-O tables are presented in Appendices 15.1 and 15.2**.** A more manageable set of 6 x 6 matrices are presented here along with the I-O table for the State – see Table 8.5.1. As noted earlier, the most notable differences between the State and regional tables are the additional columns for Domestic Exports and rows for Domestic Imports.

Table 8.5.1 - Symmetric Input-Output Table of Domestic Flows, State, 2005, €m

NACE Rev. 1.1	Agriculture, Forestry & Fishing 1 - 5	Manufacturing 10 - 41	Construction 45	Distributive Trades & Communications 50 - 64	Business Services 65 - 74	Other Services 75 - 95	Total Inter-Industry	Total Consumption & GFCF	International Exports	Total Output
Agriculture, Forestry & Fishing	1,424	4,116	63	249	9	64	5,925	596	678	7,200
Manufacturing	820	7,405	4,108	2,469	901	1,181	16,884	5,121	84,940	106,945
Construction	77	183	10,118	165	569	609	11,720	26,722	0	38,442
Distributive Trades & Communications	498	4,183	1,527	6,861	3,206	1,739	18,015	23,252	11,312	52,579
Business Services	348	5,135	3,012	5,141	17,109	4,008	34,753	20,448	30,100	85,301
Other Services	171	447	290	633	947	4,500	6,988	33,427	478	40,893
Intermediate Consumption	3,338	21,470	19,119	15,518	22,742	12,101	94,287	109,565	127,508	331,360
International Imports	1,315	53,235	5,014	6,926	20,168	2,772	89,430	18,529	4,860	112,819
Product Taxes less Subsidies	-94	652	307	1,091	1,526	969	4,452	14,525	0	18,977
Total (Purchaers' Prices)	4,559	75,357	24,440	23,536	44,436	15,841	188,169	142,619	132,368	463,156
COE	462	9,589	9,380	14,196	11,458	20,878	65,963			
GOS	3,466	21,598	4,597	14,089	29,342	4,027	77,120			
Other Taxes less Subsidies	-1,287	402	24	757	65	147	108			
Value Added	2,641	31,589	14,001	29,043	40,865	25,052	143,191			
Total Inputs	7,200	106,945	38,442	52,579	85,301	40,893	331,360			

Source: (CSO, 2009d)

Total output for the RI-O sum exactly to total output for the State I-O. However intermediate consumption for the two regions does not. This is because the SIOT is a domestic I-O table and so non-domestic trade (imports and exports) has been netted out of the intermediate matrix. Domestic trade is added back in (as Domestic imports and exports) later to account for this difference.

Table 8.5.2 - Symmetric Input-Output Table of Domestic Flows, SE Region, 2005, €m

NACE Rev. 1.1	Agriculture, Forestry & Fishing 1 - 5	Manufacturing 10 - 41	Construction 45	Distributive Trades & Communications 50 - 64	Business Services 65 - 74	Other Services 75 - 95	Total Inter-Industry	Total Consumption & GFCF	International Exports	Domestic Exports	Total Output
Agriculture, Forestry & Fishing	693	2,004	44	175	6	45	2,966	226	339	837	4,369
Manufacturing	321	5,112	2,552	1,617	747	806	11,155	2,101	73,218	4,685	91,159
Construction	40	150	7,495	150	374	423	8,631	20,143	-	480	29,254
Distributive Trades & Communications	363	2,951	1,275	5,930	2,715	1,303	14,538	17,353	9,914	2,503	44,307
Business Services	160	3,614	2,217	4,421	14,989	2,997	28,397	15,137	28,127	4,264	75,925
Other Services	99	346	396	568	670	2,929	5,008	24,532	398	560	30,498
Intermediate Consumption	1,676	14,177	13,978	12,861	19,501	8,502	70,695	79,492	111,997	13,328	275,512
International Imports	787	48,174	4,174	6,481	19,613	2,017	81,245	14,897	3,959	-	100,101
Domestic Imports	246	1,142	503	575	565	193	3,223	1,601	2,304	1,035	8,164
Product Taxes less Subsidies	-46	757	250	998	1,437	744	4,139	11,591	-	-	15,730
Total (Purchaers' Prices)	2,662	64,250	18,905	20,914	41,115	11,456	159,302	107,581	118,260	14,363	399,506
Compensation of Employees	328	7,489	7,059	11,407	10,005	15,757	52,045				
Gross Operating Surplus	2,061	19,083	3,272	11,367	24,743	3,168	63,694				
Other Taxes less Subsidies	-682	338	18	618	62	117	471				
Value Added	1,707	26,909	10,349	23,393	34,809	19,042	116,210				
Total Inputs	4,369	91,159	29,254	44,307	75,925	30,498	275,512				

Source: Appendix 15

Comparing the SE and BMW I-O tables, the dominance of the SE region is clear, accounting for 81% of total GVA.

Table 8.5.3 - Symmetric Input-Output Table of Domestic Flows, BMW Region, 2005, €m

NACE Rev. 1.1	Agriculture, Forestry & Fishing 1 - 5	Manufacturing 10 - 41	Construction 45	Distributive Trades & Communications 50 - 64	Business Services 65 - 74	Other Services 75 - 95	Total Inter-Industry	Total Consumption & GFCF	International Exports	Domestic Exports	Total Output
Agriculture, Forestry & Fishing	378	1,170	3	20	1	7	1,578	46	169	1,037	2,831
Manufacturing	359	1,390	851	623	111	229	3,562	1,683	8,029	2,512	15,786
Construction	32	30	2,445	15	202	180	2,904	6,284	-	-	9,188
Distributive Trades & Communications	106	906	214	415	215	268	2,124	4,158	1,000	991	8,272
Business Services	138	728	535	447	1,352	679	3,878	3,273	1,317	909	9,376
Other Services	65	73	65	86	83	1,438	1,810	8,366	24	195	10,395
Intermediate Consumption	1,077	4,296	4,112	1,606	1,964	2,801	15,856	23,810	10,539	5,644	55,848
International Imports	534	5,088	811	405	575	771	8,183	3,634	901	-	12,718
Domestic Imports	316	1,733	575	517	770	604	4,515	4,659	2,668	2,520	14,363
Product Taxes less Subsidies	-46	-104	55	91	93	224	312	2,935	-	-	3,247
Total (Purchaers' Prices)	1,881	11,014	5,553	2,619	3,400	4,400	28,867	35,038	14,108	8,164	86,176
Compensation of Employees	162	2,160	2,309	2,758	1,422	5,108	13,918				
Gross Operating Surplus	1,394	2,543	1,320	2,760	4,551	858	13,426				
Other Taxes less Subsidies	-606	69	6	135	3	29	-363				
Value Added	950	4,772	3,635	5,653	5,976	5,995	26,981				
Total Inputs	2,831	15,786	9,188	8,272	9,376	10,395	55,848				

Source: Appendix 15

8.6 Regional Leontief Inverse Tables

The Leontief inverse can be expressed as:

$$x = (\mathrm{I} - \mathrm{A})^{-1} y$$

Where:

A is the matrix of input coefficients

I is unit matrix

$(\mathrm{I} - \mathrm{A})$ is a Leontief matrix

$(\mathrm{I} - \mathrm{A})^{-1}$ is a Leontief inverse

y is a vector of final demand

x is a vector of output

The Leontief matrix $(\mathrm{I}-\mathrm{A})$ shows the net output for each sector along the diagonal. These represent revenues and consequently are positive. The off-diagonal cells represent input requirements or costs and thus are populated with negative coefficients. Using the 6 x 6 Leontief matrix tables for the SE Region as an example, the revenues (shaded) and costs (negative cells) are illustrated in Figure 8.6.1.

Table 8.6.1 – Leontief Matrix $(\mathrm{I}-\mathrm{A})$ for SE Region

NACE	1 - 5	10 - 41	45	50 - 64	65 - 74	75 - 95
1 - 5	0.841	- 0.022	- 0.002	- 0.004	- 0.000	- 0.001
10 - 41	- 0.073	0.944	- 0.087	- 0.036	- 0.010	- 0.026
45	- 0.009	- 0.002	0.744	- 0.003	- 0.005	- 0.014
50 - 64	- 0.083	- 0.032	- 0.044	0.866	- 0.036	- 0.043
65 - 74	- 0.037	- 0.040	- 0.076	- 0.100	0.803	- 0.098
75 - 95	- 0.023	- 0.004	- 0.014	- 0.013	- 0.009	0.904

Using Agriculture (NACE 1 – 5) as an example, the internal requirement for agricultural produce is approximately 16% and the net output is roughly 84%. So in 2005, we can see that the Construction sector had the highest internal demand for its own product, at 26%.

By inverting the Leontief Matrix, the Leontief inverse $(\mathrm{I}-\mathrm{A})^{-1}$(and output multipliers) are derived. These reflect the direct and indirect requirements for intermediates. The full 48 x 48 output multipliers are presented in Appendix 16 but a 6 x 6 matrix version are shown here for ease of presentation.

Table 8.6.2 Leontief Inverse of Domestic Product Flows
with Multipliers for other inputs, SE Region, 2005

NACE Rev. 1.1	Agriculture, Forestry & Fishing 1 - 5	Manufacturing 10 - 41	Construction 45	Distributive Trades & Communications 50 - 64	Business Services 65 - 74	Other Services 75 - 95
Agriculture, Forestry & Fishing	1.192	0.028	0.006	0.007	0.001	0.003
Manufacturing	0.101	1.064	0.130	0.048	0.016	0.037
Construction	0.017	0.003	1.347	0.007	0.009	0.022
Distributive Trades & Communications	0.124	0.045	0.080	1.164	0.054	0.064
Business Services	0.080	0.061	0.147	0.150	1.256	0.148
Other Services	0.033	0.006	0.023	0.018	0.013	1.109
Output Multipliers	1.546	1.209	1.734	1.395	1.349	1.383
Direct and Indirect Multipliers						
International Imports	0.311	0.591	0.313	0.238	0.343	0.144
Domestic Imports	0.071	0.016	0.027	0.017	0.011	0.010
Product Taxes less Subsidies	-0.007	0.011	0.018	0.030	0.026	0.032
COE	0.161	0.113	0.388	0.335	0.190	0.618
GOS	0.647	0.269	0.252	0.364	0.429	0.192
Other Taxes less Subsidies	-0.184	0.000	0.002	0.016	0.002	0.005

The column sum (for a product) of the inverse $(\mathrm{I}-\mathrm{A})^{-1}$can be interpreted as an output multiplier. These output multipliers show the cumulative revenues that are induced by one additional unit of final demand for a particular commodity or product. For example, in 2005, Construction had the highest output multiplier in the SE region (1.734). Thus, if final demand for construction had been increased by €1m, cumulative revenues of €1.734m would be induced in the regional economy. In other words, an increase in final demand for a product will generate an increase in demand for the inputs required to make that product (i.e. intermediate consumption) down the supply chain. So the increase of €1m in final demand for Construction in the SE region generated an increase in demand for intermediate products as follows:

Agriculture, Forestry & Fishing	€0.006m
Manufacturing	€0.130m
Construction	€1.347m
Distributive Trades & Communication	€0.080m
Business Services	€0.147m
Other Services	€0.023m

The sum of this induced intermediate consumption is €1.734m, which corresponds with the output multiplier. It should be noted that this output multiplier is generated from gross output rather than net value added and hence includes an element of duplication or double counting.

Table 8.6.3 Leontief Inverse of Domestic Product Flows with Multipliers for other inputs, BMW Region, 2005

NACE Rev. 1.1	Agriculture, Forestry & Fishing 1 - 5	Manufacturing 10 - 41	Construction 45	Distributive Trades & Communications 50 - 64	Business Services 65 - 74	Other Services 75 - 95
Agriculture, Forestry & Fishing	1.169	0.096	0.013	0.011	0.002	0.004
Manufacturing	0.172	1.118	0.146	0.091	0.022	0.036
Construction	0.022	0.007	1.367	0.005	0.035	0.031
Distributive Trades & Communications	0.060	0.073	0.046	1.061	0.031	0.037
Business Services	0.084	0.072	0.106	0.074	1.175	0.095
Other Services	0.034	0.010	0.014	0.014	0.013	1.163
Output Multipliers	1.539	1.376	1.691	1.257	1.278	1.365
Direct and Indirect Multipliers						
International Imports	0.288	0.388	0.180	0.089	0.085	0.109
Domestic Imports	0.163	0.145	0.115	0.085	0.104	0.084
Product Taxes less Subsidies	-0.018	-0.007	0.009	0.012	0.012	0.026
COE	0.145	0.201	0.402	0.386	0.207	0.611
GOS	0.670	0.288	0.294	0.412	0.591	0.167
Other Taxes less Subsidies	-0.248	-0.014	0.000	0.016	0.001	0.003

The lower halves of tables (8.6.2 and 8.6.3) show the direct, plus indirect, effect on other inputs for an increase of €1m in final demand. They show, after all the cycles of production have been completed, how the additional demand was spread over International and Domestic Imports, Compensation of Employees,

Consumption of Fixed capital (or depreciation) and Net Operating Surplus. There is no duplication or double count in these coefficients. Nevertheless, care should still be taken in their interpretation as they don't take into account profit repatriation or outflows of dividends.

By comparing the multipliers for international imports in Tables 8.6.2 and 8.6.3 (or Appendices 16.1 and 16.2), it is evident that the SE region is more open and exposed to international markets than the BMW region i.e. the international import multipliers are significantly larger.

8.7 Conclusion

This chapter has given a brief outline on the derivation of I-O tables, along with some of the relative benefits of using the product-by-product tables rather than industry-by-industry tables. As noted in previous chapters, the low volume of secondary activity reported in Ireland suggests that product-by-product tables and, by extension, the product technology assumption, is a suitable methodological approach.

A comparison of the import multipliers show clearly that the SE region is more open and exposed to international markets than the BMW region and as a consequence leakages are correspondingly higher.

Chapter 9: Results and Applications

9.1 Introduction

This chapter is divided into 3 broad parts. The first part (Section 9.2) presents a descriptive statistical analysis of the regions, including some insights only made possible with the availability of the R-SUT and RI-O tables, such as a comprehensive outline of the regional trade balances. In the second part (Section 9.3), a comprehensive view of employment from a demand perspective, made possible by the application of employment multipliers, is presented. This methodology has wider implications, as it can be replicated or applied to a number of other uses, such as energy consumption, waste generation or carbon emissions. In the final part (Sections 9.4 and 9.5) some simple experiments are conducted to test the forecasting capability of the RI-O over two time periods (2005 – 2007 and 2005 - 2009) each with quite different characteristics. Section 9.6 concludes the chapter.

Given the large dimensions of the matrices, the data are presented in a compressed 6 x 6 matrix format for the purposes of exposition. The detailed tables are presented in Appendices 6 to 15.

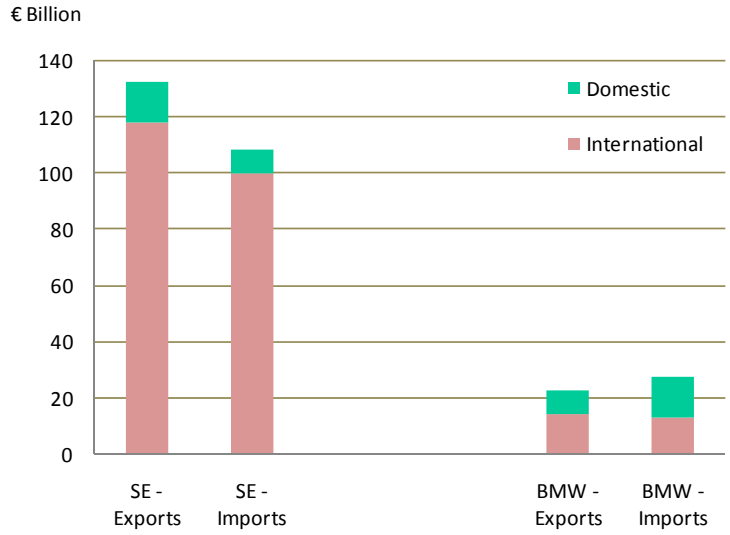
9.2 Descriptive results

9.2.1 - Trade

As noted earlier, the main difference between national and regional SUT is the inclusion of inter-regional trade flows. Consequently, the R-SUT and the RI-O sum exactly to the national SUT and I-O, once these regional flows (domestic imports) are deducted. This is simply because the I-O tables are domestic in scope and therefore each regional domestic economy nets out all imports (irrespective of whether they are domestic or international). In contrast, the State I-O table isn't concerned with, and doesn't take account of, the inter-regional

flows within its borders. Consequently, the differences between the RI-O and the State I-O arise because of these inter-regional flows.

Figure 9.2.1.1 – Total Imports and Exports, S&E and BMW Regions, 2005



Source: Appendix 7 and 8

Figure 9.2.1.1 demonstrates the relative importance of domestic trade to two regions by illustrating the magnitude and composition of total trade flows (both international and domestic). Two points are immediately obvious: (1) total trade in the SE region dwarfs trade in the BMW region, and (2) the net trade balance is different in both regions.

Total exports from the SE region are almost six times larger than those from the BMW region; €132.6 billion compared with €22.3 billion. The SE region has a trade surplus with exports exceeding imports by some €24.3 billion. In contrast, the BMW region is running an overall trade deficit of €4.8 billion. Domestic trade is much more important to the BMW region than for the SE region, where domestic imports account for 53% of total imports into the BMW region compared with only 8% of total imports into the SE region. Equally, domestic exports account for 37% of total exports from the BMW region compared with 11% from the SE region.

Table 9.2.1.1 – Regional Net Trade Balances, 2005

	SE	BMW	State
	€ Million	*€ Million*	*€ Million*
Agriculture, Forestry & Fishing	-618	234	-383
Manufacturing	34,220	1,199	35,419
Construction	472	-481	-9
Distributive Trades & Communications	-685	-1,949	-2,634
Business Services	-9,424	-3,529	-12,952
Other Services	391	-284	107
Goods	*33,603*	*1,433*	*35,036*
Services	*-9,245*	*-6,243*	*-15,488*
Total	24,358	-4,809	19,549

Source: Appendix 7 and 8

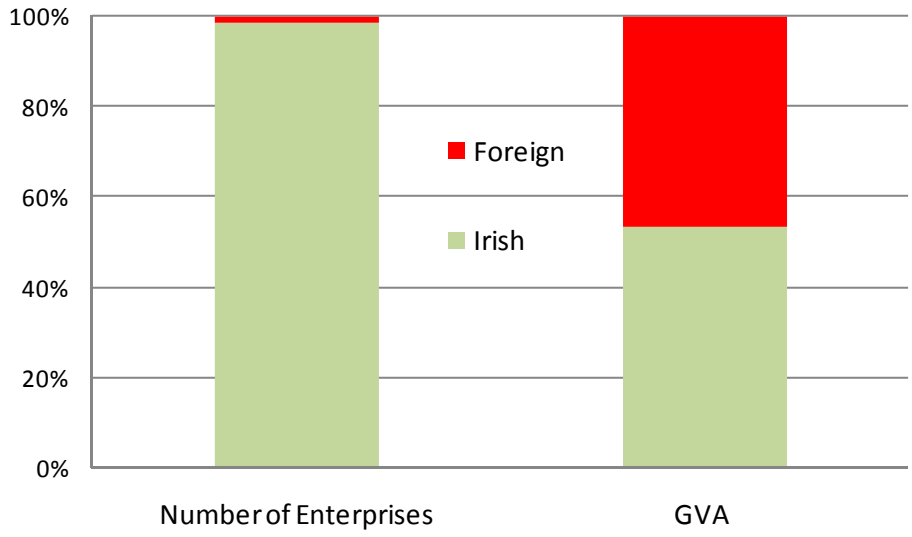
As only two regions are presented and the domestic exports to one equals the domestic imports from the other, from a net trade balance perspective, the inter-regional trade flows cancel out (see Appendix 17 for more detailed calculations). Consequently the net trade balances for each region sum exactly to the net balance for the State. Table 9.2.1.1 presents a summary of the net trade balance (exports less imports) for each of the regions. The BMW region only enjoyed a trade surplus in the Agricultural and Manufacturing (Goods) sectors, all other sectors (Services) were in deficit. Considering the relative size of the regional economies, the trade deficit of €6.2 billion generated by the demand for services is striking.

It should be noted that the trade deficit for services in the SE region is related directly to or connected with, the trade surplus for goods as the same industries that are generating large exports (e.g. Pharma – Chem) typically have a significant multinational enterprise (MNE) presence who are also paying large royalties or purchasing other trade-related services (e.g. marketing). These royalty payments and purchases are recorded in the Balance of Payments (BoP) as imports of

services. For example, payments for royalties and licences in 2005 amounted to €15.6bn and the purchases of trade-related services amounted to €7.9bn (CSO, 2007i). Thus, the trade deficit for services in the SE region is, to some extent, unavoidable as it arises directly from the international nature of trade i.e. *vis-à-vis* the Rest of the World, and is largely driven by MNEs. In contrast, the bulk of the trade deficit for services in the BMW region arises from domestic imports (i.e. *vis-à-vis* the SE region), with 61% of this deficit arising from demand for Business, Real Estate and Financial Services.

Table 9.2.1.2 illustrates how important MNEs are to the manufacturing and traded-services sectors in the Irish economy. While MNEs accounted only for 1% of the number of enterprises in 2005, they accounted for almost 47% of total manufacturing and services GVA. The influence of MNEs is even more pronounced in the manufacturing sectors where they accounted for 12% of enterprises and 76% of total sector GVA. In 2005, MNEs generated €4.8 billion in the BMW region and €34.7 billion in the SE region.

Figure 9.2.1.2 – Irish and Foreign Owned Enterprises and GVA, 2005



Source: (CSO, 2007a; 2007c; 2007d)

When total trade is decomposed into international and inter-regional trade, the SE enjoys a trade surplus for both international and domestic trade. The BMW

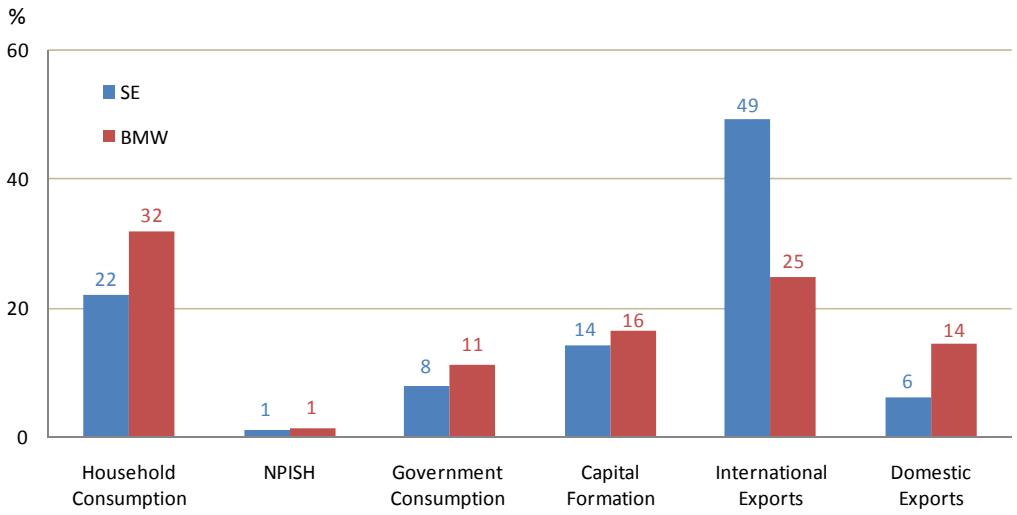
region is in surplus for international trade (€1.4 billion) but is in deficit for domestic trade (€6.2 billion) – See Appendix 16.

It is interesting but cautionary to note that €24 billion (69%) of the Goods trade surplus generated in the State comes from the Pharma-Chem sector, making the State, and SE region in particular, very exposed to a single sector. Krugman (1997) has identified this narrow concentration on technologies that are moving towards maturity as a risk for Ireland's more successful regions. The data also suggest that with a services trade deficit of €15.5 billion, spread across both regions, but proportionately greater in the BMW region, there is some scope to further develop some services sectors in Ireland. Indeed, the ESRI have suggested as much, stating that services exports may account for 70% of Irish exports by 2025 (NCC, 2009).

9.2.2 - Final Demand

The greater dependence of the BMW economy on household expenditure and government consumption expenditure is clear from Figure 9.2.2.1. As seen earlier, relative to the SE region, a much greater share of BMW final demand is generated from inter-regional trade, although in absolute terms exports from the BMW to SE region are only slightly more than half than those from SE to BMW region (€14.3bn compared with €8.2bn). The greater importance of capital formation to the BMW region is also evident.

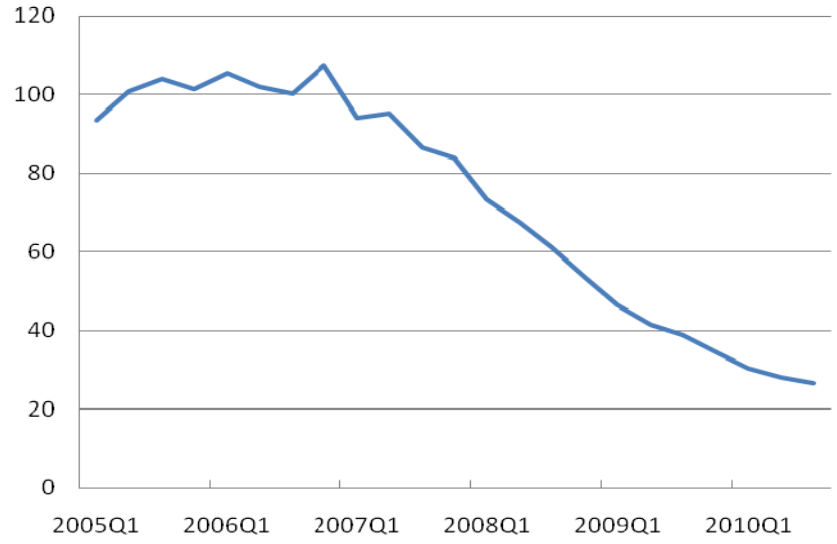
Figure 9.2.2.1 – Percentage Distribution of Regional Final Demand, 2005



Source: Appendix 8

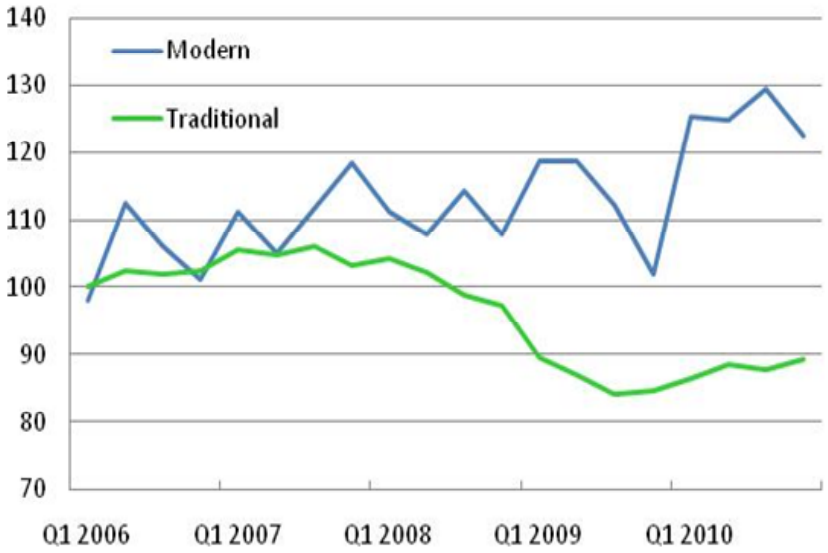
In the context of the current economic situation, where real household incomes, government expenditure (and government employee salaries) and capital investment are all falling, while the construction sector (see Figure 9.2.2.2) has suffered a serious decline in output, this is likely to have a proportionately greater impact on the final demand within the BMW region and should lead to widening disparities between the regions. The influence of MNEs is also important in this respect. Over the past number of years the strong output and exporting performance of the 'Modern' manufacturing sector has been evident from the Monthly Production Index (see Figure 9.2.2.3) and the International Merchandised Trade data. This sector is influenced heavily by MNEs which, in turn, will have a more significant impact on the SE region.

Figure 9.2.2.2 – Construction Production Index (Base: 2005 = 100)



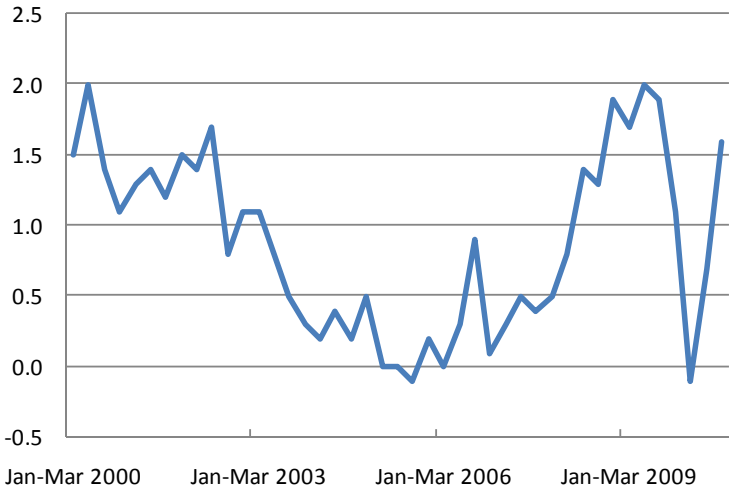
Source: (CSO, 2011e)

Figure 9.2.2.3 – Industrial Production Index (Base: 2005 = 100)



Source: (CSO, 2011f)

Figure 9.2.2.4 – Difference in NUTS 2 Unemployment Rates, Q1 2000 – Q3 2010



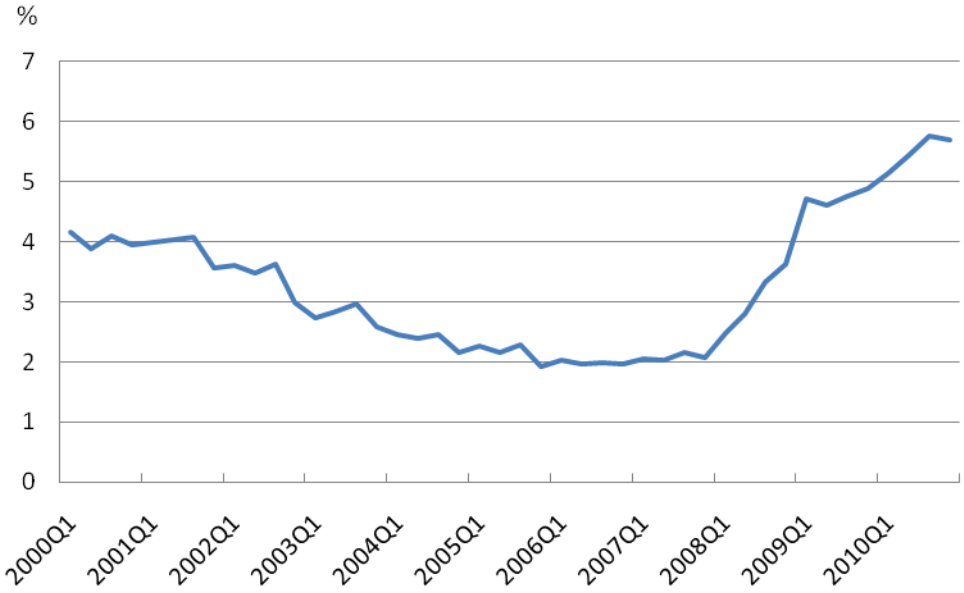
Source: (CSO, 2011a)

A barometer of this trend is already available from the Quarterly National Household Survey (QNHS). Figure 9.2.2.4 shows the difference in the percentage unemployment rates between the two regions since 2000. Between Q2 2000 and Q3 2005, the unemployment rate in the BMW region fell from 6% to 4.5% to converge with lower average unemployment rates in the SE region. By the time the national rate of unemployment began to rise steeply around the middle of 2008, a steady divergence between the regional rates of unemployment had already re-emerged a year earlier (apart from a rather sudden and temporary convergence in Q1 2010).

By taking the difference between regional 'unemployment rates' derived from the live register[1], the same pattern is evident (see Figure 9.2.2.5) but without the outlier in Q2 2010.

[1] The Live Register does not provide reliable estimates of unemployment. The register is a head count of persons in receipt of various benefits, such as unemployment benefit or assistance. Many of these persons in receipt of these benefits will not be unemployed. Consequently the percentage differences are higher than when comparing the official unemployment rates from the Labour Force Survey.

Figure 9.2.2.5 – Difference in NUTS 2 Live Register 'Unemployment Rates' Q1 2000 – Q4 2010

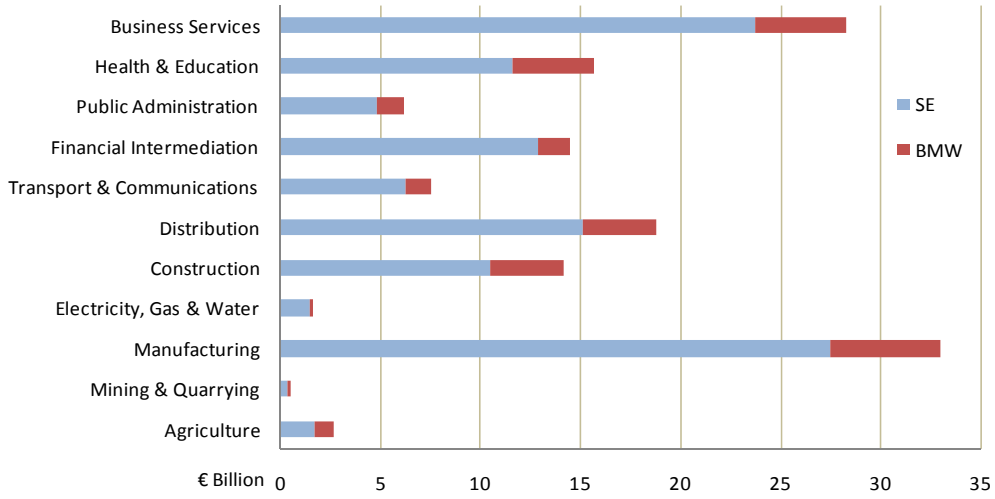


Source: (CSO, 2011g)

9.2.3 – Gross Value Added and Productivity

The absolute contribution of each region to total sector GVA (or GDP) is illustrated in Figure 9.2.3.1. The dominance of the SE region is clear, accounting for €116.2bn or 81% of total state GVA.

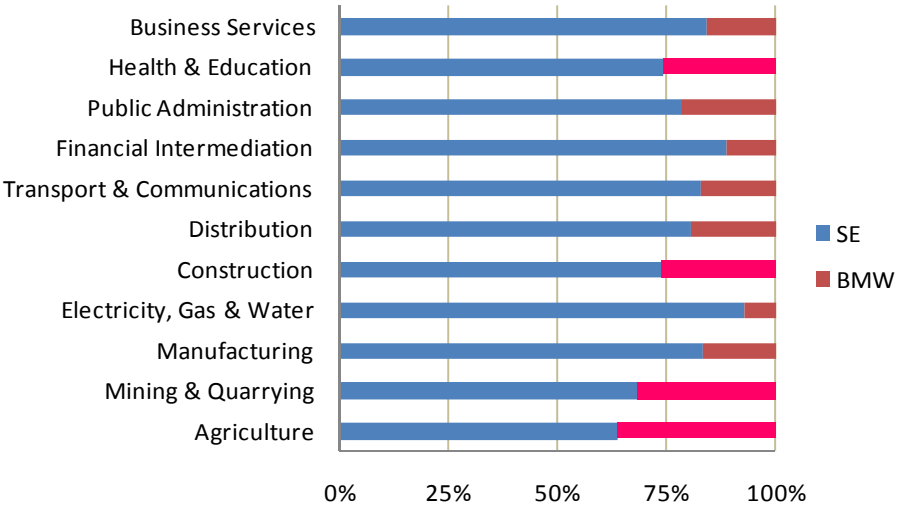
Figure 9.2.3.1 – Regional Contribution to GVA at basic prices by Broad Industry Sector, 2005, €Billions



Source: Appendix 8

If regional contribution to sectoral GVA is presented in percentage terms (Figure 9.2.3.2), the relatively more significant contributions of the Agriculture, Mining & Quarrying, Construction and Health & Education sectors in the BMW region become clear. These are the only sectors in the BMW region where contribution to total State GVA exceeds 25%. Equally, the important contribution made by the Utility and Financial Services in the SE region is also clear, accounting for 93% and 89% of total GVA generated in the State by those sectors.

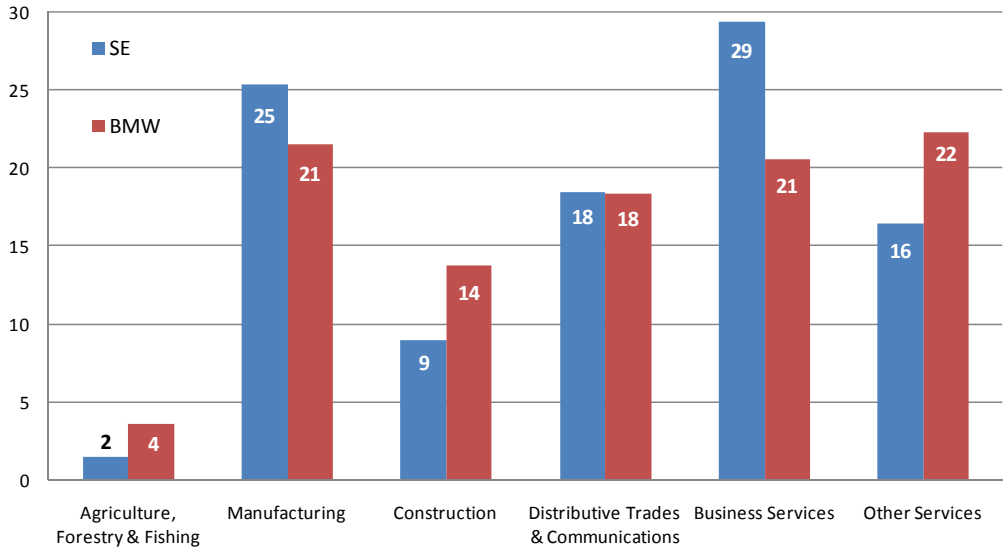
Figure 9.2.3.2 - Percentage Regional Contribution to GVA by Broad Industry Sector, 2005



Source: Appendix 8

If GVA is examined from the perspective of the regional economies (in percentage terms) the importance of the Manufacturing (25%) and Business Services (29%) to the SE region is apparent (see Figure 9.2.3.3). At first glance, the BMW region appears to have a more balanced distribution of economic activity, with Manufacturing (21%), Business Services (21%) and Other Services (22%) sectors all more or less equally important. However, it should be noted that GVA in the Manufacturing and Business Services of the SE includes proportionately more activity in the particularly high value-added industries, such as Chemicals (NACE 24) and Computer related services (NACE 72). Given the importance of MNEs to those industries in Ireland, care must be taken with this comparison. The relative importance of the Construction and Other Services sectors to the BMW region is also obvious.

Figure 9.2.3.3 - Percentage Sector Contribution to GVA by Region, 2005



Source: Appendix 8

From the perspective of the composition of GVA (see Table 9.2.3.1), Compensation of Employees (COE) and Net Operating Surplus (NOS) are the two most important components, accounting for 88% of the overall total. However, across the two regions, the relative contributions of COE and NOS are quite different. Table 9.2.3.1 shows that COE makes a much larger contribution to GVA in the BMW region (52%) compared with the SE region (45%) which is consistent with the greater importance of household and government consumption to final demand. NOS makes a much greater contribution to GVA in the SE region (43%) compared with 38% in the BMW region. This difference reflects both the relatively greater importance of Government Services to the BMW region and also the impact of MNEs in the SE region. It should be remembered, however, that the profits generated by MNEs flow outside the State (region) and are not of direct benefit to the State (region). While the presence of MNEs generates obvious employment and trickle-down benefits, caution should be taken when interpreting the benefits of NOS, particularly across both regions.

Table 9.2.3.1 – Composition of Regional GVA, 2005

Components	State		SE		BMW	
	€ Million	*%*	*€ Million*	*%*	*€ Million*	*%*
Compensation of Employees	65,963	46	52,045	45	13,918	52
Net Operating Surplus	60,155	42	49,846	43	10,309	38
Consumption of Fixed Capital	16,965	12	13,848	12	3,117	12
Taxes	1,550	1	1,272	1	277	1
Subsidies	-1,442	-1	-801	-1	-640	-2
Gross Value Added	143,191	100	116,210	100	26,981	100

Source: Appendix 8

Productivity differentials between the two regions may contribute to this difference in composition. The indices of per capita GVA presented earlier in Chapter 2 (see Table 2.2.1) suggest this is indeed the case. GVA per Full Time Equivalent (FTE) Persons Employed should yield a superior measure of labour productivity than per capita GVA. Indexing the data so that the State = 100 in 2005, the SE region has an index of 109.2 compared with 73.4 for the BMW region (see Appendix 18 for the calculation). There are most likely several contributing factors to this differential. One important contributor must be the location of MNEs in Ireland. MNEs typically exert a positive influence on labour productivity (Ruane et al, 2004; MacFeely et al, 2008) and their location is biased heavily in favour of the SE region (as noted above, MNE's have exhibited a clear preference for the SE region or, more specifically, proximity to the GDA or Cork's deep-water port).

9.2.4 Multipliers

The commodity technology assumption facilitates the transformation of the SUT into a symmetric I-O and the subsequent derivation of Leontief Inverse Multipliers. These multipliers are not multipliers in the Keynesian sense[1] and are sometimes referred to as technical coefficients. Leontief multipliers arise from direct linkages of an industry to other industries on which they are dependent for raw materials and other inputs. They are based on the production technique or input mix of an industry and reflect the supply chain (or intermediate consumption) which arises from an increase in demand for a product. Hence they are of use for planning purposes. The output multipliers suggest that industry inter-dependencies or linkages vary both by sector and region. The output multipliers presented here have been aggregated for the purposes of exposition and so describe highly aggregate production functions. Nevertheless, they illustrate for example that, for the Manufacturing Sector (NACE 15 – 41), the inter-dependencies or inter-linkages are slightly higher in the BMW region than for the SE region. The relatively greater dependence or use of agricultural produce as inputs to manufacturing in the BMW region is also evident. The detailed multipliers are available in Appendix 16.

The import multipliers show the extent to which an economy is dependent on imports to sustain Final Demand. The multipliers presented in Table 9.2.4.1 show that, overall, the SE region has a greater dependence on imports and is thus a more open economy than the BMW economy i.e. the total import multipliers are typically higher in the SE region than in the BMW region. Consequently, with the exception of the 'other services' and 'agricultural' sectors, leakages are greater from the SE region than from the BMW region. The multipliers also suggest that the SE region is not only more open but also more globalised than the BMW

[1] The principal difference between a Keynesian and Leontief multiplier is that Leontief multipliers reflect complex backward indirect production-based input linkages to the entire production structure, whereas Keynesian multipliers usually reflect simple forward linkages from income or factor payments to spending or final demand.

region (i.e. the international import multipliers are higher in the SE region than in the BMW region). Again, it should be noted that Table 9.2.4.1 is an aggregated version of the detailed tables available in Appendix 16.

Table 9.2.4.1 – Regional Import Multipliers, 2005

	SE			BMW		
	International Imports	Domestic Imports	Total Imports	International Imports	Domestic Imports	Total Imports
Agriculture, Forestry & Fishing	0.311	0.071	0.382	0.288	0.163	0.451
Manufacturing	0.591	0.016	0.607	0.388	0.145	0.533
Construction	0.313	0.027	0.341	0.180	0.115	0.295
Communications	0.238	0.017	0.256	0.089	0.085	0.174
Business Services	0.343	0.011	0.354	0.085	0.104	0.189
Other Services	0.144	0.010	0.154	0.109	0.084	0.193

Source: Appendix 16

An international export to production ratio can be derived by dividing International Exports (from the Use Tables) by Total Domestic Supply (see Appendix 19). Again, this ratio suggests that the SE region is more globalised, with approximately 42% of total output being exported abroad compared with 25% of output from the BMW region. Again, the MNE effect must be taken into account, as MNEs valuation of production and exports can be affected by transfer pricing and other complications associated with the allocation of value added.

9.3 – Deriving Employment Multipliers

This section is split into two sub-sections. In Section 9.3.1, direct and indirect employment multipliers are derived and presented. Domestic demand employment matrices for both regions are derived and presented in Section 9.3.2.

9.3.1 Direct and Indirect Employment Multipliers

If employment is divided by output, a direct employment ratio or multiplier l can be derived to give a measure of per capital output or employment/labour intensity.

$$l = \frac{e}{x}$$

Where:

x is Total Output

e is full time equivalent (FTE) employment[1].

Thereafter, a direct and indirect employment coefficient or multiplier m' can be derived by multiplying the Leontief inverse by those direct ratios.

$$m' = l'(\mathrm{I} - \mathrm{A})^{-1}$$

The direct and indirect employment multiplier m' gives a more comprehensive view, allowing the supply chain impact on employment to be quantified (assuming there are no supply constraints and no changes in relative prices). This, in turn, allows the impact of a €1 million stimulus in extra final demand for a given product to be assessed in terms of FTEs. Direct and indirect employment

[1] For a note on how the FTEs were calculated see Appendix 20.

coefficients also quantify the impact of intermediate consumption, illustrating the linkages between sectors.

The direct employment ratios l and the direct and indirect employment coefficients m' for both regions are presented in Table 9.3.1 for comparison. This Table illustrates both the high integration of the Agriculture, Forestry & Fishing sector with the domestic economy and the labour intensive nature of that sector compared with Manufacturing or Business Services. The linkages between the sectors and their impact on employment are also evident. For example, in the SE region, for every €1 million of output the Agriculture, Forestry & Fishing sector supports directly or generates 14.8 FTE jobs but also indirectly generates an additional 4.7 FTE jobs[1]. However, caution should be exercised when interpreting this result as output could probably be increased in some agricultural sub-sectors without any additional labour input. For example, Beef and Sheep production tend to be less intensively farmed (and more likely to be part-time) than Dairy, Crops, Pigs or Poultry production[2].

[1] i.e. 19.5 – 14.8 = 4.7

[2] My thanks to Trevor Donnellan (Teagasc) for his expertise in this matter.

Table 9.3.1 – Direct and Indirect Employment Coefficients in NUTS 2 Regions by Broad Economic Sector (FTEs per € million), 2005

NACE Rev.1	Description	SE		BMW		State	
		l	m'	l	m'	l	m'
1 - 5	Agriculture, Forestry & Fishing	14.8	19.5	15.4	20.6	15.0	21.2
10 - 41	Manufacturing	2.2	3.4	5.1	8.8	2.7	4.6
45	Construction	5.8	9.6	7.8	13.0	6.3	10.6
50 - 64	Distribution & Communications	7.6	9.8	13.0	15.1	8.5	10.9
65 - 74	Business Services	3.6	5.1	6.6	8.6	3.9	5.7
75 - 95	Other Services	9.2	11.5	8.9	11.9	9.1	11.8

These coefficients are useful in both quantifying the down-stream or supply chain impact of a stimulus on employment but also in assessing, for example, the likely impact on employment if industry closures in a particular sector.

9.3.2 Regional Domestic Demand for Employment

As the direct and indirect employment coefficients capture both intermediate and final consumption, they can be multiplied directly by the vector of Domestic Final Demand y (i.e. Final Consumption + Exports) to estimate the demand for employment.

$$E = y * l'(\mathrm{I} - \mathrm{A})^{-1}$$

In the 6 x 6 matrices presented in Chapter 8, Final Demand for each region was compressed into 3 aggregates (Final Consumption & GFCF, International Exports and Domestic Exports). However, if Final Demand is disaggregated into its

constituent parts, more nuanced Domestic Demand Employment Matrices can be derived for each region[1].

Table 9.3.2.1 – Domestic Demand FTE Matrix for SE Region
by Broad Economic Sector, 2005

NACE Rev.1	Description	Household Consumption Expenditure	NPISH	Government Consumption Expenditure	Gross Fixed Capital Formation	International Exports	Domestic Exports	Total Domestic Final Demand
		000's	*000's*	*000's*	*000's*	*000's*	*000's*	*000's*
1 - 5	Agriculture, Forestry & Fishing	4.0	-	-	0.4	6.6	16.3	27.4
10 - 41	Manufacturing	5.7	0.0	0.3	1.2	251.5	16.1	274.8
45	Construction	1.8	-	-	191.3	-	4.6	197.7
50 - 64	Distribution & Communications	161.4	0.1	0.0	8.7	97.2	24.5	292.0
65 - 74	Business Services	64.5	-	0.5	12.5	143.9	21.8	243.2
75 - 95	Other Services	42.4	26.7	210.4	1.9	4.6	6.4	292.3
	Total	279.7	26.8	211.3	215.9	503.9	89.8	1,327.3

The matrix in Table 9.3.2.1 shows employment from the demand (consumption) perspective, allowing employment to be allocated to sectoral consumption. So, for the SE region, almost 280,000 jobs or 21% of total FTE employment was generated. The importance of international exporting for employment in the SE region is clearly evident, accounting for just under 504,000 jobs, or 38% of total employment in the region.

While international exports are also important for the BMW region in terms of generating employment, the base from which these jobs are created is much narrower. Roughly 70% of all international export-related employment comes from manufacturing, whereas in the SE region the sector accounts only for 50% of exporting jobs. Not surprisingly, given what has been presented earlier, a greater number of jobs (relatively) are created from domestic exporting in the BMW region than in the SE region (approximately 15% and 7% respectively).

[1] Inventories, which are a residual element of Final Demand have been added to GFCF for ease of presentation while preserving employment totals.

Table 9.3.2.2 – Domestic Demand FTE Matrix for BMW Region
by Broad Economic Sector, 2005

NACE Rev.1	Description	Household Consumption Expenditure	NPISH	Government Consumption Expenditure	Gross Fixed Capital Formation	International Exports	Domestic Exports	Total Domestic Final Demand
		000's	*000's*	*000's*	*000's*	*000's*	*000's*	*000's*
1 - 5	Agriculture, Forestry & Fishing	1.0	-	-	- 0.0	3.5	21.4	25.8
10 - 41	Manufacturing	12.7	0.2	0.1	1.8	70.6	22.1	107.4
45	Construction work	0.8	-	-	81.1	-	-	81.8
50 - 64	Distribution & Communications	59.4	0.0	0.0	3.3	15.1	14.9	92.7
65 - 74	Business Services	21.9	-	0.4	5.9	11.4	7.9	47.5
75 - 95	Other Services	15.5	8.8	75.1	0.3	0.3	2.3	102.4
	Total	111.3	9.0	75.6	92.4	100.8	68.6	457.8

These Domestic Demand Employment Matrices are important as they demonstrate the real and complex nature of the risks to employment being faced by economies and thus provide a tool for policy makers to develop mitigation strategies. The same technique can be applied to carbon emissions, waste generation or energy consumption and thus can make a significant contribution to the objectives set out by Stiglitz et al (2009). These matrices can also be linked to socio-economic satellite accounts to examine the characteristics of employment (see Erumban et al, 2011).

9.4 – Forecasting over a short-term (2 year), stable period

In this section, a simple experiment is conducted, where the forecasting capability of the RI-O is tested. One of the weaknesses of I-O Tables are their comparative static nature. As noted in Chapter 3, one of the consequent limitations, specifically arising from the *fixed technical coefficients assumption*, is that it makes I-O unsuitable for medium and long-run forecast applications. In this experiment, the predictive capability is tested over a two-year period where relatively stable growth was experienced.

Using the employment coefficients presented in Table 9.3.1, the predictive ability of the I-O framework can be tested post-hoc. Although the 2005 I-O tables are the latest publically available, tables for 2007 have been compiled by CSO (but have not been officially disseminated at the time of writing). These tables have been made available on special request (CSO, 2011d), and thus robust national estimates for 2007 domestic final demand are available. From the QNHS, employment estimates for 2007 are also available.

There are a number of steps required to compile data for this experiment. Section 9.4.1 presents the estimated regional domestic final demand for 2007 in current and constant prices. Section 9.4.2 provides some context showing the changes to the structure of the economy during the 2005 – 2007 period and presents the results of the first experiment. Section 9.4.3 presents the results of a more sophisticated experiment where the Leontief production function constraints are relaxed to incorporate labour productivity.

9.4.1 Regionalising 2007 Domestic Final Demand

The 2007 estimates of national domestic final demand must be regionalised. In order to do this, final demand was first aggregated into the six broad economic sectors already used elsewhere in this study. Using the aggregated estimates of 2005 final demand for each region, regional factors were then derived. The final

demand for the regions does not aggregate directly to the State level, as the demand is a domestic flow measure with domestic imports extracted. Consequently, an estimate for inter-regional trade was inserted into the 2007 regional final demand tables on the assumption that patterns had not altered significantly between 2005 and 2007.

Table 9.4.1.1 – Regional Domestic Final Demand (2005 & 2007)
at Current & Constant 2005 Prices

NACE Rev 1.1	Description	2005		2007 Current Prices		2007 Constant Prices	
		SE	BMW	SE	BMW	SE	BMW
		€ Millions	*€ Millions*	*€ Millions*	*€ Millions*	*€ Millions*	*€ Millions*
1 - 5	Agriculture, Forestry & Fishing	1,403	1,253	2,218	1,984	1,923	1,720
10 - 41	Manufacturing	80,004	12,224	88,735	13,558	86,765	13,257
45	Construction work	20,623	6,284	23,740	7,234	22,949	6,993
50 - 64	Distribution & Communications	29,769	6,148	37,581	7,761	32,662	6,745
65 - 74	Business services	47,528	5,498	58,954	6,820	51,237	5,927
75 - 95	Other services	25,490	8,585	29,446	9,918	26,946	9,076
	Total	204,816	39,992	240,315	46,481	222,481	43,718

Source: (CSO, 2009d; 2011d)

In order to compare the 2005 and 2007 regional estimates of domestic final demand, the 2007 estimates were deflated to 2005 prices. Two approaches were considered here. The first was a simple, crude approach where the Consumer Price Index (CPI), excluding mortgage interest repayments, was applied across all sectors. For the period 2005 – 2007, final demand was deflated by 5.3% (Table 9.4.1.1). The second approach (and ultimately used) was more refined with more specific and appropriate deflators being applied to each sector of final demand. This weighted average approach gave a larger deflator of 6.9% (See Appendix 21 for more information on the deflators used).

9.4.2 Estimating 2007 Regional FTEs

During the period 2005 – 2007, there was very little structural change within the Irish economy. Table 9.4.2.1 shows that for the State as a whole, and the regions, the sectoral share of Domestic Final Demand remained largely unchanged apart from a slight decline in Manufacturing balanced against a slight increase in Business Services.

Table 9.4.2.1 – Sectoral Composition of Domestic Final Demand for State & Regions, 2005 & 2007

NACE Rev.1.1	Description	State		SE		BMW	
		2005	2007	2005	2007	2005	2007
		%	%	%	%	%	%
1 - 5	Agriculture, Forestry, Fishing	1	1	1	1	3	4
10 - 41	Manufacturing	38	36	39	37	31	29
45	Construction work	11	11	10	10	16	15
50 - 64	Distribution & Communications	15	16	15	16	15	17
65 - 74	Business Services	21	23	23	25	14	15
75 - 95	Other Services	14	14	12	12	21	21
	Total	100	100	100	100	100	100

In 2005, for both the State and the regions, part-time employment accounted for 17% of total employment compared to 18% in 2007 (Table 9.4.2.2). Nevertheless, there was a notable decline in part-time employment in the Manufacturing sectors of both regions during the period, from 7% to 1%.

Table 9.4.2.2 – Composition of Sectoral Employment
for State & Regions, 2005 & 2007

NACE Rev.1.1	Description		BMW		SE		State	
			2005	2007	2005	2007	2005	2007
			%	%	%	%	%	%
1 - 5	Agriculture, Forestry & Fishing	Full-time	88	87	91	90	90	88
		Part-time	12	13	9	10	10	11
10 - 41	Manufacturing	Full-time	93	99	93	98	93	99
		Part-time	7	1	7	2	7	1
45	Construction	Full-time	96	96	96	96	96	96
		Part-time	4	4	4	4	4	4
50 - 64	Distribution & Communications	Full-time	75	73	75	75	75	74
		Part-time	25	27	25	25	25	26
65 - 74	Business Services	Full-time	86	82	87	86	87	85
		Part-time	14	18	13	14	13	15
75 - 95	Other Services	Full-time	72	74	73	75	72	75
		Part-time	28	26	27	25	28	25
Total	All	Full-time	83	82	83	82	83	82
		Part-time	17	18	17	18	17	18

Source: (CSO, 2011a)

The 2005 direct and indirect employment coefficients m_t' for each region were multiplied by their respective estimates of 2007 Domestic Final Demand (held constant at 2005 prices) $\bar{y}_{t+2}$ to derive the demand for FTE employment in 2007 (E_{t+2}).

$$E_{t+2} = \bar{y}_{t+2} * l'(\mathrm{I} - A)_t^{-1}$$

The forecasted 2007 regional employment was then compared with the actual regional FTE employment derived from the 2007 QNHS results (Table 9.4.2.3). Overall, the results for both regions were within 2%. For the SE region, forecasted employment was 1,441,000 compared with an actual FTE of 1,430,000, an absolute difference of just over 11,000 or 0.8%. For the BMW

region, forecasted employment was 502,600 compared with an actual FTE of 495,100, an absolute difference of just over 7,500 or 1.5%.

Table 9.4.2.3 – Forecasted & Actual FTE 2007 Employment

Region	Forecasted Employment	Actual Employment	Absolute Difference	Percentage Difference
	000's	*000's*	*000's*	*%*
SE	1,441.2	1,430.0	11.2	0.8
BMW	502.6	495.1	7.5	1.5
State	1,937.0	1,925.2	11.8	0.6

At the state level, forecasted employment was 1.94 million compared with actual FTE employment of 1.93 million, an absolute difference of almost 12,000 or 0.6%. It should be noted, the SE and BMW regions are calculated on a different basis to that of the State, as the regional matrices allocate employment to domestic exports whereas the State matrix does not.

As already noted, the 2005 – 2007 period was structurally stable, so despite the static nature of I-O tables it should not be too surprising that 2007 employment was predicted with a high degree of accuracy.

While the employment estimates probably fall well within the precision limitations of the data, the fact that, in all cases, forecasted employment was over-estimated suggests perhaps there is more to this than simple variance. In fact, given the static nature of the Leontief production function, an over-estimate would align with expectations, as it does not allow for any productivity gains arising from changes in technology or process innovation (even in the short-run). What is surprising perhaps is the greater level of over-estimation in the BMW region relative to the SE region, as greater productivity might have been expected from the more open and globalised of the two regional economies.

9.4.3 Re-Estimating 2007 Regional FTEs adjusted for labour productivity

The next step in the experiment is to relax the Leontief fixed technology assumption to incorporate a simple adjustment for productivity in order to test whether this would account for the remaining residual. Labour rather than multi-factor productivity was used for this analysis, on the assumption that, in the short-run, labour is more mobile than capital and thus will react faster to productivity gains. An estimate of regional labour productivity can be derived from the CSO County Incomes and regional GDP data and the QNHS.

FTEs were calculated as before and GVA (basic prices) was deflated using the same weighted deflators used to deflate domestic final demand. Labour productivity can be erratic in the short run and so, depending on the number of years used to calculate the average productivity growth rate, the results may vary considerably. Consequently, rather than basing estimates on 2005 alone, a 3 year average was used (2003 – 2005).

$$E_{t+2} = \beta(\bar{y}_{t+2}) * l'(\mathrm{I} - A)_t^{-1}$$

Where β is the adjustment for labour productivity.

When the adjustment for productivity was added, the fit between the forecasted and actual employment improved. If the results of Table 9.4.2.4 are compared with those presented in Table 9.4.2.3, the fit at the State level has improved as the absolute difference has fallen from 12,000 FTEs to less than 5,000. The model now overshoots and underestimates employment. Equally, estimates for both regions also improved.

Table 9.4.2.4 – Forecasted & Actual FTE 2007 Employment Following Adjustment for Productivity

Region	Forecasted Employment	Actual Employment	Absolute Difference	Percentage Difference
	000's	*000's*	*000's*	*%*
SE	1,432.9	1,430.0	2.8	0.2
BMW	489.7	495.1	-5.4	-1.1
State	1,920.5	1,925.2	-4.7	-0.2

As noted earlier, higher labour productivity might have been expected in the SE region as it is the more open and globalised of the two regions. However, this does not appear to have been the case between 2003 and 2005. Average GVA per FTE (constant 2003 prices) in the BMW region increased from €54,591 to €56,031, an increase of 2.6%. In constant, between 2003 and 2005 average GVA per FTE (constant 2003 prices) in the SE region increased from €83,655 to €84,140, an increase of only 0.6%.

This simple experiment demonstrates that the predictive capability of the I-O model can be quite good over a relatively short and stable period i.e. where little structural change occurred. It also demonstrates that even over a short time period, the predictive capability can be improved by relaxing the fixed technology assumption to allow for productivity.

9.5 – Forecasting over a longer (4 year), un-stable period

In this section, the experiment conducted in section 9.4 is extended to test the forecasting capability of the RI-O over a longer, less stable period i.e. 2005 - 2009. This is an interesting experiment from two perspectives: firstly, the period is longer (4 years compared with the previous 2 years); secondly the 2005 – 2009 is comprised of two distinct periods: 2005 – 2007 which enjoyed relatively stable growth with little structural change and 2008 – 2009 which saw the beginning of a very significant downturn where structural change might be expected.

It is likely the predictive quality of the tables over this longer, more unstable period will deteriorate compared with the shorter, more stable 2005 – 2007 period. It should also be noted, however, that at the time of writing, no official estimates for regional GVA or Domestic Final Demand were available. Consequently, 2009 Domestic Final Demand (see Appendix 21) and regional GVA (see Appendix 22) were estimated using a variety of sources. As a result, some caution must be exercised when interpreting the outcome of this experiment, as differences between actual and forecasted FTE employment may simply be the result of inaccurate estimates for regional demand or GVA rather than limitations of the model itself. This can be tested later when official data become available.

Comparing the compositional patterns of regional domestic demand in 2005 with 2009 (see Table 9.5.1), the decline of the Building & Construction industry is the largest and most striking change. Thereafter, the growing importance of services is evident but, most particularly, the growth in Other Services in the BMW region.

Table 9.5.1 – Sectoral Composition of Domestic Final Demand for State & Regions, 2005 & 2009

NACE Rev.1.1	Description	SE		BMW	
		2005	2009	2005	2009
		%	%	%	%
1 - 5	Agriculture, Forestry, Fishing	1	0	3	2
10 - 41	Manufacturing	39	39	31	32
45	Construction work	10	7	16	11
50 - 64	Distribution & Communications	15	15	15	16
65 - 74	Business Services	23	25	14	15
75 - 95	Other Services	12	14	21	24
All	All	100	100	100	100

Using data from the QNHS, estimates of FTE employment were calculated as before (see Table 9.5.2 and Appendix 20) and these data highlight two important points. Compared with 2005, 2009 employment levels were almost 2% lower. On a FTE basis, however, employment was almost 4% lower, indicating decreasing use of full-time labour. The shift away from full-time labour was more pronounced in the BMW region, where FTE employment was almost 5% lower in 2009 than in 2005. The switch to decreasing full-time labour was evident across all sectors of both regional economies, with the exception of "Other Services" (NACE 75 – 95) where the share of part-time labour decreased. The switch to part-time labour was greatest in the Building & Construction sector, where its share increased from 3.9% to 12.6% in the BMW region and from 3.6% to 10.8% in the SE region.

Table 9.5.2 – Composition of Sectoral Employment
for State & Regions, 2005 & 2007

NACE Rev.1.1	Description		BMW		SE		State	
			2005	2009	2005	2009	2005	2009
			%	%	%	%	%	%
1 - 5	Agriculture, Forestry & Fishing	Full-time	87.8	83.7	90.9	86.3	89.6	85.3
		Part-time	12.3	16.4	9.1	13.6	10.4	14.8
10 - 41	Manufacturing	Full-time	93.2	88.8	93.4	90.4	93.4	90.0
		Part-time	6.9	11.1	6.5	9.5	6.6	10.0
45	Construction	Full-time	96.2	87.4	96.4	89.2	96.3	88.7
		Part-time	3.9	12.6	3.6	10.8	3.7	11.3
50 - 64	Distribution & Communications	Full-time	75.1	68.9	74.9	71.9	75.0	71.1
		Part-time	24.9	31.1	25.1	28.1	25.0	28.9
65 - 74	Business Services	Full-time	85.6	81.4	87.2	84.5	86.9	83.9
		Part-time	14.3	18.6	12.8	15.5	13.1	16.1
75 - 95	Other Services	Full-time	72.0	74.2	72.5	74.0	72.4	74.1
		Part-time	28.0	25.8	27.5	26.0	27.6	25.9
Total	All	Full-time	83.1	77.8	82.8	79.0	82.9	78.7
		Part-time	16.9	22.2	17.2	21.0	17.1	21.3

Source: (CSO, 2011a)

9.5.1 Estimating 2009 Regional FTEs

As before, 2009 FTE employment is first forecasted without any adjustments, or allowances, made for labour productivity i.e.

$$E_{t+4} = (\bar{y}_{t+4}) * l'(\mathrm{I} - A)_t^{-1}$$

Although less successful than the 2-year forecast, the 4-year forecast still gives an estimate of FTE employment within 1% for the regions and 2.2% for the national level. Once again this simple approach resulted in a consistent overestimation of employment at both regional and national level, with the overestimation for the BMW region being greater than for the SE region (Table 9.5.1.1). It is interesting

to note, however, that unlike in the first experiment, the forecast at the national level is inferior to regional forecasts. It is difficult to ascertain why this might be, but it is possible that this arises because of adjustments made for domestic exports.

Table 9.5.1.1 – Forecasted & Actual FTE 2009 Employment

Region	Forecasted Employment	Actual Employment	Absolute Difference	Percentage Difference
	000's	*000's*	*000's*	*%*
SE	1,290.1	1,277.6	12.5	1.0
BMW	441.6	436.9	4.7	1.1
State	1,752.2	1,714.5	37.7	2.2

9.5.2 Re-Estimating 2009 Regional FTEs adjusted for labour productivity

The Leontief fixed technology assumption is again relaxed to incorporate a simple adjustment for productivity gains calculated over 5 years (2003 – 2007).

$$E_{t+4} = \beta(\bar{y}_{t+4}) * l'(\mathrm{I} - A)_t^{-1}$$

As before, when the adjustment for productivity was added, the fit between the forecasted and actual employment improved.

Table 9.5.2.1 – Forecasted & Actual FTE 2009 Employment
Following Adjustment for Productivity

Region	Forecasted Employment	Actual Employment	Absolute Difference	Percentage Difference
	000's	*000's*	*000's*	*%*
SE	1,273.8	1,277.6	-3.8	-0.3
BMW	441.1	436.9	4.2	1.0
State	1,734.7	1,714.5	20.2	1.2

If the results of Table 9.5.2.1 are compared with those presented in Table 9.5.1.1 the fit at the national level has improved, with the absolute difference having fallen from 37,700 FTEs to 20,200. There is a clear improvement in the SE region also where the absolute difference has fallen from 12,500 to 3,800. There was little or no difference in the forecast for the BMW region, but this is not surprising as the region experienced virtually no labour productivity gains during the 2007 – 2009 period. During the 2003 – 2007 period, the SE region experienced higher labour productivity gains than that experienced in the BMW region (see Appendix 23). Average GVA per FTE (constant 2005 prices) in the SE region increased from €87,136 in 2003 to €88,262 in 2007 (an increase of almost 1%). In contrast, average GVA per FTE in the BMW region increased only from €57,479 in 2003 to €57,486.

For both simulations at the regional level, the strict RI-Os have forecasted FTE employment within 1.5% of actual employment over a 2 year, stable period and within 2.2% over the 4 year, more un-stable period. When the Leontief technology assumption is relaxed, the forecasts improve to within 1.1% over 2 years and 1.2% over 4 years. This suggests that the methodology used to estimate FTE employment (i.e. based on hours worked) is a sound approach. It also suggests that the approach used to estimate regional domestic final demand from NIE aggregates is also reasonably sound, at least over the short-run.

Again, this experiment suggests that the predictive capability of the I-O model can be quite good over a longer 4 year period, even one of quite dramatic change. In turn, this suggests that despite the onset of recession, actual underlying structural change is slow. Once again, by relaxing the product technology assumption, the predictive ability of the model was improved.

9.6 Conclusion

This chapter has presented a number of new and important findings. For example, the different structural nature and net trade balances in the two regions have been illustrated, with the SE region operating a trade surplus while the BMW region running a trade deficit. The regional import multipliers and export-to-production ratios also show the SE region to be a more open and globalised economy relative to the BMW economy.

The make-up of final demand and contribution to and composition of GVA in the two regions are quite different. Final demand in the BMW region is relatively more dependent on household and government consumption and also domestic trade. The sectoral contribution to GVA in the BMW region is relatively more dependent on Health & Education, Construction and Agriculture. Consequently, COE and subsidies are relatively more important, and NOS relatively less important to the composition of GVA in the BMW region. MNEs have a significant influence on these data and, as a consequence, this raises questions as to whether an output measure such as GDP is an appropriate measure for comparative regional analysis.

If employment is examined from a demand perspective, employment multipliers show that when direct and indirect effects are taken into account, household consumption generates relatively more jobs in the BMW region than in the SE. In contrast, international exports in the SE region generate significantly more jobs in relative terms than in the BMW region (38% and 22% respectively).

By applying the 2005 regional employment multipliers to synthetic estimates of 2007 and 2009 regional Domestic Final Demand to predict FTE employment for those years, the forecasting capability of the RI-O was tested. In both cases, forecasted and actual FTE employment were within 2.5% of each other. However, when the Leontief production function assumptions were relaxed and labour productivity was allowed for, the forecasts improved to within 1.5% of actual FTE employment.

Chapter 10: Conclusions

This chapter summarises some of the key findings arising from this study. Section 10.1 presents some general conclusions. Section 10.2 presents some key findings from the R-SUT and RI-O Tables while Section 10.3 outlines some areas where fruitful and policy relevant future study.

10.1 General Conclusions

Over the past 50 years, the importance of regional issues in Ireland has ebbed and flowed in reaction to economic circumstances. The uncertainty as to whether regional development supports or undermines national development has been prolonged by the absence of regional economic models and a supporting data infrastructure.

The focus on regional development as a core objective in the two previous NDPs[1] and the publication of the NSS might lead to the conclusion that there is a growing recognition and acceptance of the importance for rational spatial and regional planning. However, the Government's rejection of the NSS shortly after publication suggests otherwise.

Since joining the EEC, Ireland's regional policy has been designed to maximise funding from Europe. This led to the creation of the politically and financially expedient NUTS 2 regions but made little sense from a regional policy perspective. As the Irish regions move to "Phasing out" status, however future regional policy must be funded by the Irish exchequer. Whatever form this "re-nationalised" regional policy takes, it can no longer rely on industrial policy to shoulder the burden.

The conceptual changes regarding the definition of balanced regional development suggest the required policies and performance metrics must become

[1] NDP 2000 – 2007 (DoF, 1999) and NDP 2007 – 2013 (DoF, 2006)

more, rather than less, sophisticated. Consequently, the need for a coherent regional statistical framework to support regional models and regional economic analysis is now greater than ever. The dysfunctional data infrastructure operating currently across the wider public service in Ireland militates against the efficient compilation of regional statistics making their production unnecessarily expensive. In turn, the lack of regional data sufficient to compile regional Supply and Use (SUT) and I-O tables prohibits the construction of regional economic models which are necessary to provide an evidence base to formulate and assess regional policy.

This study highlights a number of important issues that are relevant not just to Ireland but also for the wider EU:

1. The need for a coherent national and regional statistical infrastructure to support regional economic, social and environmental policy analysis is critical. For example, the absence of post codes or spatial identifiers in Ireland makes the compilation of consistent, sub-national data prohibitively expensive;

2. The importance of multinational enterprises (MNEs) to the Irish economy, and their uneven spatial distribution across the NUTS regions, raises questions as to whether Gross Value Added (GVA) is an appropriate and meaningful measure for regional comparisons. Consequently, care must be taken when drawing conclusions regarding regional disparities and productivity differentials. This will likely be an issue for any open or globalised regional economy;

3. The challenges associated with compiling information on inter-regional trade flows are not unique to Ireland and remain a significant challenge for most countries and thus modelled or synthetic data are required to compile RI-O;

4. The current NUTS 2 regions in Ireland can legitimately be considered 'artificial' and less than ideal from a regional policy perspective as they are purely political constructs and do not correspond with any longstanding sub-national cultural, historical, economic or social frameworks or institutions. A more appropriate or logical two-region study might be to compare the GDA with the rest of the country, which would require NUTS 3 level data (as NUTS are currently defined in Ireland). From an analysis perspective, this poses challenges as many data are not assembled in line with the NUTS structure. This non-alignment results in many potential data sources not being usable without considerable alteration or adjustment. Given the history of expediency adopted with regard to regional policy in Ireland, the NUTS 2 regions are also vulnerable to change or re-definition.

10.2 Key Results

This study has shown that inter-regional trade flows can be estimated at the NUTS 2 level, although not without some difficulty. It is impossible to say exactly how accurate the estimates presented in this study are, other than to note they fall within the accepted minima and maxima for each product and industry (i.e. the values in the Use Tables for Domestic Output are positive). The ease with which the first estimates of the inter-regional trade flows for the services sectors inserted into the R-SUT suggests they are reasonably robust. However, given the significant calibration required, it is likely that estimates of the flows of merchandised trade between the regions are more tentative. Equally, the lack of available data on construction sub-contractors may have led to an underestimate of inter-regional trade for this sector. Consequently, the inter-regional flows between the regions cannot be considered definitive and should be thought of as plausible.

Notwithstanding the caveats above, the R-SUT and R-IO tables presented in this study are as robust and comprehensive as is possible and, by and large, present a

plausible picture of activity in the NUTS 2 regions in 2005. Tables such as these will be essential if regional modelling and satellite accounting for fragmented or dispersed industries such as tourism and transport are to be developed for Ireland.

Some key results from this study are presented below.

1. The dominance of the SE region is clear, accounting for 74% of total employment and 81% of total GVA.

2. Total exports (i.e. domestic plus international) from the SE region are almost six times larger than those from the BMW region. Domestic trade is much more important to the BMW region than for the SE region; domestic exports accounting for 37% of total exports from the BMW region compared with 11% from the SE region.

3. The SE region is a more open and globalised economy than the BMW economy with higher import multipliers and export-to-production ratios – for example, 42% of total SE output is exported abroad compared with 25% of output from the BMW region.

4. There are significant structural differences in the composition and nature of the trade balances in both regions. The SE region operates an overall trade surplus but a trade deficit for services, whereas the BMW runs an overall trade deficit. The SE region also operates a trade surplus for both domestic and international trade, whereas the BMW region achieves a surplus only for international trade.

5. The services deficit in the SE region is connected directly with the trade surplus for goods, as the same industries that are generating large exports typically have a significant multinational enterprise (MNE) presence who are also paying large royalties or purchasing other trade-related services. These royalty payments and purchases are recorded in the Balance of Payments (BoP) as imports of services. Thus, the trade deficit for services

in the SE region is, to some extent, unavoidable as it arises directly from the international nature of trade i.e. *vis-à-vis* the Rest of the World, and is driven largely by MNEs. In contrast, the bulk of the trade deficit for services in the BMW region arises from domestic imports (i.e. *vis-à-vis* the SE region) with 61% arising from demand for Business, Real Estate and Financial Services.

6. From a final demand perspective, the BMW economy is much more dependent on household and government consumption expenditure than the SE region. In terms of contribution to regional GVA, the BMW region is significantly more dependent on construction and other services (which includes non-traded government sectors).

7. The significant decline of the construction sector since 2005 and the ongoing decline in government expenditure (which traditionally might have been considered a stabiliser to the economy) will have a proportionately greater (negative) impact on the BMW region.

8. The regional Demand Employment matrices show that 35% and 21% of all employment in the SE region can be attributed to international exporting activity or household consumption respectively in contrast to 21% and 24% in the BMW region.

9. The study suggests that the underlying structure of the national and regional economies change relatively slowly. Despite the onset of a serious recession, R-IO tables are, nevertheless, able to forecast regional FTE employment with some degree of accuracy.

10.3 Future Study

This study has identified a number of avenues for interesting and policy-relevant future research:

1. The I-O tables presented in this study are Domestic Flows I-O tables. A useful supplement to these tables would be the compilation of a set of regional Total Flows I-O tables, which would facilitate a greater understanding of inter-regional spill-over and feedback effects;

2. This study has raised questions regarding the appropriateness of GVA as a metric for comparative regional analysis. A supplementary income measure or GNP presentation of the I-O tables, with net factor flows removed, would provide a richer understanding of the *real* regional strengths and weaknesses;

3. The survey-based approach to compiling R–SUT and R-IO is both challenging and time consuming. Given the volumes of micro-data required, and the confidentiality issues associated with those data, it is unlikely that many un-official tables will be compiled using this approach. Therefore, it would be useful to undertake a comparative analysis of the main non-survey approaches to determine if any particular methodology is suitable particularly for compiling regional tables in Ireland;

4. There are a wide range of applications to which the tables presented in this study can be applied. They provide a platform for the construction of CGE models and SAMs, facilitate measurement of economic impacts such as public investment or events like the closure of an industry. R-IO can articulate inter-regional interdependencies and be used to quantify inter-regional spill-over and feedback effects. They also provide a platform for deriving or linking to satellite accounts to examine, for example, tourism impact, energy use or waste production and allow policy makers to really understand the contribution or impact made by tourism to different regional economies.

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Appendix 1: NUTS Regional Classification

The regional classifications in this thesis are based on the NUTS (Nomenclature of Territorial Units) classification used by Eurostat. The NUTS 3 regions correspond to the eight Regional Authorities established under the Local Government Act, 1991 (Regional Authorities) (Establishment) Order, 1993, which came into operation on 1 January 1994. The NUTS 2 regions, which were proposed by Government and agreed by Eurostat in 1999, are groupings of the NUTS 3 regions. The composition of the regions is set out below.

NUTS 2 Region	NUTS 3 Region - Regional Authority	NUTS 4 Region - County
Border, Midlands and Western (BMW)	Border	Cavan Donegal Leitrim Louth Monaghan Sligo
	Midland	Laoghis Longford Offaly Westmeath
	West	Galway City Galway Mayo Roscommon

Appendix 1 (*Cont.*): NUTS Regional Classification

NUTS 2 Region	NUTS 3 Region - Regional Authority	NUTS 4 Region - County
Southern and Eastern (SE)	Dublin	Dublin City
		Dun-Laoghaire
		Fingal
		South Dublin
	Mid-East	Kildare
		Meath
		Wicklow
	Mid-West	Clare
		Limerick
		North Tipperary
	South-East	Carlow
		Kilkenny
		South Tipperary
		Waterford City
		Waterford
		Wexford
	South-West	Cork City
		Cork
		Kerry

Appendix 2: IDA Designated and Non-Designated Regions

The following regions were classified by the Industrial Development Authority in 1952.

IDA Region	County
Designated	Cavan
	Clare
	Cork (West)
	Donegal
	Galway
	Kerry
	Leitrim
	Longford
	Mayo
	Monaghan
	Roscommon
	Sligo
Non-Designated	Carlow
	Cork (East)
	Dublin
	Kildare
	Kilkenny
	Laois
	Limerick
	Louth
	Meath
	Offaly
	Tipperary
	Waterford
	Westmeath
	Wexford
	Wicklow

Appendix 3: Summary of Non-Survey Input-Output Models

This is an appendix to chapter 3 (National & Regional Input-Output Tables) where some of the main non-survey methods for regionalising I-O tables are summarised.

A3.1 Location Quotients

> "*The traditional role of the LQ is to provide estimates of the regional trading coefficients, which measure the proportion of regional requirements met by firms located within the region*"
>
> (Flegg & Webber, 2000: 564)

Construction of a regional transaction matrix (or matrix of technical coefficients) is not always possible given the absence of regional data. So one may have to resort to what Flegg et al refer to as "*roundabout methods*" (1994a: 5) to adjusting national coefficients. Most non-survey or hybrid approaches typically use some form of location quotient (LQ) to estimate regional trade.

$$r_{ij} = LQ \times n_{ij}$$

where:

r_{ij} is the estimated intra-regional input coefficient (i.e. the amount of regional input i required to produce one unit of regional gross output j);

and

n_{ij} is the corresponding national coefficient.

So sectors where LQ < 1 are reduced by multiplying them by the LQ i.e. increasing the import coefficient by a corresponding amount. No adjustment is made in the sectors with an LQ above 1.

Comer & Jackson (1997: 145) point out that most regional I-O tables are based on a base set of national accounts and consequently any errors in the base national accounts will persist and may be compounded by the regionalisation procedure. They go on to say that it is generally acknowledged, although not well documented in the literature, that regionalisation should proceed aggregation to maximise accuracy. By extension then, a survey based disaggregated national table is preferable to its aggregated counterpart as a foundation for regionalisation. "*For industrially diverse regions, larger errors in the national table would be expected to carry through to the derived regional tables*" (Comer & Jackson, 1997: 149). Flegg and Webber support this view (1997: 802).

A3.1.1 The Simple Location Quotient

The simplest type of LQ is the ratio between the regional and national proportions of output or employment attributable to a particular sector. These are often referred to as simple location quotients or *SLQ*s. A simple, employment based, location quotient for industry i can be expressed as:

$$SLQ_i = \left[\frac{RE_i}{NE_i}\right] \times \left[\frac{TNE}{TRE}\right] = \left[\frac{RE_i}{TRE}\right] \Big/ \left[\frac{NE_i}{TNE}\right]$$

where:

RE_i is regional employment in sector i

NE_i is corresponding national employment in sector i

TNE is the total national employment

TRE is the total regional employment

Thus the *SLQ* derives regional trade coefficients from national trade coefficients, making an implicit assumption that regional import patterns are a function of national import patterns. The *SLQ* also assumes identical regional and national technology (Flegg & Webber, 2000: 564). Or as Harrington et al (1980: 795) states "*Most regional input-output tables constructed by using non-survey methods assume that regional technical structures are at least approximately identical technical structures*". They also note that using "*national input-output coefficients as surrogates for regional coefficients loses insights into the basic structure of the regional economy*" (1980: 806) and estimating regional coefficient matrices will most likely loose certain essential features of the regional structure. One of the "*unambiguous*" implications for the Scottish I-O table, which used the UK as the basis for their estimation is that "*substantial errors in individual coefficients, multipliers and predicted outputs*" (1980: 804) will arise. Riddington (1994: 2) also pointed out that the *SLQ* "*takes no account of the size of the consuming industry*".

Flegg et al (1995: 436) argued that the size of the region would have a bearing on the trading coefficient, stating "*all methods of adjusting national input-output coefficients to obtain regional coefficients rely on scaling the national coefficients to take account of possible differences in import propensities between the nation and the region*". They expressed this relationship as follows:

$$ar_{ij} = t_{ij} - an_{ij}$$

where:

ar_{ij} is a regional I-O coefficient

an_{ij} is a national I-O coefficient

t_{ij} is a trading coefficient

The trading coefficient t will typically be between 1 and 0. A very large region or the state would usually have a trading coefficient close to or 1.

A3.1.2 The Cross-Industry Location Quotient

The conventional approach, where survey based data are unavailable, is to use employment or output based location quotients (*LQ*s) to obtain estimates of regional coefficients from the corresponding national figures. While this approach is convenient, cheap and easy to implement, it has been discredited because of its tendency to overstate regional multipliers (Flegg et al, 1994; Tohmo, 2003). The overstatement usually arises because conventional location quotients don't take sufficient account of inter-regional trade, as regional propensities to import are typically higher than national propensities. In particular the *SLQ* takes no account of the relative size of the sector providing the inputs or of the sector purchasing them.

Flegg et al argued that using *SLQ*s to adjust national coefficients may "*produce seriously misleading results*" (1994: 6). The problem with *SLQ*s is that they assume the discrepancy between coefficients is the same, regardless of the scalars to which the regions producers are selling their output. No account is taken of the relative size of the sector producing the inputs or of the sector purchasing them. Neither does it take into account any local specialisation for regional needs or tastes.

Cross-Industry Location Quotients (*CLIQ*s) go some way to overcoming the shortcomings of *SLQ*s. An example of a *CLIQ* based on employment, for sectors i and $j$can be expressed as:

$$CLIQ_{ij} = \left[\frac{SLQ_i}{SLQ_j}\right] = \left[\frac{RE_i}{NE_i}\right] \Big/ \left[\frac{RE_j}{NE_j}\right]$$

where:

RE_i is regional employment in the supplying sector i;
NE_i is the corresponding national employment in sector i;
RE_j is regional employment in the purchasing sector j; and
NE_j is the national employment in sector j.

So *CLIQ*s are the ratio of the relevant *SLQ*s. They measure net interregional trade by taking into account the relative size of both the supplying and purchasing sectors in a region, thus reflecting regional supply and demand.

Assume sector i is supplying inputs to sector j. If the supplying sector i is relatively small regionally, compared to purchasing sector j i.e. if *CLIQ* <1 then some of the required inputs needed in j will be imported from outside the region. So the national coefficient will be adjusted downwards by applying the *CLIQ*. A corresponding upward adjustment would be made to the import coefficient. No adjustment is made if the *CLIQ* ≥1 i.e. demand will not be met by importing.

If sector $i = j$ then *CLIQ* = 1 which implies making no adjustment to the national coefficients, and thus takes no account of the size of local

industry. Smith and Morrison (1974: 66) suggest in this case the *SLQ* could be used along the principal diagonal, to allow for inter-regional trade, which is likely to occur especially when regional industry is comparatively small and or consists of a small number of specialist firms.

Despite the innovation of the *CLIQ* model, dissatisfaction remained as both models (i.e. *SLQ* and *CLIQ*) tend to overstate regional multipliers (Smith & Morrison, 1974: 73). The main reason for this overstatement is that the *SLQ* and *CLIQ* methods do not adequately take into account interregional trade i.e. underestimates regional imports. As noted above, regional propensities to import are higher than national propensities i.e. regional economies are more open. Despite the improvements made to the *SLQ* by the *CLIQ*, it does not take into account the relative size of the region.

A3.1.3 Semi Logarithmic Location Quotients

The Semi Logarithmic Location Quotient (*RLQ*) approach was developed to try and overcome some of the shortcomings associated with the *SLQ* and *CLIQ* models noted above. The *SLQ* and *CLIQ* are trading coefficients, as they measure the degree of self sufficiency of a region. Round (1978) suggests that an appropriate trading coefficient $(0 \leq t_{ij} \leq 1)$ will be a function of 3 variables:

(1) the relative size of the supplying sector i;

(2) the relative size of the purchasing sector j;

(3) the relative size of the region.

Flegg et al argue that *SLQ*s incorporate (1) i.e. RE_i/NE_i measures the relative size of the supplying sector and (3) i.e. TNE/TRE measures the relative size of the region, whereas *CLIQ*s incorporate (1) and (2) i.e.

RE_j/NE_j /measures the relative size of the purchasing sector but does not take into account the relative size of the region. So neither the *SLQ* or the *CLIQ* incorporate all 3 variables.

Round, in an attempt to satisfy all three requirements suggested the following semi-logarithmic adjustment formula:

$$RLQ_{ij} = \frac{SLQ_i}{\log_2[1 + SLQ_j]}$$

This allows for the relative importance of the region, and it also allows for the relative size of both sectors i and j. The *RLQ* yields a counterintuitive result, producing a larger value for smaller regions, rather than the other way around. Flegg et al (1994a: 10) argue this is surprising as one might expect a relatively large region to be more self-sufficient than a relatively small region because the former would typically be able to produce a wider range of products than the latter i.e. require a trading co-efficient closer to 1. Also, many industrial sectors might not be present in a small regional economy.

Empirical evidence doesn't suggest that the *RLQ* was any more successful at generating regional I-O coefficients or multipliers than the *SLQ* or the *CILQ* (Smith & Morrison 1974: Harrington et al 1980).

Consequently Flegg et al suggest that the *RLQ* should be reformulated to:

$$ELQ_{ij} = \frac{[\log_2(1 \div SLQ_i)]}{SLQ_j}$$

This approach yields a more intuitive result, giving a larger trading coefficient for larger regions i.e. making a greater adjustment for imports for smaller regions. "*The major cause of the large gap identified between*

LQ-based and survey-based multipliers is indubitably that the conventional LQ formulae understate regional propensities to import, with the error increasing as the relative size of the region decreases" (Flegg et al, 1994b: 16)

A3.1.4 The FLQ formula

As already noted, the conventional approach to generating regional input-output tables from national data tends to produce "*excessively large regional multipliers*" (Flegg et al, 1994b: 18). The main reason for this is that the adjustment formulae don't take adequate account of the relative size of the regions and hence underestimate propensities to import from other regions. But a secondary factor may well be the use of "*inappropriate methods of sectoral aggregation*".

Flegg et al (1994b) argued that the simpler formulae tend to underestimate leakages to and from the regional economy and hence tend to overstate regional multipliers. Consequently they argued that a new approach to estimating trading coefficients was needed "*given the abundant empirical evidence demonstrating that conventional LQ formulae yield substantial overestimates of the* r_{ij}" (1997: 796) where r_{ij} is the estimated intra-regional input coefficient.

They argued that their revised or augmented cross-industry formula tackles this inherent problem by making greater allowance for both regional size and the relative size of the purchasing and supplying sectors. The main advantage of the *FLQ* they argued is that it offers a way of tackling the problem inherent in other LQ approaches, that of underestimating regional imports and hence overstating regional multipliers. The *FLQ* formula can be stated as:

$$FLQ_{ij} = CILQ_{ij} \times \lambda_r^{\beta}$$

where:

$$\lambda_r = \left[\frac{TRE}{TNE}\right] \Big/ \left[\log_2\left(1 + \frac{TRE}{TNE}\right)\right]$$

TRE/TNE is the ratio of regional to national output or employment. It is assumed that $\beta \geq 1$. The value of the function λ_r^{β} increases along with regional size. The larger the assumed value of β, the greater the implied adjustment for regional imports. If $\beta = 0$ the *FLQ* and *CILQ* formula coincide. Flegg at al acknowledged that "*results are sensitive to variations in the assumed value of* β" (1994a: 18).

Flegg at al also introduced a new method of sectoral aggregation to overcome the bias inherent in the conventional approach (1994a: 2). Essentially this new approach involved making adjustments for regional imports prior to aggregation, rather than afterwards.

Brand (1997: 792) criticised the *FLQ* on the grounds that the regional scalar λ_r is very insensitive to variations. To overcome this criticism, Flegg et al reformulated the *FLQ* by modifying the formula for the scalar λ .

$$\lambda^* = \left[\log_2\left(1 + \frac{TRE}{TNE}\right)\right]^{\delta} \text{ where } 0 \leq \delta \leq 1$$

The *FLQ* measures regional size via relative regional employment TRE/TNE which, Flegg and Webber argue (1997: 802) is likely to be a better measure of regional economic activity than geographic area.

Flegg et al applied their *FLQ* formula to a 32 sector I-O model developed for the county of Avon in the UK. This table was scaled down from the 101 sector 1984 national UK table. The *FLQ* formula yielded multipliers that were roughly 15% lower than those produced by the *CILQ* formula. In contrast, the *RLQ* produced multipliers that were about 2% higher than the *CILQ* results (1994a).

They also draw attention to studies conducted by Smith and Morrison (1974) and by Harrigan et al (1980). Smith and Morrison conducted a study for the town of Peterborough in the UK and found similar results to that of Flegg et al. In this study, the *SLQ* yielded output multipliers that were on average 17% higher than the survey based tables, whereas the *CILQ* and *RLQ* formulae produced results roughly 20% and 23% higher respectively. The Harrigan et al study of Scotland yielded SLQ, CILQ and RLQ results that were 25%, 18% and 23% respectively higher than the survey based results. Flegg et al argued that the higher errors found for Peterborough are consistent with the view that smaller regions tend to have a higher propensity to import from other regions (1994a: 20).

While arguing that the *FLQ* offers a flexible and cost effective way of generating regional I-O coefficients, Flegg and Webber concede (1997: 803) that the need to specify a value for the exponent δ presents an obstacle to the widespread use of the *FLQ* formula. They also concede that the *FLQ* formula has some theoretical shortcomings (2000: 568) but nevertheless, they state "*it would appear that the FLQ is capable of eliminating the systematic overestimation characteristics of the SLQ and CILQ, while producing a more precise set of estimates*".

A3.1.5 The Augmented FLQ formula

McCann and Dewhurst suggested that regional specialisation must be taken into account when modelling regional economies. They also questioned whether the "*relationship between import propensities and regional size can be assumed to be monotonic*" and suggested "*that the degree of specialisation of the regional economy might be expected to affect import propensities*" (1997: 436). They went on to argue that from a theoretical perspective "*there must be a tendency for the trading coefficients to rise (and hence import propensities to fall) as we consider larger regions*" (1997: 437).

To illustrate their point, McCann & Dewhurst outlined two extreme, hypothetical cases. In one case the regions are completely specialised and in the other the regions are identical. In the first case, where the regions are completely specialised, output of each national sector is synonymous with the output of a particular region. In this case the intra-industry I-O coefficients for a particular sector in a particular region will be identical with those for the corresponding industry in the national table. On the other hand the inter-industry I-O coefficients for any regional table will all be zero, whereas for the national table they will all be greater or equal to zero.

In the second case, where the regions have exactly the same industrial structure as the aggregate national economy i.e. there is no regional specialisation. If there is no regional specialisation then location-production theory suggests there will be no interregional trade i.e. distance deterrence phenomenon and agglomeration models are based on the premise that transaction costs are a deterrent (e.g. information acquisition, transportation etc) and these are positively related to distance. This often creates a tendency towards regional specialisation. In this case, all regional I-O coefficients will be identical to the national coefficients, so a regional I-O table could be constructed from the national table by simple

scaling all the transactions by the appropriate factor i.e. the relative size of the region.

In reality however, regions don't fit neatly in to either extreme and usually lie somewhere between the two, differing in geographic scale and tending to have different degrees of specialisation or homogeneity of industrial structures. Equally, other market rigidities, inefficiencies and "*hysteresis in spatial industrial behaviour*" may exist. So we might realistically expect that inter and intra coefficients will differ from those of the national table. Equally due to the lack of complete regional specialisation, inter-industry coefficients within the regional I-O table will not all be zero. Specifically, location theory would lead us to expect that as the size of the regions decreases, the coefficients in the I-O will increase, relative to the national I-O table. McCann & Dewhurst noted that typically as the size of the region is reduced, a greater level of national domestic activity will fall outside of the regional boundaries - "*import propensities are likely to be inversely related to the size of the economy*" (1997: 437). Equally, non-specialised regions will have lower coefficients than national I-O tables.

Mccann and Dewhurst concluded that the size of the region, regional specialisation and geographical locality all impact on the intra-regional I-O coefficients. Thus using quotients must be done carefully, as a number of factors, not just size of the region, affect intra-regional trade and transfers.

While Flegg and Webber (2000: 565) contend that, despite the McCann and Dewhurst arguments, there remain good reasons for expecting an inverse relationship between regional size and regional propensities to import, even when the regions being compared have a common industrial structure, they conceded that the FLQ would need modification where $r_{ij} > a_{ij}$ i.e. where the estimated intra-regional input coefficient is greater than the corresponding national coefficient. In all other cases (i.e.

where $r_{ij} \leq a_{ij}$) they argued the FLQ is already well placed to deal with regional specialisation.

The focus of regional specialisation is placed on the purchasing sector (SLQ_j), rather than the supplying sector, as Flegg and Webber argue that this impacts on the expenditure decisions of regional firms (2000: 566).

The augmented FLQ or AFLQ can be stated as:

$$AFLQ_{ij} = CILQ_{ij} \times \lambda^{*} \times \left[log_2(1 + SLQ_j)\right]$$

where:

$\log_2(1 + SLQ_j)$ has been included to allow for the effects of regional specialisation. This term operates only when $SLQ_j > 1$. When $SLQ_j > 1$ holds then $AFLQ_{ij} > FLQ_{ij}$. When $SLQ_j \leq 1$ then $AFLQ_{ij} = FLQ_{ij}$.

The ALFQ has 3 components:

1. The $CILQ_{ij}$ term measures the relative size of the supplying sector i and the purchasing sector j. As i gets larger relative to j the allowance for imports from other regions is reduced.
2. The Scalar λ^{*} measures the effects of regional size i.e. those effects not picked up by the $CILQ_{ij}$ term. As regions get smaller, then λ^{*} will decline and a larger allowance for imports is made.

3. The $\log_2(1 + SLQ_j)$ term has the effect of increasing the $AFLQ_{ij}$ as purchasing sectors become more specialised by giving a smaller allowance for imports.

Using Scottish survey-based I-O tables for 1989 and the UK I-O tables for 1990, Flegg and Webber derived a consistent set of 104 x 104 tables for Scotland and the UK. Where r_{ij} represented Scotland and a_{ij} represented the UK. In their study, the original *FLQ* formula outperformed the *SLQ* and *CILQ* formulae by a "*substantial margin*" (2000: 567). Furthermore, they concluded that the *ALFQ* was inferior to the original *FLQ*, and that including a measure of regional specialisation was not helpful in producing more accurate results.

A3.2 The GRIT system

Miernyk (1987) has made the case that the GRIT system (*G*eneration of *R*egional *I*-O *T*ables) is the most successful hybrid I-O system to date. GRIT was developed at the University of Queensland, Australia and was originally applied to the estimation of I-O tables for the region of Queensland.

The GRIT system is a "variable-interference", non-survey technique where location quotients are used initially to adjust the national tables and then those results are interfered with by applying "superior" data. Superior data comes from a variety of sources and its application requires an in depth knowledge of the regional economy in question (West, 1981). He argues that superior data is best applied in sectors that have uniquely regional characteristics. For sectors not deemed significantly different from the national average, coefficients estimated by applying modified location quotients to the national table can suffice to provide a mechanical or synthetic regional table. He argues (1981: 866) that coefficient errors play an important role in the determination of multiplier values. This has important implications for constructing regional I-O tables. When constructing a regional I-O table, it is impossible to scrutinise every cell in the table. Therefore

compilers should concentrate on the larger coefficients i.e. the more important sectors, and pay less attention to smaller coefficients, as these small cells that will only have a marginal impact on the magnitude of the regional multipliers. Compilers should rank coefficients, and then concentrate on obtaining "superior" data for these sectors. "*The literature on accuracy in Input-Output shows the critical cells in the table with respect to analytical accuracy are the larger and more interconnected ones*" (West, 1990: 112).

So while the GRIT system arguably introduces a significant amount of realism to the model, it is dependent on the availability and suitability of regional and national data. It is also requires specialist regional knowledge in order to make the complex adjustments to the published data.

Appendix 4: Suppression of Industries to protect Confidentiality

Description	NACE Rev.1.1	Aggregated NACE Rev.1.1	Aggregated Description
Agriculture	1	1 - 5	Agriculture, Forestry, Fishing
Forestry	2		
Fishing	5		
Mining of coal and lignite	10	10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction
Extraction of crude petroleum	11		
Mining of metal ores	13		
Other mining and quarying	14	14	Other mining and quarying
Food and beverages	15	15	Food and beverages
Tobacco products	16	16, 23, 36 - 37	Tobacco, Petroleum, Furniture and Recycling
Petroleum and other manufacturing products	23		
Furniture, manufacturing n.e.c.	36		
Recycling	37		
Textiles	17	17	Textiles
Wearing apparel	18	18	Wearing apparel
Leather and leather products	19	19	Leather and leather products
Wood and wood products (excl furniture)	20	20	Wood and wood products (excl furniture)
Pulp, paper and paper products	21	21	Pulp, paper and paper products
Printed matter and recorded media	22	22	Printed matter and recorded media
Chemical products and man-made fibres	24	24	Chemical products and man-made fibres
Rubber and plastics	25	25	Rubber and plastics
Other non-metallic mineral products	26	26	Other non-metallic mineral products
Basic metals	27	27	Basic metals
Fabricated metal products	28	28	Fabricated metal products
Machinery and equipment n.e.c.	29	29	Machinery and equipment n.e.c.
Office machinery and computers	30	30	Office machinery and computers

Appendix 4 (*Cont.*): Suppression of Industries to protect Confidentiality

Description	NACE Rev.1.1	Aggregated NACE Rev.1.1	Aggregated Description
Electrical machinery and apparatus n.e.c.	31	31	Electrical machinery and apparatus n.e.c.
Radio, television and communications apparatus	32	32	Radio, television and communications apparatus
Medical, precision and optical instruments	33	33	Medical, precision and optical instruments
Motor vehicles and trailers	34	34	Motor vehicles and trailers
Other transport equipment	35	35	Other transport equipment
Electricity and gas	40	40	Electricity and gas
Water collection and distribution	41	41	Water collection and distribution
Construction w ork	45	45	Construction w ork
Motor fuel and vechicle trade and repair	50	50	Motor fuel and vechicle trade and repair
Wholesale trade	51	51	Wholesale trade
Retail trade and repair of household goods	52	52	Retail trade and repair of household goods
Hotel and restaurant services	55	55	Hotel and restaurant services
Land transport services	60	60	Land transport services
Water transport services	61	61 - 62	Water and Air transport services
Air transport services	62		
Auxiliary transport services and travel agencies	63	63	Auxiliary transport services and travel agencies
Post and telecommunication services	64	64	Post and telecommunication services
Financial intermediation services	65	65 - 67	Financial Services
Insurance and pension services	66		
Services auxiliary to financial intermediation	67		
Real estate services	70	70	Real estate services
Renting services of machinery and equipment	71	71	Renting services of machinery and equipment
Computer and related services	72	72	Computer and related services
Research and development services	73	73	Research and development services
Other business services	74	74	Other business services

Appendix 4 (*Cont.*): Suppression of Industries to protect Confidentiality

Description	NACE Rev.1.1	Aggregated NACE Rev.1.1	Aggregated Description
Public administration and defence	75	75	Public administration and defence
Education	80	80	Education
Health and social w ork services	85	85	Health and social w ork services
Sew age and refuse disposal services	90	90	Sew age and refuse disposal services
Membership organisation services n.e.c.	91	91	Membership organisation services n.e.c.
Recreation	92	92	Recreation
Other services	93	93	Other services
Private households w ith employed persons	95	95	Private households w ith employed persons

Appendix 5: Data sources

Table	Industry	Data Sources
Supply Tables	NACE 1 - 5	*Output, Input and Income in Agriculture 2005 - Final Estimate* (CSO, 2006) *2005 Census of Agriculture* (CSO, 2006) *Regional Accounts for Agriculture 2004 - 2006* (CSO, 2007) *2005 Annual Report & Accounts* (Coillte Teoranta, 2006) *Regional Accounts for Agriculture* (CSO, 2008) *2005 Farm Structure Survey* (CSO, 2007) *Special tables on fish catch by Port* (DAFF) *National Farm Survey 2005* (Teagasc, 2006)
	NACE 10 - 41	*Census of Industrial Production 2005* (CSO, 2007) *ProdCOM 2005* (CSO, 2007)
	NACE 45	*Census of Building and Construction 2005* (CSO, 2007) *Review of the Construction Industry 2006 and Outlook 2007 – 2009* (DKM, 2007) *Quarterly National Household Survey Q1 - Q4 2005* (CSO, 2006)
	NACE 50 - 74, 92 - 93	*Annual Services Inquiry 2005* (CSO, 2006) *Special tables on Mortgage Drawdowns 2005* (CSO) *National Income and Expenditure 2005* (CSO, 2006) *Census of Population 2006* (CSO, 2007) *Transport 2005* (CSO, 2006) *Airport - Pairings Database 2005* (CSO, 2006) *Balance of Payments microdata* *2005 Corporation Tax Files* (Revenue Commissioners) *2005 P-35 Returns* (Revenue Commissioners)

Appendix 5 (*Cont.*): Data sources

Table	Industry	Data Sources
Supply Tables (cont.)	NACE 75	*Quarterly National Household Survey Q1 - Q4 2005* (CSO, 2006)
	NACE 80	*Special tables on Numbers Pupils and teachers/lecturers employed* (Dept. Education) *Annual Statistical Returns 2005* (HEA, StatCentral) *Quarterly National Household Survey Q1 - Q4 2005* (CSO, 2006)
	NACE 85	*2005 Provisional Outturns (pay and non-pay) for 8 HSE regions* (Dept. of Finance, 2006) *Household Budget Survey 2004 - 2005* (CSO, 2007) *Census of Population 2006* (CSO, 2007)
	NACE 90	*SE & BMW Use Tables 2005*
	NACE 91	*CSO Central Business Register* *Variety of websites*
	NACE 95	*County Incomes and Regional GDP 2005* (CSO, 2008) *Household Budget Survey 2004 - 2005* (CSO, 2007)
	Imports (c.i.f.)	*See Use for Imports Table*
	Trade Margins	*See Trade Margins Table*
	Product Taxes	*See Product Taxes Table*
	Product Subsidies	*See Product Subsidies Table*

Appendix 5 (*Cont.*): Data sources

Table	Industry	Data Sources
Use Tables	NACE 1 - 5	*Agricultural Output, Input and Income 2005 - Final Estimate* (CSO, 2006) *Regional Accounts for Agriculture 2004 - 2006* (CSO, 2007) *Special tables on Forestry Plantation* (DAFF) *Situation and Outlook in Agriculture 2008/09* (Teagasc, 2008) *Irish Fleet (Sea Fishing vessels)* (DAFF) *Annual Report 2005* (Central Fisheries Board)
	NACE 10 - 40	*Census of Industrial Production 2005* (CSO, 2007) *Fuel Balances* (Sustainable Energy Ireland)
	NACE 41	*Local Authority Financial Outturns 2007* (Dept. EHLG, 2009)
	NACE 45	*Census of Building and Construction 2005* (CSO, 2007) *Special supplementary survey of Materials Purchased to CIP 2005* (CSO)
	NACE 50 - 74, 92 - 93	*Annual Services Inquiry 2006* (CSO, 2007) *Annual Services Inquiry 2005* (CSO, 2006) *Annual Services Inquiry 2004* (CSO, 2005) *Balance of Payments microdata*
	NACE 75	*Quarterly National Household Survey Q1 - Q4 2005* (CSO, 2006)
	NACE 80	*Special tables on Pupils and teachers/lecturers numbers* (Dept. Education) *Annual Statistical Returns 2005* (HEA, StatCentral) *Quarterly National Household Survey Q1 - Q4 2005* (CSO, 2006)

Appendix 5 (*Cont.*): Data sources

Table	Industry	Data Sources
Use Tables (cont.)	NACE 85	*2005 Provisional Outturns (pay and non-pay) for 8 HSE regions* (Dept. of Finance, 2006) *2006 Revised estimates for Public Service* (Dept. of Finance, 2006) *Household Budget Survey 2004 - 2005* (CSO, 2007) *Census of Population 2006* (CSO, 2007)
	NACE 90	*Local Authority Financial Outturns 2007* (Dept. EHLG, 2009)
	NACE 95	*Household Budget Survey 2004 - 2005* (CSO, 2007)
	Household Consumption	*Household Budget Survey 2004 - 2005* (CSO, 2007)
	NPISH Expenditure	*2005 Survey of Income & Living Conditions* (CSO, 2006) *Special tables on Numbers of teachers/lecturers employed* (Dept. Education) *Dept. of Finance Revised Estimates for Public Services* *Household Budget Survey 2004 - 2005* (CSO, 2007) *CSO Central Business Register* *Variety of websites*
	Government Consumption	*Local Authority Outturns Water Supply & Sewage (Public Water Supply Schemes) & Environmental Protection (Waste Disposal)* (Dept. EHLG, 2009) *Annual Services Inquiry 2005* (CSO, 2006) *Quarterly National Household Survey* (CSO, 2005) *2005 Provisional Outturns for the eight HSE regions* (Dept. of Finance, 2006) *Household Budget Survey 2004 - 2005* (CSO, 2007)

Appendix 5 (*Cont.*): Data sources

Table	Industry	Data Sources
Use Tables (cont.)	GFCF	*Annual Services Inquiry 2005* (CSO, 2007) *Census of Industrial Production 2005* (CSO, 2007) *Census of Building and Construction 2005* (CSO, 2007) *Quarterly National Household Survey Q1 - Q4 2005* (CSO, 2006)
	Changes in Inventories	*Census of Industrial Production 2005* (CSO, 2007) *2005 June Agricultural Survey* (CSO, 2006) *Special tables on Forestry Plantation* (DAFF) *Irish Fleet (Sea Fishing vessels)* (DAFF)
	Exports (f.o.b.)	*Annual Services Inquiry 2005* (CSO, 2006) *Census of Industrial Production 2005* (CSO, 2006) *Census of Building and Construction 2005* (CSO, 2006) *Output, Input and Income in Agriculture 2005* (CSO, 2006) *2005 Census of Agriculture* (CSO, 2006) *2005 Annual Report & Accounts* (Coillte Teoranta, 2006) *Regional Accounts for Agriculture* (CSO, 2008). *2005 Farm Structure Survey* (CSO, 2007) *Special tables on live Exports* (DAFF)
	COE, GOS, CFC	*Special tables used to compile County Incomes and Regional GDP 2005* (CSO, 2008) *Output, Input and Income in Agriculture 2005 - Final Estimate* (CSO, 2006) *National Income and Expenditure 2005* (CSO, 2006) *Census of Industrial Production 2005* (CSO, 2007) *Annual Services Inquiry 2005* (CSO, 2006)

Appendix 5 (*Cont.*): Data sources

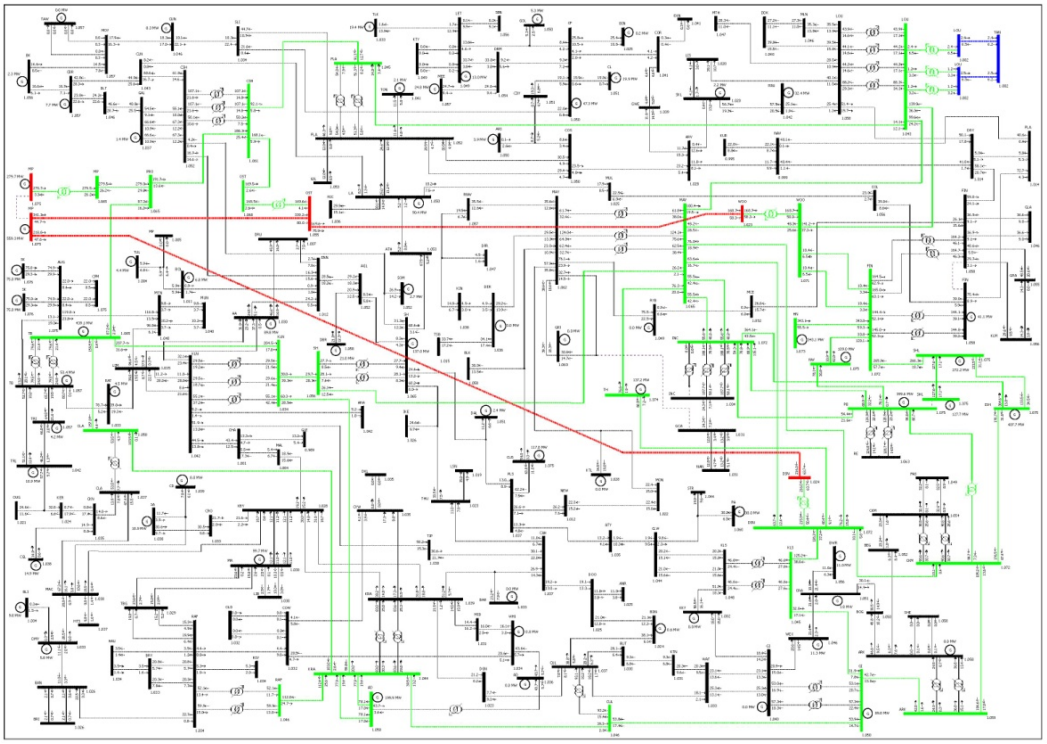
Table	Industry	Data Sources
Use Tables (cont.)	Production Taxes	*Special tables used to compile County Incomes and Regional GDP 2005* (CSO, 2008) *Output, Input and Income in Agriculture 2005 - Final Estimate* (CSO, 2006) *National Income and Expenditure 2005* (CSO, 2006) *Census of Industrial Production 2005* (CSO, 2007) *Annual Services Inquiry 2005* (CSO, 2006)
	Production Subsidies	*Special tables used to compile County Incomes and Regional GDP 2005* (CSO, 2008) *Output, Input and Income in Agriculture 2005 - Final Estimate* (CSO, 2006) *National Income and Expenditure 2005* (CSO, 2006) *Census of Industrial Production 2005* (CSO, 2007) *Annual Services Inquiry 2005* (CSO, 2006)
Use Tables for International Imports	All Industries	*See Use Tables*
Use Tables for Domestic Imports	NACE 1 - 37	*Road Freight Transport Survey 2008* (CSO, 2009) *Transport* 2006 (CSO, 2007) *UK Van Activity Baseline Survey* (DfT, 2009) *Transport Performance for Vans & Small Lorries 2008* (Statistics Norway, 2009) *Survey of Foreign Road Goods Vehicles United Kingdom* (Dft, 2009) *Special tables on International Cabotage 2005* (Eurostat) *Special Tables on origin-destination of Rail Freight by Commodity* (CIE) *Statistics of Port Traffic 2005* (CSO, 2006) *Special Tables on 2005 Import Unit Prices* (CSO)

Appendix 5 (*Cont.*): Data sources

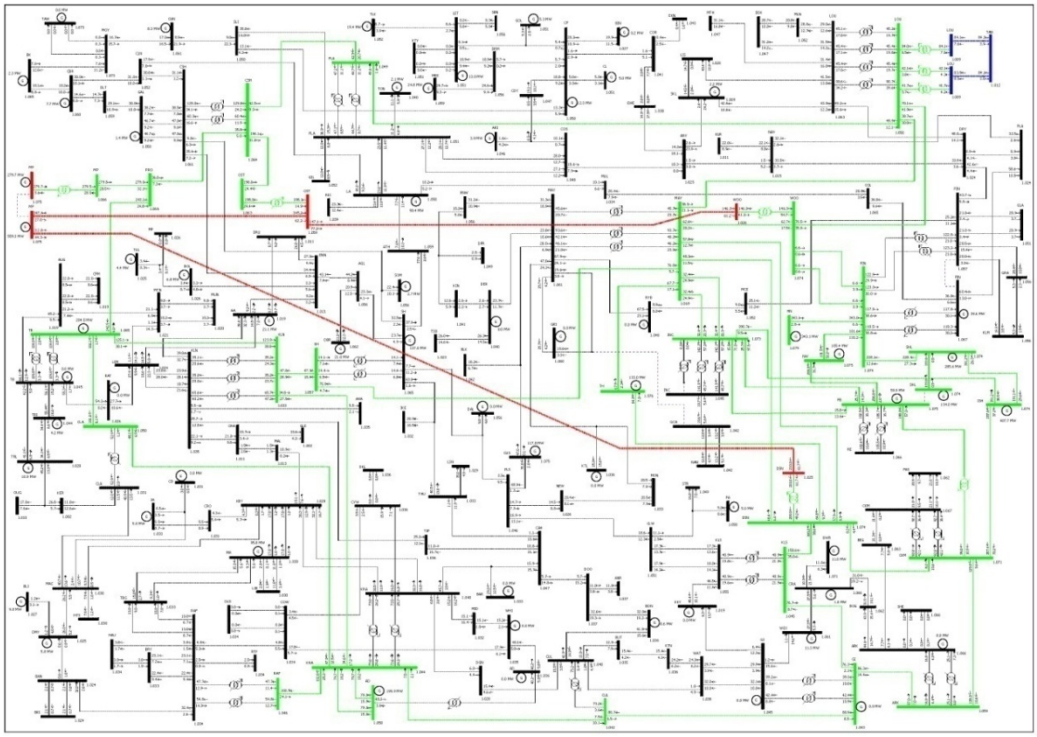
Table	Industry	Data Sources
Use Tables for Domestic Imports (cont.)	NACE 40	*Transmission Forecast Statement 2005 - 2011 (* Eirgrid, 2005). *Transmission System Performance Report 2005* (Eirgrid, 2006 *Generation Adequacy Report 2010 – 2016* (Eirgrid, 2009)
	NACE 45	*Supplementary data to Census of Building & Construction 2006* (CSO)
	NACE 50 - 74, 92 - 93	*Supplementary data to Annual Services Inquiry 2006* (CSO)
	NACE 75 - 91	*Imputations based on Supplementary data to Annual Services Inquiry 2006* (CSO)
Product Tax Tables	All industries	*Special tables used to compile County Incomes and Regional GDP 2005* (CSO, 2008) *Output, Input and Income in Agriculture 2005 - Final Estimate* (CSO, 2006) *Census of Industrial Production 2005* (CSO, 2007) *Annual Services Inquiry 2005* (CSO, 2006)
Product Subsidies Tables	All industries	*Special tables used to compile County Incomes and Regional GDP 2005* (CSO, 2008) *Output, Input and Income in Agriculture 2005 - Final Estimate* (CSO, 2006) *Census of Industrial Production 2005* (CSO, 2007) *Annual Services Inquiry 2005* (CSO, 2006)
Trade Margin Tables	All industries	*Census of Industrial Production 2005* (CSO, 2007) *Annual Services Inquiry 2005* (CSO, 2006)

Appendix 6: Eirgrid 2006 Winter Peak and Summer Valley Demand Charts

Eirgrid 2005 – 2006 Winter Peak



Eirgrid 2005 – 2006 Summer Valley



Appendix 7.1

2005 Supply Table at Basic Prices - SE Region, €Millions

		1 - 5	10 - 13	14	15	16,23,36-37	17	18	19	20
	Industries	Agriculture, Forestry, Fishing	Coal, Peat, Petroleum and Metal Ore Extraction	Other mining and quarying	Food and beverages	Tobacco, Petroleum, Furniture and Recycling	Textiles	Wearing apparel	Leather and leather products	Wood and wood products (excl furniture)
	Products									
1 - 5	Agriculture, Forestry, Fishing	4,369	-	-	-	-	-	-	-	-
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	-	526	-	-	-	-	-	-	-
14	Other mining and quarying	-	-	430	-	0	-	-	-	-
15	Food and beverages	-	-	0	10,901	-	-	-	-	-
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	-	-	-	1	2,409	0	1	0	7
17	Textiles	-	-	-	0	4	183	38	-	0
18	Wearing apparel	-	-	-	-	-	7	97	-	-
19	Leather and leather products	-	-	-	-	0	-	0	6	-
20	Wood and wood products (excl furniture)	-	-	-	-	5	4	-	-	640
21	Pulp, paper and paper products	-	-	-	0	0	1	-	-	6
22	Printed matter and recorded media	-	-	-	-	10	1	-	-	-
24	Chemical products and man-made fibres	-	-	11	1,032	14	3	-	-	0
25	Rubber and plastics	-	-	-	1	8	1	1	0	4
26	Other non-metallic mineral products	-	-	245	-	3	0	-	-	-
27	Basic metals	-	-	-	1	0	10	-	-	-
28	Fabricated metal products	-	-	-	-	88	3	-	-	6
29	Machinery and equipment n.e.c.	-	-	-	-	12	-	-	-	-
30	Office machinery and computers	-	-	-	-	8	-	-	-	-
31	Electrical machinery and apparatus n.e.c.	-	-	-	-	1	0	-	-	1
32	Radio, television and communications apparatus	-	-	-	-	-	-	-	-	-
33	Medical, precision and optical instruments	-	-	-	-	1	0	0	-	0
34	Motor vehicles and trailers	-	-	-	-	0	-	-	-	-
35	Other transport equipment	-	-	-	-	-	-	-	-	-
40	Electricity and gas	-	-	-	-	-	-	-	-	-
41	Water collection and distribution	-	-	-	-	-	-	-	-	-
45	Construction work	-	-	-	-	-	-	-	-	-
50	Motor fuel and vehicle trade and repair	-	-	-	-	-	-	-	-	-
51	Wholesale trade	-	0	45	527	15	12	4	6	12
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	22	-	-	-	-	-	-	-	-
60	Land transport services	-	7	-	-	0	-	-	-	-
61 - 62	Water and Air transport services	-	-	-	-	-	-	-	-	-
63	Auxiliary transport services and travel agencies	-	-	-	-	-	-	-	-	-
64	Post and telecommunication services	-	-	-	-	-	-	-	-	-
65 - 67	Financial Services	-	-	-	2	-	-	-	-	-
70	Real estate services	26	-	-	-	-	-	-	-	-
71	Renting services of machinery and equipment	-	1	0	4	0	0	0	-	0
72	Computer and related services	-	-	-	-	-	-	-	-	-
73	Research and development services	-	2	0	10	0	0	0	-	0
74	Other business services	18	18	1	174	1	0	1	-	1
75	Public administration and defence	-	-	-	-	-	-	-	-	-
80	Education	-	-	-	-	-	-	-	-	-
85	Health and social work services	-	-	-	-	-	-	-	-	-
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-
92	Recreation	27	-	-	-	-	-	-	-	-
93	Other services	18	-	-	-	-	-	-	-	-
95	Private households with employed persons	-	-	-	-	-	-	-	-	-
	Total Output	4,480	555	733	12,650	2,580	224	143	12	678

Appendix 7.1 (cont.)

2005 Supply Table at Basic Prices - SE Region, €Millions

		21	22	24	25	26	27	28	29	30	31
	Industries	Pulp, paper and paper products	Printed matter and recorded media	Chemical products and man-made fibres	Rubber and plastics	Other non-metallic mineral products	Basic metals	Fabricated metal products	Machinery and equipment n.e.c.	Office machinery and computers	Electrical machinery and apparatus n.e.c.
	Products										
1 - 5	Agriculture, Forestry, Fishing	-	-	-	-	-	-	-	-	-	-
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	-	-	1	-	-	14	-	-	-	-
14	Other mining and quarying	-	-	-	5	142	0	-	-	-	-
15	Food and beverages	-	-	27	-	-	-	-	-	-	-
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	0	0	0	3	3	-	4	1	-	0
17	Textiles	-	1	11	2	2	-	0	1	-	-
18	Wearing apparel	-	-	-	-	-	-	-	-	-	0
19	Leather and leather products	-	-	-	0	0	-	-	-	-	-
20	Wood and wood products (excl furniture)	1	0	1	9	2	-	7	-	0	-
21	Pulp, paper and paper products	502	4	2	3	0	-	0	-	38	-
22	Printed matter and recorded media	3	11,281	19	1	-	-	1	-	526	-
24	Chemical products and man-made fibres	3	0	28,829	12	6	3	0	21	0	0
25	Rubber and plastics	3	0	20	923	3	1	20	42	1	-
26	Other non-metallic mineral products	0	-	0	6	1,246	0	4	0	0	0
27	Basic metals	4	-	-	4	-	555	48	1	-	0
28	Fabricated metal products	0	1	0	20	8	22	1,169	27	4	4
29	Machinery and equipment n.e.c.	0	-	13	3	0	35	27	1,223	67	11
30	Office machinery and computers	-	33	6	0	0	-	1	13	11,950	30
31	Electrical machinery and apparatus n.e.c.	-	8	1	21	5	1	8	14	142	1,272
32	Radio, television and communications apparatus	-	1	0	3	-	-	1	2	364	98
33	Medical, precision and optical instruments	-	0	20	7	1	-	1	8	121	8
34	Motor vehicles and trailers	-	-	-	1	-	-	12	5	0	1
35	Other transport equipment	-	-	-	-	-	-	4	0	-	1
40	Electricity and gas	-	-	-	-	-	-	-	-	-	-
41	Water collection and distribution	-	-	-	-	-	-	-	-	-	-
45	Construction work	-	-	-	-	1	-	-	-	-	-
50	Motor fuel and vehicle trade and repair	-	-	-	-	-	-	-	-	-	-
51	Wholesale trade	6	374	101	4	61	2	21	16	719	299
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	-	-	-	-	-	-	-	-	-	-
60	Land transport services	-	-	-	-	-	-	-	-	-	-
61 - 62	Water and Air transport services	-	-	-	-	-	-	-	-	-	-
63	Auxiliary transport services and travel agencies	-	-	-	-	-	-	-	-	-	-
64	Post and telecommunication services	-	-	-	-	-	-	-	-	26	-
65 - 67	Financial Services	-	-	-	-	-	-	-	-	22	-
70	Real estate services	-	-	-	-	2	-	-	-	-	-
71	Renting services of machinery and equipment	0	16	2	0	0	0	0	0	2	0
72	Computer and related services	-	688	-	-	-	-	-	-	247	3
73	Research and development services	0	46	5	0	1	0	2	0	3	1
74	Other business services	0	365	76	4	9	0	3	29	48	10
75	Public administration and defence	-	-	-	-	-	-	-	-	-	-
80	Education	-	-	-	-	-	-	-	-	-	-
85	Health and social work services	-	-	-	-	-	-	-	-	-	-
90	Sewage and refuse disposal services	-	-	-	-	1	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-	-
92	Recreation	-	-	-	-	-	-	-	-	-	-
93	Other services	-	-	-	-	-	-	-	-	-	-
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total Output	524	12,818	29,134	1,029	1,492	632	1,334	1,403	14,281	1,737

Appendix 7.1 (cont.)

2005 Supply Table at Basic Prices - SE Region, €Millions

		32	33	34	35	40	41	45	50	51	52
	Industries	Radio, television and communications apparatus	Medical, precision and optical instruments	Motor vehicles and trailers	Other transport equipment	Electricity and gas	Water collection and distribution	Construction work	Motor fuel and vechicle trade and repair	Wholesale trade	Retail trade and repair of household goods
	Products										
1 - 5	Agriculture, Forestry, Fishing	-	-	-	-	-	-	-	-	-	-
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	-	-	-	-	-	-	-	-	-	-
14	Other mining and quarying	-	-	-	-	-	-	-	-	-	-
15	Food and beverages	4	96	-	-	-	-	-	-	77	-
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	1	96	-	0	109	-	-	-	-	-
17	Textiles	-	23	-	-	-	-	-	-	-	-
18	Wearing apparel	0	-	-	-	-	-	-	-	-	-
19	Leather and leather products	-	-	-	-	-	-	-	-	-	-
20	Wood and wood products (excl furniture)	-	-	-	-	-	-	-	-	-	-
21	Pulp, paper and paper products	-	1	-	-	-	-	-	-	-	-
22	Printed matter and recorded media	3	0	-	-	-	-	-	-	-	-
24	Chemical products and man-made fibres	9	301	-	-	-	-	-	-	-	-
25	Rubber and plastics	-	14	5	0	-	-	-	-	-	-
26	Other non-metallic mineral products	-	2	-	0	-	-	-	-	-	-
27	Basic metals	-	1	0	0	-	-	-	-	-	-
28	Fabricated metal products	1	2	0	3	-	-	-	-	-	-
29	Machinery and equipment n.e.c.	32	9	14	0	-	-	-	-	-	-
30	Office machinery and computers	189	10	-	-	-	-	-	-	-	-
31	Electrical machinery and apparatus n.e.c.	76	27	-	-	-	-	-	-	-	-
32	Radio, television and communications apparatus	3,501	7	1	-	-	-	-	-	-	-
33	Medical, precision and optical instruments	20	3,459	-	-	-	-	-	-	-	-
34	Motor vehicles and trailers	-	3	501	2	-	-	-	-	-	-
35	Other transport equipment	-	-	1	360	-	-	-	-	-	-
40	Electricity and gas	-	-	-	-	3,978	-	-	-	-	-
41	Water collection and distribution	-	-	-	-	-	221	-	-	-	-
45	Construction work	-	-	-	-	-	-	29,252	-	-	-
50	Motor fuel and vehicle trade and repair	-	-	-	-	-	-	-	1,756	-	-
51	Wholesale trade	8	2	6	2	51	-	-	18	8,304	119
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	2	329	5,890
55	Hotel and restaurant services	-	-	-	-	-	-	-	17	-	39
60	Land transport services	-	-	-	-	-	-	-	-	-	-
61 - 62	Water and Air transport services	-	-	-	-	-	-	-	-	-	-
63	Auxiliary transport services and travel agencies	-	-	-	-	-	-	-	-	-	-
64	Post and telecommunication services	63	-	-	-	-	-	-	-	-	14
65 - 67	Financial Services	-	-	-	-	-	-	-	-	4	-
70	Real estate services	-	-	-	-	-	-	-	-	-	-
71	Renting services of machinery and equipment	0	0	0	81	0	-	245	37	322	27
72	Computer and related services	10	-	-	-	-	-	-	-	-	-
73	Research and development services	0	0	0	5	0	-	-	-	-	-
74	Other business services	21	0	1	34	0	-	-	-	38	-
75	Public administration and defence	-	-	-	-	-	-	-	-	-	-
80	Education	-	-	-	-	-	-	-	-	-	-
85	Health and social work services	-	-	-	-	-	-	-	-	-	-
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-	-
92	Recreation	-	-	-	-	-	-	-	-	-	-
93	Other services	-	-	-	-	-	-	-	-	-	64
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total Output	3,940	4,054	529	488	4,138	221	29,497	1,830	9,075	6,154

Appendix 7.1 (cont.)

2005 Supply Table at Basic Prices - SE Region, €Millions

	Industries	55 Hotel and restaurant services	60 Land transport services	61 - 62 Water and Air transport services	63 Auxiliary transport services and travel agencies	64 Post and telecommunication services	65 - 67 Financial Services	70 Real estate services	71 Renting services of machinery and equipment	72 Computer and related services	73 Research and development services
	Products										
1 - 5	Agriculture, Forestry, Fishing	-	-	-	-	-	-	-	-	-	-
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	-	-	-	-	-	-	-	-	-	-
14	Other mining and quarying	-	-	-	-	-	-	-	-	-	-
15	Food and beverages	-	-	-	-	-	-	-	-	-	-
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	-	-	-	-	-	-	-	-	-	-
17	Textiles	-	-	-	-	-	-	-	-	-	-
18	Wearing apparel	-	-	-	-	-	-	-	-	-	-
19	Leather and leather products	-	-	-	-	-	-	-	-	-	-
20	Wood and wood products (excl furniture)	-	-	-	-	-	-	-	-	-	-
21	Pulp, paper and paper products	-	-	-	-	-	-	-	-	-	-
22	Printed matter and recorded media	-	-	-	-	-	-	-	-	-	-
24	Chemical products and man-made fibres	-	-	-	-	-	-	-	-	-	-
25	Rubber and plastics	-	-	-	-	-	-	-	-	-	-
26	Other non-metallic mineral products	-	-	-	-	-	-	-	-	-	-
27	Basic metals	-	-	-	-	-	-	-	-	-	-
28	Fabricated metal products	-	-	-	-	-	-	-	-	-	-
29	Machinery and equipment n.e.c.	-	-	-	-	-	-	-	-	-	-
30	Office machinery and computers	-	-	-	-	-	-	-	-	51	-
31	Electrical machinery and apparatus n.e.c.	-	-	-	-	-	-	-	-	3	-
32	Radio, television and communications apparatus	-	-	-	-	-	-	-	-	18	-
33	Medical, precision and optical instruments	-	-	-	-	-	-	-	-	-	-
34	Motor vehicles and trailers	-	-	-	-	-	-	-	-	-	-
35	Other transport equipment	-	-	-	-	-	-	-	-	-	-
40	Electricity and gas	-	-	-	-	-	-	-	-	-	-
41	Water collection and distribution	-	-	-	-	-	-	-	-	-	-
45	Construction work	-	-	-	-	-	-	-	-	-	-
50	Motor fuel and vehicle trade and repair	-	-	-	-	-	-	-	12	-	-
51	Wholesale trade	9	44	17	-	36	-	-	19	167	-
52	Retail trade and repair of household goods	29	0	-	-	-	-	-	9	-	-
55	Hotel and restaurant services	7,645	10	-	-	-	-	-	-	-	-
60	Land transport services	-	3,078	-	-	-	-	-	-	-	-
61 - 62	Water and Air transport services	-	-	3,484	-	-	-	-	-	-	-
63	Auxiliary transport services and travel agencies	-	8	-	4,450	-	-	-	-	-	-
64	Post and telecommunication services	-	-	2	-	6,058	-	-	-	62	-
65 - 67	Financial Services	-	-	14	-	-	28,595	-	19	26	-
70	Real estate services	-	-	-	-	-	-	12,649	-	-	-
71	Renting services of machinery and equipment	-	-	-	-	-	454	-	3,488	-	-
72	Computer and related services	2	-	-	-	58	5	-	-	10,438	-
73	Research and development services	-	-	-	-	-	-	-	-	159	314
74	Other business services	9	-	9	145	-	612	-	-	1,350	-
75	Public administration and defence	-	-	-	-	-	-	-	-	-	-
80	Education	-	-	-	-	-	-	-	-	-	-
85	Health and social work services	-	-	-	-	-	-	-	-	-	-
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-	-
92	Recreation	-	-	-	-	-	-	-	-	-	-
93	Other services	-	-	-	-	-	-	-	-	-	-
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total Output	7,693	3,140	3,526	4,595	6,152	29,667	12,649	3,546	12,276	314

Appendix 7.1 (cont.)

2005 Supply Table at Basic Prices - SE Region, €Millions

		74	75	80	85	90	91	92	93	95
	Industries	Other business services	Public administration and defence	Education	Health and social work services	Sewage and refuse disposal services	Membership organisation services n.e.c.	Recreation	Other services	Private households with employed persons
	Products									
1 - 5	Agriculture, Forestry, Fishing	-	-	-	-	-	-	-	-	-
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	-	-	-	-	-	-	-	-	-
14	Other mining and quarying	-	-	-	-	-	-	-	-	-
15	Food and beverages	-	-	-	-	-	-	-	-	-
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	-	-	-	-	-	-	-	-	-
17	Textiles	-	-	-	-	-	-	-	-	-
18	Wearing apparel	-	-	-	-	-	-	-	-	-
19	Leather and leather products	-	-	-	-	-	-	-	-	-
20	Wood and wood products (excl furniture)	-	-	-	-	-	-	-	-	-
21	Pulp, paper and paper products	-	-	-	-	-	-	-	-	-
22	Printed matter and recorded media	-	-	-	-	-	-	-	-	-
24	Chemical products and man-made fibres	-	-	-	23	-	-	-	-	-
25	Rubber and plastics	-	-	-	-	-	-	-	-	-
26	Other non-metallic mineral products	-	-	-	-	-	-	-	-	-
27	Basic metals	-	-	-	-	-	-	-	-	-
28	Fabricated metal products	-	-	-	-	-	-	-	-	-
29	Machinery and equipment n.e.c.	-	-	-	-	-	-	-	-	-
30	Office machinery and computers	-	-	-	-	-	-	-	-	-
31	Electrical machinery and apparatus n.e.c.	-	-	-	-	-	-	-	-	-
32	Radio, television and communications apparatus	-	-	-	-	-	-	-	-	-
33	Medical, precision and optical instruments	-	-	-	-	-	-	-	-	-
34	Motor vehicles and trailers	-	-	-	-	-	-	-	-	-
35	Other transport equipment	-	-	-	-	-	-	-	-	-
40	Electricity and gas	-	-	-	-	-	-	-	-	-
41	Water collection and distribution	-	-	-	-	-	-	-	-	-
45	Construction work	-	-	-	-	-	-	-	-	-
50	Motor fuel and vehicle trade and repair	-	-	-	-	-	-	-	-	-
51	Wholesale trade	265	-	-	-	-	-	-	-	-
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	-	-	-	-	-	-	-	-	-
60	Land transport services	-	-	-	-	-	-	-	-	-
61 - 62	Water and Air transport services	-	-	-	-	-	-	-	-	-
63	Auxiliary transport services and travel agencies	-	-	-	-	-	-	-	-	-
64	Post and telecommunication services	4	-	-	-	-	-	-	-	-
65 - 67	Financial Services	50	-	-	-	-	-	-	-	-
70	Real estate services	-	-	-	-	-	-	-	-	-
71	Renting services of machinery and equipment	31	-	-	-	-	-	-	-	-
72	Computer and related services	555	-	-	-	-	-	-	-	-
73	Research and development services	4	-	221	-	-	-	-	-	-
74	Other business services	14,051	-	-	-	-	-	-	-	-
75	Public administration and defence	-	8,285	-	-	-	-	-	-	-
80	Education	-	-	5,837	-	-	-	-	-	-
85	Health and social work services	-	-	-	10,976	-	-	-	-	-
90	Sewage and refuse disposal services	-	-	-	-	1,248	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	771	-	-	-
92	Recreation	-	-	-	-	-	-	2,311	-	-
93	Other services	-	-	-	-	-	-	-	851	-
95	Private households with employed persons	-	-	-	-	-	-	-	-	108
	Total Output	14,959	8,285	6,059	10,999	1,248	771	2,311	851	108

Appendix 7.1 (cont.)

2005 Supply Table at Basic Prices - SE Region, €Millions

Industries / *Products*		Total Domestic Supply	International Imports c.i.f.	Domestic Imports c.i.f.	Total Supply at Basic Prices	Trade Margins	Taxes on Products	Subsidies on Products	Total Supply at Purchasers' Prices
1 - 5	Agriculture, Forestry, Fishing	4,369	737	1,432	6,538	475	23	-630	6,406
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	541	1,672	2	2,215	82	19	-1	2,315
14	Other mining and quarying	577	99	478	1,153	148	20	-	1,321
15	Food and beverages	11,105	3,667	599	15,371	4,762	1,099	-117	21,115
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	2,634	3,120	121	5,875	2,236	3,743	-	11,853
17	Textiles	264	464	66	794	196	97	-	1,087
18	Wearing apparel	105	1,118	30	1,252	961	317	-	2,530
19	Leather and leather products	6	283	8	298	168	71	-	536
20	Wood and wood products (excl furniture)	668	593	99	1,361	184	46	-	1,591
21	Pulp, paper and paper products	557	992	5	1,555	61	126	-	1,742
22	Printed matter and recorded media	11,847	443	366	12,655	439	205	-	13,299
24	Chemical products and man-made fibres	30,267	6,439	167	36,872	1,303	436	-	38,611
25	Rubber and plastics	1,049	1,338	63	2,449	301	146	-	2,896
26	Other non-metallic mineral products	1,509	736	29	2,273	573	110	-	2,956
27	Basic metals	625	907	9	1,541	95	9	-	1,645
28	Fabricated metal products	1,357	999	359	2,714	253	69	-	3,035
29	Machinery and equipment n.e.c.	1,446	2,604	673	4,723	605	66	-	5,394
30	Office machinery and computers	12,291	8,797	107	21,195	629	135	-	21,959
31	Electrical machinery and apparatus n.e.c.	1,578	1,975	124	3,677	498	99	-	4,275
32	Radio, television and communications apparatus	3,997	3,825	80	7,903	545	93	-	8,541
33	Medical, precision and optical instruments	3,647	2,013	13	5,673	465	34	-	6,172
34	Motor vehicles and trailers	524	3,317	57	3,898	940	1,520	-	6,358
35	Other transport equipment	367	1,984	79	2,430	16	64	-	2,510
40	Electricity and gas	3,978	40	133	4,151	128	298	-	4,577
41	Water collection and distribution	221	-	-	221	1	2	-	223
45	Construction work	29,254	7	-	29,261	-	3,113	-	32,374
50	Motor fuel and vehicle trade and repair	1,768	-	9	1,777	-1,301	47	-3	520
51	Wholesale trade	11,290	6,432	93	17,815	-8,656	-	-21	9,137
52	Retail trade and repair of household goods	6,260	-	27	6,287	-6,104	12	-10	185
55	Hotel and restaurant services	7,733	2,016	522	10,271	-	1,321	-	11,591
60	Land transport services	3,085	151	84	3,321	-	2	-270	3,052
61 - 62	Water and Air transport services	3,484	1,219	9	4,712	-	1	-8	4,705
63	Auxiliary transport services and travel agencies	4,458	89	132	4,679	-	13	-	4,692
64	Post and telecommunication services	6,229	666	649	7,544	-	391	-	7,935
65 - 67	Financial Services	28,732	8,634	302	37,668	-	531	-	38,199
70	Real estate services	12,677	-	160	12,836	-	169	-	13,005
71	Renting services of machinery and equipment	4,708	961	383	6,052	-	81	-	6,134
72	Computer and related services	12,006	821	79	12,906	-	-	-	12,906
73	Research and development services	774	3,730	5	4,508	-	2	-	4,510
74	Other business services	17,028	26,915	242	44,185	-	2,112	-	46,297
75	Public administration and defence	8,285	22	-	8,307	-	-	-	8,307
80	Education	5,837	-	-	5,837	-	7	-	5,844
85	Health and social work services	10,976	-	-	10,976	-	1	-	10,977
90	Sewage and refuse disposal services	1,249	-	-	1,249	-	-	-	1,249
91	Membership organisation services n.e.c.	771	-	-	771	-	-	-	771
92	Recreation	2,337	241	309	2,888	-	62	-44	2,906
93	Other services	933	37	59	1,030	-	123	-	1,153
95	Private households with employed persons	108	-	-	108	-	-	-	108
	Total Output	275,512	100,101	8,164	383,776	-	16,834	-1,105	399,506

Appendix 7.2

2005 Supply Table at Basic Prices - BMW Region, €Millions

		1 - 5	10 - 13	14	15	16,23,36-37	17	18	19	20
	Industries	Agriculture, Forestry, Fishing	Coal, Peat, Petroleum and Metal Ore Extraction	Other mining and quarying	Food and beverages	Tobacco, Petroleum, Furniture and Recycling	Textiles	Wearing apparel	Leather and leather products	Wood and wood products (excl furniture)
	Products									
1 - 5	Agriculture, Forestry, Fishing	2,831	-	-	-	-	-	-	-	-
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	-	149	-	-	-	-	-	-	-
14	Other mining and quarying	-	-	168	-	0	-	-	-	-
15	Food and beverages	-	-	0	5,413	-	-	-	-	-
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	-	-	-	0	406	0	0	0	5
17	Textiles	-	-	-	0	2	67	23	-	0
18	Wearing apparel	-	-	-	-	-	6	102	-	-
19	Leather and leather products	-	-	-	-	1	-	0	22	-
20	Wood and wood products (excl furniture)	-	-	-	-	5	4	-	-	483
21	Pulp, paper and paper products	-	-	-	0	0	0	-	-	1
22	Printed matter and recorded media	-	-	-	-	0	0	-	-	-
24	Chemical products and man-made fibres	-	-	0	442	0	0	-	-	0
25	Rubber and plastics	-	-	-	0	5	1	1	0	2
26	Other non-metallic mineral products	-	-	43	-	1	0	-	-	-
27	Basic metals	-	-	-	0	0	1	-	-	-
28	Fabricated metal products	-	-	-	-	44	1	-	-	3
29	Machinery and equipment n.e.c.	-	-	-	-	3	-	-	-	-
30	Office machinery and computers	-	-	-	-	0	-	-	-	-
31	Electrical machinery and apparatus n.e.c.	-	-	-	-	0	0	-	-	0
32	Radio, television and communications apparatus	-	-	-	-	-	-	-	-	-
33	Medical, precision and optical instruments	-	-	-	-	1	0	0	-	0
34	Motor vehicles and trailers	-	-	-	-	0	-	-	-	-
35	Other transport equipment	-	-	-	-	-	-	-	-	-
40	Electricity and gas	-	-	-	-	-	-	-	-	-
41	Water collection and distribution	-	-	-	-	-	-	-	-	-
45	Construction work	-	-	-	-	-	-	-	-	-
50	Motor fuel and vechicle trade and repair	-	-	-	-	-	-	-	-	-
51	Wholesale trade	-	5	22	226	11	0	8	2	15
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	9	-	-	-	-	-	-	-	-
60	Land transport services	-	-	-	-	0	-	-	-	-
61 - 62	Water and Air transport services	-	-	-	-	-	-	-	-	-
63	Auxiliary transport services and travel agencies	-	-	-	-	-	-	-	-	-
64	Post and telecommunication services	-	-	-	-	-	-	-	-	-
65 - 67	Financial Services	-	-	-	1	-	-	-	-	-
70	Real estate services	9	-	-	-	-	-	-	-	-
71	Renting services of machinery and equipment	-	0	0	2	0	0	0	-	0
72	Computer and related services	-	-	-	-	-	-	-	-	-
73	Research and development services	-	0	0	4	0	0	0	-	0
74	Other business services	10	2	1	93	1	0	3	-	1
75	Public administration and defence	-	-	-	-	-	-	-	-	-
80	Education	-	-	-	-	-	-	-	-	-
85	Health and social work services	-	-	-	-	-	-	-	-	-
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-
92	Recreation	13	-	-	-	-	-	-	-	-
93	Other services	12	-	-	-	-	-	-	-	-
95	Private households with employed persons	-	-	-	-	-	-	-	-	-
	Total Output	2,884	156	234	6,182	481	80	136	24	510

Appendix 7.2 (cont.)

2005 Supply Table at Basic Prices - BMW Region, €Millions

		21	22	24	25	26	27	28	29	30	31
	Industries	Pulp, paper and paper products	Printed matter and recorded media	Chemical products and man-made fibres	Rubber and plastics	Other non-metallic mineral products	Basic metals	Fabricated metal products	Machinery and equipment n.e.c.	Office machinery and computers	Electrical machinery and apparatus n.e.c.
	Products										
1 - 5	Agriculture, Forestry, Fishing	-	-	-	-	-	-	-	-	-	-
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	-	-	-	-	-	-	-	-	-	-
14	Other mining and quarying	-	-	-	1	16	0	-	-	-	-
15	Food and beverages	-	-	19	-	-	-	-	-	-	-
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	0	0	0	2	2	-	3	1	-	0
17	Textiles	-	0	7	1	1	-	0	0	-	-
18	Wearing apparel	-	-	-	-	-	-	-	-	-	0
19	Leather and leather products	-	-	-	0	0	-	-	-	-	-
20	Wood and wood products (excl furniture)	1	0	1	9	2	-	7	-	0	-
21	Pulp, paper and paper products	61	0	0	0	0	-	1	-	7	-
22	Printed matter and recorded media	0	1,116	0	0	-	-	0	-	-	-
24	Chemical products and man-made fibres	0	0	892	1	0	0	0	1	0	0
25	Rubber and plastics	2	0	11	491	2	1	11	23	1	-
26	Other non-metallic mineral products	0	-	0	1	747	0	1	0	0	0
27	Basic metals	0	-	-	0	-	94	5	0	-	0
28	Fabricated metal products	0	0	0	11	4	14	630	14	2	3
29	Machinery and equipment n.e.c.	0	-	3	1	0	15	7	499	16	5
30	Office machinery and computers	-	1	0	0	0	-	0	0	655	0
31	Electrical machinery and apparatus n.e.c.	-	1	0	2	0	0	1	1	12	127
32	Radio, television and communications apparatus	-	0	0	0	-	-	0	0	11	25
33	Medical, precision and optical instruments	-	0	12	4	1	-	1	5	68	5
34	Motor vehicles and trailers	-	-	-	0	-	-	2	1	0	0
35	Other transport equipment	-	-	-	-	-	-	0	0	-	0
40	Electricity and gas	-	-	-	-	-	-	-	-	-	-
41	Water collection and distribution	-	-	-	-	-	-	-	-	-	-
45	Construction work	-	-	-	-	1	-	-	-	-	-
50	Motor fuel and vechicle trade and repair	-	-	-	-	-	-	-	-	-	-
51	Wholesale trade	-	8	101	7	58	8	0	33	4	4
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	-	-	-	-	-	-	-	-	-	-
60	Land transport services	-	-	-	-	-	-	-	-	-	-
61 - 62	Water and Air transport services	-	-	-	-	-	-	-	-	-	-
63	Auxiliary transport services and travel agencies	-	-	-	-	-	-	-	-	-	-
64	Post and telecommunication services	-	-	-	-	-	-	-	-	0	-
65 - 67	Financial Services	-	-	-	-	-	-	-	-	0	-
70	Real estate services	-	-	-	-	2	-	-	-	-	-
71	Renting services of machinery and equipment	0	0	3	0	0	0	0	0	0	0
72	Computer and related services	-	2	-	-	-	-	-	-	-	0
73	Research and development services	0	1	10	0	1	0	0	0	0	0
74	Other business services	0	70	161	6	9	1	0	59	1	1
75	Public administration and defence	-	-	-	-	-	-	-	-	-	-
80	Education	-	-	-	-	-	-	-	-	-	-
85	Health and social work services	-	-	-	-	-	-	-	-	-	-
90	Sewage and refuse disposal services	-	-	-	-	1	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-	-
92	Recreation	-	-	-	-	-	-	-	-	-	-
93	Other services	-	-	-	-	-	-	-	-	-	-
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total Output	64	1,199	1,221	538	848	133	667	639	777	170

Appendix 7.2 (cont.)

2005 Supply Table at Basic Prices - BMW Region, €Millions

		32	33	34	35	40	41	45	50	51	52
	Industries	Radio, television and communications apparatus	Medical, precision and optical instruments	Motor vehicles and trailers	Other transport equipment	Electricity and gas	Water collection and distribution	Construction work	Motor fuel and vechicle trade and repair	Wholesale trade	Retail trade and repair of household goods
	Products										
1 - 5	Agriculture, Forestry, Fishing	-	-	-	-	-	-	-	-	-	-
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	-	-	-	-	-	-	-	-	-	-
14	Other mining and quarying	-	-	-	-	-	-	-	-	-	-
15	Food and beverages	3	69	-	-	-	-	-	-	10	-
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	1	65	-	0	6	-	-	-	-	-
17	Textiles	-	14	-	-	-	-	-	-	-	-
18	Wearing apparel	0	-	-	-	-	-	-	-	-	-
19	Leather and leather products	-	-	-	-	-	-	-	-	-	-
20	Wood and wood products (excl furniture)	-	-	-	-	-	-	-	-	-	-
21	Pulp, paper and paper products	-	0	-	-	-	-	-	-	-	-
22	Printed matter and recorded media	0	0	-	-	-	-	-	-	-	-
24	Chemical products and man-made fibres	0	12	-	-	-	-	-	-	-	-
25	Rubber and plastics	-	8	3	0	-	-	-	-	-	-
26	Other non-metallic mineral products	-	0	-	0	-	-	-	-	-	-
27	Basic metals	-	0	0	0	-	-	-	-	-	-
28	Fabricated metal products	1	1	0	2	-	-	-	-	-	-
29	Machinery and equipment n.e.c.	7	2	6	0	-	-	-	-	-	-
30	Office machinery and computers	3	0	-	-	-	-	-	-	-	-
31	Electrical machinery and apparatus n.e.c.	6	2	-	-	-	-	-	-	-	-
32	Radio, television and communications apparatus	272	0	0	-	-	-	-	-	-	-
33	Medical, precision and optical instruments	12	1,737	-	-	-	-	-	-	-	-
34	Motor vehicles and trailers	-	0	129	0	-	-	-	-	-	-
35	Other transport equipment	-	-	0	90	-	-	-	-	-	-
40	Electricity and gas	-	-	-	-	145	-	-	-	-	-
41	Water collection and distribution	-	-	-	-	-	62	-	-	-	-
45	Construction work	-	-	-	-	-	-	9,187	-	-	-
50	Motor fuel and vechicle trade and repair	-	-	-	-	-	-	-	527	-	-
51	Wholesale trade	0	264	8	-	58	-	-	5	1,166	34
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	1	42	1,652
55	Hotel and restaurant services	-	-	-	-	-	-	-	5	-	11
60	Land transport services	-	-	-	-	-	-	-	-	-	-
61 - 62	Water and Air transport services	-	-	-	-	-	-	-	-	-	-
63	Auxiliary transport services and travel agencies	-	-	-	-	-	-	-	-	-	-
64	Post and telecommunication services	1	-	-	-	-	-	-	-	-	5
65 - 67	Financial Services	-	-	-	-	-	-	-	-	1	-
70	Real estate services	-	-	-	-	-	-	-	-	-	-
71	Renting services of machinery and equipment	0	2	0	25	0	-	77	11	44	8
72	Computer and related services	0	-	-	-	-	-	-	-	-	-
73	Research and development services	0	39	0	-	0	-	-	-	-	-
74	Other business services	1	57	1	6	0	-	-	-	10	-
75	Public administration and defence	-	-	-	-	-	-	-	-	-	-
80	Education	-	-	-	-	-	-	-	-	-	-
85	Health and social work services	-	-	-	-	-	-	-	-	-	-
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-	-
92	Recreation	-	-	-	-	-	-	-	-	-	-
93	Other services	-	-	-	-	-	-	-	-	-	28
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total Output	307	2,274	147	123	209	62	9,264	549	1,271	1,737

Appendix 7.2 (cont.)

2005 Supply Table at Basic Prices - BMW Region, €Millions

		55	60	61 - 62	63	64	65 - 67	70	71	72	73
	Industries	Hotel and restaurant services	Land transport services	Water and Air transport services	Auxiliary transport services and travel agencies	Post and telecommunication services	Financial Services	Real estate services	Renting services of machinery and equipment	Computer and related services	Research and development services
	Products										
1 - 5	Agriculture, Forestry, Fishing	-	-	-	-	-	-	-	-	-	-
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	-	-	-	-	-	-	-	-	-	-
14	Other mining and quarying	-	-	-	-	-	-	-	-	-	-
15	Food and beverages	-	-	-	-	-	-	-	-	-	-
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	-	-	-	-	-	-	-	-	-	-
17	Textiles	-	-	-	-	-	-	-	-	-	-
18	Wearing apparel	-	-	-	-	-	-	-	-	-	-
19	Leather and leather products	-	-	-	-	-	-	-	-	-	-
20	Wood and wood products (excl furniture)	-	-	-	-	-	-	-	-	-	-
21	Pulp, paper and paper products	-	-	-	-	-	-	-	-	-	-
22	Printed matter and recorded media	-	-	-	-	-	-	-	-	-	-
24	Chemical products and man-made fibres	-	-	-	-	-	-	-	-	-	-
25	Rubber and plastics	-	-	-	-	-	-	-	-	-	-
26	Other non-metallic mineral products	-	-	-	-	-	-	-	-	-	-
27	Basic metals	-	-	-	-	-	-	-	-	-	-
28	Fabricated metal products	-	-	-	-	-	-	-	-	-	-
29	Machinery and equipment n.e.c.	-	-	-	-	-	-	-	-	-	-
30	Office machinery and computers	-	-	-	-	-	-	-	-	-	-
31	Electrical machinery and apparatus n.e.c.	-	-	-	-	-	-	-	-	-	-
32	Radio, television and communications apparatus	-	-	-	-	-	-	-	-	1	-
33	Medical, precision and optical instruments	-	-	-	-	-	-	-	-	-	-
34	Motor vehicles and trailers	-	-	-	-	-	-	-	-	-	-
35	Other transport equipment	-	-	-	-	-	-	-	-	-	-
40	Electricity and gas	-	-	-	-	-	-	-	-	-	-
41	Water collection and distribution	-	-	-	-	-	-	-	-	-	-
45	Construction work	-	-	-	-	-	-	-	-	-	-
50	Motor fuel and vechicle trade and repair	-	-	-	-	-	-	-	-	-	-
51	Wholesale trade	0	-	-	-	-	-	-	-	-	-
52	Retail trade and repair of household goods	10	0	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	2,038	3	-	-	-	-	-	-	-	-
60	Land transport services	-	767	-	-	-	-	-	-	-	-
61 - 62	Water and Air transport services	-	-	47	-	-	-	-	-	-	-
63	Auxiliary transport services and travel agencies	-	3	-	377	-	-	-	-	-	-
64	Post and telecommunication services	-	-	0	-	699	-	-	-	21	-
65 - 67	Financial Services	-	-	-	-	-	2,313	-	-	1	-
70	Real estate services	-	-	-	-	-	-	2,063	-	-	-
71	Renting services of machinery and equipment	-	-	-	-	-	-	-	1,042	-	-
72	Computer and related services	-	-	-	-	-	-	-	-	915	-
73	Research and development services	-	-	-	-	-	-	-	-	42	72
74	Other business services	-	-	-	-	-	30	-	-	14	-
75	Public administration and defence	-	-	-	-	-	-	-	-	-	-
80	Education	-	-	-	-	-	-	-	-	-	-
85	Health and social work services	-	-	-	-	-	-	-	-	-	-
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-	-
92	Recreation	-	-	-	-	-	-	-	-	-	-
93	Other services	-	-	-	-	-	-	-	-	-	-
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total Output	2,048	773	48	377	699	2,343	2,063	1,046	995	72

Appendix 7.2 (cont.)

2005 Supply Table at Basic Prices - BMW Region, €Millions

		74	75	80	85	90	91	92	93	95
	Industries	Other business services	Public administration and defence	Education	Health and social work services	Sewage and refuse disposal services	Membership organisation services n.e.c.	Recreation	Other services	Private households with employed persons
	Products									
1 - 5	Agriculture, Forestry, Fishing	-	-	-	-	-	-	-	-	-
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	-	-	-	-	-	-	-	-	-
14	Other mining and quarying	-	-	-	-	-	-	-	-	-
15	Food and beverages	-	-	-	-	-	-	-	-	-
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	-	-	-	-	-	-	-	-	-
17	Textiles	-	-	-	-	-	-	-	-	-
18	Wearing apparel	-	-	-	-	-	-	-	-	-
19	Leather and leather products	-	-	-	-	-	-	-	-	-
20	Wood and wood products (excl furniture)	-	-	-	-	-	-	-	-	-
21	Pulp, paper and paper products	-	-	-	-	-	-	-	-	-
22	Printed matter and recorded media	-	-	-	-	-	-	-	-	-
24	Chemical products and man-made fibres	-	-	-	9	-	-	-	-	-
25	Rubber and plastics	-	-	-	-	-	-	-	-	-
26	Other non-metallic mineral products	-	-	-	-	-	-	-	-	-
27	Basic metals	-	-	-	-	-	-	-	-	-
28	Fabricated metal products	-	-	-	-	-	-	-	-	-
29	Machinery and equipment n.e.c.	-	-	-	-	-	-	-	-	-
30	Office machinery and computers	-	-	-	-	-	-	-	-	-
31	Electrical machinery and apparatus n.e.c.	-	-	-	-	-	-	-	-	-
32	Radio, television and communications apparatus	-	-	-	-	-	-	-	-	-
33	Medical, precision and optical instruments	-	-	-	-	-	-	-	-	-
34	Motor vehicles and trailers	-	-	-	-	-	-	-	-	-
35	Other transport equipment	-	-	-	-	-	-	-	-	-
40	Electricity and gas	-	-	-	-	-	-	-	-	-
41	Water collection and distribution	-	-	-	-	-	-	-	-	-
45	Construction work	-	-	-	-	-	-	-	-	-
50	Motor fuel and vechicle trade and repair	-	-	-	-	-	-	-	-	-
51	Wholesale trade	-	-	-	-	-	-	-	-	-
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	-	-	-	-	-	-	-	-	-
60	Land transport services	-	-	-	-	-	-	-	-	-
61 - 62	Water and Air transport services	-	-	-	-	-	-	-	-	-
63	Auxiliary transport services and travel agencies	-	-	-	-	-	-	-	-	-
64	Post and telecommunication services	-	-	-	-	-	-	-	-	-
65 - 67	Financial Services	9	-	-	-	-	-	-	-	-
70	Real estate services	-	-	-	-	-	-	-	-	-
71	Renting services of machinery and equipment	-	-	-	-	-	-	-	-	-
72	Computer and related services	17	-	-	-	-	-	-	-	-
73	Research and development services	-	-	74	-	-	-	-	-	-
74	Other business services	2,048	-	-	-	-	-	-	-	-
75	Public administration and defence	-	2,618	-	-	-	-	-	-	-
80	Education	-	-	2,000	-	-	-	-	-	-
85	Health and social work services	-	-	-	4,704	-	-	-	-	-
90	Sewage and refuse disposal services	-	-	-	-	216	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	187	-	-	-
92	Recreation	-	-	-	-	-	-	437	-	-
93	Other services	-	-	-	-	-	-	-	151	-
95	Private households with employed persons	-	-	-	-	-	-	-	-	28
	Total Output	2,074	2,618	2,074	4,713	216	187	437	151	28

Appendix 7.2 (cont.)

2005 Supply Table at Basic Prices - BMW Region, €Millions

Industries / *Products*		Total Domestic Supply	International Imports c.i.f.	Domestic Imports c.i.f.	Total Supply at Basic Prices	Trade Margins	Taxes on Products	Subsidies on Products	Total Supply at Purchasers' Prices
1 - 5	Agriculture, Forestry, Fishing	2,831	324	1,111	4,266	180	10	-489	3,968
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	149	62	3	215	12	16	-	242
14	Other mining and quarying	185	33	601	819	18	7	-	844
15	Food and beverages	5,514	920	689	7,124	946	299	-40	8,329
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	491	688	302	1,480	397	994	-	2,871
17	Textiles	116	176	130	422	47	31	-	500
18	Wearing apparel	108	505	67	680	261	110	-	1,051
19	Leather and leather products	23	169	7	198	44	22	-	264
20	Wood and wood products (excl furniture)	511	185	66	762	26	17	-	806
21	Pulp, paper and paper products	70	243	-	312	11	37	-	359
22	Printed matter and recorded media	1,116	28	76	1,220	100	59	-	1,379
24	Chemical products and man-made fibres	1,358	1,179	1,231	3,768	306	147	-	4,222
25	Rubber and plastics	560	446	119	1,125	64	40	-	1,230
26	Other non-metallic mineral products	793	151	14	957	113	36	-	1,106
27	Basic metals	101	371	-	471	14	3	-	489
28	Fabricated metal products	731	314	197	1,242	53	23	-	1,317
29	Machinery and equipment n.e.c.	563	747	388	1,698	128	22	-	1,848
30	Office machinery and computers	660	344	154	1,159	82	21	-	1,262
31	Electrical machinery and apparatus n.e.c.	153	295	215	664	69	15	-	748
32	Radio, television and communications apparatus	309	579	305	1,193	97	18	-	1,308
33	Medical, precision and optical instruments	1,843	400	7	2,250	98	11	-	2,360
34	Motor vehicles and trailers	132	632	92	856	269	426	-	1,551
35	Other transport equipment	90	182	104	376	2	5	-	384
40	Electricity and gas	145	-	413	557	16	9	-	582
41	Water collection and distribution	62	-	-	62	-	-	-	62
45	Construction work	9,188	1	480	9,669	-	519	-	10,189
50	Motor fuel and vechicle trade and repair	527	-	20	547	-391	12	-	168
51	Wholesale trade	2,052	1,177	125	3,354	-1,231	-	-	2,123
52	Retail trade and repair of household goods	1,705	-	91	1,796	-1,732	4	-	68
55	Hotel and restaurant services	2,067	334	883	3,284	-	341	-	3,625
60	Land transport services	768	27	124	918	-	-	-32	886
61 - 62	Water and Air transport services	47	105	445	596	-	-	-2	595
63	Auxiliary transport services and travel agencies	380	10	96	486	-	3	-	489
64	Post and telecommunication services	726	43	858	1,628	-	123	-	1,751
65 - 67	Financial Services	2,325	93	1,199	3,616	-	26	-	3,642
70	Real estate services	2,074	-	1,254	3,327	-	31	-	3,358
71	Renting services of machinery and equipment	1,215	51	222	1,488	-	15	-	1,503
72	Computer and related services	935	72	298	1,305	-	-	-	1,305
73	Research and development services	244	102	85	431	-	-	-	431
74	Other business services	2,584	1,662	1,273	5,518	-	318	-	5,836
75	Public administration and defence	2,618	8	-	2,626	-	-	-	2,626
80	Education	2,000	-	-	2,000	-	2	-	2,002
85	Health and social work services	4,704	-	-	4,704	-	-	-	4,704
90	Sewage and refuse disposal services	217	-	-	217	-	-	-	217
91	Membership organisation services n.e.c.	187	-	-	187	-	-	-	187
92	Recreation	450	51	558	1,060	-	14	-10	1,064
93	Other services	190	10	65	265	-	34	-	299
95	Private households with employed persons	28	-	-	28	-	-	-	28
	Total Output	55,848	12,718	14,363	82,929	-	3,821	-573	86,176

Appendix 8.1

2005 Use Table at Purchasers' Prices - SE Region, €Millions

		1 - 5	10 - 13	14	15	I6,23,36-37	17	18	19	20
	Industries	Agriculture, Forestry, Fishing	Coal, Peat, Petroleum and Metal Ore Extraction	Other mining and quarying	Food and beverages	Tobacco, Petroleum, Furniture and Recycling	Textiles	Wearing apparel	Leather and leather products	Wood and wood products (excl furniture)
	Products									
1 - 5	Agriculture, Forestry, Fishing	960	-	-	2,360	0	0	-	0	91
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	2	113	10	3	1,052	0	0	-	0
14	Other mining and quarying	20	4	86	0	1	0	-	-	0
15	Food and beverages	531	-	-	1,430	0	0	-	-	0
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	183	8	55	126	426	2	0	0	11
17	Textiles	5	0	0	0	2	64	28	0	-
18	Wearing apparel	2	0	1	0	0	0	37	-	0
19	Leather and leather products	1	0	0	0	0	0	-	2	0
20	Wood and wood products (excl furniture)	1	1	0	15	107	0	-	-	148
21	Pulp, paper and paper products	5	0	0	211	20	2	2	0	4
22	Printed matter and recorded media	11	0	0	3	1	0	0	0	0
24	Chemical products and man-made fibres	372	15	12	214	8	28	3	0	44
25	Rubber and plastics	6	3	2	174	40	1	0	0	5
26	Other non-metallic mineral products	2	2	34	37	52	0	-	-	1
27	Basic metals	1	3	0	5	67	0	-	-	7
28	Fabricated metal products	57	8	4	68	44	1	1	0	15
29	Machinery and equipment n.e.c.	71	14	2	29	3	1	0	0	6
30	Office machinery and computers	5	0	0	3	1	0	-	-	0
31	Electrical machinery and apparatus n.e.c.	1	0	0	0	2	0	-	-	0
32	Radio, television and communications apparatus	0	0	0	0	0	0	-	-	0
33	Medical, precision and optical instruments	1	0	0	0	0	0	-	-	0
34	Motor vehicles and trailers	3	1	0	1	0	0	-	-	0
35	Other transport equipment	14	-	0	0	0	0	-	-	0
40	Electricity and gas	77	24	24	162	17	4	1	0	26
41	Water collection and distribution	3	0	0	0	2	0	0	-	1
45	Construction work	43	16	17	13	4	0	0	0	3
50	Motor fuel and vechicle trade and repair	9	6	2	6	2	0	0	0	1
51	Wholesale trade	-	-	-	253	14	-	-	-	-
52	Retail trade and repair of household goods	0	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	26	2	10	105	20	2	1	0	5
60	Land transport services	10	27	160	269	22	6	3	0	18
61 - 62	Water and Air transport services	4	2	21	64	10	1	0	0	0
63	Auxiliary transport services and travel agencies	4	0	1	4	2	0	0	0	0
64	Post and telecommunication services	17	1	7	60	10	2	1	0	4
65 - 67	Financial Services	144	47	40	410	61	7	4	1	9
70	Real estate services	9	1	1	4	1	0	0	0	1
71	Renting services of machinery and equipment	6	2	37	18	2	0	0	0	2
72	Computer and related services	1	15	7	22	19	1	0	1	3
73	Research and development services	1	1	0	45	1	1	0	0	1
74	Other business services	22	33	12	2,587	92	4	7	1	23
75	Public administration and defence	27	1	1	9	4	0	0	0	1
80	Education	0	0	-	1	0	0	0	0	0
85	Health and social work services	55	0	-	8	1	0	0	0	0
90	Sewage and refuse disposal services	3	1	1	29	3	1	1	0	4
91	Membership organisation services n.e.c.	9	-	-	1	0	-	0	-	-
92	Recreation	6	0	1	10	1	0	0	0	0
93	Other services	4	5	4	14	4	1	0	0	1
95	Private households with employed persons	-	-	-	-	-	-	-	-	-
	Total Intermediate Consumption	2,734	354	553	8,773	2,117	132	93	7	433
	Compensation of Employees	353	89	106	1,395	276	64	34	3	136
	Net Operating Surplus	1,646	86	46	2,126	113	14	7	2	80
	Consumption of Fixed Capital	429	20	20	268	62	11	6	0	23
	Taxes	24	5	9	90	12	3	3	0	5
	Subsidies	707	0	0	1	0	0	0	-	0
	Gross Value Added at basic prices	1,746	200	181	3,878	463	92	50	6	244
	Total Output at basic prices	4,480	555	733	12,650	2,580	224	143	12	678

Appendix 8.1 (cont.)

2005 Use Table at Purchasers' Prices - SE Region, €Millions

		21	22	24	25	26	27	28	29	30	31
	Industries	Pulp, paper and paper products	Printed matter and recorded media	Chemical products and man-made fibres	Rubber and plastics	Other non-metallic mineral products	Basic metals	Fabricated metal products	Machinery and equipment n.e.c.	Office machinery and computers	Electrical machinery and apparatus n.e.c.
	Products										
1 - 5	Agriculture, Forestry, Fishing	0	0	9	0	0	-	0	0	0	0
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	-	-	8	0	11	127	0	0	-	0
14	Other mining and quarying	-	0	24	0	61	9	0	0	-	1
15	Food and beverages	1	0	64	2	0	-	0	0	-	0
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	6	3	16	37	40	24	18	4	2	10
17	Textiles	2	9	9	0	1	0	0	0	1	0
18	Wearing apparel	0	0	-	0	0	0	0	0	0	0
19	Leather and leather products	0	0	4	0	0	0	0	0	0	0
20	Wood and wood products (excl furniture)	2	3	3	10	6	0	5	2	1	0
21	Pulp, paper and paper products	182	207	92	5	20	2	3	4	36	1
22	Printed matter and recorded media	9	533	2	1	1	0	0	1	13	0
24	Chemical products and man-made fibres	27	104	3,764	62	30	24	10	12	87	12
25	Rubber and plastics	8	8	62	170	12	0	4	33	17	12
26	Other non-metallic mineral products	0	9	12	21	235	0	12	7	4	2
27	Basic metals	0	6	9	33	38	84	337	109	8	9
28	Fabricated metal products	4	5	29	62	18	22	92	126	54	13
29	Machinery and equipment n.e.c.	3	19	93	26	20	13	62	218	65	8
30	Office machinery and computers	0	15	11	1	0	0	-	1	5,964	25
31	Electrical machinery and apparatus n.e.c.	0	1	1	0	0	0	0	21	360	391
32	Radio, television and communications apparatus	0	0	2	1	0	0	0	7	837	133
33	Medical, precision and optical instruments	0	0	12	0	0	0	0	3	53	2
34	Motor vehicles and trailers	0	1	1	0	0	0	0	0	3	0
35	Other transport equipment	0	0	1	0	0	0	0	0	1	0
40	Electricity and gas	7	17	136	28	69	26	17	15	19	13
41	Water collection and distribution	1	17	11	1	1	5	1	4	0	0
45	Construction work	1	10	10	2	3	1	3	1	2	14
50	Motor fuel and vechicle trade and repair	0	4	4	1	1	1	1	1	1	6
51	Wholesale trade	-	2,517	101	-	0	-	-	1	1,189	3
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	7	58	90	15	12	3	9	12	76	12
60	Land transport services	14	43	13	29	54	4	-	16	106	18
61 - 62	Water and Air transport services	2	74	91	6	17	4	5	4	37	17
63	Auxiliary transport services and travel agencies	1	3	9	2	1	0	1	2	22	3
64	Post and telecommunication services	3	85	36	15	20	2	9	14	10	11
65 - 67	Financial Services	17	272	451	23	68	25	58	62	137	33
70	Real estate services	1	4	2	2	1	0	1	1	1	1
71	Renting services of machinery and equipment	1	6	11	3	20	1	10	2	4	2
72	Computer and related services	4	143	499	10	8	1	7	6	97	73
73	Research and development services	0	944	2,196	3	2	1	3	21	92	13
74	Other business services	20	3,698	10,925	57	68	10	27	93	3,292	310
75	Public administration and defence	1	3	7	1	2	1	3	1	4	2
80	Education	0	0	4	0	0	0	0	0	2	0
85	Health and social work services	0	4	40	1	1	0	1	1	9	2
90	Sewage and refuse disposal services	1	4	13	3	2	9	19	0	0	0
91	Membership organisation services n.e.c.	0	2	1	0	-	0	0	0	0	0
92	Recreation	1	4	11	0	2	0	0	1	12	1
93	Other services	3	4	5	3	5	1	4	2	1	2
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total Intermediate Consumption	331	8,840	18,893	635	854	403	725	811	12,620	1,155
	Compensation of Employees	136	849	1,350	245	315	111	355	299	590	301
	Net Operating Surplus	50	2,946	8,053	104	206	87	186	219	898	199
	Consumption of Fixed Capital	3	166	790	37	101	24	55	48	171	37
	Taxes	4	18	53	8	16	7	14	26	3	44
	Subsidies	0	0	5	1	0	0	0	0	0	0
	Gross Value Added at basic prices	193	3,978	10,242	394	638	229	609	591	1,661	582
	Total Output at basic prices	524	12,818	29,134	1,029	1,492	632	1,334	1,403	14,281	1,737

Appendix 8.1 (cont.)

2005 Use Table at Purchasers' Prices - SE Region, €Millions

		32	33	34	35	40	41	45	50	51	52
	Industries	Radio, television and communications apparatus	Medical, precision and optical instruments	Motor vehicles and trailers	Other transport equipment	Electricity and gas	Water collection and distribution	Construction work	Motor fuel and vechicle trade and repair	Wholesale trade	Retail trade and repair of household goods
	Products										
1 - 5	Agriculture, Forestry, Fishing	0	0	0	0	-	-	70	1	2	9
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	-	-	1	500	0	1	0	0	0
14	Other mining and quarying	0	0	-	0	-	-	378	0	1	0
15	Food and beverages	0	2	0	-	5	1	9	7	23	88
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	2	5	1	2	721	3	521	38	122	64
17	Textiles	0	4	0	0	-	-	85	4	4	17
18	Wearing apparel	0	1	0	0	-	-	21	0	0	2
19	Leather and leather products	1	0	-	0	-	-	11	7	3	6
20	Wood and wood products (excl furniture)	0	1	0	0	0	0	813	0	1	3
21	Pulp, paper and paper products	5	13	1	0	4	1	53	1	9	10
22	Printed matter and recorded media	4	2	0	0	13	4	184	6	27	16
24	Chemical products and man-made fibres	140	104	4	1	0	6	348	3	7	22
25	Rubber and plastics	10	19	7	0	1	2	780	17	23	17
26	Other non-metallic mineral products	1	2	0	0	1	1	1,835	3	14	6
27	Basic metals	-	57	52	29	1	1	244	1	1	3
28	Fabricated metal products	38	42	21	1	29	1	1,271	6	3	6
29	Machinery and equipment n.e.c.	102	57	9	1	24	12	577	18	9	22
30	Office machinery and computers	236	27	3	0	20	1	96	0	0	0
31	Electrical machinery and apparatus n.e.c.	146	109	16	27	29	0	761	2	3	6
32	Radio, television and communications apparatus	1,221	89	147	1	5	1	83	2	3	3
33	Medical, precision and optical instruments	54	1,194	0	0	4	2	77	2	1	1
34	Motor vehicles and trailers	0	1	58	0	2	1	64	106	10	13
35	Other transport equipment	0	0	2	20	-	-	33	1	1	0
40	Electricity and gas	53	25	3	7	1,008	17	132	18	41	129
41	Water collection and distribution	0	3	8	0	-	3	18	1	3	4
45	Construction work	12	3	0	5	22	13	7,508	1	7	19
50	Motor fuel and vechicle trade and repair	5	1	0	2	-	1	34	15	9	6
51	Wholesale trade	8	-	-	-	-	-	-	-	58	9
52	Retail trade and repair of household goods	-	-	-	-	-	0	0	0	0	0
55	Hotel and restaurant services	7	36	6	5	3	2	86	7	25	216
60	Land transport services	6	17	3	2	0	1	80	30	126	70
61 - 62	Water and Air transport services	29	11	3	3	0	-	13	8	18	7
63	Auxiliary transport services and travel agencies	25	4	1	1	3	1	19	31	239	77
64	Post and telecommunication services	20	25	4	3	8	3	57	31	86	112
65 - 67	Financial Services	31	69	20	21	125	9	340	79	169	234
70	Real estate services	0	1	0	0	0	3	534	38	105	321
71	Renting services of machinery and equipment	5	2	0	1	7	3	456	12	23	31
72	Computer and related services	27	34	3	2	18	6	131	25	70	74
73	Research and development services	114	28	1	0	-	1	13	0	9	3
74	Other business services	120	377	13	23	94	38	875	112	417	400
75	Public administration and defence	2	3	1	1	2	0	208	7	10	28
80	Education	1	1	0	0	0	0	3	0	1	1
85	Health and social work services	7	4	0	1	2	0	13	1	3	3
90	Sewage and refuse disposal services	0	1	1	1	17	8	167	8	19	39
91	Membership organisation services n.e.c.	0	1	0	0	0	0	1	0	0	0
92	Recreation	4	5	0	1	1	0	6	1	4	5
93	Other services	1	2	1	1	1	0	3	1	2	6
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total Intermediate Consumption	2,438	2,380	391	166	2,673	149	19,010	655	1,715	2,110
	Compensation of Employees	347	487	88	252	551	69	7,072	650	2,533	2,450
	Net Operating Surplus	947	1,040	20	27	357	1	3,105	416	4,173	1,271
	Consumption of Fixed Capital	182	139	28	37	543	1	292	59	483	175
	Taxes	26	7	2	5	14	0	18	51	171	149
	Subsidies	0	0	0	0	-	-	-	-	-	-
	Gross Value Added at basic prices	1,501	1,674	138	322	1,465	72	10,487	1,175	7,360	4,044
	Total Output at basic prices	3,940	4,054	529	488	4,138	221	29,497	1,830	9,075	6,154

Appendix 8.1 (cont.)

2005 Use Table at Purchasers' Prices - SE Region, €Millions

		55	60	61 - 62	63	64	65 - 67	70	71	72	73
	Industries	Hotel and restaurant services	Land transport services	Water and Air Transport	Auxiliary transport services and travel agencies	Post and telecommunication services	Financial Services	Real estate services	Renting services of machinery and equipment	Computer and related services	Research and development services
	Products										
1 - 5	Agriculture, Forestry, Fishing	226	0	2	0	0	-	4	-	0	1
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	1	0	0	0	0	0	0	0	0	0
14	Other mining and quarying	3	0	0	4	0	0	6	-	-	0
15	Food and beverages	2,691	6	14	16	15	24	0	1	23	1
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	103	407	578	77	37	57	18	38	72	4
17	Textiles	21	1	1	1	2	2	16	1	2	1
18	Wearing apparel	17	1	1	1	3	3	1	2	5	1
19	Leather and leather products	13	1	1	0	2	2	0	0	3	1
20	Wood and wood products (excl furniture)	15	0	0	1	4	2	55	1	2	0
21	Pulp, paper and paper products	22	5	1	3	4	18	12	3	7	1
22	Printed matter and recorded media	35	9	4	25	18	115	20	3	40	1
24	Chemical products and man-made fibres	30	4	2	5	2	3	12	1	6	4
25	Rubber and plastics	8	26	3	10	76	8	24	2	28	1
26	Other non-metallic mineral products	6	5	2	2	12	0	89	0	2	0
27	Basic metals	0	8	0	0	8	0	-	0	4	0
28	Fabricated metal products	4	9	2	2	6	4	18	1	5	0
29	Machinery and equipment n.e.c.	1	8	2	2	19	5	10	59	28	1
30	Office machinery and computers	1	1	2	1	13	3	26	2	57	1
31	Electrical machinery and apparatus n.e.c.	1	15	4	2	88	3	3	5	58	0
32	Radio, television and communications apparatus	1	3	3	5	643	5	4	6	99	2
33	Medical, precision and optical instruments	1	0	2	2	26	1	0	1	28	0
34	Motor vehicles and trailers	8	54	2	7	9	10	7	42	30	1
35	Other transport equipment	3	20	130	18	5	2	1	2	7	0
40	Electricity and gas	162	17	9	23	29	25	20	20	62	4
41	Water collection and distribution	5	0	1	1	1	0	1	1	2	0
45	Construction work	24	3	2	40	53	55	321	3	1	0
50	Motor fuel and vechicle trade and repair	10	20	8	7	4	15	7	37	22	1
51	Wholesale trade	0	-	41	2	155	-	-	-	778	-
52	Retail trade and repair of household goods	0	4	0	0	0	0	1	1	0	0
55	Hotel and restaurant services	93	15	108	984	63	60	13	8	116	2
60	Land transport services	56	72	4	109	43	42	10	29	55	3
61 - 62	Water and Air transport services	40	4	317	805	78	58	5	13	24	1
63	Auxiliary transport services and travel agencies	128	224	281	434	58	95	36	37	29	3
64	Post and telecommunication services	159	24	34	55	1,765	729	76	37	405	7
65 - 67	Financial Services	225	76	185	181	136	12,664	1,636	313	635	17
70	Real estate services	134	18	37	55	52	126	54	14	60	5
71	Renting services of machinery and equipment	39	77	162	46	16	110	9	565	93	2
72	Computer and related services	66	88	110	154	82	358	62	36	2,051	16
73	Research and development services	2	4	4	0	5	8	3	1	348	51
74	Other business services	545	154	317	253	283	2,074	391	301	3,887	53
75	Public administration and defence	20	49	2	4	9	18	73	2	6	0
80	Education	14	2	1	13	3	3	22	0	30	3
85	Health and social work services	22	1	3	2	4	15	1	1	7	1
90	Sewage and refuse disposal services	47	4	6	7	10	11	16	10	27	2
91	Membership organisation services n.e.c.	8	1	1	4	5	5	1	0	2	0
92	Recreation	49	4	8	30	21	20	5	4	55	0
93	Other services	61	4	14	7	10	18	3	16	13	2
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total Intermediate Consumption	5,119	1,449	2,412	3,402	3,877	16,776	3,092	1,619	9,214	197
	Compensation of Employees	1,660	1,099	483	672	1,144	4,309	282	198	1,384	85
	Net Operating Surplus	548	298	300	213	545	6,996	6,288	1,167	1,131	21
	Consumption of Fixed Capital	268	274	309	278	551	1,518	2,987	561	539	10
	Taxes	97	21	24	30	35	68	22	1	11	0
	Subsidies	-	1	1	0	1	0	23	1	4	-
	Gross Value Added at basic prices	2,574	1,690	1,114	1,193	2,275	12,891	9,556	1,926	3,061	116
	Total Output at basic prices	7,693	3,140	3,526	4,595	6,152	29,667	12,649	3,546	12,276	314

Appendix 8.1 (cont.)

2005 Use Table at Purchasers' Prices - SE Region, €Millions

		74	75	80	85	90	91	92	93	95
	Industries	Other business services	Public administration and defence	Education	Health and social work services	Sewage and refuse disposal services	Membership organisation services n.e.c.	Recreation	Other services	Private households with employed persons
	Products									
1 - 5	Agriculture, Forestry, Fishing	1	6	38	16	-	1	2	0	-
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	24	1	-	0	0	1	0	-
14	Other mining and quarying	1	2	0	-	5	0	1	0	-
15	Food and beverages	48	33	3	35	6	28	21	1	-
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	133	226	64	123	18	6	16	12	-
17	Textiles	8	7	0	27	1	1	2	3	-
18	Wearing apparel	9	40	0	4	3	3	7	6	-
19	Leather and leather products	11	1	0	-	4	2	4	4	-
20	Wood and wood products (excl furniture)	10	1	10	1	1	1	2	0	-
21	Pulp, paper and paper products	46	28	66	73	6	2	4	1	-
22	Printed matter and recorded media	189	42	89	11	14	6	18	7	-
24	Chemical products and man-made fibres	30	70	31	949	53	7	23	23	-
25	Rubber and plastics	20	27	2	128	16	2	4	3	-
26	Other non-metallic mineral products	3	27	1	3	17	3	7	0	-
27	Basic metals	2	5	0	-	2	0	0	0	-
28	Fabricated metal products	7	29	25	4	5	0	1	0	-
29	Machinery and equipment n.e.c.	29	18	1	1	5	1	2	3	-
30	Office machinery and computers	11	31	28	1	5	0	7	0	-
31	Electrical machinery and apparatus n.e.c.	11	1	1	21	2	1	3	1	-
32	Radio, television and communications apparatus	15	5	0	16	3	2	14	2	-
33	Medical, precision and optical instruments	11	13	27	209	1	1	1	0	-
34	Motor vehicles and trailers	30	6	1	1	7	1	1	1	-
35	Other transport equipment	9	25	0	2	4	1	2	1	-
40	Electricity and gas	121	139	136	41	20	3	30	13	-
41	Water collection and distribution	3	1	0	-	2	7	2	1	-
45	Construction work	47	345	77	6	16	2	7	1	-
50	Motor fuel and vechicle trade and repair	23	11	1	1	4	2	3	3	-
51	Wholesale trade	77	-	4	-	-	-	-	-	-
52	Retail trade and repair of household goods	1	-	1	-	0	0	0	0	-
55	Hotel and restaurant services	237	106	52	53	7	13	21	2	-
60	Land transport services	81	163	25	29	32	2	6	5	-
61 - 62	Water and Air transport services	121	27	48	13	11	4	8	2	-
63	Auxiliary transport services and travel agencies	189	1	6	-	15	7	13	8	-
64	Post and telecommunication services	414	169	65	-	22	19	32	21	-
65 - 67	Financial Services	673	108	98	45	63	43	88	35	-
70	Real estate services	216	577	34	27	9	4	57	28	-
71	Renting services of machinery and equipment	72	8	5	-	32	3	18	20	-
72	Computer and related services	414	193	32	81	50	24	22	21	-
73	Research and development services	87	16	38	50	26	4	6	0	-
74	Other business services	4,776	701	231	106	119	105	169	85	-
75	Public administration and defence	64	41	1	9	1	2	8	5	-
80	Education	10	27	205	88	3	1	2	0	-
85	Health and social work services	11	3	4	1,581	5	2	2	4	-
90	Sewage and refuse disposal services	33	33	9	16	321	2	8	8	-
91	Membership organisation services n.e.c.	22	0	0	1	0	57	28	1	-
92	Recreation	53	54	127	0	7	66	212	4	-
93	Other services	65	8	55	15	29	9	12	60	-
95	Private households with employed persons	0	-	0	-	-	-	-	0	-
	Total Intermediate Consumption	8,443	3,404	1,644	3,787	971	450	898	399	-
	Compensation of Employees	3,441	3,796	4,336	5,991	198	284	749	319	108
	Net Operating Surplus	2,137	0	45	1,130	47	21	451	83	0
	Consumption of Fixed Capital	938	1,085	10	43	21	9	200	37	-
	Taxes	18	-	29	57	13	8	32	14	-
	Subsidies	18	-	5	9	2	1	20	0	-
	Gross Value Added at basic prices	6,516	4,881	4,415	7,213	277	322	1,413	453	108
	Total Output at basic prices	14,959	8,285	6,059	10,999	1,248	771	2,311	851	108

Appendix 8.1 (cont.)

2005 Use Table at Purchasers' Prices - SE Region, €Millions

Industries / *Products*		Total Inter-Industry	Household Consumption Expenditure	NPISH Consumption Expenditure	Government Consumption Expenditure	Gross Fixed Capital Formation	Changes in Inventories	International Exports	Domestic Exports	Final Uses	Total Uses
1 - 5	Agriculture, Forestry, Fishing	3,798	1,026	-	-	-	31	440	1,111	2,608	6,406
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	1,856	119	-	-	44	22	271	3	459	2,315
14	Other mining and quarying	609	-	-	-	95	-16	33	601	712	1,321
15	Food and beverages	5,129	4,953	54	-	-	-	10,289	689	15,986	21,115
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	4,441	5,809	-	-	180	-13	1,134	302	7,412	11,853
17	Textiles	334	456	-	-	-	5	163	130	753	1,087
18	Wearing apparel	172	2,072	-	-	-	-	220	67	2,358	2,530
19	Leather and leather products	85	380	-	-	-	-	64	7	451	536
20	Wood and wood products (excl furniture)	1,234	82	-	-	-	-	210	66	357	1,591
21	Pulp, paper and paper products	1,193	362	-	-	-	-	187	-	549	1,742
22	Printed matter and recorded media	1,477	774	-	-	-	-	10,973	76	11,822	13,299
24	Chemical products and man-made fibres	6,716	1,250	-	-	-	219	29,195	1,231	31,895	38,611
25	Rubber and plastics	1,823	497	-	-	-	-20	477	119	1,073	2,896
26	Other non-metallic mineral products	2,474	191	-	-	-	-16	293	14	482	2,956
27	Basic metals	1,138	-	-	-	-	-9	516	-	507	1,645
28	Fabricated metal products	2,162	195	-	-	152	-	329	197	873	3,035
29	Machinery and equipment n.e.c.	1,681	349	-	-	1,415	10	1,550	388	3,712	5,394
30	Office machinery and computers	6,600	198	-	-	870	309	13,828	154	15,359	21,959
31	Electrical machinery and apparatus n.e.c.	2,097	198	-	-	432	20	1,311	215	2,177	4,275
32	Radio, television and communications apparatus	3,364	360	-	-	356	23	4,133	305	5,176	8,541
33	Medical, precision and optical instruments	1,734	69	-	-	208	-	4,155	7	4,438	6,172
34	Motor vehicles and trailers	480	2,846	-	-	2,500	-	440	92	5,878	6,358
35	Other transport equipment	304	37	-	-	1,729	-9	346	104	2,207	2,510
40	Electricity and gas	2,991	1,156	-	-	-	-	17	413	1,586	4,577
41	Water collection and distribution	115	11	-	97	-	-	-	-	108	223
45	Construction work	8,737	211	-	-	22,946	-	-	480	23,637	32,374
50	Motor fuel and vechicle trade and repair	296	203	-	-	-	-	-	20	223	520
51	Wholesale trade	5,210	-	-	-	-	-	3,803	125	3,928	9,137
52	Retail trade and repair of household goods	9	86	-	-	-	-	-	91	177	185
55	Hotel and restaurant services	2,812	5,648	-	-	-	-	2,247	883	8,779	11,591
60	Land transport services	1,911	902	-	-	-	-	116	124	1,141	3,052
61 - 62	Water and Air transport services	2,031	413	-	-	-	-	1,818	445	2,675	4,705
63	Auxiliary transport services and travel agencies	2,021	2,223	-	-	-	-	352	96	2,671	4,692
64	Post and telecommunication services	4,694	1,947	-	-	-	-	436	858	3,241	7,935
65 - 67	Financial Services	20,186	3,820	-	-	-	-	12,994	1,199	18,013	38,199
70	Real estate services	2,545	8,829	-	-	378	-	-	1,254	10,460	13,005
71	Renting services of machinery and equipment	1,946	362	-	-	-	-	3,604	222	4,187	6,134
72	Computer and related services	5,170	-	-	-	333	-	7,104	298	7,736	12,906
73	Research and development services	4,147	-	-	99	-	-	179	85	363	4,510
74	Other business services	38,298	261	-	-	1,869	-	4,596	1,273	7,999	46,297
75	Public administration and defence	646	54	-	7,518	54	-	36	-	7,661	8,307
80	Education	444	498	1,538	3,364	-	-	-	-	5,400	5,844
85	Health and social work services	1,829	1,370	417	7,361	-	-	-	-	9,147	10,977
90	Sewage and refuse disposal services	924	218	-	107	-	-	-	-	325	1,249
91	Membership organisation services n.e.c.	155	248	369	-	-	-	-	-	617	771
92	Recreation	799	1,088	-	-	121	-	340	558	2,107	2,906
93	Other services	485	541	-	-	-	-	62	65	668	1,153
95	Private households with employed persons	0	108	-	-	-	-	-	-	108	108
	Total Intermediate Consumption	159,302	52,420	2,378	18,545	33,682	556	118,260	14,363	240,204	399,506
	Compensation of Employees	52,045									
	Net Operating Surplus	49,846									
	Consumption of Fixed Capital	13,848									
	Taxes	1,272									
	Subsidies	801									
	Gross Value Added at basic prices	116,210									
	Total Output at basic prices	275,512									

Appendix 8.2

2005 Use Table at Purchasers' Prices - BMW Region, €Millions

		1 - 5	10 - 13	14	15	16,23,36-37	17	18	19	20
	Industries	Agriculture, Forestry, Fishing	Coal, Peat, Petroleum and Metal Ore Extraction	Other mining and quarying	Food and beverages	Tobacco, Petroleum, Furniture and Recycling	Textiles	Wearing apparel	Leather and leather products	Wood and wood products (excl furniture)
	Products									
1 - 5	Agriculture, Forestry, Fishing	519	-	-	1,407	24	0	-	0	43
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	3	7	1	2	0	0	1	-	0
14	Other mining and quarying	17	-	71	0	0	0	-	-	0
15	Food and beverages	560	-	-	957	0	0	-	-	0
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	115	5	12	43	27	2	0	0	3
17	Textiles	5	-	0	0	7	24	22	5	2
18	Wearing apparel	1	0	0	0	0	0	24	-	0
19	Leather and leather products	0	-	0	0	0	0	-	3	0
20	Wood and wood products (excl furniture)	1	0	0	8	45	-	0	-	127
21	Pulp, paper and paper products	4	0	0	104	8	0	0	0	5
22	Printed matter and recorded media	7	0	0	3	0	0	0	-	1
24	Chemical products and man-made fibres	183	1	0	8	2	1	5	-	8
25	Rubber and plastics	6	2	0	15	8	0	1	-	2
26	Other non-metallic mineral products	2	-	14	7	4	0	-	-	1
27	Basic metals	0	0	-	34	14	0	-	-	3
28	Fabricated metal products	36	1	0	21	13	1	1	0	22
29	Machinery and equipment n.e.c.	36	1	-	15	2	1	0	-	10
30	Office machinery and computers	3	-	0	2	0	0	-	-	0
31	Electrical machinery and apparatus n.e.c.	0	-	0	0	2	0	-	-	0
32	Radio, television and communications apparatus	0	-	0	0	0	0	-	-	0
33	Medical, precision and optical instruments	1	0	0	0	0	0	0	-	0
34	Motor vehicles and trailers	2	0	0	0	0	0	0	-	0
35	Other transport equipment	15	-	0	0	0	0	0	-	0
40	Electricity and gas	22	0	6	30	3	1	1	-	3
41	Water collection and distribution	2	0	0	11	0	1	0	-	2
45	Construction work	35	0	-	5	1	0	0	0	10
50	Motor fuel and vechicle trade and repair	8	-	1	3	1	0	0	0	1
51	Wholesale trade	-	-	-	99	2	-	-	-	-
52	Retail trade and repair of household goods	0	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	18	0	3	36	8	1	2	1	5
60	Land transport services	8	1	-	90	12	-	1	1	22
61 - 62	Water and Air transport services	5	1	9	29	7	1	0	0	0
63	Auxiliary transport services and travel agencies	3	0	0	2	1	0	0	0	0
64	Post and telecommunication services	17	0	2	24	2	1	1	0	4
65 - 67	Financial Services	156	5	13	153	16	4	5	1	10
70	Real estate services	6	0	0	1	1	0	0	0	1
71	Renting services of machinery and equipment	7	1	15	7	1	0	1	0	2
72	Computer and related services	2	0	2	12	7	1	1	0	3
73	Research and development services	1	-	0	6	1	0	0	0	1
74	Other business services	20	28	4	1,443	33	2	11	2	18
75	Public administration and defence	17	0	0	3	1	0	0	0	1
80	Education	0	0	-	0	0	0	0	0	0
85	Health and social work services	37	0	-	3	1	0	0	0	0
90	Sewage and refuse disposal services	2	0	0	10	1	1	1	0	4
91	Membership organisation services n.e.c.	5	-	-	0	0	-	0	-	-
92	Recreation	4	0	0	3	0	0	0	0	0
93	Other services	3	0	1	5	1	0	0	0	1
95	Private households with employed persons	-	-	-	-	-	-	-	-	-
	Total Intermediate Consumption	1,898	55	158	4,601	256	42	81	14	315
	Compensation of Employees	178	60	49	463	126	27	34	5	104
	Net Operating Surplus	1,146	39	18	1,024	79	6	12	5	69
	Consumption of Fixed Capital	268	1	8	80	18	4	8	1	19
	Taxes	12	1	2	16	2	1	2	0	3
	Subsidies	618	-	0	1	0	0	0	1	0
	Gross Value Added at basic prices	986	101	76	1,581	225	38	55	10	195
	Total Output at basic prices	2,884	156	234	6,182	481	80	136	24	510

Appendix 8.2 (cont.)

2005 Use Table at Purchasers' Prices - BMW Region, €Millions

		21	22	24	25	26	27	28	29	30	31
	Industries	Pulp, paper and paper products	Printed matter and recorded media	Chemical products and man-made fibres	Rubber and plastics	Other non-metallic mineral products	Basic metals	Fabricated metal products	Machinery and equipment n.e.c.	Office machinery and computers	Electrical machinery and apparatus n.e.c.
	Products										
1 - 5	Agriculture, Forestry, Fishing	0	-	0	0	0	-	0	0	-	-
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	-	-	0	0	7	2	0	0	-	0
14	Other mining and quarying	-	0	0	0	75	-	0	0	-	0
15	Food and beverages	0	0	43	1	0	-	0	0	-	0
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	1	0	4	6	29	78	5	1	0	0
17	Textiles	-	-	-	0	0	0	0	0	0	0
18	Wearing apparel	0	0	1	0	0	0	0	0	0	0
19	Leather and leather products	0	0	-	0	0	0	0	0	0	0
20	Wood and wood products (excl furniture)	0	-	-	14	2	-	2	-	0	0
21	Pulp, paper and paper products	19	-	16	2	4	-	2	0	-	-
22	Printed matter and recorded media	0	-	22	0	1	0	0	0	2	-
24	Chemical products and man-made fibres	1	-	149	41	11	-	6	1	-	-
25	Rubber and plastics	4	0	15	134	2	1	16	4	2	0
26	Other non-metallic mineral products	0	0	1	3	127	-	4	0	-	0
27	Basic metals	-	-	3	6	16	18	207	56	20	0
28	Fabricated metal products	0	0	9	5	18	0	73	105	18	1
29	Machinery and equipment n.e.c.	0	-	9	12	12	-	-	34	-	-
30	Office machinery and computers	0	1	1	1	0	0	1	1	103	42
31	Electrical machinery and apparatus n.e.c.	0	0	0	0	0	0	0	7	31	64
32	Radio, television and communications apparatus	0	-	0	0	0	0	0	0	8	7
33	Medical, precision and optical instruments	0	0	3	0	0	0	0	0	6	0
34	Motor vehicles and trailers	0	0	0	0	0	0	0	0	0	0
35	Other transport equipment	0	0	0	0	0	0	0	0	0	0
40	Electricity and gas	1	-	3	7	13	-	1	3	-	-
41	Water collection and distribution	0	-	18	0	0	0	0	2	-	-
45	Construction work	0	0	1	1	2	0	2	1	0	0
50	Motor fuel and vechicle trade and repair	0	0	1	0	1	0	1	0	0	0
51	Wholesale trade	-	1,131	11	-	0	-	-	1	132	1
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	2	2	2	7	8	0	6	7	2	0
60	Land transport services	2	3	2	12	46	1	28	10	4	1
61 - 62	Water and Air transport services	1	11	30	4	18	2	4	4	7	3
63	Auxiliary transport services and travel agencies	0	-	2	1	1	0	0	0	0	0
64	Post and telecommunication services	0	2	1	6	12	0	3	3	0	0
65 - 67	Financial Services	3	8	30	12	44	2	26	31	7	1
70	Real estate services	0	0	0	1	1	0	1	1	0	0
71	Renting services of machinery and equipment	0	0	0	3	10	0	5	2	1	0
72	Computer and related services	2	-	32	6	5	0	4	6	5	3
73	Research and development services	0	-	20	2	1	0	1	5	14	-
74	Other business services	5	19	223	32	37	0	17	43	81	4
75	Public administration and defence	0	0	0	1	1	0	2	1	0	0
80	Education	0	0	0	0	0	0	0	0	0	0
85	Health and social work services	0	0	4	1	0	0	1	1	0	0
90	Sewage and refuse disposal services	0	0	0	1	1	1	6	0	0	0
91	Membership organisation services n.e.c.	0	0	0	0	-	0	0	0	0	0
92	Recreation	0	0	0	0	1	0	0	1	0	0
93	Other services	0	0	0	1	3	0	1	1	0	-
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total Intermediate Consumption	42	1,178	656	327	508	108	427	333	447	129
	Compensation of Employees	15	21	227	136	138	16	131	159	147	30
	Net Operating Surplus	6	-	301	53	134	6	70	107	152	7
	Consumption of Fixed Capital	0	-	32	19	62	2	18	22	31	2
	Taxes	0	0	4	3	6	1	21	17	1	1
	Subsidies	0	0	0	1	0	0	0	0	0	-
	Gross Value Added at basic prices	22	21	564	211	340	25	240	305	331	41
	Total Output at basic prices	64	1,199	1,221	538	848	133	667	639	777	170

Appendix 8.2 (cont.)

2005 Use Table at Purchasers' Prices - BMW Region, €Millions

		32	33	34	35	40	41	45	50	51	52
	Industries	Radio, television and communications apparatus	Medical, precision and optical instruments	Motor vehicles and trailers	Other transport equipment	Electricity and gas	Water collection and distribution	Construction work	Motor fuel and vechicle trade and repair	Wholesale trade	Retail trade and repair of household goods
	Products										
1 - 5	Agriculture, Forestry, Fishing	0	0	0	0	-	-	4	0	-	0
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	-	-	0	31	0	0	0	0	0
14	Other mining and quarying	0	0	-	0	-	-	162	0	0	0
15	Food and beverages	0	1	0	-	2	0	4	2	2	25
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	0	10	0	0	1	1	137	11	11	16
17	Textiles	0	-	0	0	-	-	17	1	0	4
18	Wearing apparel	0	0	0	0	-	-	5	0	0	0
19	Leather and leather products	0	0	-	0	-	-	7	5	0	2
20	Wood and wood products (excl furniture)	4	0	-	0	0	0	203	0	0	1
21	Pulp, paper and paper products	8	16	-	0	0	0	9	0	0	3
22	Printed matter and recorded media	2	4	0	0	3	1	37	2	1	4
24	Chemical products and man-made fibres	4	141	1	-	7	1	69	1	-	2
25	Rubber and plastics	7	173	10	2	0	1	191	4	1	4
26	Other non-metallic mineral products	6	1	0	0	0	0	628	0	0	0
27	Basic metals	11	2	9	2	0	0	49	0	0	1
28	Fabricated metal products	12	20	2	1	8	0	246	2	0	1
29	Machinery and equipment n.e.c.	-	6	1	0	5	1	51	1	-	-
30	Office machinery and computers	0	5	1	0	1	0	19	0	0	0
31	Electrical machinery and apparatus n.e.c.	52	47	19	1	-	0	190	0	0	1
32	Radio, television and communications apparatus	64	1	8	-	0	0	16	0	-	0
33	Medical, precision and optical instruments	2	211	0	6	2	1	26	0	0	0
34	Motor vehicles and trailers	0	0	5	0	0	0	16	26	-	1
35	Other transport equipment	0	0	0	103	-	-	7	0	0	0
40	Electricity and gas	0	12	1	-	-	3	6	3	-	-
41	Water collection and distribution	0	4	0	0	-	1	4	0	-	0
45	Construction work	2	1	0	0	4	4	2,570	0	1	4
50	Motor fuel and vechicle trade and repair	1	1	0	0	-	0	12	5	1	2
51	Wholesale trade	10	-	-	-	-	-	-	-	3	2
52	Retail trade and repair of household goods	-	-	-	-	-	0	0	0	0	0
55	Hotel and restaurant services	1	15	2	0	1	1	29	2	1	44
60	Land transport services	2	10	3	0	0	0	12	5	8	12
61 - 62	Water and Air transport services	10	12	4	0	0	-	6	3	2	2
63	Auxiliary transport services and travel agencies	1	2	0	-	0	0	2	5	3	4
64	Post and telecommunication services	2	9	1	0	1	1	9	9	8	12
65 - 67	Financial Services	6	27	6	1	29	3	79	27	18	53
70	Real estate services	0	1	0	0	0	1	134	8	11	85
71	Renting services of machinery and equipment	0	1	0	0	2	1	134	4	3	9
72	Computer and related services	6	22	1	0	7	2	23	4	-	13
73	Research and development services	13	98	2	-	-	0	2	0	-	0
74	Other business services	16	251	6	-	-	13	375	13	27	80
75	Public administration and defence	0	1	0	0	1	0	32	2	1	8
80	Education	0	0	0	0	0	0	0	0	0	0
85	Health and social work services	1	2	0	0	1	0	5	0	0	1
90	Sewage and refuse disposal services	0	0	0	0	2	2	26	2	3	4
91	Membership organisation services n.e.c.	0	0	0	0	0	0	0	0	0	0
92	Recreation	1	2	0	0	0	0	2	0	0	1
93	Other services	0	1	0	-	0	0	1	0	0	1
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total Intermediate Consumption	246	1,112	85	117	110	42	5,555	151	104	407
	Compensation of Employees	52	453	46	5	62	20	2,312	199	352	769
	Net Operating Surplus	7	541	6	1	7	0	1,273	172	679	484
	Consumption of Fixed Capital	1	164	9	1	30	0	118	13	105	38
	Taxes	2	3	1	0	0	0	6	15	31	38
	Subsidies	-	0	0	-	-	-	-	-	-	-
	Gross Value Added at basic prices	61	1,162	61	7	99	21	3,709	398	1,167	1,330
	Total Output at basic prices	307	2,274	147	123	209	62	9,264	549	1,271	1,737

Appendix 8.2 (cont.)

2005 Use Table at Purchasers' Prices - BMW Region, €Millions

		55	60	61 - 62	63	64	65 - 67	70	71	72	73
	Industries	Hotel and restaurant services	Land transport services	Water and Air Transport	Auxiliary transport services and travel agencies	Post and telecommunication services	Financial Services	Real estate services	Renting services of machinery and equipment	Computer and related services	Research and development services
	Products										
1 - 5	Agriculture, Forestry, Fishing	11	0	0	-	-	-	0	-	-	-
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	0	-	0	0	0	0	0	0	0
14	Other mining and quarying	0	0	0	0	0	-	3	-	-	0
15	Food and beverages	897	2	0	1	1	2	0	0	2	1
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	24	46	1	19	3	1	5	2	3	1
17	Textiles	4	0	0	0	0	0	4	-	0	0
18	Wearing apparel	2	0	0	-	-	-	0	-	-	0
19	Leather and leather products	3	0	0	0	0	0	0	0	0	1
20	Wood and wood products (excl furniture)	2	0	0	0	0	0	31	0	0	0
21	Pulp, paper and paper products	3	0	0	0	0	-	2	-	0	0
22	Printed matter and recorded media	6	2	0	1	1	1	5	0	3	1
24	Chemical products and man-made fibres	3	-	0	0	0	0	3	0	-	-
25	Rubber and plastics	2	8	0	0	4	0	14	0	1	0
26	Other non-metallic mineral products	1	0	0	0	-	0	64	0	-	0
27	Basic metals	0	1	0	0	0	0	-	0	0	0
28	Fabricated metal products	0	2	0	0	0	-	2	-	0	0
29	Machinery and equipment n.e.c.	-	-	-	-	-	-	-	-	-	0
30	Office machinery and computers	0	0	0	0	1	0	6	0	5	0
31	Electrical machinery and apparatus n.e.c.	0	3	0	0	5	0	2	1	3	0
32	Radio, television and communications apparatus	0	0	0	-	-	-	1	-	2	-
33	Medical, precision and optical instruments	0	0	0	0	1	0	0	0	2	0
34	Motor vehicles and trailers	1	14	0	-	0	-	4	5	2	0
35	Other transport equipment	1	5	0	1	0	0	0	0	0	0
40	Electricity and gas	2	-	-	-	-	-	1	-	-	-
41	Water collection and distribution	1	0	0	-	0	-	0	-	0	0
45	Construction work	5	1	0	1	3	1	209	0	0	0
50	Motor fuel and vechicle trade and repair	3	8	0	2	0	1	6	8	4	0
51	Wholesale trade	0	-	0	0	8	-	-	-	41	-
52	Retail trade and repair of household goods	0	1	0	0	0	0	0	0	0	0
55	Hotel and restaurant services	11	7	0	42	8	5	10	0	6	1
60	Land transport services	8	24	7	9	8	-	0	22	3	1
61 - 62	Water and Air transport services	12	1	18	60	9	10	5	4	4	1
63	Auxiliary transport services and travel agencies	19	9	5	23	2	-	4	-	-	0
64	Post and telecommunication services	40	3	1	4	45	19	14	8	13	1
65 - 67	Financial Services	51	7	3	24	13	494	115	89	38	5
70	Real estate services	47	3	0	3	3	7	13	2	6	1
71	Renting services of machinery and equipment	9	39	0	2	1	-	3	28	6	0
72	Computer and related services	12	-	1	17	5	20	21	2	108	1
73	Research and development services	0	-	0	5	0	0	-	0	-	9
74	Other business services	52	3	0	21	3	167	260	0	120	15
75	Public administration and defence	5	16	0	0	0	-	18	-	0	0
80	Education	3	1	0	0	0	0	6	0	2	2
85	Health and social work services	5	0	0	0	0	1	1	0	1	1
90	Sewage and refuse disposal services	8	0	0	1	1	0	4	1	1	0
91	Membership organisation services n.e.c.	2	0	0	0	0	0	0	0	0	0
92	Recreation	12	1	0	1	1	2	4	1	4	0
93	Other services	11	-	0	0	1	0	1	2	-	0
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total Intermediate Consumption	1,281	209	37	237	132	732	844	176	380	44
	Compensation of Employees	508	278	6	55	357	493	55	45	175	23
	Net Operating Surplus	159	124	3	72	99	914	761	557	299	3
	Consumption of Fixed Capital	77	156	0	13	106	198	400	268	148	1
	Taxes	23	6	0	1	5	7	3	0	2	0
	Subsidies	-	-	0	1	-	-	0	0	8	0
	Gross Value Added at basic prices	767	564	10	140	567	1,612	1,219	869	615	27
	Total Output at basic prices	2,048	773	48	377	699	2,343	2,063	1,046	995	72

Appendix 8.2 (cont.)

2005 Use Table at Purchasers' Prices - BMW Region, €Millions

		74	75	80	85	90	91	92	93	95
	Industries	Other business services	Public administration and defence	Education	Health and social work services	Sewage and refuse disposal services	Membership organisation services n.e.c.	Recreation	Other services	Private households with employed persons
	Products									
1 - 5	Agriculture, Forestry, Fishing	-	2	-	3	-	0	0	0	-
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	10	1	-	0	0	0	0	-
14	Other mining and quarying	0	1	0	-	-	0	0	0	-
15	Food and beverages	7	14	1	26	1	7	3	0	-
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	6	60	20	81	3	1	2	2	-
17	Textiles	1	3	0	13	0	0	0	1	-
18	Wearing apparel	1	17	0	3	0	1	0	1	-
19	Leather and leather products	2	0	0	-	1	1	1	1	-
20	Wood and wood products (excl furniture)	2	1	4	1	0	0	0	0	-
21	Pulp, paper and paper products	1	9	12	23	0	0	0	0	-
22	Printed matter and recorded media	21	14	30	5	2	1	2	2	-
24	Chemical products and man-made fibres	-	24	3	365	8	2	1	-	-
25	Rubber and plastics	3	11	1	89	1	0	0	1	-
26	Other non-metallic mineral products	0	12	0	2	3	1	0	0	-
27	Basic metals	0	2	0	-	0	0	0	0	-
28	Fabricated metal products	0	10	10	2	1	0	0	0	-
29	Machinery and equipment n.e.c.	-	2	0	0	-	0	-	-	-
30	Office machinery and computers	2	10	10	0	1	0	1	0	-
31	Electrical machinery and apparatus n.e.c.	1	1	0	14	0	0	0	0	-
32	Radio, television and communications apparatus	-	2	0	5	-	0	-	-	-
33	Medical, precision and optical instruments	2	6	9	151	0	0	0	0	-
34	Motor vehicles and trailers	4	2	0	1	0	0	0	0	-
35	Other transport equipment	1	9	0	1	1	0	0	0	-
40	Electricity and gas	-	34	25	13	1	0	-	-	-
41	Water collection and distribution	0	0	0	-	0	1	0	0	-
45	Construction work	7	162	26	4	2	1	1	0	-
50	Motor fuel and vechicle trade and repair	5	6	0	1	1	1	1	1	-
51	Wholesale trade	11	-	1	-	-	-	-	-	-
52	Retail trade and repair of household goods	0	-	0	-	0	0	0	0	-
55	Hotel and restaurant services	21	46	17	38	1	3	3	2	-
60	Land transport services	5	56	8	14	5	1	0	0	-
61 - 62	Water and Air transport services	51	14	25	12	2	1	3	1	-
63	Auxiliary transport services and travel agencies	-	0	1	-	2	2	-	0	-
64	Post and telecommunication services	22	61	17	-	4	5	4	1	-
65 - 67	Financial Services	59	40	32	21	11	12	7	3	-
70	Real estate services	16	247	12	15	1	1	8	6	-
71	Renting services of machinery and equipment	9	3	2	-	5	1	9	3	-
72	Computer and related services	22	83	11	43	12	7	2	2	-
73	Research and development services	-	5	10	18	4	1	-	0	-
74	Other business services	560	234	76	77	19	26	20	10	-
75	Public administration and defence	9	14	0	4	0	1	1	1	-
80	Education	1	9	66	42	0	0	0	0	-
85	Health and social work services	2	1	1	1,145	1	0	0	1	-
90	Sewage and refuse disposal services	1	11	2	5	51	1	1	1	-
91	Membership organisation services n.e.c.	3	0	0	1	0	14	4	0	-
92	Recreation	8	18	43	0	1	16	30	1	-
93	Other services	-	3	15	7	5	2	2	3	-
95	Private households with employed persons	0	-	0	-	-	-	-	0	-
	Total Intermediate Consumption	867	1,267	493	2,245	152	112	109	47	-
	Compensation of Employees	478	1,051	1,562	2,105	46	66	176	75	28
	Net Operating Surplus	431	0	10	337	10	5	100	18	0
	Consumption of Fixed Capital	296	300	3	14	5	2	48	9	-
	Taxes	2	-	7	13	3	2	7	4	-
	Subsidies	1	-	1	2	0	0	2	2	-
	Gross Value Added at basic prices	1,207	1,351	1,581	2,467	64	75	328	104	28
	Total Output at basic prices	2,074	2,618	2,074	4,713	216	187	437	151	28

Appendix 8.2 (cont.)

2005 Use Table at Purchasers' Prices - BMW Region, €Millions

Industries / *Products*		total inter-industry	hhld expenditure	NPISH	government consumption expenditure	gross fixed capital formation	changes in inventories	International Exports	Domestic Exports	final uses	total uses
1 - 5	Agriculture, Forestry, Fishing	2,012	288	-	-	-	-2	238	1,432	1,956	3,968
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	66	155	-	-	-	1	18	2	176	242
14	Other mining and quarying	330	-	-	-	30	-	7	478	515	844
15	Food and beverages	2,561	2,123	36	-	-	6	3,004	599	5,768	8,329
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	799	1,788	-	-	32	-15	145	121	2,072	2,871
17	Textiles	114	145	-	-	-	41	133	66	386	500
18	Wearing apparel	60	762	-	-	-	13	187	30	991	1,051
19	Leather and leather products	28	163	-	-	-	46	20	8	237	264
20	Wood and wood products (excl furniture)	449	37	-	-	-	49	171	99	357	806
21	Pulp, paper and paper products	254	109	-	-	-	-10	2	5	106	359
22	Printed matter and recorded media	186	332	-	-	-	49	446	366	1,194	1,379
24	Chemical products and man-made fibres	1,054	462	-	-	-	-	2,539	167	3,168	4,222
25	Rubber and plastics	743	135	-	-	-	-	288	63	487	1,230
26	Other non-metallic mineral products	883	74	-	-	-	-	120	29	223	1,106
27	Basic metals	458	-	-	-	-	-	22	9	31	489
28	Fabricated metal products	646	70	-	-	42	-11	211	359	670	1,317
29	Machinery and equipment n.e.c.	199	117	-	-	606	-	252	673	1,649	1,848
30	Office machinery and computers	217	70	-	-	13	50	805	107	1,045	1,262
31	Electrical machinery and apparatus n.e.c.	447	66	-	-	6	30	75	124	301	748
32	Radio, television and communications apparatus	117	96	-	-	1	-	1,014	80	1,191	1,308
33	Medical, precision and optical instruments	431	30	-	-	89	18	1,781	13	1,929	2,360
34	Motor vehicles and trailers	87	899	-	-	441	1	66	57	1,464	1,551
35	Other transport equipment	146	16	-	-	91	-	52	79	238	384
40	Electricity and gas	194	254	-	-	-	-	1	133	388	582
41	Water collection and distribution	49	4	-	9	-	-	-	-	13	62
45	Construction work	3,073	66	-	-	7,049	-	-	-	7,115	10,189
50	Motor fuel and vechicle trade and repair	86	72	-	-	-	-	-	9	81	168
51	Wholesale trade	1,453	-	-	-	-	-	577	93	670	2,123
52	Retail trade and repair of household goods	2	38	-	-	-	-	-	27	66	68
55	Hotel and restaurant services	427	2,421	-	-	-	-	256	522	3,198	3,625
60	Land transport services	470	310	-	-	-	-	22	84	417	886
61 - 62	Water and Air transport services	409	177	-	-	-	-	-	9	186	595
63	Auxiliary transport services and travel agencies	94	262	-	-	-	-	-	132	395	489
64	Post and telecommunication services	392	702	-	-	-	-	8	649	1,359	1,751
65 - 67	Financial Services	1,802	1,529	-	-	-	-	9	302	1,840	3,642
70	Real estate services	645	2,461	-	-	93	-	-	160	2,714	3,358
71	Renting services of machinery and equipment	329	155	-	-	-	-	636	383	1,174	1,503
72	Computer and related services	539	-	-	-	68	-	618	79	765	1,305
73	Research and development services	221	-	-	51	-	-	154	5	210	431
74	Other business services	4,466	112	-	-	824	-	192	242	1,369	5,836
75	Public administration and defence	145	20	-	2,449	12	-	-	-	2,481	2,626
80	Education	136	213	532	1,121	-	-	-	-	1,867	2,002
85	Health and social work services	1,221	644	117	2,723	-	-	-	-	3,484	4,704
90	Sewage and refuse disposal services	160	52	-	6	-	-	-	-	57	217
91	Membership organisation services n.e.c.	32	62	92	-	-	-	-	-	155	187
92	Recreation	162	536	-	-	34	-	22	309	902	1,064
93	Other services	74	148	-	-	-	-	17	59	225	299
95	Private households with employed persons	0	28	-	-	-	-	-	-	28	28
	Total Intermediate Consumption	28,867	18,203	777	6,359	9,431	268	14,108	8,164	57,310	86,176
	Compensation of Employees	13,918									
	Net Operating Surplus	10,309									
	Consumption of Fixed Capital	3,117									
	Taxes	277									
	Subsidies	640									
	Gross Value Added at basic prices	26,981									
	Total Output at basic prices	55,848									

Appendix 9.1

2005 Use Table for International Imports - SE Region, €Millions

		1 - 5	10 - 13	14	15	16,23,36-37	17	18	19	20
	Industries	Agriculture, Forestry, Fishing	Coal, Peat, Petroleum and Metal Ore Extraction	Other mining and quarying	Food and beverages	Tobacco, Petroleum, Furniture and Recycling	Textiles	Wearing apparel	Leather and leather products	Wood and wood products (excl furniture)
	Products									
1 - 5	Agriculture, Forestry, Fishing	127	-	-	154	0	0	-	0	17
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	1	59	4	2	1,016	0	0	-	0
14	Other mining and quarying	3	0	13	0	0	0	-	-	0
15	Food and beverages	213	-	-	757	0	0	-	-	0
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	61	4	24	48	271	1	0	0	4
17	Textiles	4	0	0	0	2	53	23	0	-
18	Wearing apparel	2	0	1	0	0	0	34	-	0
19	Leather and leather products	1	0	0	0	0	0	-	2	0
20	Wood and wood products (excl furniture)	1	0	0	7	51	0	-	-	71
21	Pulp, paper and paper products	3	0	0	143	13	1	1	0	3
22	Printed matter and recorded media	2	0	0	0	0	0	0	0	0
24	Chemical products and man-made fibres	277	12	10	177	6	23	2	0	34
25	Rubber and plastics	4	2	1	117	18	1	0	0	3
26	Other non-metallic mineral products	1	1	10	11	14	0	-	-	0
27	Basic metals	1	3	0	4	47	0	-	-	6
28	Fabricated metal products	24	3	2	29	19	0	0	0	6
29	Machinery and equipment n.e.c.	52	11	2	22	2	0	0	0	4
30	Office machinery and computers	5	0	0	3	1	0	-	-	0
31	Electrical machinery and apparatus n.e.c.	0	0	0	0	1	0	-	-	0
32	Radio, television and communications apparatus	0	0	0	0	0	0	-	-	0
33	Medical, precision and optical instruments	1	0	0	0	0	0	-	-	0
34	Motor vehicles and trailers	1	0	0	0	0	0	-	-	0
35	Other transport equipment	14	-	0	0	0	0	-	-	0
40	Electricity and gas	1	0	0	2	0	0	0	0	0
41	Water collection and distribution	-	-	-	-	-	-	-	-	-
45	Construction work	-	-	-	-	-	-	-	-	-
50	Motor fuel and vechicle trade and repair	-	-	-	-	-	-	-	-	-
51	Wholesale trade	-	-	-	514	13	-	-	-	-
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	-	-	-	-	-	-	-	-	-
60	Land transport services	0	1	3	6	0	0	0	0	0
61 - 62	Water and Air transport services	1	0	4	12	2	0	0	0	0
63	Auxiliary transport services and travel agencies	0	0	0	0	0	0	0	0	0
64	Post and telecommunication services	-	0	-	0	-	-	-	-	-
65 - 67	Financial Services	-	1	-	31	1	-	-	-	-
70	Real estate services	-	-	-	-	-	-	-	-	-
71	Renting services of machinery and equipment	-	-	-	2	-	-	-	-	-
72	Computer and related services	-	0	-	1	1	-	-	-	-
73	Research and development services	-	-	-	34	0	-	-	-	-
74	Other business services	-	6	-	2,191	23	-	0	0	-
75	Public administration and defence	-	-	-	-	-	-	-	-	-
80	Education	-	-	-	-	-	-	-	-	-
85	Health and social work services	-	-	-	-	-	-	-	-	-
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-
92	Recreation	-	-	-	-	-	-	-	-	-
93	Other services	0	0	0	0	0	0	0	0	0
95	Private households with employed persons	-	-	-	-	-	-	-	-	-
	Total	798	105	74	4,267	1,501	80	62	3	149

Appendix 9.1 (cont.)

2005 Use Table for International Imports - SE Region, €Millions

		21	22	24	25	26	27	28	29	30	31
	Industries	Pulp, paper and paper products	Printed matter and recorded media	Chemical products and man-made fibres	Rubber and plastics	Other non-metallic mineral products	Basic metals	Fabricated metal products	Machinery and equipment n.e.c.	Office machinery and computers	Electrical machinery and apparatus n.e.c.
	Products										
1 - 5	Agriculture, Forestry, Fishing	0	0	1	0	0	-	0	0	0	0
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	-	-	3	0	9	54	0	0	-	0
14	Other mining and quarying	-	0	3	0	9	1	0	0	-	0
15	Food and beverages	0	0	34	1	0	-	0	0	-	0
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	1	1	7	16	15	0	2	2	1	4
17	Textiles	1	7	8	0	1	0	0	0	0	0
18	Wearing apparel	0	0	-	0	0	0	0	0	0	0
19	Leather and leather products	0	0	3	0	0	0	0	0	0	0
20	Wood and wood products (excl furniture)	1	1	1	5	3	0	2	1	0	0
21	Pulp, paper and paper products	124	144	63	4	14	1	2	3	25	0
22	Printed matter and recorded media	1	49	2	0	0	0	0	0	2	0
24	Chemical products and man-made fibres	21	83	3,192	46	22	19	7	9	69	10
25	Rubber and plastics	6	5	41	120	8	0	2	22	11	8
26	Other non-metallic mineral products	0	2	3	6	69	0	4	2	1	1
27	Basic metals	0	4	7	27	30	76	273	98	6	7
28	Fabricated metal products	2	2	12	26	8	9	39	64	23	5
29	Machinery and equipment n.e.c.	2	16	75	19	14	11	50	183	52	6
30	Office machinery and computers	0	14	10	1	0	0	-	1	5,417	21
31	Electrical machinery and apparatus n.e.c.	0	0	1	0	0	0	0	19	271	306
32	Radio, television and communications apparatus	0	0	2	1	0	0	0	5	572	95
33	Medical, precision and optical instruments	0	0	9	0	0	0	0	3	42	1
34	Motor vehicles and trailers	0	0	0	0	0	0	0	0	2	0
35	Other transport equipment	0	0	1	0	0	0	0	0	1	0
40	Electricity and gas	0	0	2	0	1	0	0	0	0	0
41	Water collection and distribution	-	-	-	-	-	-	-	-	-	-
45	Construction work	-	-	-	-	-	-	-	-	-	-
50	Motor fuel and vechicle trade and repair	-	-	-	-	-	-	-	-	-	-
51	Wholesale trade	-	2,608	134	-	0	-	-	5	1,691	62
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	-	-	-	-	-	-	-	-	-	-
60	Land transport services	0	1	0	1	1	0	-	0	2	0
61 - 62	Water and Air transport services	0	14	18	1	3	1	1	1	7	3
63	Auxiliary transport services and travel agencies	0	0	0	0	0	0	0	0	1	0
64	Post and telecommunication services	0	69	2	-	0	-	-	-	5	-
65 - 67	Financial Services	-	0	4	-	0	1	-	0	6	0
70	Real estate services	-	-	-	-	-	-	-	-	-	-
71	Renting services of machinery and equipment	-	-	0	-	-	-	-	-	3	-
72	Computer and related services	0	-	7	0	-	0	-	0	6	-
73	Research and development services	-	917	2,177	-	-	-	-	19	68	0
74	Other business services	-	3,293	10,411	-	4	1	-	86	3,030	273
75	Public administration and defence	-	-	-	-	-	-	-	-	-	-
80	Education	-	-	-	-	-	-	-	-	-	-
85	Health and social work services	-	-	-	-	-	-	-	-	-	-
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-	-
92	Recreation	-	-	-	-	-	-	-	-	-	-
93	Other services	0	0	0	0	0	0	0	0	0	0
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total	160	7,233	16,234	274	214	176	383	523	11,317	805

Appendix 9.1 (cont.)

2005 Use Table for International Imports - SE Region, €Millions

		32	33	34	35	40	41	45	50	51	52
	Industries	Radio, television and communications apparatus	Medical, precision and optical instruments	Motor vehicles and trailers	Other transport equipment	Electricity and gas	Water collection and distribution	Construction work	Motor fuel and vechicle trade and repair	Wholesale trade	Retail trade and repair of household goods
	Products										
1 - 5	Agriculture, Forestry, Fishing	0	0	0	0	-	-	11	0	0	1
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	-	-	0	442	0	1	0	0	0
14	Other mining and quarying	0	0	-	0	-	-	58	0	0	0
15	Food and beverages	0	1	0	-	3	0	4	4	10	46
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	1	2	0	1	466	1	241	13	52	32
17	Textiles	0	3	0	0	-	-	70	3	4	14
18	Wearing apparel	0	1	0	0	-	-	20	0	0	2
19	Leather and leather products	1	0	-	0	-	-	10	7	2	5
20	Wood and wood products (excl furniture)	0	0	0	0	0	0	386	0	1	2
21	Pulp, paper and paper products	3	9	0	0	3	1	36	1	6	7
22	Printed matter and recorded media	1	0	0	0	2	1	25	1	18	2
24	Chemical products and man-made fibres	113	78	3	1	0	5	270	3	5	17
25	Rubber and plastics	7	13	5	0	1	1	521	12	16	12
26	Other non-metallic mineral products	0	1	0	0	0	0	527	1	4	1
27	Basic metals	-	46	42	24	1	1	197	1	1	3
28	Fabricated metal products	16	18	9	0	12	1	537	3	1	2
29	Machinery and equipment n.e.c.	82	46	7	0	19	10	466	15	7	17
30	Office machinery and computers	213	24	3	0	18	1	86	0	0	0
31	Electrical machinery and apparatus n.e.c.	111	83	12	21	21	0	577	1	2	4
32	Radio, television and communications apparatus	885	64	108	1	4	1	58	1	2	2
33	Medical, precision and optical instruments	40	981	0	0	3	1	61	1	1	0
34	Motor vehicles and trailers	0	0	29	0	1	0	32	53	5	6
35	Other transport equipment	0	0	1	16	-	-	32	1	1	0
40	Electricity and gas	1	0	0	0	11	0	2	0	0	1
41	Water collection and distribution	-	-	-	-	-	-	-	-	-	-
45	Construction work	-	-	-	-	-	-	7	-	-	-
50	Motor fuel and vechicle trade and repair	-	-	-	-	-	-	-	-	-	-
51	Wholesale trade	189	252	-	0	-	-	-	-	72	0
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	-	-	-	-	-	-	-	-	-	-
60	Land transport services	0	0	0	0	0	0	2	1	26	1
61 - 62	Water and Air transport services	5	2	1	1	0	-	2	1	3	1
63	Auxiliary transport services and travel agencies	1	0	0	0	0	0	1	1	10	3
64	Post and telecommunication services	3	3	-	0	0	-	0	-	0	12
65 - 67	Financial Services	1	4	0	1	0	-	-	-	0	-
70	Real estate services	-	-	-	-	-	-	-	-	-	-
71	Renting services of machinery and equipment	0	-	-	-	-	-	-	-	8	0
72	Computer and related services	1	5	0	0	5	-	0	-	10	2
73	Research and development services	92	14	-	-	-	-	-	-	-	-
74	Other business services	98	312	1	18	48	-	0	-	349	111
75	Public administration and defence	-	-	-	-	-	-	-	-	-	-
80	Education	-	-	-	-	-	-	-	-	-	-
85	Health and social work services	-	-	-	-	-	-	-	-	-	-
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-	-
92	Recreation	-	-	-	-	-	-	-	-	-	-
93	Other services	0	0	0	0	0	0	0	0	0	0
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total	1,866	1,962	223	85	1,060	25	4,241	125	618	313

Appendix 9.1 (cont.)

2005 Use Table for International Imports - SE Region, €Millions

		55	60	61 - 62	63	64	65 - 67	70	71	72	73
	Industries	Hotel and restaurant services	Land transport services	Water and Air Transport	Auxiliary transport services and travel agencies	Post and telecommunication services	Financial Services	Real estate services	Renting services of machinery and equipment	Computer and related services	Research and development services
	Products										
1 - 5	Agriculture, Forestry, Fishing	26	0	0	0	0	-	0	-	0	0
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	1	0	0	0	0	0	0	0	0	0
14	Other mining and quarying	0	0	0	1	0	0	1	-	-	0
15	Food and beverages	1,321	3	6	7	7	8	0	0	10	1
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	54	152	242	28	14	20	7	16	29	1
17	Textiles	17	0	1	1	2	1	14	1	2	1
18	Wearing apparel	17	1	1	1	2	3	1	1	4	1
19	Leather and leather products	12	1	1	0	2	2	0	0	3	1
20	Wood and wood products (excl furniture)	7	0	0	1	2	1	21	1	1	0
21	Pulp, paper and paper products	15	3	1	2	2	10	7	2	5	1
22	Printed matter and recorded media	5	1	1	3	2	10	2	0	5	0
24	Chemical products and man-made fibres	24	2	1	4	1	2	8	1	5	3
25	Rubber and plastics	5	17	2	6	50	5	11	1	19	1
26	Other non-metallic mineral products	2	1	1	1	3	0	17	0	1	0
27	Basic metals	0	4	0	0	6	0	-	0	3	0
28	Fabricated metal products	2	3	1	1	2	2	7	1	2	0
29	Machinery and equipment n.e.c.	1	6	2	2	15	4	8	47	23	1
30	Office machinery and computers	1	1	2	1	9	3	23	2	52	1
31	Electrical machinery and apparatus n.e.c.	1	11	3	1	67	2	2	4	44	0
32	Radio, television and communications apparatus	1	2	2	3	459	4	3	4	72	1
33	Medical, precision and optical instruments	1	0	2	2	19	1	0	1	21	0
34	Motor vehicles and trailers	4	21	1	4	4	5	3	21	15	0
35	Other transport equipment	3	18	124	18	5	1	1	2	7	0
40	Electricity and gas	2	0	0	0	0	0	0	0	1	0
41	Water collection and distribution	-	-	-	-	-	-	-	-	-	-
45	Construction work	-	-	-	-	-	-	-	-	-	-
50	Motor fuel and vechicle trade and repair	-	-	-	-	-	-	-	-	-	-
51	Wholesale trade	-	-	9	-	0	-	-	-	829	-
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	-	-	-	912	-	-	-	-	-	-
60	Land transport services	1	1	0	2	1	1	0	1	1	0
61 - 62	Water and Air transport services	7	1	51	736	13	11	1	2	4	0
63	Auxiliary transport services and travel agencies	5	10	13	19	3	4	2	2	1	0
64	Post and telecommunication services	-	2	1	1	220	344	-	-	0	-
65 - 67	Financial Services	-	-	32	0	0	8,352	-	187	0	0
70	Real estate services	-	-	-	-	-	-	-	-	-	-
71	Renting services of machinery and equipment	-	-	137	-	-	98	-	553	0	-
72	Computer and related services	-	0	2	4	41	84	-	2	563	-
73	Research and development services	-	-	-	-	-	1	-	-	316	-
74	Other business services	-	3	269	17	8	1,534	-	118	2,283	-
75	Public administration and defence	-	-	-	-	-	-	-	-	-	-
80	Education	-	-	-	-	-	-	-	-	-	-
85	Health and social work services	-	-	-	-	-	-	-	-	-	-
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-	-
92	Recreation	-	-	-	-	-	-	-	-	-	-
93	Other services	1	0	0	0	0	0	0	0	0	0
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total	1,534	265	907	1,774	959	10,513	139	971	4,321	15

Appendix 9.1 (cont.)

2005 Use Table for International Imports - SE Region, €Millions

		74	75	80	85	90	91	92	93	95
	Industries	Other business services	Public administration and defence	Education	Health and social work services	Sewage and refuse disposal services	Membership organisation services n.e.c.	Recreation	Other services	Private households with employed persons
	Products									
1 - 5	Agriculture, Forestry, Fishing	0	1	5	2	-	0	0	0	-
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	20	1	-	0	0	0	0	-
14	Other mining and quarying	0	0	0	-	1	0	0	0	-
15	Food and beverages	23	16	1	16	3	15	8	0	-
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	58	59	27	72	6	3	6	4	-
17	Textiles	6	5	0	17	1	1	2	2	-
18	Wearing apparel	8	36	0	2	3	3	6	6	-
19	Leather and leather products	10	0	0	-	4	2	4	3	-
20	Wood and wood products (excl furniture)	4	1	4	0	0	1	1	0	-
21	Pulp, paper and paper products	31	14	41	45	4	1	2	0	-
22	Printed matter and recorded media	24	5	13	1	2	1	2	1	-
24	Chemical products and man-made fibres	21	41	24	675	41	5	19	18	-
25	Rubber and plastics	12	15	1	81	11	2	3	2	-
26	Other non-metallic mineral products	1	6	0	1	5	1	2	0	-
27	Basic metals	1	3	0	-	2	0	0	0	-
28	Fabricated metal products	2	10	8	1	2	0	1	0	-
29	Machinery and equipment n.e.c.	23	13	1	1	4	1	2	2	-
30	Office machinery and computers	9	19	22	1	4	0	6	0	-
31	Electrical machinery and apparatus n.e.c.	8	1	0	15	2	0	2	1	-
32	Radio, television and communications apparatus	11	3	0	10	2	1	9	2	-
33	Medical, precision and optical instruments	9	10	22	156	1	1	1	0	-
34	Motor vehicles and trailers	15	4	0	1	3	0	1	1	-
35	Other transport equipment	8	21	0	2	3	1	2	1	-
40	Electricity and gas	1	2	2	0	0	0	0	0	-
41	Water collection and distribution	-	-	-	-	-	-	-	-	-
45	Construction work	-	-	-	-	-	-	-	-	-
50	Motor fuel and vechicle trade and repair	-	-	-	-	-	-	-	-	-
51	Wholesale trade	53	-	-	-	-	-	-	-	-
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	-	-	-	-	-	-	-	-	-
60	Land transport services	2	3	1	1	1	0	0	0	-
61 - 62	Water and Air transport services	23	5	9	2	1	1	1	0	-
63	Auxiliary transport services and travel agencies	9	0	0	-	1	0	1	0	-
64	Post and telecommunication services	3	-	-	-	-	-	0	-	-
65 - 67	Financial Services	11	-	-	-	-	-	-	-	-
70	Real estate services	-	-	-	-	-	-	-	-	-
71	Renting services of machinery and equipment	5	-	-	-	-	-	-	-	-
72	Computer and related services	85	-	-	-	-	-	1	-	-
73	Research and development services	82	-	12	-	-	-	-	-	-
74	Other business services	2,382	-	-	-	-	-	19	-	-
75	Public administration and defence	-	22	-	-	-	-	-	-	-
80	Education	-	-	-	-	-	-	-	-	-
85	Health and social work services	-	-	-	-	-	-	-	-	-
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-
92	Recreation	-	-	-	-	-	-	106	-	-
93	Other services	1	0	1	0	1	0	0	1	-
95	Private households with employed persons	-	-	-	-	-	-	-	-	-
	Total	2,940	336	197	1,102	106	40	204	47	-

Appendix 9.1 (cont.)

2005 Use Table for International Imports - SE Region, €Millions

	Industries	Total Inter-Industry	hhld expenditure	NPISH	government consumption expenditure	gross fixed capital formation	changes in inventories	International exports	Domestic exports	final uses	total uses
	Products										
1 - 5	Agriculture, Forestry, Fishing	347	388	-	-	-	2	-	-	390	737
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	1,616	40	-	-	9	8	-	-	57	1,672
14	Other mining and quarying	92	-	-	-	8	-1	-	-	6	99
15	Food and beverages	2,519	1,118	30	-	-	-	-	-	1,149	3,667
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	2,068	960	-	-	97	-4	-	-	1,052	3,120
17	Textiles	269	193	-	-	-	2	-	-	195	464
18	Wearing apparel	156	816	-	-	-	-	146	-	962	1,118
19	Leather and leather products	76	148	-	-	-	-	60	-	207	283
20	Wood and wood products (excl furniture)	578	16	-	-	-	-	-	-	16	593
21	Pulp, paper and paper products	794	198	-	-	-	-	-	-	198	992
22	Printed matter and recorded media	184	259	-	-	-	-	-	-	259	443
24	Chemical products and man-made fibres	5,411	346	-	-	-	165	517	-	1,027	6,439
25	Rubber and plastics	1,201	150	-	-	-	-13	-	-	137	1,338
26	Other non-metallic mineral products	699	39	-	-	-	-2	-	-	37	736
27	Basic metals	926	-	-	-	-	-19	-	-	-19	907
28	Fabricated metal products	916	22	-	-	61	-	-	-	83	999
29	Machinery and equipment n.e.c.	1,347	135	-	-	1,117	4	-	-	1,256	2,604
30	Office machinery and computers	5,973	90	-	-	719	283	1,731	-	2,823	8,797
31	Electrical machinery and apparatus n.e.c.	1,597	90	-	-	284	4	-	-	378	1,975
32	Radio, television and communications apparatus	2,391	114	-	-	239	42	1,039	-	1,434	3,825
33	Medical, precision and optical instruments	1,394	7	-	-	145	-	467	-	619	2,013
34	Motor vehicles and trailers	235	1,031	-	-	2,051	-	-	-	3,082	3,317
35	Other transport equipment	283	27	-	-	1,678	-5	-	-	1,700	1,984
40	Electricity and gas	34	6	-	-	-	-	-	-	6	40
41	Water collection and distribution	-	-	-	-	-	-	-	-	-	-
45	Construction work	7	-	-	-	-	-	-	-	-	7
50	Motor fuel and vechicle trade and repair	-	-	-	-	-	-	-	-	-	-
51	Wholesale trade	6,432	-	-	-	-	-	-	-	-	6,432
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	912	1,104	-	-	-	-	-	-	1,104	2,016
60	Land transport services	63	88	-	-	-	-	-	-	88	151
61 - 62	Water and Air transport services	954	265	-	-	-	-	-	-	265	1,219
63	Auxiliary transport services and travel agencies	89	-	-	-	-	-	-	-	-	89
64	Post and telecommunication services	666	-	-	-	-	-	-	-	-	666
65 - 67	Financial Services	8,634	-	-	-	-	-	-	-	-	8,634
70	Real estate services	-	-	-	-	-	-	-	-	-	-
71	Renting services of machinery and equipment	807	154	-	-	-	-	-	-	154	961
72	Computer and related services	821	-	-	-	-	-	-	-	-	821
73	Research and development services	3,730	-	-	-	-	-	-	-	-	3,730
74	Other business services	26,889	27	-	-	-	-	-	-	27	26,915
75	Public administration and defence	22	-	-	-	-	-	-	-	-	22
80	Education	-	-	-	-	-	-	-	-	-	-
85	Health and social work services	-	-	-	-	-	-	-	-	-	-
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-	-
92	Recreation	106	136	-	-	-	-	-	-	136	241
93	Other services	9	28	-	-	-	-	-	-	28	37
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total	81,245	7,995	30	-	6,407	465	3,959	-	18,856	100,101

Appendix 9.2

2005 Use Table for International Imports - BMW Region, €Millions

		1 - 5	10 - 13	14	15	16,23,36-37	17	18	19	20
	Products	Agriculture, Forestry, Fishing	Coal, Peat, Petroleum and Metal Ore Extraction	Other mining and quarying	Food and beverages	Tobacco, Petroleum, Furniture and Recycling	Textiles	Wearing apparel	Leather and leather products	Wood and wood products (excl furniture)
1 - 5	Agriculture, Forestry, Fishing	75	-	-	97	25	0	-	0	11
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	1	2	1	1	0	0	0	-	0
14	Other mining and quarying	2	-	8	0	0	0	-	-	0
15	Food and beverages	149	-	-	280	0	0	-	-	0
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	58	2	6	23	6	1	0	0	1
17	Textiles	4	-	0	0	6	20	19	4	2
18	Wearing apparel	1	0	0	0	0	0	22	-	0
19	Leather and leather products	0	-	0	0	0	0	-	2	0
20	Wood and wood products (excl furniture)	0	0	0	3	18	-	0	-	53
21	Pulp, paper and paper products	3	0	0	75	6	0	0	0	4
22	Printed matter and recorded media	0	0	0	0	0	0	-	-	0
24	Chemical products and man-made fibres	165	1	-	-	2	1	4	-	7
25	Rubber and plastics	3	1	0	3	2	0	0	-	1
26	Other non-metallic mineral products	0	-	3	0	0	0	-	-	0
27	Basic metals	0	0	-	27	9	0	-	-	2
28	Fabricated metal products	16	1	0	9	6	0	1	0	10
29	Machinery and equipment n.e.c.	34	1	-	15	2	1	0	-	9
30	Office machinery and computers	3	-	0	1	0	0	-	-	0
31	Electrical machinery and apparatus n.e.c.	0	-	0	0	1	0	-	-	0
32	Radio, television and communications apparatus	0	-	0	0	0	0	-	-	0
33	Medical, precision and optical instruments	1	0	0	0	0	0	0	-	0
34	Motor vehicles and trailers	1	0	0	0	0	0	0	-	0
35	Other transport equipment	14	-	0	0	0	0	0	-	0
40	Electricity and gas	-	-	-	-	-	-	-	-	-
41	Water collection and distribution	-	-	-	-	-	-	-	-	-
45	Construction work	-	-	-	-	-	-	-	-	-
50	Motor fuel and vechicle trade and repair	-	-	-	-	-	-	-	-	-
51	Wholesale trade	-	-	-	-	0	-	-	-	-
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	-	-	-	-	-	-	-	-	-
60	Land transport services	0	0	-	1	0	-	0	0	0
61 - 62	Water and Air transport services	0	0	1	3	1	0	0	0	0
63	Auxiliary transport services and travel agencies	0	0	0	0	0	0	0	0	0
64	Post and telecommunication services	-	-	-	0	-	-	-	-	-
65 - 67	Financial Services	-	-	-	10	0	-	-	-	-
70	Real estate services	-	-	-	-	-	-	-	-	-
71	Renting services of machinery and equipment	-	-	-	1	-	-	-	-	-
72	Computer and related services	-	-	-	0	0	-	-	-	-
73	Research and development services	-	-	-	5	0	-	-	-	-
74	Other business services	-	-	-	960	9	-	0	0	-
75	Public administration and defence	-	-	-	-	-	-	-	-	-
80	Education	-	-	-	-	-	-	-	-	-
85	Health and social work services	-	-	-	-	-	-	-	-	-
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-
92	Recreation	-	-	-	-	-	-	-	-	-
93	Other services	0	0	0	0	0	0	0	0	0
95	Private households with employed persons	-	-	-	-	-	-	-	-	-
	Total	533	8	19	1,517	95	24	47	7	100

Appendix 9.2 (cont.)

2005 Use Table for International Imports - BMW Region, €Millions

		21	22	24	25	26	27	28	29	30	31
	Products	Pulp, paper and paper products	Printed matter and recorded media	Chemical products and man-made fibres	Rubber and plastics	Other non-metallic mineral products	Basic metals	Fabricated metal products	Machinery and equipment n.e.c.	Office machinery and computers	Electrical machinery and apparatus n.e.c.
1 - 5	Agriculture, Forestry, Fishing	0	0	0	0	0	-	0	0	0	-
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	-	-	0	0	3	1	0	0	-	1
14	Other mining and quarying	-	-	-	0	9	-	-	0	-	-
15	Food and beverages	0	0	12	0	0	-	0	0	-	-
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	0	0	2	3	16	33	2	0	0	33
17	Textiles	-	-	-	0	0	0	0	0	0	0
18	Wearing apparel	0	0	1	0	0	0	0	0	0	0
19	Leather and leather products	-	0	-	0	0	0	0	0	0	0
20	Wood and wood products (excl furniture)	0	-	-	6	1	-	1	-	0	-
21	Pulp, paper and paper products	16	-	13	2	3	-	2	0	-	-
22	Printed matter and recorded media	0	-	1	0	0	0	0	0	0	0
24	Chemical products and man-made fibres	0	-	138	36	10	-	6	0	-	-
25	Rubber and plastics	2	0	8	84	1	1	10	2	1	1
26	Other non-metallic mineral products	-	0	0	0	24	-	1	-	-	-
27	Basic metals	-	-	2	5	13	16	166	50	16	16
28	Fabricated metal products	0	0	4	2	8	0	32	55	8	0
29	Machinery and equipment n.e.c.	0	-	7	11	12	-	-	28	-	-
30	Office machinery and computers	0	1	1	0	0	0	1	1	58	0
31	Electrical machinery and apparatus n.e.c.	0	0	0	0	0	0	0	5	13	0
32	Radio, television and communications apparatus	-	-	0	0	0	-	0	0	1	-
33	Medical, precision and optical instruments	0	0	1	0	0	0	0	0	1	0
34	Motor vehicles and trailers	0	0	0	0	0	0	0	0	0	0
35	Other transport equipment	0	0	0	0	0	0	0	0	0	0
40	Electricity and gas	-	-	-	-	-	-	-	-	-	-
41	Water collection and distribution	-	-	-	-	-	-	-	-	-	-
45	Construction work	-	-	-	-	-	-	-	-	-	-
50	Motor fuel and vechicle trade and repair	-	-	-	-	-	-	-	-	-	-
51	Wholesale trade	-	1,111	-	-	-	-	-	-	49	-
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	-	-	-	-	-	-	-	-	-	-
60	Land transport services	0	0	0	0	1	0	1	0	0	0
61 - 62	Water and Air transport services	0	0	3	0	2	0	1	1	0	0
63	Auxiliary transport services and travel agencies	0	-	0	0	0	0	0	0	0	0
64	Post and telecommunication services	0	1	0	-	0	-	-	-	0	-
65 - 67	Financial Services	-	0	0	-	0	0	-	0	0	0
70	Real estate services	-	-	-	-	-	-	-	-	-	-
71	Renting services of machinery and equipment	-	-	-	-	-	-	-	-	0	-
72	Computer and related services	0	-	1	0	-	0	-	0	0	0
73	Research and development services	-	-	18	-	-	-	-	5	11	-
74	Other business services	-	0	147	-	2	0	-	35	15	0
75	Public administration and defence	-	-	-	-	-	-	-	-	-	-
80	Education	-	-	-	-	-	-	-	-	-	-
85	Health and social work services	-	-	-	-	-	-	-	-	-	-
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-	-
92	Recreation	-	-	-	-	-	-	-	-	-	-
93	Other services	0	0	0	0	0	0	0	0	0	0
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total	19	1,113	358	152	104	52	221	183	174	52

Appendix 9.2 (cont.)

2005 Use Table for International Imports - BMW Region, €Millions

		32	33	34	35	40	41	45	50	51	52
	Products	Radio, television and communications apparatus	Medical, precision and optical instruments	Motor vehicles and trailers	Other transport equipment	Electricity and gas	Water collection and distribution	Construction work	Motor fuel and vechicle trade and repair	Wholesale trade	Retail trade and repair of household goods
1 - 5	Agriculture, Forestry, Fishing	0	0	0	0	-	-	2	0	0	0
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	-	-	0	17	0	0	0	0	0
14	Other mining and quarying	-	0	-	0	-	-	13	0	0	0
15	Food and beverages	0	0	0	-	0	0	1	0	0	3
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	0	5	0	0	0	0	67	7	0	1
17	Textiles	0	-	0	0	-	-	15	1	0	4
18	Wearing apparel	0	0	0	0	-	-	5	0	0	0
19	Leather and leather products	0	0	-	0	-	-	6	4	0	1
20	Wood and wood products (excl furniture)	2	0	-	0	0	0	71	0	0	0
21	Pulp, paper and paper products	5	11	-	0	0	0	7	0	0	2
22	Printed matter and recorded media	0	0	0	0	0	0	1	0	0	0
24	Chemical products and man-made fibres	2	118	1	-	6	1	62	1	-	2
25	Rubber and plastics	4	110	6	1	0	0	96	2	0	2
26	Other non-metallic mineral products	1	0	0	-	0	0	99	0	0	0
27	Basic metals	9	2	7	1	0	0	39	0	0	1
28	Fabricated metal products	5	9	1	0	4	0	111	1	0	1
29	Machinery and equipment n.e.c.	-	5	1	0	4	1	38	0	-	-
30	Office machinery and computers	0	4	1	0	1	0	17	0	0	0
31	Electrical machinery and apparatus n.e.c.	34	31	14	0	-	0	118	0	0	1
32	Radio, television and communications apparatus	32	-	2	-	0	0	12	0	-	0
33	Medical, precision and optical instruments	0	42	0	4	1	0	13	0	0	0
34	Motor vehicles and trailers	0	0	2	0	0	0	7	12	-	1
35	Other transport equipment	0	0	0	101	-	-	6	0	0	0
40	Electricity and gas	-	-	-	-	-	-	-	-	-	-
41	Water collection and distribution	-	-	-	-	-	-	-	-	-	-
45	Construction work	-	-	-	-	-	-	1	-	-	-
50	Motor fuel and vechicle trade and repair	-	-	-	-	-	-	-	-	-	-
51	Wholesale trade	-	0	-	-	-	-	-	-	-	0
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	-	-	-	-	-	-	-	-	-	-
60	Land transport services	0	0	0	0	0	0	0	0	1	0
61 - 62	Water and Air transport services	1	2	1	0	0	-	1	0	0	0
63	Auxiliary transport services and travel agencies	0	0	0	-	0	0	0	0	1	1
64	Post and telecommunication services	1	2	-	0	0	-	0	-	0	4
65 - 67	Financial Services	0	1	0	0	0	-	-	-	0	-
70	Real estate services	-	-	-	-	-	-	-	-	-	-
71	Renting services of machinery and equipment	0	-	-	-	-	-	-	-	1	0
72	Computer and related services	0	3	0	0	2	-	0	-	-	0
73	Research and development services	11	49	-	-	-	-	-	-	-	-
74	Other business services	9	185	0	-	-	-	0	-	8	18
75	Public administration and defence	-	-	-	-	-	-	-	-	-	-
80	Education	-	-	-	-	-	-	-	-	-	-
85	Health and social work services	-	-	-	-	-	-	-	-	-	-
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-	-
92	Recreation	-	-	-	-	-	-	-	-	-	-
93	Other services	0	0	0	-	0	0	0	0	0	0
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total	119	581	37	109	36	4	809	30	13	41

Appendix 9.2 (cont.)

2005 Use Table for International Imports - BMW Region, €Millions

		55	60	61 - 62	63	64	65 - 67	70	71	72	73
	Products	Hotel and restaurant services	Land transport services	Water and Air Services	Auxiliary transport services and travel agencies	Post and telecommunication services	Financial Services	Real estate services	Renting services of machinery and equipment	Computer and related services	Research and development services
1 - 5	Agriculture, Forestry, Fishing	2	-	0	0	0	-	0	-	-	0
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	0	-	-	-	-	0	-	0	0
14	Other mining and quarying	0	0	-	0	0	-	0	-	-	0
15	Food and beverages	136	0	-	0	0	0	0	0	1	0
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	3	25	0	10	1	0	3	2	2	0
17	Textiles	3	0	0	0	0	0	4	-	0	0
18	Wearing apparel	1	0	-	-	-	-	0	-	-	0
19	Leather and leather products	2	0	0	0	0	0	0	0	0	1
20	Wood and wood products (excl furniture)	1	0	-	0	0	0	10	0	-	0
21	Pulp, paper and paper products	2	0	-	0	0	-	2	-	0	0
22	Printed matter and recorded media	0	0	-	0	0	0	0	0	0	0
24	Chemical products and man-made fibres	3	-	-	0	0	-	2	0	-	-
25	Rubber and plastics	1	4	0	0	0	0	5	0	0	0
26	Other non-metallic mineral products	0	-	-	0	-	0	9	0	-	0
27	Basic metals	0	1	-	0	0	0	-	0	0	0
28	Fabricated metal products	0	1	0	0	0	-	1	-	0	0
29	Machinery and equipment n.e.c.	-	-	-	-	-	-	-	-	-	0
30	Office machinery and computers	0	0	0	0	0	0	6	0	4	0
31	Electrical machinery and apparatus n.e.c.	0	1	0	0	1	0	1	0	1	0
32	Radio, television and communications apparatus	0	0	-	-	-	-	0	-	0	-
33	Medical, precision and optical instruments	0	0	-	0	1	0	0	0	1	0
34	Motor vehicles and trailers	0	8	-	-	0	-	2	2	1	0
35	Other transport equipment	1	4	0	0	0	0	0	0	0	0
40	Electricity and gas	-	-	-	-	-	-	-	-	-	-
41	Water collection and distribution	-	-	-	-	-	-	-	-	-	-
45	Construction work	-	-	-	-	-	-	-	-	-	-
50	Motor fuel and vechicle trade and repair	-	-	-	-	-	-	-	-	-	-
51	Wholesale trade	-	-	0	-	0	-	-	-	17	-
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	-	-	-	28	-	-	-	-	-	-
60	Land transport services	0	0	0	0	0	-	0	0	0	0
61 - 62	Water and Air transport services	1	0	1	23	0	1	1	0	0	0
63	Auxiliary transport services and travel agencies	1	1	0	3	0	-	0	-	-	0
64	Post and telecommunication services	-	1	0	0	32	1	-	-	0	-
65 - 67	Financial Services	-	-	0	0	0	36	-	42	0	0
70	Real estate services	-	-	-	-	-	-	-	-	-	-
71	Renting services of machinery and equipment	-	-	0	-	-	-	-	4	0	-
72	Computer and related services	-	-	0	1	4	7	-	0	45	-
73	Research and development services	-	-	-	-	-	0	-	-	-	-
74	Other business services	-	0	0	1	0	85	-	-	0	-
75	Public administration and defence	-	-	-	-	-	-	-	-	-	-
80	Education	-	-	-	-	-	-	-	-	-	-
85	Health and social work services	-	-	-	-	-	-	-	-	-	-
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-	-
92	Recreation	-	-	-	-	-	-	-	-	-	-
93	Other services	0	-	0	0	0	0	0	0	-	0
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total	158	48	3	67	42	130	48	53	73	4

Appendix 9.2 (cont.)

2005 Use Table for International Imports - BMW Region, €Millions

		74	75	80	85	90	91	92	93	95
	Products	Other business services	Public administration and defence	Education	Health and social work services	Sewage and refuse disposal services	Membership organisation services n.e.c.	Recreation	Other services	Private households with employed persons
1 - 5	Agriculture, Forestry, Fishing	0	0	0	0	-	0	0	0	-
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	2	0	-	-	-	0	0	-
14	Other mining and quarying	-	0	0	-	-	0	0	0	-
15	Food and beverages	-	3	0	7	0	1	2	0	-
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	2	26	10	44	2	1	1	2	-
17	Textiles	1	2	0	8	0	0	0	1	-
18	Wearing apparel	1	15	0	2	0	0	0	1	-
19	Leather and leather products	1	0	0	-	0	0	0	1	-
20	Wood and wood products (excl furniture)	0	0	1	0	0	0	0	0	-
21	Pulp, paper and paper products	1	5	8	15	0	0	0	0	-
22	Printed matter and recorded media	1	0	0	0	0	0	0	0	-
24	Chemical products and man-made fibres	-	17	3	326	8	2	1	-	-
25	Rubber and plastics	1	6	0	50	0	0	0	0	-
26	Other non-metallic mineral products	0	2	0	0	0	0	0	0	-
27	Basic metals	0	1	0	-	0	0	0	0	-
28	Fabricated metal products	0	4	3	0	0	0	0	0	-
29	Machinery and equipment n.e.c.	-	1	0	0	-	0	-	-	-
30	Office machinery and computers	1	6	7	0	1	0	1	0	-
31	Electrical machinery and apparatus n.e.c.	1	0	0	9	0	0	0	0	-
32	Radio, television and communications apparatus	-	1	0	3	-	0	-	-	-
33	Medical, precision and optical instruments	0	3	4	107	0	0	0	0	-
34	Motor vehicles and trailers	2	2	0	1	0	0	0	0	-
35	Other transport equipment	1	6	0	1	0	0	0	0	-
40	Electricity and gas	-	-	-	-	-	-	-	-	-
41	Water collection and distribution	-	-	-	-	-	-	-	-	-
45	Construction work	-	-	-	-	-	-	-	-	-
50	Motor fuel and vechicle trade and repair	-	-	-	-	-	-	-	-	-
51	Wholesale trade	-	-	-	-	-	-	-	-	-
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	-	-	-	-	-	-	-	-	-
60	Land transport services	0	1	0	0	0	0	0	-	-
61 - 62	Water and Air transport services	5	2	3	2	0	0	0	0	-
63	Auxiliary transport services and travel agencies	-	0	0	-	0	0	-	0	-
64	Post and telecommunication services	1	-	-	-	-	-	0	-	-
65 - 67	Financial Services	1	-	-	-	-	-	-	-	-
70	Real estate services	-	-	-	-	-	-	-	-	-
71	Renting services of machinery and equipment	0	-	-	-	-	-	-	-	-
72	Computer and related services	7	-	-	-	-	-	0	-	-
73	Research and development services	-	-	3	-	-	-	-	-	-
74	Other business services	174	-	-	-	-	-	2	-	-
75	Public administration and defence	-	8	-	-	-	-	-	-	-
80	Education	-	-	-	-	-	-	-	-	-
85	Health and social work services	-	-	-	-	-	-	-	-	-
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-
92	Recreation	-	-	-	-	-	-	3	-	-
93	Other services	-	0	0	0	0	0	0	0	-
95	Private households with employed persons	-	-	-	-	-	-	-	-	-
	Total	202	112	46	576	14	6	12	5	-

Appendix 9.2 (cont.)

2005 Use Table for International Imports - BMW Region, €Millions

	Products	Total Inter-Industry	hhld expenditure	NPISH	government consumption expenditure	gross fixed capital formation	changes in inventories	International exports	Domestic exports	final uses	total uses
	Products										
1 - 5	Agriculture, Forestry, Fishing	212	112	-	-	-	-	-	-	112	324
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	30	31	-	-	-	1	-	-	33	62
14	Other mining and quarying	32	-	-	-	1	-	-	-	1	33
15	Food and beverages	597	308	12	-	-	3	-	-	323	920
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	371	309	-	-	12	-5	-	-	317	688
17	Textiles	95	64	-	-	-	17	-	-	81	176
18	Wearing apparel	50	366	-	-	-	12	76	-	455	505
19	Leather and leather products	20	89	-	-	-	42	18	-	148	169
20	Wood and wood products (excl furniture)	168	6	-	-	-	11	-	-	17	185
21	Pulp, paper and paper products	183	63	-	-	-	-4	-	-	60	243
22	Printed matter and recorded media	7	16	-	-	-	5	-	-	21	28
24	Chemical products and man-made fibres	923	161	-	-	-	12	84	-	257	1,179
25	Rubber and plastics	410	35	-	-	-	1	-	-	36	446
26	Other non-metallic mineral products	141	9	-	-	-	-	-	-	9	151
27	Basic metals	371	-	-	-	-	-	-	-	0	371
28	Fabricated metal products	292	8	-	-	18	-5	-	-	21	314
29	Machinery and equipment n.e.c.	169	65	-	-	513	1	-	-	578	747
30	Office machinery and computers	156	40	-	-	9	45	94	-	188	344
31	Electrical machinery and apparatus n.e.c.	270	26	-	-	-7	6	-	-	25	295
32	Radio, television and communications apparatus	57	32	-	-	-	4	486	-	522	579
33	Medical, precision and optical instruments	183	12	-	-	51	13	142	-	218	400
34	Motor vehicles and trailers	43	307	-	-	282	1	-	-	590	632
35	Other transport equipment	138	13	-	-	31	-	-	-	44	182
40	Electricity and gas	-	-	-	-	-	-	-	-	-	-
41	Water collection and distribution	-	-	-	-	-	-	-	-	-	-
45	Construction work	1	-	-	-	-	-	-	-	-	1
50	Motor fuel and vechicle trade and repair	-	-	-	-	-	-	-	-	-	-
51	Wholesale trade	1,177	-	-	-	-	-	-	-	-	1,177
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	28	306	-	-	-	-	-	-	306	334
60	Land transport services	8	19	-	-	-	-	-	-	19	27
61 - 62	Water and Air transport services	59	46	-	-	-	-	-	-	46	105
63	Auxiliary transport services and travel agencies	10	-	-	-	-	-	-	-	-	10
64	Post and telecommunication services	43	-	-	-	-	-	-	-	-	43
65 - 67	Financial Services	93	-	-	-	-	-	-	-	-	93
70	Real estate services	-	-	-	-	-	-	-	-	-	-
71	Renting services of machinery and equipment	6	44	-	-	-	-	-	-	44	51
72	Computer and related services	72	-	-	-	-	-	-	-	-	72
73	Research and development services	102	-	-	-	-	-	-	-	-	102
74	Other business services	1,651	10	-	-	-	-	-	-	10	1,662
75	Public administration and defence	8	-	-	-	-	-	-	-	-	8
80	Education	-	-	-	-	-	-	-	-	-	-
85	Health and social work services	-	-	-	-	-	-	-	-	-	-
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-	-
92	Recreation	3	48	-	-	-	-	-	-	48	51
93	Other services	1	8	-	-	-	-	-	-	8	10
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total	8,183	2,552	12	-	909	160	901	-	4,535	12,718

Appendix 10.1

2005 Use Table for Domestic Imports - SE Region, €Millions

		1 - 5	10 - 13	14	15	16,23,36-37	17	18	19	20
	Products	Agriculture, Forestry, Fishing	Coal, Peat, Petroleum and Metal Ore Extraction	Other mining and quarying	Food and beverages	Tobacco, Petroleum, Furniture and Recycling	Textiles	Wearing apparel	Leather and leather products	Wood and wood products (excl furniture)
1 - 5	Agriculture, Forestry, Fishing	209	-	-	492	0	0	-	0	28
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	0	0	0	0	0	0	-	-
14	Other mining and quarying	7	1	31	0	0	0	-	-	0
15	Food and beverages	15	-	-	40	0	0	-	-	0
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	0	-	-	0	4	0	-	-	0
17	Textiles	0	0	0	0	-	4	2	-	-
18	Wearing apparel	0	0	0	-	0	-	-	-	-
19	Leather and leather products	0	0	-	-	0	0	-	0	0
20	Wood and wood products (excl furniture)	0	0	0	1	7	0	-	-	9
21	Pulp, paper and paper products	0	0	0	1	0	0	0	-	0
22	Printed matter and recorded media	0	-	0	0	0	0	-	-	0
24	Chemical products and man-made fibres	1	0	0	0	0	0	-	-	0
25	Rubber and plastics	0	0	0	4	1	0	0	0	0
26	Other non-metallic mineral products	0	0	0	0	1	0	-	-	0
27	Basic metals	0	0	0	0	0	-	-	-	0
28	Fabricated metal products	7	1	1	8	5	0	0	0	2
29	Machinery and equipment n.e.c.	-	-	-	-	-	-	-	-	-
30	Office machinery and computers	0	0	0	0	0	0	-	-	0
31	Electrical machinery and apparatus n.e.c.	0	0	0	0	-	0	-	-	0
32	Radio, television and communications apparatus	0	0	0	0	0	0	-	-	0
33	Medical, precision and optical instruments	0	0	0	0	0	-	-	-	-
34	Motor vehicles and trailers	-	0	-	-	0	-	-	-	-
35	Other transport equipment	-	-	-	-	0	-	-	-	-
40	Electricity and gas	2	1	1	5	0	0	0	0	1
41	Water collection and distribution	-	-	-	-	-	-	-	-	-
45	Construction work	-	-	-	-	-	-	-	-	-
50	Motor fuel and vechicle trade and repair	0	0	0	0	0	0	0	-	0
51	Wholesale trade	-	-	-	-	0	-	-	-	-
52	Retail trade and repair of household goods	0	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	1	0	0	5	1	0	0	0	0
60	Land transport services	0	1	4	7	1	0	0	0	0
61 - 62	Water and Air transport services	0	0	0	0	0	0	0	0	-
63	Auxiliary transport services and travel agencies	0	0	0	0	0	0	0	0	0
64	Post and telecommunication services	1	0	1	5	1	0	0	0	0
65 - 67	Financial Services	0	0	0	2	0	0	0	-	0
70	Real estate services	0	0	0	0	0	0	0	-	0
71	Renting services of machinery and equipment	0	0	6	1	0	0	0	0	0
72	Computer and related services	0	0	0	0	0	0	0	0	0
73	Research and development services	0	0	0	0	0	0	0	0	0
74	Other business services	0	0	0	12	0	0	0	0	0
75	Public administration and defence	-	-	-	-	-	-	-	-	-
80	Education	-	-	-	-	-	-	-	-	-
85	Health and social work services	-	-	-	-	-	-	-	-	-
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-
92	Recreation	1	0	0	1	0	0	0	0	0
93	Other services	0	0	0	1	0	0	0	0	0
95	Private households with employed persons	-	-	-	-	-	-	-	-	-
	Total	247	5	45	586	22	5	2	0	41

Appendix 10.1 (cont.)

2005 Use Table for Domestic Imports - SE Region, €Millions

		21	22	24	25	26	27	28	29	30	31
	Products	Pulp, paper and paper products	Printed matter and recorded media	Chemical products and man-made fibres	Rubber and plastics	Other non-metallic mineral products	Basic metals	Fabricated metal products	Machinery and equipment n.e.c.	Office machinery and computers	Electrical machinery and apparatus n.e.c.
1 - 5	Agriculture, Forestry, Fishing	0	0	2	0	0	-	0	0	0	0
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	-	-	0	0	0	0	0	0	-	0
14	Other mining and quarying	-	0	9	0	22	3	0	0	-	0
15	Food and beverages	0	0	2	0	0	-	0	0	-	0
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	0	0	0	0	0	-	0	0	0	0
17	Textiles	0	1	1	0	0	0	0	0	0	0
18	Wearing apparel	0	0	-	-	-	-	-	-	0	-
19	Leather and leather products	0	0	0	0	0	-	0	-	0	-
20	Wood and wood products (excl furniture)	0	0	0	1	0	0	0	0	0	0
21	Pulp, paper and paper products	1	1	0	0	0	0	0	0	0	0
22	Printed matter and recorded media	0	14	0	0	0	-	0	0	0	0
24	Chemical products and man-made fibres	0	0	8	0	0	0	0	0	0	0
25	Rubber and plastics	0	0	1	4	0	0	0	1	0	0
26	Other non-metallic mineral products	-	0	0	0	2	-	0	0	0	0
27	Basic metals	0	0	0	0	0	0	2	1	0	0
28	Fabricated metal products	1	1	3	7	2	3	11	15	6	2
29	Machinery and equipment n.e.c.	-	-	-	-	-	-	-	-	-	-
30	Office machinery and computers	0	0	0	0	0	0	-	0	29	-
31	Electrical machinery and apparatus n.e.c.	0	0	0	0	0	0	0	-	10	11
32	Radio, television and communications apparatus	0	0	0	0	0	0	0	0	6	1
33	Medical, precision and optical instruments	0	0	0	0	0	0	0	0	0	0
34	Motor vehicles and trailers	0	0	0	-	-	0	-	-	0	0
35	Other transport equipment	0	-	-	-	0	-	0	-	-	-
40	Electricity and gas	0	0	4	1	2	1	0	0	1	0
41	Water collection and distribution	-	-	-	-	-	-	-	-	-	-
45	Construction work	-	-	-	-	-	-	-	-	-	-
50	Motor fuel and vechicle trade and repair	0	0	0	0	0	0	0	0	0	0
51	Wholesale trade	-	-	1	-	0	-	-	0	-	0
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	0	3	4	1	1	0	0	1	3	1
60	Land transport services	0	1	0	1	1	0	-	0	3	0
61 - 62	Water and Air transport services	0	0	0	0	0	0	0	0	0	0
63	Auxiliary transport services and travel agencies	0	0	0	0	0	0	0	0	1	0
64	Post and telecommunication services	0	7	3	1	2	0	1	1	1	1
65 - 67	Financial Services	0	1	2	0	0	0	0	0	1	0
70	Real estate services	0	0	0	0	0	0	0	0	0	0
71	Renting services of machinery and equipment	0	0	1	0	4	0	1	0	0	0
72	Computer and related services	0	1	3	0	0	0	0	0	1	0
73	Research and development services	0	1	2	0	0	0	0	0	0	0
74	Other business services	0	19	57	0	0	0	0	0	17	2
75	Public administration and defence	-	-	-	-	-	-	-	-	-	-
80	Education	-	-	-	-	-	-	-	-	-	-
85	Health and social work services	-	-	-	-	-	-	-	-	-	-
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-	-
92	Recreation	0	0	1	0	0	0	0	0	1	0
93	Other services	0	0	0	0	0	0	0	0	0	0
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total	3	51	105	17	38	8	16	20	81	19

Appendix 10.1 (cont.)

2005 Use Table for Domestic Imports - SE Region, €Millions

		32	33	34	35	40	41	45	50	51	52
	Products	Radio, television and communications apparatus	Medical, precision and optical instruments	Motor vehicles and trailers	Other transport equipment	Electricity and gas	Water collection and distribution	Construction work	Motor fuel and vechicle trade and repair	Wholesale trade	Retail trade and repair of household goods
1 - 5	Agriculture, Forestry, Fishing	0	0	0	0	-	-	18	0	0	2
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	-	-	-	0	1	0	0	0	0	0
14	Other mining and quarying	0	0	-	0	-	-	137	0	0	0
15	Food and beverages	0	0	0	-	0	0	0	0	1	2
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	0	0	-	0	0	0	6	0	0	0
17	Textiles	0	0	0	0	-	-	5	0	0	1
18	Wearing apparel	0	0	-	-	-	-	0	0	0	0
19	Leather and leather products	0	0	-	-	-	-	0	0	0	0
20	Wood and wood products (excl furniture)	0	0	0	0	0	0	63	0	0	0
21	Pulp, paper and paper products	0	0	0	0	0	0	0	0	0	0
22	Printed matter and recorded media	0	0	-	-	0	0	5	0	1	0
24	Chemical products and man-made fibres	0	0	0	0	-	0	1	0	0	0
25	Rubber and plastics	0	0	0	0	0	0	17	0	1	0
26	Other non-metallic mineral products	0	0	0	-	0	0	18	0	0	0
27	Basic metals	-	0	0	0	0	0	1	0	0	0
28	Fabricated metal products	5	5	2	0	3	0	150	1	0	1
29	Machinery and equipment n.e.c.	-	-	-	-	-	-	-	-	-	-
30	Office machinery and computers	1	0	0	0	0	0	0	0	0	0
31	Electrical machinery and apparatus n.e.c.	4	3	-	1	1	0	22	0	0	0
32	Radio, television and communications apparatus	8	1	1	0	0	0	1	0	0	0
33	Medical, precision and optical instruments	0	2	0	0	0	0	0	0	0	0
34	Motor vehicles and trailers	0	-	1	-	0	0	1	1	0	0
35	Other transport equipment	-	-	-	-	-	-	-	-	-	-
40	Electricity and gas	2	1	0	0	29	0	4	1	1	4
41	Water collection and distribution	-	-	-	-	-	-	-	-	-	-
45	Construction work	-	-	-	-	-	-	-	-	-	-
50	Motor fuel and vechicle trade and repair	0	0	0	0	-	0	1	0	0	0
51	Wholesale trade	0	-	-	-	-	-	-	-	1	0
52	Retail trade and repair of household goods	-	-	-	-	-	0	0	0	0	0
55	Hotel and restaurant services	0	2	0	0	0	0	4	0	1	10
60	Land transport services	0	0	0	0	0	0	2	1	3	2
61 - 62	Water and Air transport services	0	0	0	0	0	-	0	0	0	0
63	Auxiliary transport services and travel agencies	1	0	0	0	0	0	1	1	7	2
64	Post and telecommunication services	2	2	0	0	1	0	5	3	7	9
65 - 67	Financial Services	0	0	0	0	0	0	1	0	0	0
70	Real estate services	0	0	0	-	0	0	7	0	1	4
71	Renting services of machinery and equipment	0	0	0	0	2	0	28	1	1	4
72	Computer and related services	0	0	0	0	0	0	1	0	0	0
73	Research and development services	0	0	0	0	-	0	0	0	0	0
74	Other business services	1	2	0	0	0	0	5	1	2	2
75	Public administration and defence	-	-	-	-	-	-	-	-	-	-
80	Education	-	-	-	-	-	-	-	-	-	-
85	Health and social work services	-	-	-	-	-	-	-	-	-	-
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-	-
92	Recreation	0	1	0	0	0	0	1	0	0	1
93	Other services	0	0	0	0	0	0	0	0	0	0
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total	25	21	6	2	39	2	504	11	31	47

Appendix 10.1 (cont.)

2005 Use Table for Domestic Imports - SE Region, €Millions

		55	60	61 - 62	63	64	65 - 67	70	71	72	73
	Products	Hotel and restaurant services	Land transport services	Water and Air Services	Auxiliary transport services and travel agencies	Post and telecommunication services	Financial Services	Real estate services	Renting services of machinery and equipment	Computer and related services	Research and development services
1 - 5	Agriculture, Forestry, Fishing	50	0	0	0	0	-	1	-	0	0
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	0	0	0	0	0	0	0	0	0
14	Other mining and quarying	1	0	0	1	0	0	2	-	-	0
15	Food and beverages	77	0	0	0	0	1	0	0	1	0
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	1	0	0	0	0	0	0	0	0	0
17	Textiles	1	0	0	0	0	0	1	0	0	0
18	Wearing apparel	0	0	0	0	0	0	-	0	0	0
19	Leather and leather products	0	0	0	0	0	0	0	0	0	0
20	Wood and wood products (excl furniture)	1	0	0	0	0	0	3	0	0	0
21	Pulp, paper and paper products	0	0	0	0	0	0	0	0	0	0
22	Printed matter and recorded media	1	0	0	1	0	3	1	0	1	0
24	Chemical products and man-made fibres	0	0	0	0	0	0	0	0	0	0
25	Rubber and plastics	0	1	0	0	2	0	1	0	1	0
26	Other non-metallic mineral products	0	0	0	0	0	-	1	-	0	-
27	Basic metals	-	0	0	0	0	0	-	0	0	-
28	Fabricated metal products	0	1	0	0	1	0	2	0	1	0
29	Machinery and equipment n.e.c.	-	-	-	-	-	-	-	-	-	-
30	Office machinery and computers	0	-	0	0	0	0	0	0	0	0
31	Electrical machinery and apparatus n.e.c.	0	0	0	0	3	0	0	0	2	0
32	Radio, television and communications apparatus	0	0	0	0	4	0	0	0	1	0
33	Medical, precision and optical instruments	0	0	0	0	0	0	0	0	0	0
34	Motor vehicles and trailers	0	0	0	0	0	0	-	0	0	0
35	Other transport equipment	-	-	-	-	-	0	-	-	-	-
40	Electricity and gas	5	0	0	1	1	1	1	1	2	0
41	Water collection and distribution	-	-	-	-	-	-	-	-	-	-
45	Construction work	-	-	-	-	-	-	-	-	-	-
50	Motor fuel and vechicle trade and repair	0	0	0	0	0	0	0	1	0	0
51	Wholesale trade	0	-	0	0	2	-	-	-	-	-
52	Retail trade and repair of household goods	0	1	0	0	0	0	0	0	0	0
55	Hotel and restaurant services	4	1	5	44	3	3	1	0	5	0
60	Land transport services	2	2	0	3	1	1	0	1	2	0
61 - 62	Water and Air transport services	0	0	1	2	0	0	0	0	0	0
63	Auxiliary transport services and travel agencies	4	6	8	12	2	3	1	1	1	0
64	Post and telecommunication services	13	2	3	4	144	59	6	3	33	1
65 - 67	Financial Services	0	0	1	0	0	179	0	0	4	0
70	Real estate services	2	0	0	1	1	2	1	0	1	0
71	Renting services of machinery and equipment	4	5	10	3	1	4	1	9	10	0
72	Computer and related services	0	1	1	1	1	2	0	0	13	0
73	Research and development services	0	0	0	0	0	0	0	0	0	0
74	Other business services	3	1	2	1	1	9	3	2	20	0
75	Public administration and defence	-	-	-	-	-	-	-	-	-	-
80	Education	-	-	-	-	-	-	-	-	-	-
85	Health and social work services	-	-	-	-	-	-	-	-	-	-
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-	-
92	Recreation	5	0	1	3	2	2	1	0	6	0
93	Other services	3	0	1	0	1	1	0	1	1	0
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total	178	23	34	80	171	271	27	20	103	3

Appendix 10.1 (cont.)

2005 Use Table for Domestic Imports - SE Region, €Millions

		74	75	80	85	90	91	92	93	95
	Products	Other business services	Public administration and defence	Education	Health and social work services	Sewage and refuse disposal services	Membership organisation services n.e.c.	Recreation	Other services	Private households with employed persons
1 - 5	Agriculture, Forestry, Fishing	0	1	8	3	-	0	0	0	-
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	0	0	-	0	0	0	0	-
14	Other mining and quarying	0	1	0	-	2	0	0	0	-
15	Food and beverages	1	1	0	1	0	1	1	0	-
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	1	1	1	2	0	0	0	0	-
17	Textiles	1	0	0	2	0	0	0	0	-
18	Wearing apparel	0	0	0	-	0	0	0	0	-
19	Leather and leather products	0	0	0	-	0	0	0	0	-
20	Wood and wood products (excl furniture)	1	0	1	0	0	0	0	0	-
21	Pulp, paper and paper products	0	0	0	0	0	0	0	0	-
22	Printed matter and recorded media	5	1	2	0	0	0	0	0	-
24	Chemical products and man-made fibres	0	0	0	2	0	0	0	0	-
25	Rubber and plastics	0	1	0	3	0	0	0	0	-
26	Other non-metallic mineral products	0	0	0	0	0	0	0	0	-
27	Basic metals	0	0	-	-	0	-	-	-	-
28	Fabricated metal products	1	3	3	0	1	0	0	0	-
29	Machinery and equipment n.e.c.	-	-	-	-	-	-	-	-	-
30	Office machinery and computers	0	0	0	0	0	0	0	0	-
31	Electrical machinery and apparatus n.e.c.	0	0	0	0	0	0	0	0	-
32	Radio, television and communications apparatus	0	0	0	0	0	0	0	0	-
33	Medical, precision and optical instruments	0	0	0	0	0	0	0	0	-
34	Motor vehicles and trailers	0	0	0	-	0	0	0	0	-
35	Other transport equipment	-	-	-	-	-	-	-	-	-
40	Electricity and gas	4	4	4	1	1	0	1	0	-
41	Water collection and distribution	-	-	-	-	-	-	-	-	-
45	Construction work	-	-	-	-	-	-	-	-	-
50	Motor fuel and vechicle trade and repair	0	0	0	0	0	0	0	0	-
51	Wholesale trade	1	-	0	-	-	-	-	-	-
52	Retail trade and repair of household goods	0	-	0	-	0	0	0	0	-
55	Hotel and restaurant services	11	5	2	2	0	1	1	0	-
60	Land transport services	2	4	1	1	1	0	0	0	-
61 - 62	Water and Air transport services	0	0	0	0	0	0	0	0	-
63	Auxiliary transport services and travel agencies	5	0	0	-	0	0	0	0	-
64	Post and telecommunication services	34	14	5	-	2	2	3	2	-
65 - 67	Financial Services	6	0	0	-	0	0	0	0	-
70	Real estate services	3	7	0	0	0	0	1	0	-
71	Renting services of machinery and equipment	8	0	0	-	2	0	1	1	-
72	Computer and related services	3	1	0	0	0	0	0	0	-
73	Research and development services	0	0	0	0	0	0	0	0	-
74	Other business services	25	4	1	1	1	1	1	0	-
75	Public administration and defence	-	-	-	-	-	-	-	-	-
80	Education	-	-	-	-	-	-	-	-	-
85	Health and social work services	-	-	-	-	-	-	-	-	-
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-
92	Recreation	6	6	13	0	1	7	22	0	-
93	Other services	3	0	3	1	1	0	1	3	-
95	Private households with employed persons	-	-	-	-	-	-	-	-	-
	Total	121	57	46	22	14	13	34	9	-

Appendix 10.1 (cont.)

2005 Use Table for Domestic Imports - SE Region, €Millions

	Products	total inter-industry	Household expenditure	NPISH	government consumption expenditure	gross fixed capital formation	changes in inventories	International Exports	Domestic Exports	final uses	total uses
1 - 5	Agriculture, Forestry, Fishing	816	232	-	-	-	9	101	274	616	1,432
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	1	0	-	-	-	-0	0	0	1	2
14	Other mining and quarying	220	-	-	-	35	-6	12	217	258	478
15	Food and beverages	146	140	2	-	-	-	291	20	453	599
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	17	83	-	-	4	-0	13	4	104	121
17	Textiles	20	12	-	-	-	0	19	15	46	66
18	Wearing apparel	1	-	-	-	-	-	22	7	28	30
19	Leather and leather products	1	6	-	-	-	-	1	0	7	8
20	Wood and wood products (excl furniture)	89	5	-	-	-	-	1	4	10	99
21	Pulp, paper and paper products	4	1	-	-	-	-	1	-	2	5
22	Printed matter and recorded media	38	20	-	-	-	-	306	2	328	366
24	Chemical products and man-made fibres	15	-	-	-	-	0	146	6	152	167
25	Rubber and plastics	40	11	-	-	-	-0	10	3	23	63
26	Other non-metallic mineral products	24	2	-	-	-	-0	3	0	5	29
27	Basic metals	6	-	-	-	-	-0	3	-	3	9
28	Fabricated metal products	255	23	-	-	18	-	39	23	103	359
29	Machinery and equipment n.e.c.	-	11	-	-	52	2	455	153	673	673
30	Office machinery and computers	32	-	-	-	4	2	69	1	75	107
31	Electrical machinery and apparatus n.e.c.	59	2	-	-	13	1	43	6	65	124
32	Radio, television and communications apparatus	23	2	-	-	2	0	52	1	58	80
33	Medical, precision and optical instruments	3	0	-	-	0	-	9	0	9	13
34	Motor vehicles and trailers	4	-	-	-	27	-	24	1	52	57
35	Other transport equipment	0	-	-	-	-	-0	60	19	79	79
40	Electricity and gas	87	34	-	-	-	-	0	12	46	133
41	Water collection and distribution	-	-	-	-	-	-	-	-	-	-
45	Construction work	-	-	-	-	-	-	-	-	-	-
50	Motor fuel and vechicle trade and repair	6	4	-	-	-	-	-	-	4	9
51	Wholesale trade	5	-	-	-	-	-	81	7	88	93
52	Retail trade and repair of household goods	1	12	-	-	-	-	-	14	26	27
55	Hotel and restaurant services	127	254	-	-	-	-	101	40	395	522
60	Land transport services	53	25	-	-	-	-	3	3	32	84
61 - 62	Water and Air transport services	4	1	-	-	-	-	4	1	5	9
63	Auxiliary transport services and travel agencies	57	63	-	-	-	-	10	3	75	132
64	Post and telecommunication services	383	159	-	-	-	-	36	72	266	649
65 - 67	Financial Services	200	28	-	-	-	-	52	21	102	302
70	Real estate services	31	108	-	-	5	-	-	16	128	160
71	Renting services of machinery and equipment	110	25	-	-	-	-	230	19	273	383
72	Computer and related services	32	-	-	-	2	-	44	2	47	79
73	Research and development services	4	-	-	-	-	-	0	0	0	5
74	Other business services	199	1	-	-	10	-	25	8	43	242
75	Public administration and defence	-	-	-	-	-	-	-	-	-	-
80	Education	-	-	-	-	-	-	-	-	-	-
85	Health and social work services	-	-	-	-	-	-	-	-	-	-
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-	-
92	Recreation	85	116	-	-	13	-	36	59	224	309
93	Other services	25	28	-	-	-	-	3	4	35	59
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total	3,223	1,409	2	-	185	6	2,304	1,035	4,940	8,164

Appendix 10.2

2005 Use Table for Domestic Imports - BMW Region, €Millions

		1 - 5	10 - 13	14	15	23, 36 - 37	17	18	19	20
	Products	Agriculture, Forestry, Fishing	Coal, Peat, Petroleum and Metal Ore Extraction	Other mining and quarying	Food and beverages	Tobacco, Petroleum, Furniture and Recycling	Textiles	Wearing apparel	Leather and leather products	Wood and wood products (excl furniture)
1 - 5	Agriculture, Forestry, Fishing	148	-	-	394	0	0	-	0	16
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	0	0	0	0	0	0	-	-
14	Other mining and quarying	12	-	50	0	0	0	-	-	0
15	Food and beverages	46	-	-	79	0	0	-	-	0
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	14	1	1	5	2	0	0	0	0
17	Textiles	1	-	0	0	1	2	3	0	0
18	Wearing apparel	0	0	0	0	0	0	2	-	0
19	Leather and leather products	0	-	-	0	0	0	-	0	0
20	Wood and wood products (excl furniture)	0	0	0	1	4	-	0	-	10
21	Pulp, paper and paper products	-	-	-	-	-	-	-	-	-
22	Printed matter and recorded media	0	0	0	0	0	0	0	-	0
24	Chemical products and man-made fibres	8	0	-	-	0	-	1	-	-
25	Rubber and plastics	1	0	0	1	1	0	0	-	0
26	Other non-metallic mineral products	0	-	0	0	0	0	-	-	0
27	Basic metals	-	-	-	-	-	-	-	-	-
28	Fabricated metal products	5	0	0	3	2	0	0	0	3
29	Machinery and equipment n.e.c.	0	0	-	-	0	0	0	-	1
30	Office machinery and computers	0	-	0	0	0	0	-	-	0
31	Electrical machinery and apparatus n.e.c.	0	-	0	0	0	0	-	-	0
32	Radio, television and communications apparatus	0	-	-	0	0	-	-	-	0
33	Medical, precision and optical instruments	0	0	0	0	0	0	0	-	0
34	Motor vehicles and trailers	0	-	0	0	0	0	0	-	0
35	Other transport equipment	0	-	-	-	0	-	0	-	-
40	Electricity and gas	15	0	4	21	2	0	1	-	2
41	Water collection and distribution	-	-	-	-	-	-	-	-	-
45	Construction work	2	0	-	0	0	0	0	0	0
50	Motor fuel and vechicle trade and repair	1	-	0	0	0	0	0	0	0
51	Wholesale trade	-	-	-	6	0	-	-	-	-
52	Retail trade and repair of household goods	0	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	4	0	1	9	2	0	0	0	1
60	Land transport services	1	0	-	13	2	-	0	0	3
61 - 62	Water and Air transport services	3	1	7	24	6	0	0	0	0
63	Auxiliary transport services and travel agencies	1	0	0	0	0	0	0	0	0
64	Post and telecommunication services	9	0	1	12	1	0	1	0	2
65 - 67	Financial Services	37	1	3	20	5	1	2	1	4
70	Real estate services	2	0	0	1	0	0	0	0	0
71	Renting services of machinery and equipment	1	0	2	1	0	0	0	0	0
72	Computer and related services	0	0	1	3	2	0	0	0	1
73	Research and development services	0	-	0	1	0	0	0	0	0
74	Other business services	5	7	1	317	9	1	3	0	4
75	Public administration and defence	-	-	-	-	-	-	-	-	-
80	Education	-	-	-	-	-	-	-	-	-
85	Health and social work services	-	-	-	-	-	-	-	-	-
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-
92	Recreation	2	0	0	2	0	0	0	0	0
93	Other services	1	0	0	1	0	0	0	0	0
95	Private households with employed persons	-	-	-	-	-	-	-	-	-
	Total	321	10	72	914	39	6	12	2	50

Appendix 10.2 (cont.)

2005 Use Table for Domestic Imports - BMW Region, €Millions

		21	22	24	25	26	27	28	29	30	31
	Products	Pulp, paper and paper products	Printed matter and recorded media	Chemical products and man-made fibres	Rubber and plastics	Other non-metallic mineral products	Basic metals	Fabricated metal products	Machinery and equipment n.e.c.	Office machinery and computers	Electrical machinery and apparatus n.e.c.
1 - 5	Agriculture, Forestry, Fishing	-	-	0	0	0	-	0	0	-	-
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	-	-	0	0	0	-	0	0	-	0
14	Other mining and quarying	-	-	0	0	53	-	0	0	-	0
15	Food and beverages	0	0	4	0	0	-	0	0	-	0
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	0	0	0	1	4	12	1	0	0	0
17	Textiles	-	-	-	0	0	0	0	0	-	-
18	Wearing apparel	0	0	0	0	0	0	0	-	-	0
19	Leather and leather products	0	-	-	0	0	0	0	0	-	0
20	Wood and wood products (excl furniture)	0	-	-	1	0	-	0	-	0	0
21	Pulp, paper and paper products	-	-	-	-	-	-	-	-	-	-
22	Printed matter and recorded media	0	-	1	0	0	0	0	0	0	-
24	Chemical products and man-made fibres	-	-	-	3	-	-	1	-	-	-
25	Rubber and plastics	0	0	1	13	0	0	1	0	0	0
26	Other non-metallic mineral products	0	0	0	0	2	-	0	0	-	0
27	Basic metals	-	-	-	-	-	-	-	-	-	-
28	Fabricated metal products	0	0	1	1	3	0	11	16	3	0
29	Machinery and equipment n.e.c.	-	-	-	-	-	-	-	-	-	-
30	Office machinery and computers	0	0	0	0	0	0	0	0	-	2
31	Electrical machinery and apparatus n.e.c.	0	0	0	0	0	0	0	0	5	11
32	Radio, television and communications apparatus	-	-	0	0	0	-	-	0	1	1
33	Medical, precision and optical instruments	0	0	0	0	0	0	0	0	0	0
34	Motor vehicles and trailers	0	0	0	0	0	0	0	0	0	-
35	Other transport equipment	0	0	0	0	0	-	0	0	0	-
40	Electricity and gas	0	-	2	5	9	-	1	2	-	-
41	Water collection and distribution	-	-	-	-	-	-	-	-	-	-
45	Construction work	0	0	0	0	0	0	0	0	0	0
50	Motor fuel and vechicle trade and repair	0	0	0	0	0	0	0	0	0	0
51	Wholesale trade	-	2	1	-	0	-	-	0	8	0
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	0	0	0	2	2	0	1	2	0	0
60	Land transport services	0	0	0	2	6	0	4	1	1	0
61 - 62	Water and Air transport services	1	10	26	3	15	2	3	3	6	2
63	Auxiliary transport services and travel agencies	0	-	0	0	0	0	0	0	0	0
64	Post and telecommunication services	0	1	0	3	6	0	2	1	0	0
65 - 67	Financial Services	1	2	4	6	8	1	6	8	1	0
70	Real estate services	0	0	0	0	0	0	0	0	0	0
71	Renting services of machinery and equipment	0	0	0	0	1	0	1	0	0	0
72	Computer and related services	0	-	7	1	1	0	1	1	1	1
73	Research and development services	0	-	2	0	0	0	0	1	2	-
74	Other business services	1	4	59	8	9	0	5	6	20	1
75	Public administration and defence	-	-	-	-	-	-	-	-	-	-
80	Education	-	-	-	-	-	-	-	-	-	-
85	Health and social work services	-	-	-	-	-	-	-	-	-	-
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-	-
92	Recreation	0	0	0	0	1	0	0	0	0	0
93	Other services	0	0	0	0	1	0	0	0	0	-
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total	5	20	111	51	120	15	38	43	48	19

Appendix 10.2 (cont.)

2005 Use Table for Domestic Imports - BMW Region, €Millions

		32	33	34	35	40	41	45	50	51	52
	Products	Radio, television and communications apparatus	Medical, precision and optical instruments	Motor vehicles and trailers	Other transport equipment	Electricity and gas	Water collection and distribution	Construction work	Motor fuel and vechicle trade and repair	Wholesale trade	Retail trade and repair of household goods
1 - 5	Agriculture, Forestry, Fishing	0	0	-	-	-	-	1	0	-	0
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	-	-	-	0	0	0	0	0	0	0
14	Other mining and quarying	0	0	-	0	-	-	115	0	0	0
15	Food and beverages	0	0	0	-	0	0	0	0	0	2
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	0	2	0	0	0	0	17	1	1	6
17	Textiles	-	-	-	-	-	-	1	0	-	0
18	Wearing apparel	0	0	0	0	-	-	0	0	0	0
19	Leather and leather products	0	0	-	0	-	-	0	0	0	0
20	Wood and wood products (excl furniture)	0	0	-	0	0	0	16	0	0	0
21	Pulp, paper and paper products	-	-	-	-	-	-	-	-	-	-
22	Printed matter and recorded media	0	0	0	0	0	0	2	0	0	0
24	Chemical products and man-made fibres	-	19	-	-	1	-	-	-	-	-
25	Rubber and plastics	1	17	1	0	0	0	18	0	0	0
26	Other non-metallic mineral products	0	0	0	0	0	0	8	0	0	0
27	Basic metals	-	-	-	-	-	-	-	-	-	-
28	Fabricated metal products	2	3	0	0	1	0	37	0	0	0
29	Machinery and equipment n.e.c.	-	-	-	-	-	-	-	-	-	-
30	Office machinery and computers	-	0	0	0	-	0	1	0	0	0
31	Electrical machinery and apparatus n.e.c.	8	7	3	0	-	0	32	0	0	0
32	Radio, television and communications apparatus	6	0	1	-	0	0	2	0	-	0
33	Medical, precision and optical instruments	0	1	0	0	0	0	0	0	0	0
34	Motor vehicles and trailers	0	0	0	0	0	0	1	2	-	0
35	Other transport equipment	0	0	0	2	-	-	1	0	0	0
40	Electricity and gas	0	8	0	-	-	2	4	2	-	-
41	Water collection and distribution	-	-	-	-	-	-	-	-	-	-
45	Construction work	0	0	0	0	0	0	121	0	0	0
50	Motor fuel and vechicle trade and repair	0	0	0	0	-	0	1	1	0	0
51	Wholesale trade	1	-	-	-	-	-	-	-	0	0
52	Retail trade and repair of household goods	-	-	-	-	-	0	0	0	0	0
55	Hotel and restaurant services	0	4	1	0	0	0	7	0	0	11
60	Land transport services	0	1	0	0	0	0	2	1	1	2
61 - 62	Water and Air transport services	9	10	3	0	0	-	5	2	1	2
63	Auxiliary transport services and travel agencies	0	0	0	-	0	0	0	1	0	1
64	Post and telecommunication services	1	5	0	0	1	0	4	5	4	6
65 - 67	Financial Services	2	10	2	0	3	1	10	8	10	20
70	Real estate services	0	0	0	0	0	0	50	3	4	32
71	Renting services of machinery and equipment	0	0	0	0	0	0	20	1	0	1
72	Computer and related services	1	5	0	0	2	0	5	1	-	3
73	Research and development services	1	12	0	-	-	0	0	0	-	0
74	Other business services	4	53	1	-	-	3	95	3	6	19
75	Public administration and defence	-	-	-	-	-	-	-	-	-	-
80	Education	-	-	-	-	-	-	-	-	-	-
85	Health and social work services	-	-	-	-	-	-	-	-	-	-
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-	-
92	Recreation	0	1	0	0	0	0	1	0	0	1
93	Other services	0	0	0	-	0	0	0	0	0	0
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total	38	159	14	3	9	9	578	32	30	107

Appendix 10.2 (cont.)

2005 Use Table for Domestic Imports - BMW Region, €Millions

		55	60	61 - 62	63	64	65 - 67	70	71	72	73
	Products	Hotel and restaurant services	Land transport services	Water and Air Services	Auxiliary transport services and travel agencies	Post and telecommunication services	Financial Services	Real estate services	Renting services of machinery and equipment	Computer and related services	Research and development services
1 - 5	Agriculture, Forestry, Fishing	3	-	0	-	-	-	0	-	-	-
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	0	-	0	0	0	0	0	-	0
14	Other mining and quarying	0	0	-	-	0	-	2	-	-	0
15	Food and beverages	74	0	0	0	0	0	0	0	0	0
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	3	6	0	2	0	0	1	0	0	0
17	Textiles	0	0	-	-	-	-	0	-	-	0
18	Wearing apparel	0	0	0	-	-	-	0	-	-	0
19	Leather and leather products	0	0	-	-	0	0	0	0	0	0
20	Wood and wood products (excl furniture)	0	0	-	0	0	0	3	0	0	0
21	Pulp, paper and paper products	-	-	-	-	-	-	-	-	-	-
22	Printed matter and recorded media	0	0	0	0	0	0	0	0	0	0
24	Chemical products and man-made fibres	-	-	-	-	-	-	-	-	-	-
25	Rubber and plastics	0	1	0	0	0	0	1	0	0	0
26	Other non-metallic mineral products	0	0	0	0	-	0	1	0	-	0
27	Basic metals	-	-	-	-	-	-	-	-	-	-
28	Fabricated metal products	0	0	0	0	0	-	0	-	0	0
29	Machinery and equipment n.e.c.	-	-	-	-	-	-	-	-	-	-
30	Office machinery and computers	0	0	-	-	0	-	0	0	0	0
31	Electrical machinery and apparatus n.e.c.	0	0	-	0	1	0	0	0	1	0
32	Radio, television and communications apparatus	0	0	-	-	-	-	0	-	0	-
33	Medical, precision and optical instruments	0	0	-	0	0	0	0	0	0	0
34	Motor vehicles and trailers	0	1	0	-	0	-	0	0	0	0
35	Other transport equipment	0	0	-	0	0	-	0	0	0	0
40	Electricity and gas	2	-	-	-	-	-	1	-	-	-
41	Water collection and distribution	-	-	-	-	-	-	-	-	-	-
45	Construction work	0	0	0	0	0	0	10	0	0	0
50	Motor fuel and vechicle trade and repair	0	1	0	0	0	0	1	1	0	0
51	Wholesale trade	0	-	0	0	0	-	-	-	2	-
52	Retail trade and repair of household goods	0	1	0	0	0	0	0	0	0	0
55	Hotel and restaurant services	3	2	0	10	2	1	2	0	2	0
60	Land transport services	1	3	1	1	1	-	0	3	0	0
61 - 62	Water and Air transport services	9	1	15	36	7	8	4	3	3	1
63	Auxiliary transport services and travel agencies	4	2	1	4	0	-	1	-	-	0
64	Post and telecommunication services	20	0	0	2	13	10	7	4	6	0
65 - 67	Financial Services	19	3	1	3	2	133	20	7	15	1
70	Real estate services	18	1	0	1	1	2	5	1	2	0
71	Renting services of machinery and equipment	1	6	0	0	0	-	0	4	1	0
72	Computer and related services	3	-	0	4	1	5	5	0	25	0
73	Research and development services	0	-	0	1	0	0	-	0	-	1
74	Other business services	13	1	0	5	1	40	63	0	29	4
75	Public administration and defence	-	-	-	-	-	-	-	-	-	-
80	Education	-	-	-	-	-	-	-	-	-	-
85	Health and social work services	-	-	-	-	-	-	-	-	-	-
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-	-
92	Recreation	6	1	0	1	1	1	2	0	2	0
93	Other services	2	-	0	0	0	0	0	0	-	0
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total	183	30	18	72	32	201	130	25	90	9

Appendix 10.2 (cont.)

2005 Use Table for Domestic Imports - BMW Region, €Millions

		74	75	80	85	90	91	92	93	95
	Products	Other business services	Public administration and defence	Education	Health and social work services	Sewage and refuse disposal services	Membership organisation services n.e.c.	Recreation	Other services	Private households with employed persons
1 - 5	Agriculture, Forestry, Fishing	-	0	-	1	-	0	-	-	-
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	0	0	-	0	0	0	0	-
14	Other mining and quarying	0	0	0	-	-	0	0	0	-
15	Food and beverages	1	1	0	2	0	1	0	0	-
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	1	7	2	8	0	0	0	0	-
17	Textiles	-	0	0	1	0	0	0	0	-
18	Wearing apparel	0	1	0	0	0	0	0	0	-
19	Leather and leather products	0	0	0	-	0	0	0	0	-
20	Wood and wood products (excl furniture)	0	0	0	0	0	0	0	0	-
21	Pulp, paper and paper products	-	-	-	-	-	-	-	-	-
22	Printed matter and recorded media	1	1	2	0	0	0	0	0	-
24	Chemical products and man-made fibres	-	-	-	3	-	-	-	-	-
25	Rubber and plastics	0	1	0	8	0	0	0	0	-
26	Other non-metallic mineral products	0	0	0	0	0	0	0	0	-
27	Basic metals	-	-	-	-	-	-	-	-	-
28	Fabricated metal products	0	1	1	0	0	0	0	0	-
29	Machinery and equipment n.e.c.	-	-	-	-	-	-	-	-	-
30	Office machinery and computers	0	0	1	0	0	0	0	0	-
31	Electrical machinery and apparatus n.e.c.	0	0	0	2	0	0	0	0	-
32	Radio, television and communications apparatus	-	0	0	0	-	0	-	-	-
33	Medical, precision and optical instruments	0	0	0	0	0	0	0	0	-
34	Motor vehicles and trailers	0	0	0	0	0	0	0	0	-
35	Other transport equipment	0	0	0	0	0	0	0	0	-
40	Electricity and gas	-	24	18	9	1	0	-	-	-
41	Water collection and distribution	-	-	-	-	-	-	-	-	-
45	Construction work	0	8	1	0	0	0	0	0	-
50	Motor fuel and vechicle trade and repair	1	1	0	0	0	0	0	0	-
51	Wholesale trade	1	-	0	-	-	-	-	-	-
52	Retail trade and repair of household goods	0	-	0	-	0	0	0	0	-
55	Hotel and restaurant services	5	11	4	9	0	1	1	1	-
60	Land transport services	1	8	1	2	1	0	0	0	-
61 - 62	Water and Air transport services	42	10	20	9	1	1	2	1	-
63	Auxiliary transport services and travel agencies	-	0	0	-	0	0	-	0	-
64	Post and telecommunication services	11	30	9	-	2	2	2	1	-
65 - 67	Financial Services	23	5	13	11	2	0	2	1	-
70	Real estate services	6	92	4	6	1	0	3	2	-
71	Renting services of machinery and equipment	1	0	0	-	1	0	1	0	-
72	Computer and related services	5	19	2	10	3	2	1	1	-
73	Research and development services	-	1	1	2	0	0	-	0	-
74	Other business services	135	57	18	19	5	6	5	2	-
75	Public administration and defence	-	-	-	-	-	-	-	-	-
80	Education	-	-	-	-	-	-	-	-	-
85	Health and social work services	-	-	-	-	-	-	-	-	-
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-
92	Recreation	4	10	23	0	1	9	16	0	-
93	Other services	-	1	3	2	1	1	0	1	-
95	Private households with employed persons	-	-	-	-	-	-	-	-	-
	Total	239	291	126	106	19	24	34	11	-

Appendix 10.2 (cont.)

2005 Use Table for Domestic Imports - BMW Region, €Millions

	Products	total inter-industry	hhld expenditure	NPISH	government consumption expenditure	gross fixed capital formation	changes in inventories	International Exports	Domestic Exports	final uses	total uses
	Products										
1 - 5	Agriculture, Forestry, Fishing	565	84	-	-	-	-1	69	394	546	1,111
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	1	1	-	-	-	-	1	0	2	3
14	Other mining and quarying	234	-	-	-	21	-	5	340	366	601
15	Food and beverages	212	176	3	-	-	0	249	50	478	689
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	98	182	-	-	3	-2	12	8	203	302
17	Textiles	9	15	-	-	-	10	42	53	120	130
18	Wearing apparel	4	32	-	-	-	1	27	4	63	67
19	Leather and leather products	1	4	-	-	-	1	1	0	6	7
20	Wood and wood products (excl furniture)	36	3	-	-	-	4	14	9	30	66
21	Pulp, paper and paper products	-	-	-	-	-	-	-	-	-	-
22	Printed matter and recorded media	11	18	-	-	-	3	24	20	65	76
24	Chemical products and man-made fibres	35	10	-	-	-	-15	1,120	81	1,196	1,231
25	Rubber and plastics	71	14	-	-	-	-	28	6	48	119
26	Other non-metallic mineral products	11	1	-	-	-	-	1	0	3	14
27	Basic metals	-	-	-	-	-	-	-	-	-	-
28	Fabricated metal products	97	10	-	-	6	-2	32	54	100	197
29	Machinery and equipment n.e.c.	1	-	-	-	-	-1	76	312	387	388
30	Office machinery and computers	7	5	-	-	-	3	123	16	147	154
31	Electrical machinery and apparatus n.e.c.	74	11	-	-	-	14	56	60	141	215
32	Radio, television and communications apparatus	11	-	-	-	1	-	287	6	294	305
33	Medical, precision and optical instruments	1	0	-	-	0	0	5	0	5	7
34	Motor vehicles and trailers	5	52	-	-	27	0	4	4	87	92
35	Other transport equipment	4	1	-	-	35	-	25	39	99	104
40	Electricity and gas	138	180	-	-	-	-	0	94	275	413
41	Water collection and distribution	-	-	-	-	-	-	-	-	-	-
45	Construction work	145	3	-	-	332	-	-	-	335	480
50	Motor fuel and vechicle trade and repair	10	9	-	-	-	-	-	1	10	20
51	Wholesale trade	20	-	-	-	-	-	92	13	105	125
52	Retail trade and repair of household goods	2	62	-	-	-	-	-	27	89	91
55	Hotel and restaurant services	104	589	-	-	-	-	62	127	779	883
60	Land transport services	66	43	-	-	-	-	3	12	58	124
61 - 62	Water and Air transport services	316	122	-	-	-	-	-	7	129	445
63	Auxiliary transport services and travel agencies	18	51	-	-	-	-	-	26	77	96
64	Post and telecommunication services	184	349	-	-	-	-	4	322	675	858
65 - 67	Financial Services	438	630	-	-	-	-	4	128	761	1,199
70	Real estate services	241	919	-	-	35	-	-	60	1,013	1,254
71	Renting services of machinery and equipment	49	23	-	-	-	-	94	56	173	222
72	Computer and related services	124	-	-	-	15	-	141	18	175	298
73	Research and development services	26	-	-	6	-	-	53	0	59	85
74	Other business services	1,046	27	-	-	199	-	-	-	226	1,273
75	Public administration and defence	-	-	-	-	-	-	-	-	-	-
80	Education	-	-	-	-	-	-	-	-	-	-
85	Health and social work services	-	-	-	-	-	-	-	-	-	-
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-	-
92	Recreation	85	282	-	-	18	-	12	161	473	558
93	Other services	16	32	-	-	-	-	4	13	49	65
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total	4,515	3,940	3	6	693	18	2,668	2,520	9,848	14,363

Appendix 11.1

2005 Trade Margins Table - SE Region, €Millions

		1 - 5	10 - 13	14	15	16,23,36-37	17	18	19	20
	Industries	Agriculture	Forestry	Fishing	Coal, Peat, Petroleum and Metal Ore Extraction	Other mining and quarying	Food and beverages	Tobacco, Petroleum, Furniture and Recycling	Textiles	Wearing apparel
	Products									
1 - 5	Agriculture, Forestry, Fishing	47	-	-	128	1	0	-	0	1
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	6	0	0	5	0	0	-	0
14	Other mining and quarying	5	1	22	0	0	0	-	-	0
15	Food and beverages	148	-	-	324	0	0	-	-	0
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	28	1	8	18	26	0	0	0	1
17	Textiles	1	0	0	0	1	5	3	0	-
18	Wearing apparel	0	0	0	0	0	-	2	-	0
19	Leather and leather products	0	0	0	0	0	-	-	0	-
20	Wood and wood products (excl furniture)	0	0	0	2	13	0	-	-	24
21	Pulp, paper and paper products	0	0	0	5	0	0	0	0	0
22	Printed matter and recorded media	2	0	0	1	0	0	0	0	0
24	Chemical products and man-made fibres	54	2	1	25	1	3	1	0	5
25	Rubber and plastics	1	0	0	9	2	0	0	0	0
26	Other non-metallic mineral products	1	0	7	6	8	0	-	-	0
27	Basic metals	0	0	0	1	5	0	-	-	1
28	Fabricated metal products	5	1	0	5	3	0	0	0	2
29	Machinery and equipment n.e.c.	13	2	0	5	1	0	0	0	2
30	Office machinery and computers	0	0	0	0	0	0	-	-	0
31	Electrical machinery and apparatus n.e.c.	0	0	0	0	0	0	-	-	0
32	Radio, television and communications apparatus	0	0	0	0	0	0	-	-	0
33	Medical, precision and optical instruments	0	0	0	0	0	0	-	-	0
34	Motor vehicles and trailers	1	0	0	0	0	0	-	-	0
35	Other transport equipment	0	-	0	0	0	0	-	-	-
40	Electricity and gas	3	1	1	6	1	0	0	0	1
41	Water collection and distribution	0	0	0	0	0	0	0	-	0
45	Construction work	-	-	-	-	-	-	-	-	-
50	Motor fuel and vechicle trade and repair	-10	-1	-2	-5	-0	-0	-0	-0	-0
51	Wholesale trade	-299	-14	-37	-532	-67	-9	-6	-0	-37
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-
	Total	-	-	-	-	-	-	-	-	-

Appendix 11.1 (cont.)

2005 Trade Margins Table - SE Region, €Millions

		21	22	24	25	26	27	28	29	30	31
	Industries	Leather and leather products	Wood and wood products (excl furniture)	Pulp, paper and paper products	Printed matter and recorded media	Chemical products and man-made fibres	Rubber and plastics	Other non-metallic mineral products	Basic metals	Fabricated metal products	Machinery and equipment n.e.c.
	Products										
1 - 5	Agriculture, Forestry, Fishing	0	0	0	0	0	-	0	0	0	0
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	-	-	0	0	2	5	0	0	-	0
14	Other mining and quarying	-	0	4	0	19	1	0	0	-	0
15	Food and beverages	0	0	15	0	0	-	0	0	-	0
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	0	0	2	5	7	1	1	0	0	1
17	Textiles	0	1	1	0	0	0	0	0	0	0
18	Wearing apparel	0	0	-	0	-	0	0	0	0	-
19	Leather and leather products	0	0	0	0	0	0	0	0	0	0
20	Wood and wood products (excl furniture)	0	0	0	2	1	0	1	0	0	0
21	Pulp, paper and paper products	3	4	2	0	0	0	0	0	1	0
22	Printed matter and recorded media	1	65	-	0	0	0	0	0	2	0
24	Chemical products and man-made fibres	3	12	206	10	4	3	2	1	10	1
25	Rubber and plastics	1	0	4	15	1	0	1	2	1	1
26	Other non-metallic mineral products	0	1	2	3	50	0	2	1	1	0
27	Basic metals	0	0	1	2	3	6	32	10	1	1
28	Fabricated metal products	0	0	2	4	2	1	9	13	4	1
29	Machinery and equipment n.e.c.	0	3	12	5	4	2	9	30	9	1
30	Office machinery and computers	0	1	1	0	0	0	-	0	325	4
31	Electrical machinery and apparatus n.e.c.	0	0	0	0	0	0	0	3	47	54
32	Radio, television and communications apparatus	0	0	0	0	0	0	0	1	90	15
33	Medical, precision and optical instruments	0	0	2	0	0	0	0	1	9	0
34	Motor vehicles and trailers	0	0	0	0	0	0	0	0	1	0
35	Other transport equipment	0	0	0	-	0	0	0	0	0	0
40	Electricity and gas	0	1	5	1	2	1	1	1	1	1
41	Water collection and distribution	0	0	0	0	0	0	0	0	0	0
45	Construction work	-	-	-	-	-	-	-	-	-	-
50	Motor fuel and vechicle trade and repair	-0	-0	-1	-1	-2	-2	-0	-0	-0	-0
51	Wholesale trade	-10	-89	-258	-46	-92	-18	-58	-63	-500	-79
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-	-
	Total	-	-	-	-	-	-	-	-	-	-

Appendix 11.1 (cont.)

2005 Trade Margins Table - SE Region, €Millions

		32	33	34	35	40	41	45	50	51	52
	Industries	Office machinery and computers	Electrical machinery and apparatus n.e.c.	Radio, television and communications apparatus	Medical, precision and optical instruments	Motor vehicles and trailers	Other transport equipment	Electricity and gas	Water collection and distribution	Construction work	Motor fuel and vechicle trade and repair
	Products										
1 - 5	Agriculture, Forestry, Fishing	0	0	0	0	-	-	2	0	0	0
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	-	-	0	17	0	0	0	0	0
14	Other mining and quarying	0	0	-	0	-	-	74	0	0	0
15	Food and beverages	0	0	0	-	1	0	2	1	3	15
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	0	1	0	0	51	0	47	5	13	7
17	Textiles	0	0	0	0	-	-	6	0	0	1
18	Wearing apparel	0	0	0	0	-	-	1	0	0	-
19	Leather and leather products	0	0	-	0	-	-	1	1	0	0
20	Wood and wood products (excl furniture)	0	0	0	0	0	0	88	0	0	0
21	Pulp, paper and paper products	0	0	0	0	0	0	1	0	0	0
22	Printed matter and recorded media	1	1	0	0	2	0	22	1	3	2
24	Chemical products and man-made fibres	16	24	1	0	0	1	41	0	1	2
25	Rubber and plastics	1	6	1	0	0	0	46	1	1	1
26	Other non-metallic mineral products	0	0	0	0	0	0	342	1	2	1
27	Basic metals	-	4	4	2	0	0	17	0	0	0
28	Fabricated metal products	3	3	1	0	2	0	83	0	0	0
29	Machinery and equipment n.e.c.	14	8	1	0	4	2	76	2	1	3
30	Office machinery and computers	14	2	0	0	1	0	6	0	0	0
31	Electrical machinery and apparatus n.e.c.	24	18	4	3	4	0	113	0	0	1
32	Radio, television and communications apparatus	121	10	13	0	0	0	9	0	0	0
33	Medical, precision and optical instruments	8	206	0	0	1	0	15	0	0	0
34	Motor vehicles and trailers	0	0	9	0	0	0	11	17	2	2
35	Other transport equipment	0	0	0	1	-	-	0	0	0	0
40	Electricity and gas	2	1	0	0	44	1	5	1	2	6
41	Water collection and distribution	0	0	0	0	-	0	0	0	0	0
45	Construction work	-	-	-	-	-	-	-	-	-	-
50	Motor fuel and vechicle trade and repair	-0	-1	-8	-0	-0	-0	-19	-18	-5	-4
51	Wholesale trade	-205	-285	-26	-7	-127	-5	-990	-13	-24	-40
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-	-
	Total	-	-	-	-	-	-	-	-	-	-

Appendix 11.1 (cont.)

2005 Trade Margins Table - SE Region, €Millions

		55	60	61 - 62	63	64	65 - 67	70	71	72	73
	Industries	Wholesale trade	Retail trade and repair of household goods	Hotel and restaurant services	Land transport services	Water and Air Transport	Auxiliary transport services and travel agencies	Post and telecommunication services	Financial Services	Real estate services	Renting services of machinery and equipment
	Products										
1 - 5	Agriculture, Forestry, Fishing	7	0	0	0	0	-	0	-	0	0
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	0	0	0	0	0	0	0	0	0
14	Other mining and quarying	0	0	0	1	0	0	1	-	-	0
15	Food and beverages	556	1	2	2	2	4	0	0	3	0
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	10	27	42	11	4	6	2	4	8	0
17	Textiles	1	0	0	0	0	0	1	0	0	0
18	Wearing apparel	-	0	0	0	0	0	0	0	0	0
19	Leather and leather products	1	0	0	0	0	0	0	0	0	0
20	Wood and wood products (excl furniture)	1	0	0	0	0	0	8	0	0	0
21	Pulp, paper and paper products	0	0	0	0	0	0	0	0	0	0
22	Printed matter and recorded media	4	1	1	3	2	14	3	0	4	0
24	Chemical products and man-made fibres	3	0	0	0	0	0	1	0	1	0
25	Rubber and plastics	0	2	0	0	4	0	2	0	1	0
26	Other non-metallic mineral products	1	1	0	0	2	0	21	0	0	0
27	Basic metals	0	1	0	0	0	0	-	0	0	0
28	Fabricated metal products	0	1	0	0	0	0	1	0	0	0
29	Machinery and equipment n.e.c.	0	1	0	0	3	1	1	8	4	0
30	Office machinery and computers	0	0	0	0	1	0	2	0	3	0
31	Electrical machinery and apparatus n.e.c.	0	2	0	0	11	0	1	1	7	0
32	Radio, television and communications apparatus	0	0	0	1	74	1	0	1	10	0
33	Medical, precision and optical instruments	0	0	0	0	4	0	0	0	5	0
34	Motor vehicles and trailers	1	9	0	1	1	2	1	6	5	0
35	Other transport equipment	0	0	1	0	0	0	0	0	0	0
40	Electricity and gas	7	1	0	1	1	1	1	1	3	0
41	Water collection and distribution	0	0	0	0	0	0	0	0	0	0
45	Construction work	-	-	-	-	-	-	-	-	-	-
50	Motor fuel and vechicle trade and repair	-4	-8	-1	-4	-2	-3	-2	-7	-6	-0
51	Wholesale trade	-592	-38	-48	-18	-109	-27	-45	-15	-50	-2
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-	-
	Total	-	-	-	-	-	-	-	-	-	-

Appendix 11.1 (cont.)

2005 Trade Margins Table - SE Region, €Millions

		74	75	80	85	90	91	92	93	95
	Industries	Computer and related services	Research and development services	Other business services	Public administration and defence	Education	Health and social work services	Sewage and refuse disposal services	Membership organisation services n.e.c.	Recreation
	Products									
1 - 5	Agriculture, Forestry, Fishing	0	0	1	1	-	0	0	0	-
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	3	0	-	0	0	0	0	-
14	Other mining and quarying	0	0	0	-	1	0	0	0	-
15	Food and beverages	8	6	0	8	1	5	3	0	-
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	12	28	6	10	2	1	2	1	-
17	Textiles	1	1	0	2	0	0	0	0	-
18	Wearing apparel	0	2	0	0	0	0	0	0	-
19	Leather and leather products	1	0	0	-	0	0	0	0	-
20	Wood and wood products (excl furniture)	1	0	1	0	0	0	0	0	-
21	Pulp, paper and paper products	1	1	1	2	0	0	0	0	-
22	Printed matter and recorded media	21	6	12	2	2	1	2	1	-
24	Chemical products and man-made fibres	3	9	3	128	6	1	3	3	-
25	Rubber and plastics	1	2	0	10	1	0	0	0	-
26	Other non-metallic mineral products	0	5	0	1	3	0	1	0	-
27	Basic metals	0	0	0	-	0	0	0	0	-
28	Fabricated metal products	0	2	2	0	0	0	0	0	-
29	Machinery and equipment n.e.c.	4	2	0	0	1	0	0	0	-
30	Office machinery and computers	1	2	2	0	0	0	0	0	-
31	Electrical machinery and apparatus n.e.c.	1	0	0	4	0	0	0	0	-
32	Radio, television and communications apparatus	2	0	0	1	0	0	2	0	-
33	Medical, precision and optical instruments	2	3	5	53	0	0	0	0	-
34	Motor vehicles and trailers	4	1	0	0	1	0	0	0	-
35	Other transport equipment	0	0	0	0	0	0	0	0	-
40	Electricity and gas	5	5	5	2	1	0	1	1	-
41	Water collection and distribution	0	0	0	-	0	0	0	0	-
45	Construction work	-	-	-	-	-	-	-	-	-
50	Motor fuel and vechicle trade and repair	-7	-9	-1	-1	-1	-0	-1	-1	-
51	Wholesale trade	-63	-73	-40	-224	-19	-9	-16	-7	-
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-
	Total	-	-	-	-	-	-	-	-	-

Appendix 11.1 (cont.)

2005 Trade Margins Table - SE Region, €Millions

Industries / *Products*		Other services	Private households with employed persons	NPISH	Government Consumption Expenditure	Gross Fixed Capital Formation	Changes in Inventories	International Exports	Domestic Exports	Final uses	Total uses
1 - 5	Agriculture, Forestry, Fishing	190	285	-	-	-	1	-	-	285	475
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	41	39	-	-	2	-1	1	-	41	82
14	Other mining and quarying	130	-	-	-	17	-1	3	-	18	148
15	Food and beverages	1,114	2,878	9	-	-	1	760	-	3,648	4,762
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	401	1,811	-	-	17	-1	8	-	1,834	2,236
17	Textiles	24	165	-	-	-	2	5	-	171	196
18	Wearing apparel	7	947	-	-	-	0	7	-	954	961
19	Leather and leather products	6	157	-	-	-	1	3	-	161	168
20	Wood and wood products (excl furniture)	146	29	-	-	-	4	5	-	38	184
21	Pulp, paper and paper products	25	35	-	-	-	-0	1	-	35	61
22	Printed matter and recorded media	181	170	-	-	-	-	88	-	258	439
24	Chemical products and man-made fibres	592	497	-	-	-	21	192	-	711	1,303
25	Rubber and plastics	119	180	-	-	-	-1	3	-	182	301
26	Other non-metallic mineral products	466	94	-	-	-	-2	14	-	106	573
27	Basic metals	93	-	-	-	-	-0	3	-	2	95
28	Fabricated metal products	155	85	-	-	11	-1	3	-	98	253
29	Machinery and equipment n.e.c.	237	132	-	-	218	1	16	-	368	605
30	Office machinery and computers	367	62	-	-	50	16	134	-	262	629
31	Electrical machinery and apparatus n.e.c.	302	68	-	-	52	3	73	-	196	498
32	Radio, television and communications apparatus	352	146	-	-	41	2	3	-	192	545
33	Medical, precision and optical instruments	318	48	-	-	44	2	53	-	147	465
34	Motor vehicles and trailers	78	479	-	-	381	0	2	-	862	940
35	Other transport equipment	2	4	-	-	10	-0	0	-	13	16
40	Electricity and gas	125	3	-	-	-	-	1	-	4	128
41	Water collection and distribution	0	0	-	0	-	-	-	-	0	1
45	Construction work	-	-	-	-	-	-	-	-	-	-
50	Motor fuel and vechicle trade and repair	-141	-789	-	-	-371	-	-	-	-1,160	-1,301
51	Wholesale trade	-5,332	-1,420	-9	-0	-471	-47	-1,377	-	-3,325	-8,656
52	Retail trade and repair of household goods	-	-6,104	-	-	-	-	-	-	-6,104	-6,104
	Total	-	-	-	-	-	-	-	-	-	-

Appendix 11.2

2005 Trade Margins Table - BMW Region, €Millions

		1 - 5	10 - 13	14	15	16,23,36-37	17	18	19	20
	Industries	Agriculture	Forestry	Fishing	Coal, Peat, Petroleum and Metal Ore Extraction	Other mining and quarying	Food and beverages	Tobacco, Petroleum, Furniture and Recycling	Textiles	Wearing apparel
	Products									
1 - 5	Agriculture, Forestry, Fishing	15	-	-	42	0	0	-	0	0
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	0	0	0	0	0	0	-	0
14	Other mining and quarying	1	-	3	0	0	0	-	-	0
15	Food and beverages	29	-	-	64	0	0	-	-	0
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	5	0	0	0	2	0	0	-	0
17	Textiles	0	-	0	0	0	1	1	0	0
18	Wearing apparel	0	0	-	0	0	0	1	-	0
19	Leather and leather products	0	-	0	0	0	0	-	0	0
20	Wood and wood products (excl furniture)	0	0	0	0	2	-	0	-	3
21	Pulp, paper and paper products	0	0	0	1	0	-	0	0	0
22	Printed matter and recorded media	0	0	0	0	0	0	0	-	0
24	Chemical products and man-made fibres	9	0	-	-	0	0	0	-	1
25	Rubber and plastics	0	0	0	2	0	0	0	-	0
26	Other non-metallic mineral products	0	-	1	1	1	0	-	-	0
27	Basic metals	0	0	-	2	1	0	-	-	0
28	Fabricated metal products	1	0	0	1	1	0	0	0	0
29	Machinery and equipment n.e.c.	2	0	-	1	0	0	0	-	0
30	Office machinery and computers	0	-	-	0	0	-	-	-	0
31	Electrical machinery and apparatus n.e.c.	0	-	0	0	0	0	-	-	0
32	Radio, television and communications apparatus	0	-	0	0	-	0	-	-	0
33	Medical, precision and optical instruments	0	0	0	0	0	0	0	-	0
34	Motor vehicles and trailers	0	0	0	0	0	0	0	-	0
35	Other transport equipment	0	-	0	0	0	0	0	-	0
40	Electricity and gas	2	0	0	2	0	0	0	-	0
41	Water collection and distribution	0	0	0	0	0	0	0	-	0
45	Construction work	-	-	-	-	-	-	-	-	-
50	Motor fuel and vechicle trade and repair	-3	-0	-1	-2	-0	-0	-0	-0	-0
51	Wholesale trade	-63	-1	-4	-116	-8	-1	-2	-1	-6
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-
	Total	-	-	-	-	-	-	-	-	-

Appendix 11.2 (cont.)

2005 Trade Margins Table - BMW Region, €Millions

		21	22	24	25	26	27	28	29	30	31
	Industries	Leather and leather products	Wood and wood products (excl furniture)	Pulp, paper and paper products	Printed matter and recorded media	Chemical products and man-made fibres	Rubber and plastics	Other non-metallic mineral products	Basic metals	Fabricated metal products	Machinery and equipment n.e.c.
	Products										
1 - 5	Agriculture, Forestry, Fishing	0	0	0	0	0	-	0	0	0	0
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	-	-	0	0	0	1	0	0	-	0
14	Other mining and quarying	-	0	0	0	2	-	0	0	-	0
15	Food and beverages	0	0	3	0	0	-	0	0	-	0
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	0	0	0	0	1	9	0	0	0	0
17	Textiles	-	-	-	0	0	0	0	0	-	0
18	Wearing apparel	0	-	0	0	0	0	0	0	0	0
19	Leather and leather products	0	0	-	0	0	0	0	0	0	0
20	Wood and wood products (excl furniture)	0	-	-	0	0	-	0	-	0	0
21	Pulp, paper and paper products	1	-	0	0	0	-	0	0	-	-
22	Printed matter and recorded media	0	-	3	0	0	0	0	0	0	-
24	Chemical products and man-made fibres	0	-	11	2	1	-	0	0	-	-
25	Rubber and plastics	0	0	1	3	0	0	0	0	0	0
26	Other non-metallic mineral products	0	0	0	0	8	-	0	0	-	0
27	Basic metals	-	-	0	0	0	1	4	1	0	0
28	Fabricated metal products	0	0	0	1	0	0	2	3	1	0
29	Machinery and equipment n.e.c.	0	-	2	1	1	-	-	5	-	-
30	Office machinery and computers	0	0	0	0	0	0	0	0	45	0
31	Electrical machinery and apparatus n.e.c.	0	0	0	0	0	0	0	1	6	7
32	Radio, television and communications apparatus	0	-	0	0	0	0	0	0	7	1
33	Medical, precision and optical instruments	0	0	0	0	0	0	0	0	2	0
34	Motor vehicles and trailers	0	0	0	0	0	0	0	0	0	0
35	Other transport equipment	0	0	0	0	0	0	0	0	0	0
40	Electricity and gas	0	-	1	1	1	-	0	0	-	-
41	Water collection and distribution	0	-	0	0	0	0	0	0	-	-
45	Construction work	-	-	-	-	-	-	-	-	-	-
50	Motor fuel and vechicle trade and repair	-0	-0	-0	-0	-1	-1	-0	-0	-0	-0
51	Wholesale trade	-1	-0	-22	-8	-14	-9	-7	-11	-62	-10
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-	-
	Total	-	-	-	-	-	-	-	-	-	-

Appendix 11.2 (cont.)

2005 Trade Margins Table - BMW Region, €Millions

		32	33	34	35	40	41	45	50	51	52
	Industries	Office machinery and computers	Electrical machinery and apparatus n.e.c.	Radio, television and communications apparatus	Medical, precision and optical instruments	Motor vehicles and trailers	Other transport equipment	Electricity and gas	Water collection and distribution	Construction work	Motor fuel and vechicle trade and repair
	Products										
1 - 5	Agriculture, Forestry, Fishing	0	0	0	0	-	-	0	0	0	0
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	-	-	0	3	0	0	0	0	0
14	Other mining and quarying	0	0	-	0	-	-	9	0	0	0
15	Food and beverages	0	0	0	-	0	0	0	0	1	3
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	0	0	0	0	0	0	4	1	2	1
17	Textiles	0	-	-	-	-	-	1	0	0	0
18	Wearing apparel	0	0	0	0	-	-	0	0	0	0
19	Leather and leather products	0	0	-	0	-	-	0	0	0	0
20	Wood and wood products (excl furniture)	0	0	-	0	0	0	13	0	0	0
21	Pulp, paper and paper products	0	0	-	0	0	0	0	0	0	0
22	Printed matter and recorded media	0	0	0	0	0	0	5	0	0	0
24	Chemical products and man-made fibres	0	4	-	-	1	0	7	0	-	0
25	Rubber and plastics	0	5	0	0	0	0	9	0	0	0
26	Other non-metallic mineral products	1	0	0	0	0	0	51	-	0	0
27	Basic metals	1	0	0	0	0	0	2	0	0	0
28	Fabricated metal products	1	1	0	0	0	0	18	0	0	0
29	Machinery and equipment n.e.c.	-	1	0	0	1	0	12	0	-	-
30	Office machinery and computers	0	0	0	0	0	0	1	0	0	0
31	Electrical machinery and apparatus n.e.c.	3	3	1	0	-	0	16	0	0	0
32	Radio, television and communications apparatus	26	1	5	-	0	0	3	0	-	0
33	Medical, precision and optical instruments	2	44	0	1	0	0	3	0	0	0
34	Motor vehicles and trailers	0	0	1	0	0	0	2	5	-	0
35	Other transport equipment	0	0	0	0	-	-	0	0	0	0
40	Electricity and gas	-	0	0	-	-	0	1	0	-	-
41	Water collection and distribution	0	0	0	0	-	0	0	0	-	0
45	Construction work	-	-	-	-	-	-	-	-	-	-
50	Motor fuel and vechicle trade and repair	-0	-0	-2	-0	-0	-0	-6	-5	-2	-1
51	Wholesale trade	-34	-59	-6	-2	-6	-1	-152	-2	-2	-6
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-	-
	Total	-	-	-	-	-	-	-	-	-	-

Appendix 11.2 (cont.)

2005 Trade Margins Table - BMW Region, €Millions

		55	60	61 - 62	63	64	65 - 67	70	71	72	73
	Industries	Wholesale trade	Retail trade and repair of household goods	Hotel and restaurant services	Land transport services	Water and Air Transport	Auxiliary transport services and travel agencies	Post and telecommunication services	Financial Services	Real estate services	Renting services of machinery and equipment
	Products										
1 - 5	Agriculture, Forestry, Fishing	2	0	0	0	0	-	0	-	-	0
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	0	-	0	0	0	0	0	0	0
14	Other mining and quarying	0	0	0	0	0	-	0	-	-	0
15	Food and beverages	111	0	0	0	0	1	0	0	1	0
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	2	5	0	-	-	-	0	0	0	0
17	Textiles	0	0	-	-	0	-	0	-	0	0
18	Wearing apparel	1	0	0	-	-	-	0	-	-	0
19	Leather and leather products	0	0	0	0	0	0	0	0	0	0
20	Wood and wood products (excl furniture)	0	0	0	0	0	0	1	0	0	0
21	Pulp, paper and paper products	0	0	0	0	0	-	0	-	0	0
22	Printed matter and recorded media	1	0	0	1	0	0	1	0	1	0
24	Chemical products and man-made fibres	1	-	0	0	0	0	0	0	-	-
25	Rubber and plastics	0	0	0	0	1	0	0	0	0	0
26	Other non-metallic mineral products	0	0	0	0	-	0	3	0	-	0
27	Basic metals	0	0	0	0	0	0	-	0	0	0
28	Fabricated metal products	0	0	0	0	0	-	0	-	0	0
29	Machinery and equipment n.e.c.	-	-	-	-	-	-	-	-	-	0
30	Office machinery and computers	0	0	0	0	0	0	0	0	0	0
31	Electrical machinery and apparatus n.e.c.	0	0	-	0	2	0	0	0	1	0
32	Radio, television and communications apparatus	0	0	-	-	-	-	0	-	2	-
33	Medical, precision and optical instruments	0	0	-	0	1	0	0	0	1	0
34	Motor vehicles and trailers	0	3	0	-	0	-	0	2	1	0
35	Other transport equipment	0	0	0	0	0	-	0	0	0	0
40	Electricity and gas	1	-	-	-	-	-	0	-	-	-
41	Water collection and distribution	0	0	0	-	0	-	0	-	0	0
45	Construction work	-	-	-	-	-	-	-	-	-	-
50	Motor fuel and vechicle trade and repair	-1	-3	-0	-1	-1	-0	-1	-2	-2	-0
51	Wholesale trade	-118	-6	-	-0	-4	-1	-7	-0	-5	-0
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-	-
	Total	-	-	-	-	-	-	-	-	-	-

Appendix 11.2 (cont.)

2005 Trade Margins Table - BMW Region, €Millions

		74	75	80	85	90	91	92	93	95
	Industries	Computer and related services	Research and development services	Other business services	Public administration and defence	Education	Health and social work services	Sewage and refuse disposal services	Membership organisation services n.e.c.	Recreation
	Products									
1 - 5	Agriculture, Forestry, Fishing	0	0	0	0	-	0	0	0	-
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	1	0	-	0	0	0	0	-
14	Other mining and quarying	0	0	0	-	-	0	0	0	-
15	Food and beverages	1	1	0	2	0	1	1	0	-
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	0	1	0	2	0	0	0	0	-
17	Textiles	0	0	0	1	0	0	0	0	-
18	Wearing apparel	0	1	0	0	0	0	0	0	-
19	Leather and leather products	0	0	0	-	0	0	0	0	-
20	Wood and wood products (excl furniture)	0	0	0	0	0	0	0	0	-
21	Pulp, paper and paper products	0	0	0	0	0	0	0	0	-
22	Printed matter and recorded media	4	1	2	0	0	0	0	0	-
24	Chemical products and man-made fibres	-	2	1	21	1	0	0	-	-
25	Rubber and plastics	0	0	0	2	0	0	0	0	-
26	Other non-metallic mineral products	0	1	0	0	0	0	0	0	-
27	Basic metals	0	0	0	-	0	0	0	0	-
28	Fabricated metal products	0	0	0	0	0	0	0	0	-
29	Machinery and equipment n.e.c.	-	0	0	0	-	0	-	-	-
30	Office machinery and computers	0	0	0	0	0	0	0	0	-
31	Electrical machinery and apparatus n.e.c.	0	0	0	1	0	0	0	0	-
32	Radio, television and communications apparatus	-	0	0	1	-	0	-	-	-
33	Medical, precision and optical instruments	0	1	1	11	0	0	0	0	-
34	Motor vehicles and trailers	1	0	0	0	0	0	0	0	-
35	Other transport equipment	0	0	0	0	0	0	0	0	-
40	Electricity and gas	-	2	2	-	0	0	-	-	-
41	Water collection and distribution	0	0	0	-	0	0	0	0	-
45	Construction work	-	-	-	-	-	-	-	-	-
50	Motor fuel and vechicle trade and repair	-2	-3	-0	-0	-0	-0	-0	-0	-
51	Wholesale trade	-7	-9	-8	-41	-2	-2	-2	-0	-
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-
	Total	-	-	-	-	-	-	-	-	-

Appendix 11.2 (cont.)

2005 Trade Margins Table - BMW Region, €Millions

Industries / *Products*		Other services	Private households with employed persons	NPISH	Government Consumption Expenditure	Gross Fixed Capital Formation	Changes in Inventories	International Exports	Domestic Exports	Final uses	Total uses
1 - 5	Agriculture, Forestry, Fishing	62	118	-	-	-	0	-	-	118	180
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	5	7	-	-	-	-0	0	-	7	12
14	Other mining and quarying	16	-	-	-	2	-	0	-	3	18
15	Food and beverages	221	572	2	-	-	0	151	-	725	946
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	38	353	-	-	4	-0	2	-	359	397
17	Textiles	6	40	-	-	-	0	1	-	41	47
18	Wearing apparel	3	256	-	-	-	0	2	-	258	261
19	Leather and leather products	2	41	-	-	-	0	1	-	42	44
20	Wood and wood products (excl furniture)	21	4	-	-	-	1	1	-	5	26
21	Pulp, paper and paper products	4	7	-	-	-	-0	0	-	7	11
22	Printed matter and recorded media	23	59	-	-	-	-	18	-	77	100
24	Chemical products and man-made fibres	62	168	-	-	-	4	73	-	244	306
25	Rubber and plastics	28	36	-	-	-	-0	1	-	36	64
26	Other non-metallic mineral products	69	42	-	-	-	-0	2	-	44	113
27	Basic metals	14	-	-	-	-	-0	0	-	0	14
28	Fabricated metal products	32	18	-	-	2	-0	1	-	21	53
29	Machinery and equipment n.e.c.	27	33	-	-	66	-	3	-	101	128
30	Office machinery and computers	49	9	-	-	4	2	19	-	33	82
31	Electrical machinery and apparatus n.e.c.	42	9	-	-	7	0	10	-	27	69
32	Radio, television and communications apparatus	47	48	-	-	-	0	2	-	50	97
33	Medical, precision and optical instruments	67	10	-	-	9	1	11	-	31	98
34	Motor vehicles and trailers	17	140	-	-	112	0	0	-	252	269
35	Other transport equipment	0	1	-	-	2	-0	0	-	2	2
40	Electricity and gas	15	1	-	-	-	-	0	-	1	16
41	Water collection and distribution	0	0	-	0	-	-	-	-	0	0
45	Construction work	-	-	-	-	-	-	-	-	-	-
50	Motor fuel and vechicle trade and repair	-42	-238	-	-	-112	-	-	-	-349	-391
51	Wholesale trade	-828	-	-2	-0	-96	-8	-297	-	-403	-1,231
52	Retail trade and repair of household goods	-	-1,732	-	-	-	-	-	-	-1,732	-1,732
	Total	-	-	-	-	-	-	-	-	-	-

Appendix 12.1

2005 Product Tax Table - SE Region, €Millions

		1 - 5	10 - 13	14	15	16,23,36-37	17	18	19	20
	Industries	Agriculture, Forestry, Fishing	Coal, Peat, Petroleum and Metal Ore Extraction	Other mining and quarying	Food and beverages	Tobacco, Petroleum, Furniture and Recycling	Textiles	Wearing apparel	Leather and leather products	Wood and wood products (excl furniture)
	Products									
1 - 5	Agriculture, Forestry, Fishing	1	-	-	1	0	0	-	-	0
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	0	0	0	0	0	0	-	0
14	Other mining and quarying	1	0	3	0	0	0	-	-	0
15	Food and beverages	19	-	-	62	0	0	-	-	0
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	64	2	14	32	11	1	0	0	1
17	Textiles	0	0	0	0	0	1	0	0	-
18	Wearing apparel	0	0	0	0	0	-	1	-	0
19	Leather and leather products	0	0	0	0	0	0	-	0	0
20	Wood and wood products (excl furniture)	0	0	0	0	0	0	-	-	0
21	Pulp, paper and paper products	0	0	0	0	0	0	0	0	0
22	Printed matter and recorded media	0	0	0	0	0	0	0	0	0
24	Chemical products and man-made fibres	1	0	0	0	0	0	0	0	0
25	Rubber and plastics	0	0	0	1	0	0	0	0	0
26	Other non-metallic mineral products	0	0	0	0	0	0	-	-	0
27	Basic metals	0	0	0	0	0	0	-	-	0
28	Fabricated metal products	0	0	0	0	0	0	0	0	0
29	Machinery and equipment n.e.c.	0	0	0	0	0	0	0	0	0
30	Office machinery and computers	0	0	0	0	0	0	-	-	0
31	Electrical machinery and apparatus n.e.c.	0	0	0	0	0	0	-	-	0
32	Radio, television and communications apparatus	0	0	0	0	0	0	-	-	0
33	Medical, precision and optical instruments	0	0	0	0	0	0	-	-	0
34	Motor vehicles and trailers	1	0	0	0	0	0	-	-	0
35	Other transport equipment	0	-	0	0	0	0	-	-	-
40	Electricity and gas	0	0	0	0	0	0	-	0	0
41	Water collection and distribution	0	0	0	0	0	0	0	-	0
45	Construction work	0	0	0	0	0	0	0	0	0
50	Motor fuel and vechicle trade and repair	0	0	0	0	0	0	0	0	0
51	Wholesale trade	-	-	-	0	0	-	-	-	-
52	Retail trade and repair of household goods	0	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	0	0	0	2	0	0	0	0	0
60	Land transport services	0	0	0	0	0	0	0	0	0
61 - 62	Water and Air transport services	-	-	-	-	-	-	-	-	-
63	Auxiliary transport services and travel agencies	0	0	0	0	0	0	0	0	0
64	Post and telecommunication services	0	0	0	0	0	0	0	0	0
65 - 67	Financial Services	4	1	1	10	1	0	0	0	0
70	Real estate services	0	0	0	0	0	0	0	0	0
71	Renting services of machinery and equipment	0	0	0	0	0	0	0	0	0
72	Computer and related services	-	-	-	-	-	-	-	-	-
73	Research and development services	0	0	0	0	0	0	0	0	0
74	Other business services	1	2	0	99	4	0	0	0	1
75	Public administration and defence	-	-	-	-	-	-	-	-	-
80	Education	0	0	-	0	0	0	0	0	0
85	Health and social work services	0	0	-	0	0	0	0	0	0
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-
92	Recreation	0	0	0	0	0	0	0	0	0
93	Other services	0	0	0	0	0	0	0	0	0
95	Private households with employed persons	-	-	-	-	-	-	-	-	-
	Total	92	6	18	208	17	2	1	0	3

Appendix 12.1 (cont.)

2005 Product Tax Table - SE Region, €Millions

		21	22	24	25	26	27	28	29	30	31
	Industries	Pulp, paper and paper products	Printed matter and recorded media	Chemical products and man-made fibres	Rubber and plastics	Other non-metallic mineral products	Basic metals	Fabricated metal products	Machinery and equipment n.e.c.	Office machinery and computers	Electrical machinery and apparatus n.e.c.
	Products										
1 - 5	Agriculture, Forestry, Fishing	0	0	0	0	0	-	0	0	0	0
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	-	-	0	0	0	1	0	0	-	0
14	Other mining and quarying	-	0	1	0	2	0	0	0	-	0
15	Food and beverages	0	0	4	0	0	-	0	0	-	0
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	0	1	4	10	11	0	1	1	0	3
17	Textiles	0	0	0	0	0	0	0	0	0	0
18	Wearing apparel	0	0	-	0	0	-	0	0	0	0
19	Leather and leather products	0	0	0	0	0	-	0	0	0	0
20	Wood and wood products (excl furniture)	0	0	0	0	0	0	0	0	0	0
21	Pulp, paper and paper products	0	0	0	0	0	0	0	0	0	0
22	Printed matter and recorded media	0	0	0	0	0	0	0	0	0	0
24	Chemical products and man-made fibres	0	0	7	0	0	0	0	0	0	0
25	Rubber and plastics	0	0	0	1	0	0	0	0	0	0
26	Other non-metallic mineral products	0	0	0	0	0	0	0	0	0	0
27	Basic metals	0	0	0	0	0	0	1	0	0	0
28	Fabricated metal products	0	0	0	0	0	0	0	0	0	0
29	Machinery and equipment n.e.c.	0	0	0	0	0	0	0	0	0	0
30	Office machinery and computers	0	0	0	0	0	0	-	0	0	0
31	Electrical machinery and apparatus n.e.c.	0	0	0	0	0	0	0	0	1	1
32	Radio, television and communications apparatus	0	0	0	0	0	0	0	0	1	0
33	Medical, precision and optical instruments	0	0	0	0	0	0	0	0	0	0
34	Motor vehicles and trailers	0	0	0	0	0	0	0	0	1	0
35	Other transport equipment	0	0	0	-	0	-	0	0	0	-
40	Electricity and gas	0	0	0	0	0	0	0	0	0	0
41	Water collection and distribution	0	0	0	0	0	0	0	0	0	0
45	Construction work	0	0	0	0	0	0	0	0	0	0
50	Motor fuel and vechicle trade and repair	0	0	0	0	0	0	0	0	0	0
51	Wholesale trade	-	0	0	-	0	-	-	0	0	0
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	0	1	2	0	0	0	0	0	1	0
60	Land transport services	0	0	0	0	0	0	-	0	0	0
61 - 62	Water and Air transport services	-	-	-	-	-	-	-	-	-	-
63	Auxiliary transport services and travel agencies	0	0	0	0	0	0	0	0	0	0
64	Post and telecommunication services	0	0	0	0	0	0	0	0	0	0
65 - 67	Financial Services	0	5	9	0	1	0	1	1	3	1
70	Real estate services	0	0	0	0	0	0	0	0	0	0
71	Renting services of machinery and equipment	0	0	0	0	0	0	0	0	0	0
72	Computer and related services	-	-	-	-	-	-	-	-	-	-
73	Research and development services	0	0	0	0	0	0	0	0	0	0
74	Other business services	1	155	456	3	3	0	1	4	137	13
75	Public administration and defence	-	-	-	-	-	-	-	-	-	-
80	Education	0	0	0	0	0	0	0	0	0	0
85	Health and social work services	0	0	0	0	0	0	0	0	0	0
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-	-
92	Recreation	0	0	0	0	0	0	0	0	0	0
93	Other services	0	0	0	0	0	0	0	0	0	0
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total	2	163	483	14	18	2	5	8	145	18

Appendix 12.1 (cont.)

2005 Product Tax Table - SE Region, €Millions

		32	33	34	35	40	41	45	50	51	52
	Industries	Radio, television and communications apparatus	Medical, precision and optical instruments	Motor vehicles and trailers	Other transport equipment	Electricity and gas	Water collection and distribution	Construction work	Motor fuel and vechicle trade and repair	Wholesale trade	Retail trade and repair of household goods
	Products										
1 - 5	Agriculture, Forestry, Fishing	0	0	0	0	-	-	0	0	0	0
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	-	-	0	0	0	0	0	0	0
14	Other mining and quarying	0	0	-	0	-	-	12	0	0	0
15	Food and beverages	0	0	0	-	0	0	0	0	1	3
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	0	1	0	0	30	1	106	15	39	18
17	Textiles	0	0	0	0	-	-	1	0	0	0
18	Wearing apparel	-	0	0	0	-	-	0	0	0	-
19	Leather and leather products	0	0	-	-	-	-	0	0	0	0
20	Wood and wood products (excl furniture)	0	0	0	0	0	0	3	0	0	0
21	Pulp, paper and paper products	0	0	0	0	0	0	0	0	0	0
22	Printed matter and recorded media	0	0	0	0	0	0	0	0	0	0
24	Chemical products and man-made fibres	0	0	0	0	0	0	2	0	0	0
25	Rubber and plastics	0	0	0	0	0	0	3	0	0	0
26	Other non-metallic mineral products	0	0	0	0	0	0	20	0	0	0
27	Basic metals	-	0	0	0	0	0	1	0	0	0
28	Fabricated metal products	0	0	0	0	0	0	3	0	0	0
29	Machinery and equipment n.e.c.	0	0	0	0	0	0	2	0	0	0
30	Office machinery and computers	0	0	0	0	0	0	1	0	0	0
31	Electrical machinery and apparatus n.e.c.	0	0	0	0	0	0	3	0	0	0
32	Radio, television and communications apparatus	1	0	0	0	0	0	0	0	0	0
33	Medical, precision and optical instruments	0	1	0	0	0	0	0	0	0	0
34	Motor vehicles and trailers	0	0	18	0	1	0	21	34	3	4
35	Other transport equipment	0	0	0	3	-	-	1	0	0	0
40	Electricity and gas	0	0	0	0	0	0	0	0	0	0
41	Water collection and distribution	0	0	0	0	-	0	0	0	0	0
45	Construction work	0	0	0	0	0	0	8	0	0	0
50	Motor fuel and vechicle trade and repair	0	0	0	0	-	0	0	0	0	0
51	Wholesale trade	0	-	-	-	-	-	-	-	0	0
52	Retail trade and repair of household goods	-	-	-	-	-	0	0	0	0	0
55	Hotel and restaurant services	0	1	0	0	0	0	2	0	0	4
60	Land transport services	0	0	0	0	0	0	0	0	0	0
61 - 62	Water and Air transport services	-	-	-	-	-	-	-	-	-	-
63	Auxiliary transport services and travel agencies	0	0	0	0	0	0	0	0	1	0
64	Post and telecommunication services	0	0	0	0	0	0	0	0	0	0
65 - 67	Financial Services	1	1	0	0	3	0	8	1	3	4
70	Real estate services	0	0	0	0	0	0	8	1	1	4
71	Renting services of machinery and equipment	0	0	0	0	0	0	2	0	0	0
72	Computer and related services	-	-	-	-	-	-	-	-	-	-
73	Research and development services	0	0	0	0	-	0	0	0	0	0
74	Other business services	5	17	1	1	4	2	49	5	18	16
75	Public administration and defence	-	-	-	-	-	-	-	-	-	-
80	Education	0	0	0	0	0	0	1	0	0	0
85	Health and social work services	0	0	0	0	0	0	0	0	0	0
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-	-
92	Recreation	0	0	0	0	0	0	0	0	0	0
93	Other services	0	0	0	0	0	0	0	0	0	0
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total	8	24	20	5	38	4	257	57	67	54

Appendix 12.1 (cont.)

2005 Product Tax Table - SE Region, €Millions

		55	60	61 - 62	63	64	65 - 67	70	71	72	73
	Industries	Hotel and restaurant services	Land transport services	Water and Air Services	Auxiliary transport services and travel agencies	Post and telecommunication services	Financial Services	Real estate services	Renting services of machinery and equipment	Computer and related services	Research and development services
	Products										
1 - 5	Agriculture, Forestry, Fishing	0	0	0	0	0	-	0	-	0	0
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	0	0	0	0	0	0	0	0	0
14	Other mining and quarying	0	0	0	0	0	0	0	-	-	0
15	Food and beverages	190	1	1	1	1	6	0	0	1	0
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	24	167	202	26	12	22	7	11	22	1
17	Textiles	0	0	0	0	0	0	0	0	0	0
18	Wearing apparel	-	0	0	0	0	0	0	0	0	0
19	Leather and leather products	0	0	0	0	0	0	0	0	0	0
20	Wood and wood products (excl furniture)	0	0	0	0	0	0	12	0	0	0
21	Pulp, paper and paper products	0	1	0	0	1	3	2	0	0	0
22	Printed matter and recorded media	0	3	0	3	1	30	3	0	0	0
24	Chemical products and man-made fibres	0	1	0	0	0	1	2	0	0	0
25	Rubber and plastics	0	1	0	0	1	0	9	0	0	0
26	Other non-metallic mineral products	0	1	0	0	0	0	31	0	0	0
27	Basic metals	0	3	0	0	0	0	-	0	0	0
28	Fabricated metal products	0	1	0	0	1	0	1	0	0	0
29	Machinery and equipment n.e.c.	0	0	0	0	0	0	0	0	0	0
30	Office machinery and computers	0	0	0	0	3	1	0	0	0	0
31	Electrical machinery and apparatus n.e.c.	0	0	0	0	0	0	0	0	0	0
32	Radio, television and communications apparatus	0	0	0	0	1	0	0	0	0	0
33	Medical, precision and optical instruments	0	0	0	0	0	0	0	0	0	0
34	Motor vehicles and trailers	2	24	1	2	3	3	3	14	10	0
35	Other transport equipment	0	2	4	0	0	0	0	0	0	0
40	Electricity and gas	0	3	0	0	0	7	1	0	0	0
41	Water collection and distribution	0	0	0	0	0	0	0	0	0	0
45	Construction work	0	0	0	0	1	9	50	0	0	0
50	Motor fuel and vechicle trade and repair	0	6	0	0	1	1	0	0	0	0
51	Wholesale trade	0	-	0	0	0	-	-	-	0	-
52	Retail trade and repair of household goods	0	0	0	0	0	0	0	0	0	0
55	Hotel and restaurant services	2	1	2	17	1	21	0	0	2	0
60	Land transport services	0	0	0	0	1	0	0	0	0	0
61 - 62	Water and Air transport services	-	-	-	-	1	-	-	-	-	-
63	Auxiliary transport services and travel agencies	0	1	1	1	0	0	0	0	0	0
64	Post and telecommunication services	0	5	0	3	2	31	0	0	0	0
65 - 67	Financial Services	4	1	3	3	3	298	30	7	13	0
70	Real estate services	2	0	1	1	1	2	1	0	1	0
71	Renting services of machinery and equipment	0	1	1	0	0	1	0	3	1	0
72	Computer and related services	-	-	-	-	-	-	-	-	-	-
73	Research and development services	0	0	0	0	0	1	0	0	0	0
74	Other business services	23	31	13	15	15	192	29	12	165	2
75	Public administration and defence	-	-	-	-	-	-	-	-	-	-
80	Education	0	0	0	0	0	0	0	0	0	0
85	Health and social work services	0	0	0	0	0	0	0	0	0	0
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-	-
92	Recreation	1	0	0	1	1	1	0	0	2	0
93	Other services	0	1	0	0	0	3	0	0	0	0
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total	248	258	228	77	52	633	181	50	216	4

Appendix 12.1 (cont.)

2005 Product Tax Table - SE Region, €Millions

		74	75	80	85	90	91	92	93	95
	Industries	Other business services	Public administration and defence	Education	Health and social work services	Sewage and refuse disposal services	Membership organisation services n.e.c.	Recreation	Other services	Private households with employed persons
	Products									
1 - 5	Agriculture, Forestry, Fishing	0	0	0	0	-	0	0	0	-
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	0	0	-	0	0	0	0	-
14	Other mining and quarying	0	0	0	-	0	0	0	0	-
15	Food and beverages	3	3	0	7	0	1	1	0	-
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	37	112	18	10	6	1	6	4	-
17	Textiles	0	1	0	6	0	0	0	0	-
18	Wearing apparel	0	2	0	2	0	0	1	0	-
19	Leather and leather products	0	0	0	-	0	0	0	0	-
20	Wood and wood products (excl furniture)	3	0	2	0	0	0	0	0	-
21	Pulp, paper and paper products	1	7	5	7	0	0	2	0	-
22	Printed matter and recorded media	1	6	5	2	0	0	2	0	-
24	Chemical products and man-made fibres	3	15	1	41	0	0	0	0	-
25	Rubber and plastics	2	4	0	9	0	0	0	0	-
26	Other non-metallic mineral products	1	5	0	1	0	0	0	0	-
27	Basic metals	0	2	0	-	0	0	0	0	-
28	Fabricated metal products	3	4	6	2	0	0	0	0	-
29	Machinery and equipment n.e.c.	0	2	0	0	0	0	0	0	-
30	Office machinery and computers	1	9	3	0	0	0	0	0	-
31	Electrical machinery and apparatus n.e.c.	0	0	0	1	0	0	1	0	-
32	Radio, television and communications apparatus	0	1	0	2	0	0	1	0	-
33	Medical, precision and optical instruments	0	0	0	0	0	0	0	0	-
34	Motor vehicles and trailers	10	1	0	0	2	0	0	0	-
35	Other transport equipment	0	4	0	0	0	0	0	0	-
40	Electricity and gas	1	14	10	17	0	0	2	0	-
41	Water collection and distribution	0	0	0	-	0	0	0	0	-
45	Construction work	3	16	9	1	0	0	2	0	-
50	Motor fuel and vechicle trade and repair	1	2	0	0	0	0	1	0	-
51	Wholesale trade	0	-	0	-	-	-	-	-	-
52	Retail trade and repair of household goods	0	-	0	-	0	0	0	0	-
55	Hotel and restaurant services	9	13	1	10	0	0	1	0	-
60	Land transport services	0	0	0	0	0	0	0	0	-
61 - 62	Water and Air transport services	-	-	-	-	-	-	-	-	-
63	Auxiliary transport services and travel agencies	1	0	0	-	0	0	0	0	-
64	Post and telecommunication services	2	18	3	-	0	0	8	0	-
65 - 67	Financial Services	16	2	2	1	1	1	2	1	-
70	Real estate services	3	8	0	0	0	0	1	0	-
71	Renting services of machinery and equipment	0	0	0	-	0	0	0	0	-
72	Computer and related services	-	-	-	-	-	-	-	-	-
73	Research and development services	0	0	0	1	0	0	0	0	-
74	Other business services	204	171	12	34	5	4	15	4	-
75	Public administration and defence	-	-	-	-	-	-	-	-	-
80	Education	0	0	1	0	0	0	0	0	-
85	Health and social work services	0	0	0	0	0	0	0	0	-
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-
92	Recreation	2	2	4	0	0	2	7	0	-
93	Other services	1	1	8	3	0	0	1	0	-
95	Private households with employed persons	-	-	-	-	-	-	-	-	-
	Total	312	426	93	156	16	10	54	10	-

Appendix 12.1 (cont.)

2005 Product Tax Table - SE Region, €Millions

Industries / *Products*		Total inter-industry	hhld expenditure	NPISH	government consumption expenditure	gross fixed capital formation	changes in inventories	International exports	Domestic exports	final uses	total uses
1 - 5	Agriculture, Forestry, Fishing	3	21	-	-	-	-	-	-	21	23
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	1	18	-	-	-	-	-	-	18	19
14	Other mining and quarying	20	-	-	-	-	-	-	-	-	20
15	Food and beverages	306	793	-	-	-	-	-	-	793	1,099
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	1,055	2,669	-	-	19	-	-	-	2,688	3,743
17	Textiles	12	85	-	-	-	-	-	-	85	97
18	Wearing apparel	7	309	-	-	-	-	-	-	309	317
19	Leather and leather products	1	70	-	-	-	-	-	-	70	71
20	Wood and wood products (excl furniture)	22	25	-	-	-	-	-	-	25	46
21	Pulp, paper and paper products	30	96	-	-	-	-	-	-	96	126
22	Printed matter and recorded media	55	149	-	-	-	-	-	-	149	205
24	Chemical products and man-made fibres	74	362	-	-	-	-	-	-	362	436
25	Rubber and plastics	33	113	-	-	-	-	-	-	113	146
26	Other non-metallic mineral products	59	51	-	-	-	-	-	-	51	110
27	Basic metals	9	-	-	-	-	-	-	-	-	9
28	Fabricated metal products	22	40	-	-	6	-	-	-	46	69
29	Machinery and equipment n.e.c.	7	58	-	-	-	-	-	-	58	66
30	Office machinery and computers	18	46	-	-	71	-	-	-	117	135
31	Electrical machinery and apparatus n.e.c.	9	38	-	-	52	-	-	-	90	99
32	Radio, television and communications apparatus	8	64	-	-	20	-	-	-	85	93
33	Medical, precision and optical instruments	2	14	-	-	18	-	-	-	32	34
34	Motor vehicles and trailers	161	1,336	-	-	22	-	-	-	1,358	1,520
35	Other transport equipment	16	7	-	-	42	-	-	-	48	64
40	Electricity and gas	56	241	-	-	-	-	-	-	241	298
41	Water collection and distribution	0	2	-	-	-	-	-	-	2	2
45	Construction work	99	26	-	-	2,987	-	-	-	3,014	3,113
50	Motor fuel and vechicle trade and repair	15	32	-	-	-	-	-	-	32	47
51	Wholesale trade	0	-	-	-	-	-	-	-	-	0
52	Retail trade and repair of household goods	1	12	-	-	-	-	-	-	12	12
55	Hotel and restaurant services	95	1,225	-	-	-	-	-	-	1,225	1,321
60	Land transport services	2	0	-	-	-	-	-	-	0	2
61 - 62	Water and Air transport services	1	-0	-	-	-	-	-	-	-0	1
63	Auxiliary transport services and travel agencies	7	6	-	-	-	-	-	-	6	13
64	Post and telecommunication services	72	319	-	-	-	-	-	-	319	391
65 - 67	Financial Services	448	83	-	-	-	-	-	-	83	531
70	Real estate services	36	133	-	-	-	-	-	-	133	169
71	Renting services of machinery and equipment	11	70	-	-	-	-	-	-	70	81
72	Computer and related services	-	-	-	-	-	-	-	-	-	-
73	Research and development services	2	-	-	-	-	-	-	-	-	2
74	Other business services	1,944	41	-	-	127	-	-	-	168	2,112
75	Public administration and defence	-	-	-	-	-	-	-	-	-	-
80	Education	2	5	-	-	-	-	-	-	5	7
85	Health and social work services	0	0	-	-	-	-	-	-	0	1
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-	-
92	Recreation	24	38	-	-	-	-	-	-	38	62
93	Other services	18	105	-	-	-	-	-	-	105	123
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total	4,764	8,706	-	-	3,364	-	-	-	12,070	16,834

Appendix 12.2

2005 Product Tax Table - BMW Region, €Millions

		1 - 5	10 - 13	14	15	16,23,36-37	17	18	19	20
	Industries	Agriculture, Forestry, Fishing	Coal, Peat, Petroleum and Metal Ore Extraction	Other mining and quarying	Food and beverages	Tobacco, Petroleum, Furniture and Recycling	Textiles	Wearing apparel	Leather and leather products	Wood and wood products (excl furniture)
	Products									
1 - 5	Agriculture, Forestry, Fishing	0	-	-	1	0	0	-	0	0
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	0	0	0	0	0	0	-	0
14	Other mining and quarying	0	-	2	0	0	0	-	-	0
15	Food and beverages	14	-	-	15	0	-	-	-	0
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	37	2	5	12	6	1	0	0	0
17	Textiles	0	-	0	0	0	0	0	0	0
18	Wearing apparel	0	0	0	0	0	0	0	-	0
19	Leather and leather products	0	-	0	0	0	0	-	0	0
20	Wood and wood products (excl furniture)	0	-	0	0	0	-	0	-	0
21	Pulp, paper and paper products	0	0	0	0	0	0	0	0	0
22	Printed matter and recorded media	0	0	0	0	0	0	0	-	0
24	Chemical products and man-made fibres	0	0	0	0	0	0	0	-	0
25	Rubber and plastics	0	0	0	0	0	0	0	-	0
26	Other non-metallic mineral products	0	-	0	0	0	0	-	-	0
27	Basic metals	0	0	-	0	0	0	-	-	0
28	Fabricated metal products	0	0	0	0	0	0	0	0	0
29	Machinery and equipment n.e.c.	0	0	-	0	0	0	0	-	0
30	Office machinery and computers	0	-	0	0	0	0	-	-	0
31	Electrical machinery and apparatus n.e.c.	0	-	0	0	0	0	-	-	0
32	Radio, television and communications apparatus	0	-	0	0	-	0	-	-	0
33	Medical, precision and optical instruments	0	0	0	0	0	0	0	-	0
34	Motor vehicles and trailers	0	0	0	0	0	0	0	-	0
35	Other transport equipment	0	-	0	0	0	0	0	-	0
40	Electricity and gas	0	0	0	0	0	-	0	-	0
41	Water collection and distribution	-	-	-	-	0	-	-	-	-
45	Construction work	0	0	-	0	0	0	0	0	0
50	Motor fuel and vechicle trade and repair	0	-	0	0	0	0	0	0	0
51	Wholesale trade	-	-	-	0	0	-	-	-	-
52	Retail trade and repair of household goods	0	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	0	0	0	1	0	0	0	0	0
60	Land transport services	0	0	-	0	0	-	0	0	0
61 - 62	Water and Air transport services	-	-	-	-	-	-	-	-	-
63	Auxiliary transport services and travel agencies	0	0	0	0	0	0	0	0	0
64	Post and telecommunication services	0	0	0	0	0	0	0	0	0
65 - 67	Financial Services	1	0	0	1	0	0	0	0	0
70	Real estate services	0	0	0	0	0	0	0	0	0
71	Renting services of machinery and equipment	0	0	0	0	0	0	0	0	0
72	Computer and related services	-	-	-	-	-	-	-	-	-
73	Research and development services	0	-	0	0	0	0	0	0	0
74	Other business services	1	1	0	70	1	0	0	0	1
75	Public administration and defence	-	-	-	-	-	-	-	-	-
80	Education	0	0	-	0	0	0	0	0	0
85	Health and social work services	0	0	-	0	0	0	0	0	0
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-
92	Recreation	0	0	0	0	0	0	0	0	0
93	Other services	0	0	0	0	0	0	0	0	0
95	Private households with employed persons	-	-	-	-	-	-	-	-	-
	Total	56	3	7	99	7	1	1	0	2

Appendix 12.2 (cont.)

2005 Product Tax Table - BMW Region, €Millions

		21	22	24	25	26	27	28	29	30	31
	Industries	Pulp, paper and paper products	Printed matter and recorded media	Chemical products and man-made fibres	Rubber and plastics	Other non-metallic mineral products	Basic metals	Fabricated metal products	Machinery and equipment n.e.c.	Office machinery and computers	Electrical machinery and apparatus n.e.c.
	Products										
1 - 5	Agriculture, Forestry, Fishing	0	-	0	0	0	-	0	0	0	-
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	-	-	0	0	0	0	0	0	-	-
14	Other mining and quarying	-	0	0	0	2	-	0	0	-	0
15	Food and beverages	-	-	-	0	0	-	0	0	-	0
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	0	0	1	2	8	21	2	0	0	0
17	Textiles	-	-	-	0	0	-	0	0	-	0
18	Wearing apparel	0	-	0	0	0	0	0	0	0	0
19	Leather and leather products	0	-	-	0	0	0	0	0	0	0
20	Wood and wood products (excl furniture)	0	-	-	0	0	-	0	-	0	0
21	Pulp, paper and paper products	0	-	0	0	0	-	0	0	-	-
22	Printed matter and recorded media	0	-	0	0	0	0	0	0	0	-
24	Chemical products and man-made fibres	0	-	0	0	0	-	0	0	-	-
25	Rubber and plastics	0	0	0	0	0	0	0	0	0	0
26	Other non-metallic mineral products	0	0	0	0	0	-	0	0	-	0
27	Basic metals	-	-	0	0	0	0	1	0	0	0
28	Fabricated metal products	0	0	0	0	0	-	0	0	0	0
29	Machinery and equipment n.e.c.	0	-	0	0	0	-	-	1	-	-
30	Office machinery and computers	0	0	0	0	0	0	0	0	0	0
31	Electrical machinery and apparatus n.e.c.	0	0	0	0	0	0	0	0	0	0
32	Radio, television and communications apparatus	-	-	0	0	0	0	0	0	0	0
33	Medical, precision and optical instruments	0	0	-	0	0	0	0	0	0	0
34	Motor vehicles and trailers	0	0	0	0	0	0	0	0	0	0
35	Other transport equipment	0	0	0	0	0	0	0	0	0	0
40	Electricity and gas	-	-	-	0	0	-	0	0	-	-
41	Water collection and distribution	-	-	-	-	-	-	-	-	-	-
45	Construction work	0	-	-	0	0	0	0	0	-	-
50	Motor fuel and vechicle trade and repair	0	0	0	0	0	0	0	0	0	0
51	Wholesale trade	-	0	0	-	0	-	-	0	0	0
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	0	0	0	0	0	0	0	0	0	0
60	Land transport services	0	0	0	0	0	0	0	0	0	0
61 - 62	Water and Air transport services	-	-	-	-	-	-	-	-	-	-
63	Auxiliary transport services and travel agencies	0	-	0	0	0	0	0	0	0	0
64	Post and telecommunication services	0	0	0	0	0	0	0	0	0	0
65 - 67	Financial Services	0	0	0	0	1	-	0	0	0	0
70	Real estate services	0	0	0	0	0	0	0	0	0	0
71	Renting services of machinery and equipment	0	0	0	0	0	0	0	0	0	0
72	Computer and related services	-	-	-	-	-	-	-	-	-	-
73	Research and development services	0	-	0	0	0	0	0	0	0	-
74	Other business services	0	-	10	1	1	0	1	2	4	-
75	Public administration and defence	-	-	-	-	-	-	-	-	-	-
80	Education	0	-	0	0	0	0	0	0	0	0
85	Health and social work services	0	0	0	0	0	0	0	0	0	0
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-	-
92	Recreation	0	-	0	0	0	-	0	0	0	0
93	Other services	0	-	0	0	0	-	0	0	0	-
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total	0	0	12	4	13	21	4	3	4	0

Appendix 12.2 (cont.)

2005 Product Tax Table - BMW Region, €Millions

		32	33	34	35	40	41	45	50	51	52
	Industries	Radio, television and communications apparatus	Medical, precision and optical instruments	Motor vehicles and trailers	Other transport equipment	Electricity and gas	Water collection and distribution	Construction work	Motor fuel and vechicle trade and repair	Wholesale trade	Retail trade and repair of household goods
	Products										
1 - 5	Agriculture, Forestry, Fishing	0	0	-	0	-	-	0	0	-	0
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	-	-	-	0	0	0	0	0	-	0
14	Other mining and quarying	0	0	-	0	-	-	3	0	-	0
15	Food and beverages	0	0	0	-	-	0	0	0	0	1
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	0	3	0	0	0	0	19	2	7	7
17	Textiles	0	-	0	0	-	-	0	0	0	0
18	Wearing apparel	0	0	0	0	-	-	0	0	0	0
19	Leather and leather products	0	0	-	0	-	-	0	0	0	0
20	Wood and wood products (excl furniture)	0	0	-	0	0	0	1	0	0	0
21	Pulp, paper and paper products	0	0	-	0	-	0	0	0	0	0
22	Printed matter and recorded media	0	0	0	0	-	0	0	0	0	0
24	Chemical products and man-made fibres	0	0	0	-	0	0	0	0	-	0
25	Rubber and plastics	0	1	0	0	-	0	1	0	0	0
26	Other non-metallic mineral products	0	0	0	0	0	0	5	0	0	0
27	Basic metals	0	0	0	0	0	0	0	0	0	0
28	Fabricated metal products	0	0	0	0	0	0	1	0	0	0
29	Machinery and equipment n.e.c.	-	0	0	0	0	0	0	0	-	-
30	Office machinery and computers	0	0	0	0	0	0	0	0	0	0
31	Electrical machinery and apparatus n.e.c.	0	0	0	-	-	0	1	0	0	0
32	Radio, television and communications apparatus	0	0	0	-	0	0	0	0	-	0
33	Medical, precision and optical instruments	-	0	0	0	0	0	0	0	0	0
34	Motor vehicles and trailers	0	0	2	0	0	0	5	8	-	1
35	Other transport equipment	0	0	0	-	-	-	0	0	0	0
40	Electricity and gas	-	0	0	-	-	0	-	0	-	-
41	Water collection and distribution	-	-	-	-	-	-	-	-	-	-
45	Construction work	0	0	0	-	-	0	1	0	-	0
50	Motor fuel and vechicle trade and repair	0	0	0	0	-	0	0	0	0	0
51	Wholesale trade	0	-	-	-	-	-	-	-	0	0
52	Retail trade and repair of household goods	-	-	-	-	-	0	0	0	0	0
55	Hotel and restaurant services	0	0	0	0	0	0	0	0	0	1
60	Land transport services	0	0	0	0	0	0	0	0	0	0
61 - 62	Water and Air transport services	-	-	-	-	-	-	-	-	-	-
63	Auxiliary transport services and travel agencies	0	0	0	-	0	0	0	0	0	0
64	Post and telecommunication services	0	0	0	0	0	0	0	0	0	0
65 - 67	Financial Services	0	0	0	0	0	0	0	0	0	1
70	Real estate services	0	0	0	0	0	0	2	0	0	1
71	Renting services of machinery and equipment	0	0	0	0	0	0	1	0	0	0
72	Computer and related services	-	-	-	-	-	-	-	-	-	-
73	Research and development services	0	0	0	-	-	0	0	0	-	0
74	Other business services	1	9	0	-	-	0	15	0	1	4
75	Public administration and defence	-	-	-	-	-	-	-	-	-	-
80	Education	0	0	0	0	0	0	0	0	0	0
85	Health and social work services	0	0	0	0	0	0	0	0	0	0
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-	-
92	Recreation	0	0	0	0	0	0	0	0	-	0
93	Other services	0	0	0	-	0	0	0	0	-	0
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total	1	14	2	0	0	1	58	11	8	15

Appendix 12.2 (cont.)

2005 Product Tax Table - BMW Region, €Millions

		55	60	61 - 62	63	64	65 - 67	70	71	72	73
	Industries	Hotel and restaurant services	Land transport services	Water and Air Services	Auxiliary transport services and travel agencies	Post and telecommunication services	Financial Services	Real estate services	Renting services of machinery and equipment	Computer and related services	Research and development services
	Products										
1 - 5	Agriculture, Forestry, Fishing	0	0	0	0	0	-	0	-	-	0
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	0	-	0	0	0	0	-	-	0
14	Other mining and quarying	0	0	-	0	0	-	0	-	-	0
15	Food and beverages	35	0	-	-	-	-	0	0	0	0
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	9	10	0	7	2	0	0	0	0	0
17	Textiles	0	0	0	0	0	0	0	-	0	0
18	Wearing apparel	0	0	0	-	-	-	0	-	-	0
19	Leather and leather products	0	0	0	0	0	0	0	0	0	0
20	Wood and wood products (excl furniture)	0	0	-	0	0	0	4	0	0	0
21	Pulp, paper and paper products	0	0	0	0	0	-	1	-	0	0
22	Printed matter and recorded media	0	0	0	0	0	0	1	0	0	0
24	Chemical products and man-made fibres	0	-	-	0	0	0	1	0	-	-
25	Rubber and plastics	0	0	0	0	0	0	3	0	0	0
26	Other non-metallic mineral products	0	0	0	0	-	0	12	0	-	0
27	Basic metals	0	0	0	0	0	0	-	0	0	0
28	Fabricated metal products	0	0	0	0	0	-	0	-	0	0
29	Machinery and equipment n.e.c.	-	-	-	-	-	-	-	-	-	0
30	Office machinery and computers	0	0	0	0	0	0	0	0	0	0
31	Electrical machinery and apparatus n.e.c.	0	0	0	0	0	0	0	0	0	0
32	Radio, television and communications apparatus	0	0	0	-	-	-	0	-	0	-
33	Medical, precision and optical instruments	0	0	0	0	0	0	0	0	0	0
34	Motor vehicles and trailers	0	3	0	-	0	-	1	0	0	0
35	Other transport equipment	0	0	0	0	0	-	0	0	0	0
40	Electricity and gas	0	-	-	-	-	-	-	-	-	-
41	Water collection and distribution	-	-	-	-	-	-	-	-	-	-
45	Construction work	0	0	-	-	-	-	14	0	-	0
50	Motor fuel and vechicle trade and repair	0	1	0	0	0	0	0	0	0	0
51	Wholesale trade	0	-	0	0	0	-	-	-	0	-
52	Retail trade and repair of household goods	0	0	0	0	0	0	0	0	0	0
55	Hotel and restaurant services	0	1	-	1	0	-	0	0	0	0
60	Land transport services	0	0	0	0	0	-	0	0	0	0
61 - 62	Water and Air transport services	-	-	-	-	0	-	-	-	-	-
63	Auxiliary transport services and travel agencies	0	0	0	0	0	-	0	-	-	0
64	Post and telecommunication services	0	2	0	0	0	1	0	0	0	0
65 - 67	Financial Services	0	0	0	0	0	4	0	0	0	0
70	Real estate services	1	0	0	0	0	0	0	0	0	0
71	Renting services of machinery and equipment	0	0	0	0	0	-	0	0	0	0
72	Computer and related services	-	-	-	-	-	-	-	-	-	-
73	Research and development services	0	-	0	0	0	0	-	0	-	0
74	Other business services	2	1	0	1	0	1	6	0	3	0
75	Public administration and defence	-	-	-	-	-	-	-	-	-	-
80	Education	0	-	0	0	0	0	0	0	0	0
85	Health and social work services	0	0	0	0	0	0	0	-	0	0
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-	-
92	Recreation	0	0	0	0	0	0	0	0	0	0
93	Other services	0	-	-	0	0	0	0	-	-	-
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total	49	18	0	9	3	6	44	1	3	1

Appendix 12.2 (cont.)

2005 Product Tax Table - BMW Region, €Millions

	Industries	74 Other business services	75 Public administration and defence	80 Education	85 Health and social work services	90 Sewage and refuse disposal services	91 Membership organisation services n.e.c.	92 Recreation	93 Other services	95 Private households with employed persons
	Products									
1 - 5	Agriculture, Forestry, Fishing	0	0	0	0	-	0	0	0	-
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	0	0	-	0	0	0	0	-
14	Other mining and quarying	0	0	0	-	-	0	0	0	-
15	Food and beverages	0	1	0	3	0	0	0	0	-
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	0	21	4	4	0	0	0	0	-
17	Textiles	0	0	0	3	0	0	0	0	-
18	Wearing apparel	0	1	0	1	0	0	0	0	-
19	Leather and leather products	0	0	0	-	0	0	0	0	-
20	Wood and wood products (excl furniture)	0	0	1	0	0	0	0	0	-
21	Pulp, paper and paper products	0	3	2	3	0	0	0	0	-
22	Printed matter and recorded media	0	3	2	1	0	0	0	0	-
24	Chemical products and man-made fibres	-	6	0	16	0	0	0	-	-
25	Rubber and plastics	0	1	0	3	0	0	0	0	-
26	Other non-metallic mineral products	0	2	0	0	0	0	0	0	-
27	Basic metals	0	1	0	-	0	0	0	0	-
28	Fabricated metal products	0	2	2	1	0	0	0	0	-
29	Machinery and equipment n.e.c.	-	1	0	0	-	0	-	-	-
30	Office machinery and computers	0	3	1	0	0	0	0	0	-
31	Electrical machinery and apparatus n.e.c.	0	0	0	0	0	0	0	0	-
32	Radio, television and communications apparatus	-	0	0	1	-	0	-	-	-
33	Medical, precision and optical instruments	0	0	0	0	0	0	0	0	-
34	Motor vehicles and trailers	1	0	0	0	0	0	0	0	-
35	Other transport equipment	0	2	0	0	0	0	0	0	-
40	Electricity and gas	-	2	1	0	-	0	-	-	-
41	Water collection and distribution	-	-	-	-	-	-	-	-	-
45	Construction work	0	5	2	0	0	0	-	0	-
50	Motor fuel and vechicle trade and repair	0	1	0	0	0	0	0	0	-
51	Wholesale trade	0	-	0	-	-	-	-	-	-
52	Retail trade and repair of household goods	0	-	0	-	0	0	0	0	-
55	Hotel and restaurant services	1	5	0	5	0	0	0	0	-
60	Land transport services	0	0	0	0	0	0	0	0	-
61 - 62	Water and Air transport services	-	-	-	-	-	-	-	-	-
63	Auxiliary transport services and travel agencies	-	0	0	-	0	0	-	0	-
64	Post and telecommunication services	0	7	1	-	0	0	1	0	-
65 - 67	Financial Services	1	0	0	0	0	0	0	0	-
70	Real estate services	0	3	0	0	0	0	0	0	-
71	Renting services of machinery and equipment	0	0	0	-	0	0	0	0	-
72	Computer and related services	-	-	-	-	-	-	-	-	-
73	Research and development services	-	0	0	0	0	0	-	0	-
74	Other business services	26	67	4	16	1	1	2	0	-
75	Public administration and defence	-	-	-	-	-	-	-	-	-
80	Education	0	0	0	0	0	0	0	0	-
85	Health and social work services	0	0	0	0	0	0	0	0	-
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-
92	Recreation	0	1	1	0	0	0	0	0	-
93	Other services	-	0	3	2	0	0	0	0	-
95	Private households with employed persons	-	-	-	-	-	-	-	-	-
	Total	30	139	26	58	1	2	5	1	-

Appendix 12.2 (cont.)

2005 Product Tax Table - BMW Region, €Millions

	Industries	total inter-industry	hhld expenditure	NPISH	government consumption expenditure	gross fixed capital formation	changes in inventories	International exports	Domestic exports	final uses	total uses
	Products										
1 - 5	Agriculture, Forestry, Fishing	1	9	-	-	-	-	-	-	9	10
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	16	-	-	-	-	-	-	16	16
14	Other mining and quarying	7	-	-	-	-	-	-	-	-	7
15	Food and beverages	69	231	-	-	-	-	-	-	231	299
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	192	798	-	-	3	-	-	-	802	994
17	Textiles	4	27	-	-	-	-	-	-	27	31
18	Wearing apparel	3	107	-	-	-	-	-	-	107	110
19	Leather and leather products	0	21	-	-	-	-	-	-	21	22
20	Wood and wood products (excl furniture)	7	11	-	-	-	-	-	-	11	17
21	Pulp, paper and paper products	8	28	-	-	-	-	-	-	28	37
22	Printed matter and recorded media	7	52	-	-	-	-	-	-	52	59
24	Chemical products and man-made fibres	24	123	-	-	-	-	-	-	123	147
25	Rubber and plastics	10	30	-	-	-	-	-	-	30	40
26	Other non-metallic mineral products	20	15	-	-	-	-	-	-	15	36
27	Basic metals	3	-	-	-	-	-	-	-	-	3
28	Fabricated metal products	7	14	-	-	2	-	-	-	16	23
29	Machinery and equipment n.e.c.	2	19	-	-	-	-	-	-	19	22
30	Office machinery and computers	5	15	-	-	1	-	-	-	17	21
31	Electrical machinery and apparatus n.e.c.	2	13	-	-	1	-	-	-	13	15
32	Radio, television and communications apparatus	1	16	-	-	0	-	-	-	16	18
33	Medical, precision and optical instruments	0	5	-	-	6	-	-	-	11	11
34	Motor vehicles and trailers	23	400	-	-	3	-	-	-	403	426
35	Other transport equipment	3	2	-	-	0	-	-	-	2	5
40	Electricity and gas	3	6	-	-	-	-	-	-	6	9
41	Water collection and distribution	0	-	-	-	-	-	-	-	-	0
45	Construction work	23	5	-	-	491	-	-	-	496	519
50	Motor fuel and vechicle trade and repair	2	9	-	-	-	-	-	-	9	12
51	Wholesale trade	0	-	-	-	-	-	-	-	-	0
52	Retail trade and repair of household goods	0	4	-	-	-	-	-	-	4	4
55	Hotel and restaurant services	16	325	-	-	-	-	-	-	325	341
60	Land transport services	0	0	-	-	-	-	-	-	0	0
61 - 62	Water and Air transport services	0	-0	-	-	-	-	-	-	-0	0
63	Auxiliary transport services and travel agencies	1	2	-	-	-	-	-	-	2	3
64	Post and telecommunication services	12	110	-	-	-	-	-	-	110	123
65 - 67	Financial Services	13	13	-	-	-	-	-	-	13	26
70	Real estate services	8	23	-	-	-	-	-	-	23	31
71	Renting services of machinery and equipment	2	14	-	-	-	-	-	-	14	15
72	Computer and related services	-	-	-	-	-	-	-	-	-	-
73	Research and development services	0	-	-	-	-	-	-	-	-	0
74	Other business services	255	15	-	-	49	-	-	-	64	318
75	Public administration and defence	-	-	-	-	-	-	-	-	-	-
80	Education	1	2	-	-	-	-	-	-	2	2
85	Health and social work services	0	0	-	-	-	-	-	-	0	0
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-	-
92	Recreation	4	10	-	-	-	-	-	-	10	14
93	Other services	5	29	-	-	-	-	-	-	29	34
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total	744	2,521	-	-	556	-	-	-	3,077	3,821

Appendix 13.1

2005 Product Subsidies Table - SE Region, €Millions

		1 - 5	10 - 13	14	15	16,23,36-37	17	18	19	20
	Industries	Agriculture, Forestry, Fishing	Coal, Peat, Petroleum and Metal Ore Extraction	Other mining and quarying	Food and beverages	Tobacco, Petroleum, Furniture and Recycling	Textiles	Wearing apparel	Leather and leather products	Wood and wood products (excl furniture)
	Products									
1 - 5	Agriculture, Forestry, Fishing	128	-	-	361	2	0	-	-	0
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	0	0	0	0	0	0	-	-
14	Other mining and quarying	-	-	-	-	-	-	-	-	-
15	Food and beverages	9	-	-	19	0	0	-	-	0
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	-	-	-	-	-	-	-	-	-
17	Textiles	-	-	-	-	-	-	-	-	-
18	Wearing apparel	-	-	-	-	-	-	-	-	-
19	Leather and leather products	-	-	-	-	-	-	-	-	-
20	Wood and wood products (excl furniture)	-	-	-	-	-	-	-	-	-
21	Pulp, paper and paper products	-	-	-	-	-	-	-	-	-
22	Printed matter and recorded media	-	-	-	-	-	-	-	-	-
24	Chemical products and man-made fibres	-	-	-	-	-	-	-	-	-
25	Rubber and plastics	-	-	-	-	-	-	-	-	-
26	Other non-metallic mineral products	-	-	-	-	-	-	-	-	-
27	Basic metals	-	-	-	-	-	-	-	-	-
28	Fabricated metal products	-	-	-	-	-	-	-	-	-
29	Machinery and equipment n.e.c.	-	-	-	-	-	-	-	-	-
30	Office machinery and computers	-	-	-	-	-	-	-	-	-
31	Electrical machinery and apparatus n.e.c.	-	-	-	-	-	-	-	-	-
32	Radio, television and communications apparatus	-	-	-	-	-	-	-	-	-
33	Medical, precision and optical instruments	-	-	-	-	-	-	-	-	-
34	Motor vehicles and trailers	-	-	-	-	-	-	-	-	-
35	Other transport equipment	-	-	-	-	-	-	-	-	-
40	Electricity and gas	-	-	-	-	-	-	-	-	-
41	Water collection and distribution	-	-	-	-	-	-	-	-	-
45	Construction work	-	-	-	-	-	-	-	-	-
50	Motor fuel and vechicle trade and repair	0	0	0	0	0	0	0	0	0
51	Wholesale trade	-	-	-	1	0	-	-	-	-
52	Retail trade and repair of household goods	0	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	-	-	-	-	-	-	-	-	-
60	Land transport services	-	-	-	-	-	-	-	-	-
61 - 62	Water and Air transport services	-	-	-	-	-	-	-	-	-
63	Auxiliary transport services and travel agencies	-	-	-	-	-	-	-	-	-
64	Post and telecommunication services	-	-	-	-	-	-	-	-	-
65 - 67	Financial Services	-	-	-	-	-	-	-	-	-
70	Real estate services	-	-	-	-	-	-	-	-	-
71	Renting services of machinery and equipment	-	-	-	-	-	-	-	-	-
72	Computer and related services	-	-	-	-	-	-	-	-	-
73	Research and development services	-	-	-	-	-	-	-	-	-
74	Other business services	0	0	0	0	0	0	0	0	0
75	Public administration and defence	-	-	-	-	-	-	-	-	-
80	Education	-	-	-	-	-	-	-	-	-
85	Health and social work services	-	-	-	-	-	-	-	-	-
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-
92	Recreation	0	0	0	0	0	0	0	0	0
93	Other services	-	-	-	-	-	-	-	-	-
95	Private households with employed persons	-	-	-	-	-	-	-	-	-
	Total	137	0	0	381	3	0	0	0	0

Appendix 13.1 (cont.)

2005 Product Subsidies Table - SE Region, €Millions

		21	22	24	25	26	27	28	29	30	31
	Industries	Pulp, paper and paper products	Printed matter and recorded media	Chemical products and man-made fibres	Rubber and plastics	Other non-metallic mineral products	Basic metals	Fabricated metal products	Machinery and equipment n.e.c.	Office machinery and computers	Electrical machinery and apparatus n.e.c.
	Products										
1 - 5	Agriculture, Forestry, Fishing	0	0	1	0	0	-	0	0	0	0
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	-	-	0	0	0	-	0	0	-	0
14	Other mining and quarying	-	-	-	-	-	-	-	-	-	-
15	Food and beverages	0	0	1	0	0	-	0	0	-	0
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	-	-	-	-	-	-	-	-	-	-
17	Textiles	-	-	-	-	-	-	-	-	-	-
18	Wearing apparel	-	-	-	-	-	-	-	-	-	-
19	Leather and leather products	-	-	-	-	-	-	-	-	-	-
20	Wood and wood products (excl furniture)	-	-	-	-	-	-	-	-	-	-
21	Pulp, paper and paper products	-	-	-	-	-	-	-	-	-	-
22	Printed matter and recorded media	-	-	-	-	-	-	-	-	-	-
24	Chemical products and man-made fibres	-	-	-	-	-	-	-	-	-	-
25	Rubber and plastics	-	-	-	-	-	-	-	-	-	-
26	Other non-metallic mineral products	-	-	-	-	-	-	-	-	-	-
27	Basic metals	-	-	-	-	-	-	-	-	-	-
28	Fabricated metal products	-	-	-	-	-	-	-	-	-	-
29	Machinery and equipment n.e.c.	-	-	-	-	-	-	-	-	-	-
30	Office machinery and computers	-	-	-	-	-	-	-	-	-	-
31	Electrical machinery and apparatus n.e.c.	-	-	-	-	-	-	-	-	-	-
32	Radio, television and communications apparatus	-	-	-	-	-	-	-	-	-	-
33	Medical, precision and optical instruments	-	-	-	-	-	-	-	-	-	-
34	Motor vehicles and trailers	-	-	-	-	-	-	-	-	-	-
35	Other transport equipment	-	-	-	-	-	-	-	-	-	-
40	Electricity and gas	-	-	-	-	-	-	-	-	-	-
41	Water collection and distribution	-	-	-	-	-	-	-	-	-	-
45	Construction work	-	-	-	-	-	-	-	-	-	-
50	Motor fuel and vechicle trade and repair	0	0	0	0	0	0	0	0	0	0
51	Wholesale trade	-	11	0	-	0	-	-	0	4	0
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	-	-	-	-	-	-	-	-	-	-
60	Land transport services	-	-	-	-	-	-	-	-	-	-
61 - 62	Water and Air transport services	-	-	-	-	-	-	-	-	-	-
63	Auxiliary transport services and travel agencies	-	-	-	-	-	-	-	-	-	-
64	Post and telecommunication services	-	-	-	-	-	-	-	-	-	-
65 - 67	Financial Services	-	-	-	-	-	-	-	-	-	-
70	Real estate services	-	-	-	-	-	-	-	-	-	-
71	Renting services of machinery and equipment	-	-	-	-	-	-	-	-	-	-
72	Computer and related services	-	-	-	-	-	-	-	-	-	-
73	Research and development services	-	-	-	-	-	-	-	-	-	-
74	Other business services	0	0	0	0	0	0	0	0	0	0
75	Public administration and defence	-	-	-	-	-	-	-	-	-	-
80	Education	-	-	-	-	-	-	-	-	-	-
85	Health and social work services	-	-	-	-	-	-	-	-	-	-
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-	-
92	Recreation	0	0	0	0	0	0	0	0	0	0
93	Other services	-	-	-	-	-	-	-	-	-	-
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total	0	11	2	0	0	0	0	0	4	0

Appendix 13.1 (cont.)

2005 Product Subsidies Table - SE Region, €Millions

		32	33	34	35	40	41	45	50	51	52
	Industries	Radio, television and communications apparatus	Medical, precision and optical instruments	Motor vehicles and trailers	Other transport equipment	Electricity and gas	Water collection and distribution	Construction work	Motor fuel and vechicle trade and repair	Wholesale trade	Retail trade and repair of household goods
	Products										
1 - 5	Agriculture, Forestry, Fishing	0	0	0	0	-	-	3	0	0	1
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	-	-	-	0	0	0	0	0	0	0
14	Other mining and quarying	-	-	-	-	-	-	-	-	-	-
15	Food and beverages	0	0	0	-	0	0	0	0	0	1
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	-	-	-	-	-	-	-	-	-	-
17	Textiles	-	-	-	-	-	-	-	-	-	-
18	Wearing apparel	-	-	-	-	-	-	-	-	-	-
19	Leather and leather products	-	-	-	-	-	-	-	-	-	-
20	Wood and wood products (excl furniture)	-	-	-	-	-	-	-	-	-	-
21	Pulp, paper and paper products	-	-	-	-	-	-	-	-	-	-
22	Printed matter and recorded media	-	-	-	-	-	-	-	-	-	-
24	Chemical products and man-made fibres	-	-	-	-	-	-	-	-	-	-
25	Rubber and plastics	-	-	-	-	-	-	-	-	-	-
26	Other non-metallic mineral products	-	-	-	-	-	-	-	-	-	-
27	Basic metals	-	-	-	-	-	-	-	-	-	-
28	Fabricated metal products	-	-	-	-	-	-	-	-	-	-
29	Machinery and equipment n.e.c.	-	-	-	-	-	-	-	-	-	-
30	Office machinery and computers	-	-	-	-	-	-	-	-	-	-
31	Electrical machinery and apparatus n.e.c.	-	-	-	-	-	-	-	-	-	-
32	Radio, television and communications apparatus	-	-	-	-	-	-	-	-	-	-
33	Medical, precision and optical instruments	-	-	-	-	-	-	-	-	-	-
34	Motor vehicles and trailers	-	-	-	-	-	-	-	-	-	-
35	Other transport equipment	-	-	-	-	-	-	-	-	-	-
40	Electricity and gas	-	-	-	-	-	-	-	-	-	-
41	Water collection and distribution	-	-	-	-	-	-	-	-	-	-
45	Construction work	-	-	-	-	-	-	-	-	-	-
50	Motor fuel and vechicle trade and repair	0	0	0	0	-	0	0	0	0	0
51	Wholesale trade	0	-	-	-	-	-	-	-	0	0
52	Retail trade and repair of household goods	-	-	-	-	-	0	0	0	0	0
55	Hotel and restaurant services	-	-	-	-	-	-	-	-	-	-
60	Land transport services	-	-	-	-	-	-	-	-	-	-
61 - 62	Water and Air transport services	-	-	-	-	-	-	-	-	-	-
63	Auxiliary transport services and travel agencies	-	-	-	-	-	-	-	-	-	-
64	Post and telecommunication services	-	-	-	-	-	-	-	-	-	-
65 - 67	Financial Services	-	-	-	-	-	-	-	-	-	-
70	Real estate services	-	-	-	-	-	-	-	-	-	-
71	Renting services of machinery and equipment	-	-	-	-	-	-	-	-	-	-
72	Computer and related services	-	-	-	-	-	-	-	-	-	-
73	Research and development services	-	-	-	-	-	-	-	-	-	-
74	Other business services	0	0	0	0	0	0	0	0	0	0
75	Public administration and defence	-	-	-	-	-	-	-	-	-	-
80	Education	-	-	-	-	-	-	-	-	-	-
85	Health and social work services	-	-	-	-	-	-	-	-	-	-
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-	-
92	Recreation	0	0	0	0	0	0	0	0	0	0
93	Other services	-	-	-	-	-	-	-	-	-	-
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total	0	0	0	0	0	0	3	0	1	2

Appendix 13.1 (cont.)

2005 Product Subsidies Table - SE Region, €Millions

		55	60	61 - 62	63	64	65 - 67	70	71	72	73
	Industries	Hotel and restaurant services	Land transport services	Water and Air Transport	Auxiliary transport services and travel agencies	Post and telecommunication services	Financial Services	Real estate services	Renting services of machinery and equipment	Computer and related services	Research and development services
	Products										
1 - 5	Agriculture, Forestry, Fishing	20	-	0	0	0	-	0	-	-	0
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	0	0	0	0	0	0	0	0	0
14	Other mining and quarying	-	-	-	-	-	-	-	-	-	-
15	Food and beverages	28	0	0	0	0	0	0	0	0	0
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	-	-	-	-	-	-	-	-	-	-
17	Textiles	-	-	-	-	-	-	-	-	-	-
18	Wearing apparel	-	-	-	-	-	-	-	-	-	-
19	Leather and leather products	-	-	-	-	-	-	-	-	-	-
20	Wood and wood products (excl furniture)	-	-	-	-	-	-	-	-	-	-
21	Pulp, paper and paper products	-	-	-	-	-	-	-	-	-	-
22	Printed matter and recorded media	-	-	-	-	-	-	-	-	-	-
24	Chemical products and man-made fibres	-	-	-	-	-	-	-	-	-	-
25	Rubber and plastics	-	-	-	-	-	-	-	-	-	-
26	Other non-metallic mineral products	-	-	-	-	-	-	-	-	-	-
27	Basic metals	-	-	-	-	-	-	-	-	-	-
28	Fabricated metal products	-	-	-	-	-	-	-	-	-	-
29	Machinery and equipment n.e.c.	-	-	-	-	-	-	-	-	-	-
30	Office machinery and computers	-	-	-	-	-	-	-	-	-	-
31	Electrical machinery and apparatus n.e.c.	-	-	-	-	-	-	-	-	-	-
32	Radio, television and communications apparatus	-	-	-	-	-	-	-	-	-	-
33	Medical, precision and optical instruments	-	-	-	-	-	-	-	-	-	-
34	Motor vehicles and trailers	-	-	-	-	-	-	-	-	-	-
35	Other transport equipment	-	-	-	-	-	-	-	-	-	-
40	Electricity and gas	-	-	-	-	-	-	-	-	-	-
41	Water collection and distribution	-	-	-	-	-	-	-	-	-	-
45	Construction work	-	-	-	-	-	-	-	-	-	-
50	Motor fuel and vechicle trade and repair	0	0	0	0	0	0	0	0	0	0
51	Wholesale trade	0	-	0	0	1	-	-	-	3	-
52	Retail trade and repair of household goods	0	0	0	0	0	0	0	0	0	0
55	Hotel and restaurant services	-	-	-	-	-	-	-	-	-	-
60	Land transport services	-	-	-	-	-	-	-	-	-	-
61 - 62	Water and Air transport services	-	-	-	-	-	-	-	-	-	-
63	Auxiliary transport services and travel agencies	-	-	-	-	-	-	-	-	-	-
64	Post and telecommunication services	-	-	-	-	-	-	-	-	-	-
65 - 67	Financial Services	-	-	-	-	-	-	-	-	-	-
70	Real estate services	-	-	-	-	-	-	-	-	-	-
71	Renting services of machinery and equipment	-	-	-	-	-	-	-	-	-	-
72	Computer and related services	-	-	-	-	-	-	-	-	-	-
73	Research and development services	-	-	-	-	-	-	-	-	-	-
74	Other business services	0	0	0	0	0	0	0	0	0	0
75	Public administration and defence	-	-	-	-	-	-	-	-	-	-
80	Education	-	-	-	-	-	-	-	-	-	-
85	Health and social work services	-	-	-	-	-	-	-	-	-	-
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-	-
92	Recreation	1	0	0	1	0	0	0	0	1	0
93	Other services	-	-	-	-	-	-	-	-	-	-
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total	50	1	1	1	1	1	1	0	4	0

Appendix 13.1 (cont.)

2005 Product Subsidies Table - SE Region, €Millions

		74	75	80	85	90	91	92	93	95
	Industries	Other business services	Public administration and defence	Education	Health and social work services	Sewage and refuse disposal services	Membership organisation services n.e.c.	Recreation	Other services	Private households with employed persons
	Products									
1 - 5	Agriculture, Forestry, Fishing	0	1	4	2	-	0	0	-	-
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	0	0	-	0	0	0	0	-
14	Other mining and quarying	-	-	-	-	-	-	-	-	-
15	Food and beverages	0	0	0	0	0	0	0	0	-
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	-	-	-	-	-	-	-	-	-
17	Textiles	-	-	-	-	-	-	-	-	-
18	Wearing apparel	-	-	-	-	-	-	-	-	-
19	Leather and leather products	-	-	-	-	-	-	-	-	-
20	Wood and wood products (excl furniture)	-	-	-	-	-	-	-	-	-
21	Pulp, paper and paper products	-	-	-	-	-	-	-	-	-
22	Printed matter and recorded media	-	-	-	-	-	-	-	-	-
24	Chemical products and man-made fibres	-	-	-	-	-	-	-	-	-
25	Rubber and plastics	-	-	-	-	-	-	-	-	-
26	Other non-metallic mineral products	-	-	-	-	-	-	-	-	-
27	Basic metals	-	-	-	-	-	-	-	-	-
28	Fabricated metal products	-	-	-	-	-	-	-	-	-
29	Machinery and equipment n.e.c.	-	-	-	-	-	-	-	-	-
30	Office machinery and computers	-	-	-	-	-	-	-	-	-
31	Electrical machinery and apparatus n.e.c.	-	-	-	-	-	-	-	-	-
32	Radio, television and communications apparatus	-	-	-	-	-	-	-	-	-
33	Medical, precision and optical instruments	-	-	-	-	-	-	-	-	-
34	Motor vehicles and trailers	-	-	-	-	-	-	-	-	-
35	Other transport equipment	-	-	-	-	-	-	-	-	-
40	Electricity and gas	-	-	-	-	-	-	-	-	-
41	Water collection and distribution	-	-	-	-	-	-	-	-	-
45	Construction work	-	-	-	-	-	-	-	-	-
50	Motor fuel and vechicle trade and repair	0	0	0	0	0	0	0	0	-
51	Wholesale trade	0	-	0	-	-	-	-	-	-
52	Retail trade and repair of household goods	0	-	0	-	0	0	0	0	-
55	Hotel and restaurant services	-	-	-	-	-	-	-	-	-
60	Land transport services	-	-	-	-	-	-	-	-	-
61 - 62	Water and Air transport services	-	-	-	-	-	-	-	-	-
63	Auxiliary transport services and travel agencies	-	-	-	-	-	-	-	-	-
64	Post and telecommunication services	-	-	-	-	-	-	-	-	-
65 - 67	Financial Services	-	-	-	-	-	-	-	-	-
70	Real estate services	-	-	-	-	-	-	-	-	-
71	Renting services of machinery and equipment	-	-	-	-	-	-	-	-	-
72	Computer and related services	-	-	-	-	-	-	-	-	-
73	Research and development services	-	-	-	-	-	-	-	-	-
74	Other business services	0	0	0	0	0	0	0	0	-
75	Public administration and defence	-	-	-	-	-	-	-	-	-
80	Education	-	-	-	-	-	-	-	-	-
85	Health and social work services	-	-	-	-	-	-	-	-	-
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-
92	Recreation	1	1	3	0	0	1	4	0	-
93	Other services	-	-	-	-	-	-	-	-	-
95	Private households with employed persons	-	-	-	-	-	-	-	-	-
	Total	2	3	7	2	0	2	5	0	-

Appendix 13.1 (cont.)

2005 Product Subsidies Table - SE Region, €Millions

	Industries	total inter-industry	hhld expenditure	NPISH	government consumption expenditure	gross fixed capital formation	changes in inventories	International exports	Domestic exports	final uses	total uses
	Products										
1 - 5	Agriculture, Forestry, Fishing	524	106	-	-	-	-	-	-	106	630
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	1	0	-	-	-	-	-	-	0	1
14	Other mining and quarying	-	-	-	-	-	-	-	-	-	-
15	Food and beverages	61	56	-	-	-	-	-	-	56	117
6, 23, 36 - 3	Tobacco, Petroleum, Furniture and Recycling	-	-	-	-	-	-	-	-	-	-
17	Textiles	-	-	-	-	-	-	-	-	-	-
18	Wearing apparel	-	-	-	-	-	-	-	-	-	-
19	Leather and leather products	-	-	-	-	-	-	-	-	-	-
20	Wood and wood products (excl furniture)	-	-	-	-	-	-	-	-	-	-
21	Pulp, paper and paper products	-	-	-	-	-	-	-	-	-	-
22	Printed matter and recorded media	-	-	-	-	-	-	-	-	-	-
24	Chemical products and man-made fibres	-	-	-	-	-	-	-	-	-	-
25	Rubber and plastics	-	-	-	-	-	-	-	-	-	-
26	Other non-metallic mineral products	-	-	-	-	-	-	-	-	-	-
27	Basic metals	-	-	-	-	-	-	-	-	-	-
28	Fabricated metal products	-	-	-	-	-	-	-	-	-	-
29	Machinery and equipment n.e.c.	-	-	-	-	-	-	-	-	-	-
30	Office machinery and computers	-	-	-	-	-	-	-	-	-	-
31	Electrical machinery and apparatus n.e.c.	-	-	-	-	-	-	-	-	-	-
32	Radio, television and communications apparatus	-	-	-	-	-	-	-	-	-	-
33	Medical, precision and optical instruments	-	-	-	-	-	-	-	-	-	-
34	Motor vehicles and trailers	-	-	-	-	-	-	-	-	-	-
35	Other transport equipment	-	-	-	-	-	-	-	-	-	-
40	Electricity and gas	-	-	-	-	-	-	-	-	-	-
41	Water collection and distribution	-	-	-	-	-	-	-	-	-	-
45	Construction work	-	-	-	-	-	-	-	-	-	-
50	Motor fuel and vechicle trade and repair	2	1	-	-	-	-	-	-	1	3
51	Wholesale trade	21	-	-	-	-	-	-	-	-	21
52	Retail trade and repair of household goods	1	9	-	-	-	-	-	-	9	10
55	Hotel and restaurant services	-	-	-	-	-	-	-	-	-	-
60	Land transport services	-	270	-	-	-	-	-	-	270	270
61 - 62	Water and Air transport services	-	8	-	-	-	-	-	-	8	8
63	Auxiliary transport services and travel agencies	-	-	-	-	-	-	-	-	-	-
64	Post and telecommunication services	-	-	-	-	-	-	-	-	-	-
65 - 67	Financial Services	-	-	-	-	-	-	-	-	-	-
70	Real estate services	-	-	-	-	-	-	-	-	-	-
71	Renting services of machinery and equipment	-	-	-	-	-	-	-	-	-	-
72	Computer and related services	-	-	-	-	-	-	-	-	-	-
73	Research and development services	-	-	-	-	-	-	-	-	-	-
74	Other business services	0	0	-	-	-	-	-	-	0	0
75	Public administration and defence	-	-	-	-	-	-	-	-	-	-
80	Education	-	-	-	-	-	-	-	-	-	-
85	Health and social work services	-	-	-	-	-	-	-	-	-	-
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-	-
92	Recreation	16	28	-	-	-	-	-	-	28	44
93	Other services	-	-	-	-	-	-	-	-	-	-
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total	625	479	-	-	-	-	-	-	479	1,105

Appendix 13.2

2005 Product Subsidies Table - BMW Region, €Millions

		1 - 5	10 - 13	14	15	16,23,36-37	17	18	19	20
	Industries	Agriculture, Forestry, Fishing	Coal, Peat, Petroleum and Metal Ore Extraction	Other mining and quarying	Food and beverages	Tobacco, Petroleum, Furniture and Recycling	Textiles	Wearing apparel	Leather and leather products	Wood and wood products (excl furniture)
	Products									
1 - 5	Agriculture, Forestry, Fishing	99	-	-	280	2	0	-	-	0
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	0	0	0	0	0	0	-	-
14	Other mining and quarying	-	-	-	-	-	-	-	-	-
15	Food and beverages	3	-	-	6	0	0	-	-	0
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	-	-	-	-	-	-	-	-	-
17	Textiles	-	-	-	-	-	-	-	-	-
18	Wearing apparel	-	-	-	-	-	-	-	-	-
19	Leather and leather products	-	-	-	-	-	-	-	-	-
20	Wood and wood products (excl furniture)	-	-	-	-	-	-	-	-	-
21	Pulp, paper and paper products	-	-	-	-	-	-	-	-	-
22	Printed matter and recorded media	-	-	-	-	-	-	-	-	-
24	Chemical products and man-made fibres	-	-	-	-	-	-	-	-	-
25	Rubber and plastics	-	-	-	-	-	-	-	-	-
26	Other non-metallic mineral products	-	-	-	-	-	-	-	-	-
27	Basic metals	-	-	-	-	-	-	-	-	-
28	Fabricated metal products	-	-	-	-	-	-	-	-	-
29	Machinery and equipment n.e.c.	-	-	-	-	-	-	-	-	-
30	Office machinery and computers	-	-	-	-	-	-	-	-	-
31	Electrical machinery and apparatus n.e.c.	-	-	-	-	-	-	-	-	-
32	Radio, television and communications apparatus	-	-	-	-	-	-	-	-	-
33	Medical, precision and optical instruments	-	-	-	-	-	-	-	-	-
34	Motor vehicles and trailers	-	-	-	-	-	-	-	-	-
35	Other transport equipment	-	-	-	-	-	-	-	-	-
40	Electricity and gas	-	-	-	-	-	-	-	-	-
41	Water collection and distribution	-	-	-	-	-	-	-	-	-
45	Construction work	-	-	-	-	-	-	-	-	-
50	Motor fuel and vechicle trade and repair	-	-	-	-	-	-	-	-	-
51	Wholesale trade	-	-	-	-	-	-	-	-	-
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	-	-	-	-	-	-	-	-	-
60	Land transport services	-	-	-	-	-	-	-	-	-
61 - 62	Water and Air transport services	-	-	-	-	-	-	-	-	-
63	Auxiliary transport services and travel agencies	-	-	-	-	-	-	-	-	-
64	Post and telecommunication services	-	-	-	-	-	-	-	-	-
65 - 67	Financial Services	-	-	-	-	-	-	-	-	-
70	Real estate services	-	-	-	-	-	-	-	-	-
71	Renting services of machinery and equipment	-	-	-	-	-	-	-	-	-
72	Computer and related services	-	-	-	-	-	-	-	-	-
73	Research and development services	-	-	-	-	-	-	-	-	-
74	Other business services	0	0	0	0	0	0	0	0	0
75	Public administration and defence	-	-	-	-	-	-	-	-	-
80	Education	-	-	-	-	-	-	-	-	-
85	Health and social work services	-	-	-	-	-	-	-	-	-
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-
92	Recreation	0	0	0	0	0	0	0	0	0
93	Other services	-	-	-	-	-	-	-	-	-
95	Private households with employed persons	-	-	-	-	-	-	-	-	-
	Total	102	0	0	286	2	0	0	0	0

Appendix 13.2 (cont.)

2005 Product Subsidies Table - BMW Region, €Millions

		21	22	24	25	26	27	28	29	30	31
	Industries	Pulp, paper and paper products	Printed matter and recorded media	Chemical products and man-made fibres	Rubber and plastics	Other non-metallic mineral products	Basic metals	Fabricated metal products	Machinery and equipment n.e.c.	Office machinery and computers	Electrical machinery and apparatus n.e.c.
	Products										
1 - 5	Agriculture, Forestry, Fishing	0	0	1	0	0	-	0	0	0	0
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	-	-	0	0	0	-	0	0	-	0
14	Other mining and quarying	-	-	-	-	-	-	-	-	-	-
15	Food and beverages	0	0	0	0	0	-	0	0	-	0
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	-	-	-	-	-	-	-	-	-	-
17	Textiles	-	-	-	-	-	-	-	-	-	-
18	Wearing apparel	-	-	-	-	-	-	-	-	-	-
19	Leather and leather products	-	-	-	-	-	-	-	-	-	-
20	Wood and wood products (excl furniture)	-	-	-	-	-	-	-	-	-	-
21	Pulp, paper and paper products	-	-	-	-	-	-	-	-	-	-
22	Printed matter and recorded media	-	-	-	-	-	-	-	-	-	-
24	Chemical products and man-made fibres	-	-	-	-	-	-	-	-	-	-
25	Rubber and plastics	-	-	-	-	-	-	-	-	-	-
26	Other non-metallic mineral products	-	-	-	-	-	-	-	-	-	-
27	Basic metals	-	-	-	-	-	-	-	-	-	-
28	Fabricated metal products	-	-	-	-	-	-	-	-	-	-
29	Machinery and equipment n.e.c.	-	-	-	-	-	-	-	-	-	-
30	Office machinery and computers	-	-	-	-	-	-	-	-	-	-
31	Electrical machinery and apparatus n.e.c.	-	-	-	-	-	-	-	-	-	-
32	Radio, television and communications apparatus	-	-	-	-	-	-	-	-	-	-
33	Medical, precision and optical instruments	-	-	-	-	-	-	-	-	-	-
34	Motor vehicles and trailers	-	-	-	-	-	-	-	-	-	-
35	Other transport equipment	-	-	-	-	-	-	-	-	-	-
40	Electricity and gas	-	-	-	-	-	-	-	-	-	-
41	Water collection and distribution	-	-	-	-	-	-	-	-	-	-
45	Construction work	-	-	-	-	-	-	-	-	-	-
50	Motor fuel and vechicle trade and repair	-	-	-	-	-	-	-	-	-	-
51	Wholesale trade	-	-	-	-	-	-	-	-	-	-
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	-	-	-	-	-	-	-	-	-	-
60	Land transport services	-	-	-	-	-	-	-	-	-	-
61 - 62	Water and Air transport services	-	-	-	-	-	-	-	-	-	-
63	Auxiliary transport services and travel agencies	-	-	-	-	-	-	-	-	-	-
64	Post and telecommunication services	-	-	-	-	-	-	-	-	-	-
65 - 67	Financial Services	-	-	-	-	-	-	-	-	-	-
70	Real estate services	-	-	-	-	-	-	-	-	-	-
71	Renting services of machinery and equipment	-	-	-	-	-	-	-	-	-	-
72	Computer and related services	-	-	-	-	-	-	-	-	-	-
73	Research and development services	-	-	-	-	-	-	-	-	-	-
74	Other business services	0	0	0	0	0	0	0	0	0	0
75	Public administration and defence	-	-	-	-	-	-	-	-	-	-
80	Education	-	-	-	-	-	-	-	-	-	-
85	Health and social work services	-	-	-	-	-	-	-	-	-	-
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-	-
92	Recreation	0	0	0	0	0	0	0	0	0	0
93	Other services	-	-	-	-	-	-	-	-	-	-
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total	0	0	1	0	0	0	0	0	0	0

Appendix 13.2 (cont.)

2005 Product Subsidies Table - BMW Region, €Millions

		32	33	34	35	40	41	45	50	51	52
	Industries	Radio, television and communications apparatus	Medical, precision and optical instruments	Motor vehicles and trailers	Other transport equipment	Electricity and gas	Water collection and distribution	Construction work	Motor fuel and vechicle trade and repair	Wholesale trade	Retail trade and repair of household goods
	Products										
1 - 5	Agriculture, Forestry, Fishing	0	0	0	0	-	-	2	0	0	1
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	-	-	-	0	0	0	0	0	0	0
14	Other mining and quarying	-	-	-	-	-	-	-	-	-	-
15	Food and beverages	0	0	0	-	0	0	0	0	0	0
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	-	-	-	-	-	-	-	-	-	-
17	Textiles	-	-	-	-	-	-	-	-	-	-
18	Wearing apparel	-	-	-	-	-	-	-	-	-	-
19	Leather and leather products	-	-	-	-	-	-	-	-	-	-
20	Wood and wood products (excl furniture)	-	-	-	-	-	-	-	-	-	-
21	Pulp, paper and paper products	-	-	-	-	-	-	-	-	-	-
22	Printed matter and recorded media	-	-	-	-	-	-	-	-	-	-
24	Chemical products and man-made fibres	-	-	-	-	-	-	-	-	-	-
25	Rubber and plastics	-	-	-	-	-	-	-	-	-	-
26	Other non-metallic mineral products	-	-	-	-	-	-	-	-	-	-
27	Basic metals	-	-	-	-	-	-	-	-	-	-
28	Fabricated metal products	-	-	-	-	-	-	-	-	-	-
29	Machinery and equipment n.e.c.	-	-	-	-	-	-	-	-	-	-
30	Office machinery and computers	-	-	-	-	-	-	-	-	-	-
31	Electrical machinery and apparatus n.e.c.	-	-	-	-	-	-	-	-	-	-
32	Radio, television and communications apparatus	-	-	-	-	-	-	-	-	-	-
33	Medical, precision and optical instruments	-	-	-	-	-	-	-	-	-	-
34	Motor vehicles and trailers	-	-	-	-	-	-	-	-	-	-
35	Other transport equipment	-	-	-	-	-	-	-	-	-	-
40	Electricity and gas	-	-	-	-	-	-	-	-	-	-
41	Water collection and distribution	-	-	-	-	-	-	-	-	-	-
45	Construction work	-	-	-	-	-	-	-	-	-	-
50	Motor fuel and vechicle trade and repair	-	-	-	-	-	-	-	-	-	-
51	Wholesale trade	-	-	-	-	-	-	-	-	-	-
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	-	-	-	-	-	-	-	-	-	-
60	Land transport services	-	-	-	-	-	-	-	-	-	-
61 - 62	Water and Air transport services	-	-	-	-	-	-	-	-	-	-
63	Auxiliary transport services and travel agencies	-	-	-	-	-	-	-	-	-	-
64	Post and telecommunication services	-	-	-	-	-	-	-	-	-	-
65 - 67	Financial Services	-	-	-	-	-	-	-	-	-	-
70	Real estate services	-	-	-	-	-	-	-	-	-	-
71	Renting services of machinery and equipment	-	-	-	-	-	-	-	-	-	-
72	Computer and related services	-	-	-	-	-	-	-	-	-	-
73	Research and development services	-	-	-	-	-	-	-	-	-	-
74	Other business services	0	0	0	0	-	0	0	0	0	0
75	Public administration and defence	-	-	-	-	-	-	-	-	-	-
80	Education	-	-	-	-	-	-	-	-	-	-
85	Health and social work services	-	-	-	-	-	-	-	-	-	-
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-	-
92	Recreation	0	0	0	0	0	0	0	0	0	0
93	Other services	-	-	-	-	-	-	-	-	-	-
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total	0	0	0	0	0	0	2	0	0	1

Appendix 13.2 (cont.)

2005 Product Subsidies Table - BMW Region, €Millions

		55	60	61 - 62	63	64	65 - 67	70	71	72	73
	Industries	Hotel and restaurant services	Land transport services	Water and Air Transport	Auxiliary transport services and travel agencies	Post and telecommunication services	Financial Services	Real estate services	Renting services of machinery and equipment	Computer and related services	Research and development services
	Products										
1 - 5	Agriculture, Forestry, Fishing	16	-	0	0	0	-	0	-	-	0
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	0	0	0	0	0	0	0	0	0
14	Other mining and quarying	-	-	-	-	-	-	-	-	-	-
15	Food and beverages	10	0	0	0	0	0	0	0	0	0
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	-	-	-	-	-	-	-	-	-	-
17	Textiles	-	-	-	-	-	-	-	-	-	-
18	Wearing apparel	-	-	-	-	-	-	-	-	-	-
19	Leather and leather products	-	-	-	-	-	-	-	-	-	-
20	Wood and wood products (excl furniture)	-	-	-	-	-	-	-	-	-	-
21	Pulp, paper and paper products	-	-	-	-	-	-	-	-	-	-
22	Printed matter and recorded media	-	-	-	-	-	-	-	-	-	-
24	Chemical products and man-made fibres	-	-	-	-	-	-	-	-	-	-
25	Rubber and plastics	-	-	-	-	-	-	-	-	-	-
26	Other non-metallic mineral products	-	-	-	-	-	-	-	-	-	-
27	Basic metals	-	-	-	-	-	-	-	-	-	-
28	Fabricated metal products	-	-	-	-	-	-	-	-	-	-
29	Machinery and equipment n.e.c.	-	-	-	-	-	-	-	-	-	-
30	Office machinery and computers	-	-	-	-	-	-	-	-	-	-
31	Electrical machinery and apparatus n.e.c.	-	-	-	-	-	-	-	-	-	-
32	Radio, television and communications apparatus	-	-	-	-	-	-	-	-	-	-
33	Medical, precision and optical instruments	-	-	-	-	-	-	-	-	-	-
34	Motor vehicles and trailers	-	-	-	-	-	-	-	-	-	-
35	Other transport equipment	-	-	-	-	-	-	-	-	-	-
40	Electricity and gas	-	-	-	-	-	-	-	-	-	-
41	Water collection and distribution	-	-	-	-	-	-	-	-	-	-
45	Construction work	-	-	-	-	-	-	-	-	-	-
50	Motor fuel and vechicle trade and repair	-	-	-	-	-	-	-	-	-	-
51	Wholesale trade	-	-	-	-	-	-	-	-	-	-
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	-	-	-	-	-	-	-	-	-	-
60	Land transport services	-	-	-	-	-	-	-	-	-	-
61 - 62	Water and Air transport services	-	-	-	-	-	-	-	-	-	-
63	Auxiliary transport services and travel agencies	-	-	-	-	-	-	-	-	-	-
64	Post and telecommunication services	-	-	-	-	-	-	-	-	-	-
65 - 67	Financial Services	-	-	-	-	-	-	-	-	-	-
70	Real estate services	-	-	-	-	-	-	-	-	-	-
71	Renting services of machinery and equipment	-	-	-	-	-	-	-	-	-	-
72	Computer and related services	-	-	-	-	-	-	-	-	-	-
73	Research and development services	-	-	-	-	-	-	-	-	-	-
74	Other business services	0	0	0	0	0	0	0	0	0	0
75	Public administration and defence	-	-	-	-	-	-	-	-	-	-
80	Education	-	-	-	-	-	-	-	-	-	-
85	Health and social work services	-	-	-	-	-	-	-	-	-	-
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-	-
92	Recreation	0	0	0	0	0	0	0	0	0	0
93	Other services	-	-	-	-	-	-	-	-	-	-
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total	26	0	0	0	0	0	0	0	0	0

Appendix 13.2 (cont.)

2005 Product Subsidies Table - BMW Region, €Millions

		74	75	80	85	90	91	92	93	95
	Industries	Other business services	Public administration and defence	Education	Health and social work services	Sewage and refuse disposal services	Membership organisation services n.e.c.	Recreation	Other services	Private households with employed persons
	Products									
1 - 5	Agriculture, Forestry, Fishing	0	1	3	1	-	0	0	-	-
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	0	0	-	0	0	0	0	-
14	Other mining and quarying	-	-	-	-	-	-	-	-	-
15	Food and beverages	0	0	0	0	0	0	0	0	-
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	-	-	-	-	-	-	-	-	-
17	Textiles	-	-	-	-	-	-	-	-	-
18	Wearing apparel	-	-	-	-	-	-	-	-	-
19	Leather and leather products	-	-	-	-	-	-	-	-	-
20	Wood and wood products (excl furniture)	-	-	-	-	-	-	-	-	-
21	Pulp, paper and paper products	-	-	-	-	-	-	-	-	-
22	Printed matter and recorded media	-	-	-	-	-	-	-	-	-
24	Chemical products and man-made fibres	-	-	-	-	-	-	-	-	-
25	Rubber and plastics	-	-	-	-	-	-	-	-	-
26	Other non-metallic mineral products	-	-	-	-	-	-	-	-	-
27	Basic metals	-	-	-	-	-	-	-	-	-
28	Fabricated metal products	-	-	-	-	-	-	-	-	-
29	Machinery and equipment n.e.c.	-	-	-	-	-	-	-	-	-
30	Office machinery and computers	-	-	-	-	-	-	-	-	-
31	Electrical machinery and apparatus n.e.c.	-	-	-	-	-	-	-	-	-
32	Radio, television and communications apparatus	-	-	-	-	-	-	-	-	-
33	Medical, precision and optical instruments	-	-	-	-	-	-	-	-	-
34	Motor vehicles and trailers	-	-	-	-	-	-	-	-	-
35	Other transport equipment	-	-	-	-	-	-	-	-	-
40	Electricity and gas	-	-	-	-	-	-	-	-	-
41	Water collection and distribution	-	-	-	-	-	-	-	-	-
45	Construction work	-	-	-	-	-	-	-	-	-
50	Motor fuel and vechicle trade and repair	-	-	-	-	-	-	-	-	-
51	Wholesale trade	-	-	-	-	-	-	-	-	-
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	-	-	-	-	-	-	-	-	-
60	Land transport services	-	-	-	-	-	-	-	-	-
61 - 62	Water and Air transport services	-	-	-	-	-	-	-	-	-
63	Auxiliary transport services and travel agencies	-	-	-	-	-	-	-	-	-
64	Post and telecommunication services	-	-	-	-	-	-	-	-	-
65 - 67	Financial Services	-	-	-	-	-	-	-	-	-
70	Real estate services	-	-	-	-	-	-	-	-	-
71	Renting services of machinery and equipment	-	-	-	-	-	-	-	-	-
72	Computer and related services	-	-	-	-	-	-	-	-	-
73	Research and development services	-	-	-	-	-	-	-	-	-
74	Other business services	0	0	0	0	0	0	0	0	-
75	Public administration and defence	-	-	-	-	-	-	-	-	-
80	Education	-	-	-	-	-	-	-	-	-
85	Health and social work services	-	-	-	-	-	-	-	-	-
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-
92	Recreation	0	0	1	0	0	0	1	0	-
93	Other services	-	-	-	-	-	-	-	-	-
95	Private households with employed persons	-	-	-	-	-	-	-	-	-
	Total	0	1	4	2	0	1	1	0	-

Appendix 13.2 (cont.)

2005 Product Subsidies Table - BMW Region, €Millions

	Industries	total inter-industry	hhld expenditure	NPISH	government consumption expenditure	gross fixed capital formation	changes in inventories	International exports	Domestic exports	final uses	total uses
	Products										
1 - 5	Agriculture, Forestry, Fishing	406	82	-	-	-	-	-	-	82	489
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	0	-	-	-	-	-	-	0	0
14	Other mining and quarying	-	-	-	-	-	-	-	-	-	-
15	Food and beverages	21	19	-	-	-	-	-	-	19	40
6, 23, 36 - 3	Tobacco, Petroleum, Furniture and Recycling	-	-	-	-	-	-	-	-	-	-
17	Textiles	-	-	-	-	-	-	-	-	-	-
18	Wearing apparel	-	-	-	-	-	-	-	-	-	-
19	Leather and leather products	-	-	-	-	-	-	-	-	-	-
20	Wood and wood products (excl furniture)	-	-	-	-	-	-	-	-	-	-
21	Pulp, paper and paper products	-	-	-	-	-	-	-	-	-	-
22	Printed matter and recorded media	-	-	-	-	-	-	-	-	-	-
24	Chemical products and man-made fibres	-	-	-	-	-	-	-	-	-	-
25	Rubber and plastics	-	-	-	-	-	-	-	-	-	-
26	Other non-metallic mineral products	-	-	-	-	-	-	-	-	-	-
27	Basic metals	-	-	-	-	-	-	-	-	-	-
28	Fabricated metal products	-	-	-	-	-	-	-	-	-	-
29	Machinery and equipment n.e.c.	-	-	-	-	-	-	-	-	-	-
30	Office machinery and computers	-	-	-	-	-	-	-	-	-	-
31	Electrical machinery and apparatus n.e.c.	-	-	-	-	-	-	-	-	-	-
32	Radio, television and communications apparatus	-	-	-	-	-	-	-	-	-	-
33	Medical, precision and optical instruments	-	-	-	-	-	-	-	-	-	-
34	Motor vehicles and trailers	-	-	-	-	-	-	-	-	-	-
35	Other transport equipment	-	-	-	-	-	-	-	-	-	-
40	Electricity and gas	-	-	-	-	-	-	-	-	-	-
41	Water collection and distribution	-	-	-	-	-	-	-	-	-	-
45	Construction work	-	-	-	-	-	-	-	-	-	-
50	Motor fuel and vechicle trade and repair	-	-	-	-	-	-	-	-	-	-
51	Wholesale trade	-	-	-	-	-	-	-	-	-	-
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	-	-	-	-	-	-	-	-	-	-
60	Land transport services	-	32	-	-	-	-	-	-	32	32
61 - 62	Water and Air transport services	-	2	-	-	-	-	-	-	2	2
63	Auxiliary transport services and travel agencies	-	-	-	-	-	-	-	-	-	-
64	Post and telecommunication services	-	-	-	-	-	-	-	-	-	-
65 - 67	Financial Services	-	-	-	-	-	-	-	-	-	-
70	Real estate services	-	-	-	-	-	-	-	-	-	-
71	Renting services of machinery and equipment	-	-	-	-	-	-	-	-	-	-
72	Computer and related services	-	-	-	-	-	-	-	-	-	-
73	Research and development services	-	-	-	-	-	-	-	-	-	-
74	Other business services	0	0	-	-	-	-	-	-	0	0
75	Public administration and defence	-	-	-	-	-	-	-	-	-	-
80	Education	-	-	-	-	-	-	-	-	-	-
85	Health and social work services	-	-	-	-	-	-	-	-	-	-
90	Sewage and refuse disposal services	-	-	-	-	-	-	-	-	-	-
91	Membership organisation services n.e.c.	-	-	-	-	-	-	-	-	-	-
92	Recreation	4	6	-	-	-	-	-	-	6	10
93	Other services	-	-	-	-	-	-	-	-	-	-
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total	431	142	-	-	-	-	-	-	142	573

Appendix 14.1

2005 Use Table for Domestic Output - SE Region, €Millions

		1 - 5	10 - 13	14	15	I6,23,36-37	17	18	19	20
	Industries	Agriculture, Forestry, Fishing	Coal, Peat, Petroleum and Metal Ore Extraction	Other mining and quarying	Food and beverages	Tobacco, Petroleum, Furniture and Recycling	Textiles	Wearing apparel	Leather and leather products	Wood and wood products (excl furniture)
	Products									
1 - 5	Agriculture, Forestry, Fishing	704	-	-	1,945	2	0	-	0	44
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	47	6	0	32	0	-	-	0
14	Other mining and quarying	4	1	18	0	0	0	-	-	0
15	Food and beverages	144	-	-	265	0	0	-	-	0
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	31	1	10	28	115	0	0	0	5
17	Textiles	0	0	0	0	-	2	0	-	-
18	Wearing apparel	0	0	0	0	0	0	-	-	-
19	Leather and leather products	0	0	-	-	0	0	-	-	0
20	Wood and wood products (excl furniture)	0	0	0	5	36	0	-	-	44
21	Pulp, paper and paper products	1	0	0	61	6	1	1	0	1
22	Printed matter and recorded media	7	0	0	2	1	0	0	0	0
24	Chemical products and man-made fibres	39	1	1	10	1	2	0	0	4
25	Rubber and plastics	1	1	0	43	19	0	0	0	1
26	Other non-metallic mineral products	1	1	17	20	29	0	-	-	0
27	Basic metals	0	0	0	0	15	0	-	-	1
28	Fabricated metal products	21	3	2	26	17	0	0	0	5
29	Machinery and equipment n.e.c.	6	1	0	2	0	0	0	0	-
30	Office machinery and computers	0	0	0	0	0	0	-	-	0
31	Electrical machinery and apparatus n.e.c.	0	0	0	0	-	0	-	-	0
32	Radio, television and communications apparatus	0	0	0	0	0	0	-	-	0
33	Medical, precision and optical instruments	0	0	0	0	0	-	-	-	-
34	Motor vehicles and trailers	-	0	-	-	0	0	-	-	-
35	Other transport equipment	-	-	0	-	0	-	-	-	0
40	Electricity and gas	71	22	22	149	15	4	1	0	24
41	Water collection and distribution	3	0	0	0	2	0	0	-	1
45	Construction work	43	16	17	13	4	0	0	0	2
50	Motor fuel and vechicle trade and repair	19	6	5	11	2	0	0	0	1
51	Wholesale trade	299	14	37	273	68	9	6	0	37
52	Retail trade and repair of household goods	0	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	25	2	9	99	18	2	1	0	4
60	Land transport services	10	26	153	256	21	5	3	0	17
61 - 62	Water and Air transport services	3	2	17	51	8	1	0	0	0
63	Auxiliary transport services and travel agencies	3	0	1	4	2	0	0	0	0
64	Post and telecommunication services	16	1	7	55	9	2	1	0	3
65 - 67	Financial Services	140	45	39	368	58	6	4	1	9
70	Real estate services	9	1	1	4	1	0	0	0	1
71	Renting services of machinery and equipment	6	1	31	15	2	0	0	0	2
72	Computer and related services	1	14	7	21	18	1	0	1	3
73	Research and development services	1	1	0	11	1	1	0	0	1
74	Other business services	21	25	11	285	65	4	7	0	22
75	Public administration and defence	27	1	1	9	4	0	0	0	1
80	Education	0	0	-	1	0	0	0	0	0
85	Health and social work services	55	0	-	8	1	0	0	0	0
90	Sewage and refuse disposal services	3	1	1	29	3	1	1	0	4
91	Membership organisation services n.e.c.	9	-	-	1	0	-	0	-	-
92	Recreation	6	0	1	9	1	0	0	0	0
93	Other services	4	4	4	13	4	1	0	0	1
95	Private households with employed persons	-	-	-	-	-	-	-	-	-
	Total Intermediate Consumption	1,733	239	416	4,092	580	45	27	4	240
	Compensation of Employees	353	89	106	1,395	276	64	34	3	136
	Net Operating Surplus	1,646	86	46	2,126	113	14	7	2	80
	Consumption of Fixed Capital	429	20	20	268	62	11	6	0	23
	Taxes	24	5	9	90	12	3	3	0	5
	Subsidies	707	0	0	1	0	0	0	-	0
	Gross Value Added at basic prices	1,746	200	181	3,878	463	92	50	6	244
	Total Output at basic prices	3,479	439	596	7,970	1,043	137	78	10	484

Appendix 14.1 (cont.)

2005 Use Table for Domestic Output - SE Region, €Millions

		21	22	24	25	26	27	28	29	30	31
	Industries	Pulp, paper and paper products	Printed matter and recorded media	Chemical products and man-made fibres	Rubber and plastics	Other non-metallic mineral products	Basic metals	Fabricated metal products	Machinery and equipment n.e.c.	Office machinery and computers	Electrical machinery and apparatus n.e.c.
	Products										
1 - 5	Agriculture, Forestry, Fishing	0	0	7	0	0	-	0	0	0	0
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	-	-	4	0	0	67	0	0	-	0
14	Other mining and quarying	-	0	8	0	9	3	0	0	-	0
15	Food and beverages	0	0	11	0	0	-	0	0	-	0
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	5	1	3	6	8	23	14	1	1	2
17	Textiles	1	0	0	0	0	0	0	-	0	0
18	Wearing apparel	0	0	-	0	-	-	-	-	0	-
19	Leather and leather products	0	0	0	-	0	-	-	-	0	-
20	Wood and wood products (excl furniture)	1	1	1	2	2	0	2	1	0	0
21	Pulp, paper and paper products	54	58	27	2	6	0	1	1	10	0
22	Printed matter and recorded media	7	405	-	0	0	0	0	0	9	0
24	Chemical products and man-made fibres	3	9	351	5	3	2	1	1	7	1
25	Rubber and plastics	2	2	15	31	3	0	0	8	4	3
26	Other non-metallic mineral products	0	5	7	11	114	0	6	4	3	1
27	Basic metals	0	1	1	4	4	1	29	0	0	1
28	Fabricated metal products	2	2	11	25	6	8	33	34	21	5
29	Machinery and equipment n.e.c.	1	1	5	2	2	1	3	3	3	0
30	Office machinery and computers	0	1	0	0	0	0	-	0	193	0
31	Electrical machinery and apparatus n.e.c.	0	0	0	0	0	0	0	-	31	18
32	Radio, television and communications apparatus	0	0	0	0	0	0	0	1	168	22
33	Medical, precision and optical instruments	0	0	0	0	-	0	-	0	2	0
34	Motor vehicles and trailers	0	0	0	-	-	-	-	-	0	0
35	Other transport equipment	0	0	-	0	0	0	0	-	-	0
40	Electricity and gas	7	16	125	26	64	24	16	14	18	12
41	Water collection and distribution	1	17	11	1	1	5	1	4	0	0
45	Construction work	1	10	10	2	3	1	3	1	2	14
50	Motor fuel and vechicle trade and repair	0	4	5	2	4	3	2	1	1	6
51	Wholesale trade	10	10	224	46	92	18	58	59	1	20
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	6	55	84	14	11	3	9	12	71	11
60	Land transport services	13	41	13	27	51	4	-	15	101	17
61 - 62	Water and Air transport services	2	60	73	5	14	3	4	3	30	14
63	Auxiliary transport services and travel agencies	0	3	8	2	1	0	1	2	20	3
64	Post and telecommunication services	3	9	31	14	18	2	8	13	4	10
65 - 67	Financial Services	16	265	436	23	66	23	56	61	128	33
70	Real estate services	1	4	2	2	1	0	1	1	1	1
71	Renting services of machinery and equipment	1	6	10	3	17	1	9	2	0	2
72	Computer and related services	3	142	490	10	8	1	7	6	91	73
73	Research and development services	0	26	17	3	2	1	3	2	24	13
74	Other business services	19	231	1	54	61	8	26	3	107	22
75	Public administration and defence	1	3	7	1	2	1	3	1	4	2
80	Education	0	0	4	0	0	0	0	0	2	0
85	Health and social work services	0	4	40	1	1	0	1	1	9	2
90	Sewage and refuse disposal services	1	4	13	3	2	9	19	0	0	0
91	Membership organisation services n.e.c.	0	2	1	0	-	0	0	0	0	0
92	Recreation	0	3	10	0	1	0	0	1	10	1
93	Other services	3	4	5	3	5	1	4	2	1	2
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total Intermediate Consumption	165	1,405	2,073	331	584	216	320	260	1,081	312
	Compensation of Employees	136	849	1,350	245	315	111	355	299	590	301
	Net Operating Surplus	50	2,946	8,053	104	206	87	186	219	898	199
	Consumption of Fixed Capital	3	166	790	37	101	24	55	48	171	37
	Taxes	4	18	53	8	16	7	14	26	3	44
	Subsidies	0	0	5	1	0	0	0	0	0	0
	Gross Value Added at basic prices	193	3,978	10,242	394	638	229	609	591	1,661	582
	Total Output at basic prices	358	5,383	12,314	725	1,222	445	929	851	2,742	894

Appendix 14.1 (cont.)

2005 Use Table for Domestic Output - SE Region, €Millions

		32	33	34	35	40	41	45	50	51	52
	Industries	Radio, television and communications apparatus	Medical, precision and optical instruments	Motor vehicles and trailers	Other transport equipment	Electricity and gas	Water collection and distribution	Construction work	Motor fuel and vechicle trade and repair	Wholesale trade	Retail trade and repair of household goods
	Products										
1 - 5	Agriculture, Forestry, Fishing	0	0	0	0	-	-	41	1	2	7
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	-	-	0	41	0	0	0	0	0
14	Other mining and quarying	0	0	-	0	-	-	96	0	0	0
15	Food and beverages	0	0	0	-	1	0	2	2	8	22
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	0	1	0	0	175	1	120	6	19	7
17	Textiles	0	0	0	0	-	-	3	0	0	1
18	Wearing apparel	0	0	-	-	-	-	0	0	0	0
19	Leather and leather products	0	-	-	-	-	-	-	-	0	-
20	Wood and wood products (excl furniture)	0	0	0	0	0	0	272	0	0	1
21	Pulp, paper and paper products	1	4	0	0	1	0	16	0	3	3
22	Printed matter and recorded media	2	1	0	0	9	2	132	4	6	11
24	Chemical products and man-made fibres	10	2	0	0	0	1	35	0	1	2
25	Rubber and plastics	2	-	1	0	0	1	192	4	6	4
26	Other non-metallic mineral products	-	1	0	0	0	0	927	2	8	3
27	Basic metals	-	7	6	3	0	0	27	0	0	0
28	Fabricated metal products	15	16	8	0	11	0	498	2	1	2
29	Machinery and equipment n.e.c.	5	3	1	0	2	1	33	1	0	1
30	Office machinery and computers	7	1	0	0	1	0	2	0	0	0
31	Electrical machinery and apparatus n.e.c.	7	4	-	2	3	0	46	0	0	0
32	Radio, television and communications apparatus	205	15	25	0	1	0	15	0	0	1
33	Medical, precision and optical instruments	5	3	0	-	-	0	0	0	0	0
34	Motor vehicles and trailers	0	0	0	-	-	-	-	0	0	0
35	Other transport equipment	-	-	-	-	-	-	-	-	0	-
40	Electricity and gas	49	23	3	7	923	15	122	17	37	118
41	Water collection and distribution	0	3	8	0	-	3	18	1	3	4
45	Construction work	12	3	0	5	22	13	7,493	1	7	19
50	Motor fuel and vechicle trade and repair	5	2	8	2	0	1	53	32	14	10
51	Wholesale trade	24	33	26	7	127	5	990	13	10	49
52	Retail trade and repair of household goods	-	-	-	-	-	0	0	0	0	0
55	Hotel and restaurant services	6	34	5	5	3	2	81	6	23	203
60	Land transport services	6	16	3	2	0	1	76	28	96	67
61 - 62	Water and Air transport services	23	9	3	3	0	-	10	6	15	6
63	Auxiliary transport services and travel agencies	23	4	1	1	3	1	17	28	222	71
64	Post and telecommunication services	15	20	4	2	7	3	53	29	79	91
65 - 67	Financial Services	30	64	19	20	122	9	331	78	166	229
70	Real estate services	0	1	0	0	0	3	520	37	102	313
71	Renting services of machinery and equipment	4	1	0	1	5	3	425	11	14	27
72	Computer and related services	26	29	3	2	13	6	130	25	60	71
73	Research and development services	22	14	1	0	-	1	13	0	9	3
74	Other business services	17	46	12	4	41	36	822	106	48	270
75	Public administration and defence	2	3	1	1	2	0	208	7	10	28
80	Education	1	1	0	0	0	0	2	0	1	1
85	Health and social work services	7	4	0	1	2	0	13	1	3	3
90	Sewage and refuse disposal services	0	1	1	1	17	8	167	8	19	39
91	Membership organisation services n.e.c.	0	1	0	0	0	0	1	0	0	0
92	Recreation	3	4	0	1	0	0	5	1	4	4
93	Other services	1	2	1	1	1	0	3	1	2	6
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total Intermediate Consumption	539	374	142	74	1,536	119	14,012	463	1,000	1,698
	Compensation of Employees	347	487	88	252	551	69	7,072	650	2,533	2,450
	Net Operating Surplus	947	1,040	20	27	357	1	3,105	416	4,173	1,271
	Consumption of Fixed Capital	182	139	28	37	543	1	292	59	483	175
	Taxes	26	7	2	5	14	0	18	51	171	149
	Subsidies	0	0	0	0	-	-	-	-	-	-
	Gross Value Added at basic prices	1,501	1,674	138	322	1,465	72	10,487	1,175	7,360	4,044
	Total Output at basic prices	2,040	2,048	280	396	3,002	191	24,499	1,638	8,360	5,742

Appendix 14.1 (cont.)

2005 Use Table for Domestic Output - SE Region, €Millions

		55	60	61 - 62	63	64	65 - 67	70	71	72	73
	Industries	Hotel and restaurant services	Land transport services	Water and Air Transport	Auxiliary transport services and travel agencies	Post and telecommunication services	Financial Services	Real estate services	Renting services of machinery and equipment	Computer and related services	Research and development services
	Products										
1 - 5	Agriculture, Forestry, Fishing	163	0	1	0	0	-	3	-	0	1
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	0	0	0	0	0	0	0	0	0
14	Other mining and quarying	1	0	0	2	0	0	1	-	-	0
15	Food and beverages	575	1	5	6	6	6	0	0	8	0
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	15	61	91	12	7	8	3	7	13	2
17	Textiles	1	0	0	0	0	0	1	0	0	0
18	Wearing apparel	0	0	0	0	0	0	0	0	0	0
19	Leather and leather products	-	0	0	0	0	0	0	-	0	-
20	Wood and wood products (excl furniture)	5	0	0	1	1	1	11	0	1	0
21	Pulp, paper and paper products	6	1	0	1	1	4	3	1	2	0
22	Printed matter and recorded media	25	4	3	16	12	59	12	2	30	1
24	Chemical products and man-made fibres	3	0	0	0	0	0	1	0	0	0
25	Rubber and plastics	2	6	1	3	19	2	2	1	7	0
26	Other non-metallic mineral products	3	2	1	1	7	0	19	0	1	0
27	Basic metals	0	0	0	0	1	0	-	0	1	0
28	Fabricated metal products	1	3	1	1	2	1	6	1	2	0
29	Machinery and equipment n.e.c.	0	0	0	0	1	0	1	3	1	0
30	Office machinery and computers	0	0	0	0	0	0	1	0	2	0
31	Electrical machinery and apparatus n.e.c.	0	1	0	0	7	0	0	0	5	0
32	Radio, television and communications apparatus	0	0	1	1	106	1	1	1	16	0
33	Medical, precision and optical instruments	0	0	0	0	2	0	-	0	3	0
34	Motor vehicles and trailers	0	-	0	0	0	0	-	-	0	-
35	Other transport equipment	-	-	2	-	-	0	-	-	-	-
40	Electricity and gas	149	12	8	21	26	16	18	18	57	4
41	Water collection and distribution	5	0	1	1	1	0	1	1	2	0
45	Construction work	24	3	2	40	52	46	271	3	1	0
50	Motor fuel and vechicle trade and repair	14	22	9	10	5	17	9	42	27	1
51	Wholesale trade	592	38	80	20	262	27	45	15	1	2
52	Retail trade and repair of household goods	0	3	0	0	0	0	1	1	0	0
55	Hotel and restaurant services	87	13	102	11	59	37	13	7	108	2
60	Land transport services	53	68	4	103	40	40	10	28	53	2
61 - 62	Water and Air transport services	33	3	266	68	64	48	4	11	19	1
63	Auxiliary transport services and travel agencies	119	208	259	402	54	87	33	34	27	3
64	Post and telecommunication services	146	15	30	47	1,399	294	69	34	372	7
65 - 67	Financial Services	221	75	149	177	133	3,835	1,606	119	618	16
70	Real estate services	130	18	36	53	51	123	52	14	59	5
71	Renting services of machinery and equipment	35	72	15	43	14	8	8	0	83	2
72	Computer and related services	66	88	108	150	40	272	61	33	1,476	16
73	Research and development services	2	4	4	0	5	6	3	1	32	51
74	Other business services	519	118	33	220	259	339	359	170	1,418	50
75	Public administration and defence	20	49	2	4	9	18	73	2	6	0
80	Education	14	2	1	13	3	3	22	0	29	3
85	Health and social work services	22	1	3	2	4	15	1	1	7	1
90	Sewage and refuse disposal services	47	4	6	7	10	11	16	10	27	2
91	Membership organisation services n.e.c.	8	1	1	4	5	5	1	0	2	0
92	Recreation	44	3	7	27	19	17	5	4	48	0
93	Other services	57	3	13	6	9	14	2	14	12	2
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total Intermediate Consumption	3,209	905	1,243	1,472	2,696	5,360	2,747	579	4,578	176
	Compensation of Employees	1,660	1,099	483	672	1,144	4,309	282	198	1,384	85
	Net Operating Surplus	548	298	300	213	545	6,996	6,288	1,167	1,131	21
	Consumption of Fixed Capital	268	274	309	278	551	1,518	2,987	561	539	10
	Taxes	97	21	24	30	35	68	22	1	11	0
	Subsidies	-	1	1	0	1	0	23	1	4	-
	Gross Value Added at basic prices	2,574	1,690	1,114	1,193	2,275	12,891	9,556	1,926	3,061	116
	Total Output at basic prices	5,783	2,595	2,357	2,665	4,971	18,251	12,304	2,505	7,639	292

Appendix 14.1 (cont.)

2005 Use Table for Domestic Output - SE Region, €Millions

		74	75	80	85	90	91	92	93	95
	Industries	Other business services	Public administration and defence	Education	Health and social work services	Sewage and refuse disposal services	Membership organisation services n.e.c.	Recreation	Other services	Private households with employed persons
	Products									
1 - 5	Agriculture, Forestry, Fishing	0	4	28	12	-	1	1	0	-
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	1	0	-	0	0	0	0	-
14	Other mining and quarying	0	0	0	-	2	0	0	0	-
15	Food and beverages	13	7	1	4	2	7	8	0	-
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	25	25	12	29	4	1	3	2	-
17	Textiles	0	0	0	-	0	0	0	0	-
18	Wearing apparel	0	-	0	-	0	0	0	0	-
19	Leather and leather products	0	-	0	-	0	-	-	0	-
20	Wood and wood products (excl furniture)	2	0	3	0	0	0	1	0	-
21	Pulp, paper and paper products	13	7	19	20	2	0	1	0	-
22	Printed matter and recorded media	137	24	56	6	10	4	12	5	-
24	Chemical products and man-made fibres	2	6	3	103	5	1	2	2	-
25	Rubber and plastics	4	5	0	25	4	1	1	1	-
26	Other non-metallic mineral products	2	10	0	1	9	1	4	0	-
27	Basic metals	0	0	0	-	0	0	0	0	-
28	Fabricated metal products	1	9	6	1	2	0	0	0	-
29	Machinery and equipment n.e.c.	2	1	0	0	0	0	0	0	-
30	Office machinery and computers	0	1	0	0	0	0	0	0	-
31	Electrical machinery and apparatus n.e.c.	1	0	0	-	0	0	0	0	-
32	Radio, television and communications apparatus	2	1	0	3	0	0	2	0	-
33	Medical, precision and optical instruments	0	0	-	0	0	0	0	0	-
34	Motor vehicles and trailers	-	-	0	-	0	0	0	0	-
35	Other transport equipment	-	-	-	-	-	-	-	-	-
40	Electricity and gas	110	114	114	20	18	3	26	12	-
41	Water collection and distribution	3	1	0	-	2	7	2	1	-
45	Construction work	44	330	67	5	16	2	5	1	-
50	Motor fuel and vechicle trade and repair	28	18	2	2	6	2	3	3	-
51	Wholesale trade	87	73	44	224	19	9	16	7	-
52	Retail trade and repair of household goods	0	-	0	-	0	0	0	0	-
55	Hotel and restaurant services	218	88	48	41	6	12	19	2	-
60	Land transport services	77	155	24	28	30	2	5	5	-
61 - 62	Water and Air transport services	97	22	39	10	10	3	6	2	-
63	Auxiliary transport services and travel agencies	174	1	6	-	14	6	12	7	-
64	Post and telecommunication services	375	138	57	-	21	17	21	20	-
65 - 67	Financial Services	640	106	96	44	61	42	87	35	-
70	Real estate services	210	562	33	26	9	4	56	28	-
71	Renting services of machinery and equipment	59	7	5	-	30	3	16	18	-
72	Computer and related services	327	192	32	80	50	24	21	21	-
73	Research and development services	5	15	27	49	26	4	6	0	-
74	Other business services	2,165	527	217	72	113	100	135	81	-
75	Public administration and defence	64	19	1	9	1	2	8	5	-
80	Education	10	27	204	88	3	1	2	0	-
85	Health and social work services	11	3	4	1,581	5	2	2	4	-
90	Sewage and refuse disposal services	33	33	9	16	321	2	8	8	-
91	Membership organisation services n.e.c.	22	0	0	1	0	57	28	1	-
92	Recreation	47	48	112	0	6	58	82	4	-
93	Other services	60	7	43	11	27	9	11	56	-
95	Private households with employed persons	0	-	0	-	-	-	-	0	-
	Total Intermediate Consumption	5,072	2,588	1,314	2,509	836	389	611	334	-
	Compensation of Employees	3,441	3,796	4,336	5,991	198	284	749	319	108
	Net Operating Surplus	2,137	0	45	1,130	47	21	451	83	0
	Consumption of Fixed Capital	938	1,085	10	43	21	9	200	37	-
	Taxes	18	-	29	57	13	8	32	14	-
	Subsidies	18	-	5	9	2	1	20	0	-
	Gross Value Added at basic prices	6,516	4,881	4,415	7,213	277	322	1,413	453	108
	Total Output at basic prices	11,588	7,468	5,728	9,722	1,113	710	2,024	786	108

Appendix 14.1 (cont.)

2005 Use Table for Domestic Output - SE Region, €Millions

Industries / *Products*		total inter-industry	Household expenditure	NPISH	government consumption expenditure	gross fixed capital formation	changes in inventories	International Exports	Domestic Exports	final uses	total uses
1 - 5	Agriculture, Forestry, Fishing	2,966	207	-	-	-	20	339	837	1,403	4,369
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	199	22	-	-	33	15	270	3	343	541
14	Other mining and quarying	147	-	-	-	36	-8	19	384	430	577
15	Food and beverages	1,105	80	13	-	-	-1	9,238	670	10,000	11,105
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	900	286	-	-	44	-8	1,113	298	1,734	2,634
17	Textiles	9	-	-	-	-	1	140	115	255	264
18	Wearing apparel	0	0	-	-	-	-0	45	60	105	105
19	Leather and leather products	1	-	-	-	-	-1	-	7	6	6
20	Wood and wood products (excl furniture)	399	7	-	-	-	-4	204	62	269	668
21	Pulp, paper and paper products	340	32	-	-	-	0	186	-	218	557
22	Printed matter and recorded media	1,019	175	-	-	-	-	10,579	74	10,828	11,847
24	Chemical products and man-made fibres	624	45	-	-	-	33	28,340	1,225	29,643	30,267
25	Rubber and plastics	430	44	-	-	-	-5	464	116	619	1,049
26	Other non-metallic mineral products	1,226	5	-	-	-	-11	276	13	283	1,509
27	Basic metals	104	-	-	-	-	10	511	-	521	625
28	Fabricated metal products	814	26	-	-	56	1	287	174	543	1,357
29	Machinery and equipment n.e.c.	89	13	-	-	28	3	1,078	236	1,357	1,446
30	Office machinery and computers	210	0	-	-	25	8	11,894	153	12,082	12,291
31	Electrical machinery and apparatus n.e.c.	129	-	-	-	32	12	1,196	209	1,449	1,578
32	Radio, television and communications apparatus	590	33	-	-	54	-22	3,039	304	3,408	3,997
33	Medical, precision and optical instruments	16	-	-	-	1	-2	3,626	7	3,631	3,647
34	Motor vehicles and trailers	1	-	-	-	18	-0	414	91	523	524
35	Other transport equipment	2	-	-	-	-	-4	285	85	365	367
40	Electricity and gas	2,689	872	-	-	-	-	16	401	1,289	3,978
41	Water collection and distribution	115	9	-	96	-	-	-	-	106	221
45	Construction work	8,631	184	-	-	19,959	-	-	480	20,623	29,254
50	Motor fuel and vechicle trade and repair	419	957	-	-	371	-	-	20	1,349	1,768
51	Wholesale trade	4,126	1,420	9	0	471	47	5,099	118	7,164	11,290
52	Retail trade and repair of household goods	7	6,175	-	-	-	-	-	77	6,252	6,260
55	Hotel and restaurant services	1,678	3,066	-	-	-	-	2,146	843	6,055	7,733
60	Land transport services	1,794	1,058	-	-	-	-	112	121	1,291	3,085
61 - 62	Water and Air transport services	1,071	155	-	-	-	-	1,814	444	2,413	3,484
63	Auxiliary transport services and travel agencies	1,869	2,154	-	-	-	-	342	93	2,589	4,458
64	Post and telecommunication services	3,573	1,469	-	-	-	-	400	787	2,656	6,229
65 - 67	Financial Services	10,904	3,709	-	-	-	-	12,942	1,177	17,828	28,732
70	Real estate services	2,478	8,588	-	-	373	-	-	1,238	10,199	12,677
71	Renting services of machinery and equipment	1,019	113	-	-	-	-	3,374	202	3,689	4,708
72	Computer and related services	4,318	-	-	-	331	-	7,060	296	7,688	12,006
73	Research and development services	411	-	-	99	-	-	179	85	363	774
74	Other business services	9,267	192	-	-	1,732	-	4,572	1,265	7,760	17,028
75	Public administration and defence	624	54	-	7,518	54	-	36	-	7,661	8,285
80	Education	442	493	1,538	3,364	-	-	-	-	5,396	5,837
85	Health and social work services	1,829	1,369	417	7,361	-	-	-	-	9,147	10,976
90	Sewage and refuse disposal services	924	218	-	107	-	-	-	-	325	1,249
91	Membership organisation services n.e.c.	155	248	369	-	-	-	-	-	617	771
92	Recreation	601	826	-	-	108	-	304	499	1,737	2,337
93	Other services	434	380	-	-	-	-	58	61	500	933
95	Private households with employed persons	0	108	-	-	-	-	-	-	108	108
	Total Intermediate Consumption	70,695	34,790	2,346	18,545	23,726	85	111,997	13,328	204,816	275,512
	Compensation of Employees	52,043									
	Net Operating Surplus	49,846									
	Consumption of Fixed Capital	13,848									
	Taxes	1,272									
	Subsidies	801									
	Gross Value Added at basic prices	116,208									
	Total Output at basic prices	186,905									

Appendix 14.2

2005 Use Table for Domestic Output - BMW Region, €Millions

		1 - 5	10 - 13	14	15	I6,23,36-37	17	18	19	20
	Industries	Agriculture, Forestry, Fishing	Coal, Peat, Petroleum and Metal Ore Extraction	Other mining and quarying	Food and beverages	Tobacco, Petroleum, Furniture and Recycling	Textiles	Wearing apparel	Leather and leather products	Wood and wood products (excl furniture)
	Products									
1 - 5	Agriculture, Forestry, Fishing	380	-	-	1,153	0	0	-	0	15
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	1	4	0	1	0	0	0	-	0
14	Other mining and quarying	2	-	8	0	0	0	-	-	0
15	Food and beverages	324	-	-	525	0	0	-	-	0
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	1	0	0	3	11	0	0	0	2
17	Textiles	0	-	-	0	0	0	-	0	0
18	Wearing apparel	-	0	0	-	0	0	-	-	-
19	Leather and leather products	0	-	0	0	0	0	-	0	0
20	Wood and wood products (excl furniture)	0	0	0	4	22	-	0	-	60
21	Pulp, paper and paper products	1	0	0	28	2	0	0	0	2
22	Printed matter and recorded media	5	0	0	3	0	0	0	-	1
24	Chemical products and man-made fibres	-	-	0	8	0	-	-	-	0
25	Rubber and plastics	2	1	0	9	4	0	0	-	1
26	Other non-metallic mineral products	1	-	11	5	3	0	-	-	0
27	Basic metals	0	0	-	5	4	0	-	-	1
28	Fabricated metal products	14	1	0	8	5	0	1	0	9
29	Machinery and equipment n.e.c.	0	-	-	-	0	0	0	-	-
30	Office machinery and computers	0	-	0	0	0	0	-	-	0
31	Electrical machinery and apparatus n.e.c.	0	-	0	0	0	0	-	-	0
32	Radio, television and communications apparatus	0	-	0	-	-	0	-	-	-
33	Medical, precision and optical instruments	0	0	0	0	0	0	0	-	0
34	Motor vehicles and trailers	0	0	0	-	0	0	-	-	-
35	Other transport equipment	0	-	-	0	0	0	0	-	0
40	Electricity and gas	5	0	1	6	1	0	0	-	0
41	Water collection and distribution	2	0	0	11	0	1	0	-	2
45	Construction work	34	0	-	5	1	0	0	0	10
50	Motor fuel and vechicle trade and repair	10	0	1	4	1	0	0	0	1
51	Wholesale trade	63	1	4	208	10	1	2	1	6
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	13	0	2	27	6	1	1	1	4
60	Land transport services	7	1	-	76	11	-	1	1	18
61 - 62	Water and Air transport services	2	0	1	2	0	0	0	0	0
63	Auxiliary transport services and travel agencies	2	0	0	1	1	0	0	0	0
64	Post and telecommunication services	9	0	1	12	1	0	1	0	2
65 - 67	Financial Services	118	4	10	122	11	3	4	1	6
70	Real estate services	4	0	0	1	1	0	0	0	0
71	Renting services of machinery and equipment	6	0	13	5	1	0	1	0	1
72	Computer and related services	1	0	2	9	5	1	0	0	3
73	Research and development services	1	-	0	0	1	0	0	0	1
74	Other business services	14	20	3	96	13	2	8	1	13
75	Public administration and defence	17	0	0	3	1	0	0	0	1
80	Education	0	0	-	0	0	0	0	0	0
85	Health and social work services	37	0	-	3	1	0	0	0	0
90	Sewage and refuse disposal services	2	0	0	10	1	1	1	0	4
91	Membership organisation services n.e.c.	5	-	-	0	0	-	0	-	-
92	Recreation	2	0	0	2	0	0	0	0	0
93	Other services	2	0	1	4	1	0	0	0	1
95	Private households with employed persons	-	-	-	-	-	-	-	-	-
	Total Intermediate Consumption	1,091	34	60	2,357	116	11	20	5	163
	Compensation of Employees	178	60	49	463	126	27	34	5	104
	Net Operating Surplus	1,146	39	18	1,024	79	6	12	5	69
	Consumption of Fixed Capital	268	1	8	80	18	4	8	1	19
	Taxes	12	1	2	16	2	1	2	0	3
	Subsidies	618	-	0	1	0	0	0	1	0
	Gross Value Added at basic prices	986	101	76	1,581	225	38	55	10	195
	Total Output at basic prices	2,077	136	136	3,938	341	49	76	15	358

Appendix 14.2 (cont.)

2005 Use Table for Domestic Output - BMW Region, €Millions

		21	22	24	25	26	27	28	29	30	31
	Industries	Pulp, paper and paper products	Printed matter and recorded media	Chemical products and man-made fibres	Rubber and plastics	Other non-metallic mineral products	Basic metals	Fabricated metal products	Machinery and equipment n.e.c.	Office machinery and computers	Electrical machinery and apparatus n.e.c.
	Products										
1 - 5	Agriculture, Forestry, Fishing	0	0	1	0	0	-	0	0	0	0
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	-	-	-	0	4	-	0	0	-	0
14	Other mining and quarying	-	0	0	0	9	-	0	0	-	0
15	Food and beverages	0	0	24	1	0	-	0	0	-	0
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	0	0	0	0	0	4	1	0	0	0
17	Textiles	-	-	-	0	0	-	0	0	-	-
18	Wearing apparel	0	-	-	-	0	0	0	0	-	0
19	Leather and leather products	0	0	-	0	0	0	0	0	0	0
20	Wood and wood products (excl furniture)	0	-	-	7	1	-	1	-	0	0
21	Pulp, paper and paper products	3	-	3	1	1	-	1	0	-	-
22	Printed matter and recorded media	0	-	17	0	1	0	0	0	2	-
24	Chemical products and man-made fibres	-	-	0	-	-	-	-	-	-	-
25	Rubber and plastics	1	0	5	34	1	0	4	2	1	0
26	Other non-metallic mineral products	0	0	1	2	93	-	3	0	-	0
27	Basic metals	-	-	0	1	3	1	36	4	3	0
28	Fabricated metal products	0	0	3	1	7	-	29	32	7	0
29	Machinery and equipment n.e.c.	0	-	-	0	-	-	-	0	-	-
30	Office machinery and computers	0	0	0	0	0	-	0	0	-	0
31	Electrical machinery and apparatus n.e.c.	0	0	0	0	0	0	0	0	7	9
32	Radio, television and communications apparatus	0	-	0	0	0	0	0	0	0	-
33	Medical, precision and optical instruments	0	0	1	0	0	0	0	0	3	0
34	Motor vehicles and trailers	-	-	-	-	-	0	-	-	-	-
35	Other transport equipment	0	-	0	-	0	0	0	0	0	0
40	Electricity and gas	0	-	0	1	2	-	0	1	-	-
41	Water collection and distribution	0	-	18	0	0	0	0	2	-	-
45	Construction work	0	0	1	1	2	0	2	1	0	0
50	Motor fuel and vechicle trade and repair	0	0	1	1	2	1	1	0	0	0
51	Wholesale trade	1	19	33	8	15	9	7	12	137	10
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	1	1	1	5	6	0	4	5	1	0
60	Land transport services	2	2	2	10	39	1	24	9	4	1
61 - 62	Water and Air transport services	0	1	2	0	1	0	0	0	1	0
63	Auxiliary transport services and travel agencies	0	-	1	0	0	0	0	0	0	0
64	Post and telecommunication services	0	0	0	3	6	0	2	1	0	0
65 - 67	Financial Services	2	6	26	6	36	1	20	22	6	1
70	Real estate services	0	0	0	1	1	0	0	0	0	0
71	Renting services of machinery and equipment	0	0	0	3	8	0	4	2	0	0
72	Computer and related services	1	-	24	5	4	0	3	4	3	2
73	Research and development services	0	-	-	2	1	0	1	-	1	-
74	Other business services	4	14	7	23	24	0	12	1	42	3
75	Public administration and defence	0	0	0	1	1	0	2	1	0	0
80	Education	0	0	0	0	0	0	0	0	0	0
85	Health and social work services	0	0	4	1	0	0	1	1	0	0
90	Sewage and refuse disposal services	0	0	0	1	1	1	6	0	0	0
91	Membership organisation services n.e.c.	0	0	0	0	-	0	0	0	0	0
92	Recreation	0	0	0	0	0	0	0	0	0	0
93	Other services	0	0	0	1	2	0	1	1	0	-
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total Intermediate Consumption	18	45	177	120	271	20	164	104	220	29
	Compensation of Employees	15	21	227	136	138	16	131	159	147	30
	Net Operating Surplus	6	-	301	53	134	6	70	107	152	7
	Consumption of Fixed Capital	0	-	32	19	62	2	18	22	31	2
	Taxes	0	0	4	3	6	1	21	17	1	1
	Subsidies	0	0	0	1	0	0	0	0	0	-
	Gross Value Added at basic prices	22	21	564	211	340	25	240	305	331	41
	Total Output at basic prices	40	66	741	330	611	44	404	409	551	70

Appendix 14.2 (cont.)

2005 Use Table for Domestic Output - BMW Region, €Millions

		32	33	34	35	40	41	45	50	51	52
	Industries	Radio, television and communications apparatus	Medical, precision and optical instruments	Motor vehicles and trailers	Other transport equipment	Electricity and gas	Water collection and distribution	Construction work	Motor fuel and vechicle trade and repair	Wholesale trade	Retail trade and repair of household goods
	Products										
1 - 5	Agriculture, Forestry, Fishing	0	0	0	0	-	-	3	0	0	1
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	-	-	-	0	11	0	0	0	0	0
14	Other mining and quarying	0	0	-	0	-	-	21	0	0	0
15	Food and beverages	0	1	0	-	1	0	2	1	1	17
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	0	0	0	0	0	0	30	0	0	1
17	Textiles	0	-	-	0	-	-	0	-	0	0
18	Wearing apparel	0	-	0	0	-	-	0	0	-	0
19	Leather and leather products	0	0	-	0	-	-	1	1	0	0
20	Wood and wood products (excl furniture)	1	0	-	0	0	0	103	0	-	0
21	Pulp, paper and paper products	2	5	-	0	0	0	2	0	0	1
22	Printed matter and recorded media	2	3	0	0	3	1	28	1	0	3
24	Chemical products and man-made fibres	2	-	-	-	-	0	-	-	-	0
25	Rubber and plastics	2	41	3	1	0	0	67	2	1	1
26	Other non-metallic mineral products	3	1	0	0	0	0	465	0	0	0
27	Basic metals	1	0	1	0	0	0	7	0	0	0
28	Fabricated metal products	4	7	1	0	3	0	80	1	-	0
29	Machinery and equipment n.e.c.	-	0	0	-	-	0	-	0	-	-
30	Office machinery and computers	0	0	0	0	-	0	0	0	0	0
31	Electrical machinery and apparatus n.e.c.	6	5	2	0	-	0	23	0	0	0
32	Radio, television and communications apparatus	0	-	-	-	-	-	0	0	-	-
33	Medical, precision and optical instruments	0	124	0	1	0	0	9	0	0	0
34	Motor vehicles and trailers	-	-	-	-	0	-	-	-	-	-
35	Other transport equipment	0	0	0	0	-	-	0	0	0	0
40	Electricity and gas	0	3	0	-	-	1	0	1	-	-
41	Water collection and distribution	0	4	0	0	-	1	4	0	-	0
45	Construction work	2	1	0	0	4	4	2,446	0	1	4
50	Motor fuel and vechicle trade and repair	1	1	2	0	0	0	16	9	2	3
51	Wholesale trade	43	59	6	2	6	1	152	2	5	7
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	1	11	2	0	1	0	21	1	0	32
60	Land transport services	1	8	3	0	0	0	11	4	5	10
61 - 62	Water and Air transport services	1	1	0	0	0	-	1	1	1	0
63	Auxiliary transport services and travel agencies	0	2	0	-	0	0	1	4	1	3
64	Post and telecommunication services	0	3	0	0	1	0	4	5	4	2
65 - 67	Financial Services	4	15	4	0	26	2	69	18	8	33
70	Real estate services	0	0	0	0	0	1	82	5	7	52
71	Renting services of machinery and equipment	0	1	0	0	2	1	114	3	2	7
72	Computer and related services	4	14	1	0	3	2	18	3	-	10
73	Research and development services	0	38	2	-	-	0	2	0	-	0
74	Other business services	2	4	4	0	-	10	265	9	12	38
75	Public administration and defence	0	1	0	0	1	0	32	2	1	8
80	Education	0	0	0	0	0	0	0	0	0	0
85	Health and social work services	1	2	0	0	1	0	5	0	0	1
90	Sewage and refuse disposal services	0	0	0	0	2	2	26	2	3	4
91	Membership organisation services n.e.c.	0	0	0	0	0	0	0	0	0	0
92	Recreation	0	1	0	0	0	0	1	0	0	1
93	Other services	0	1	0	-	0	0	0	0	0	1
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total Intermediate Consumption	88	359	33	5	65	28	4,114	78	54	244
	Compensation of Employees	52	453	46	5	62	20	2,312	199	352	769
	Net Operating Surplus	7	541	6	1	7	0	1,273	172	679	484
	Consumption of Fixed Capital	1	164	9	1	30	0	118	13	105	38
	Taxes	2	3	1	0	0	0	6	15	31	38
	Subsidies	-	0	0	-	-	-	-	-	-	-
	Gross Value Added at basic prices	61	1,162	61	7	99	21	3,709	398	1,167	1,330
	Total Output at basic prices	149	1,521	94	12	164	49	7,823	476	1,221	1,574

Appendix 14.2 (cont.)

2005 Use Table for Domestic Output - BMW Region, €Millions

		55	60	61 - 62	63	64	65 - 67	70	71	72	73
	Industries	Hotel and restaurant services	Land transport services	Water and Air Transport	Auxiliary transport services and travel agencies	Post and telecommunication services	Financial Services	Real estate services	Renting services of machinery and equipment	Computer and related services	Research and development services
	Products										
1 - 5	Agriculture, Forestry, Fishing	19	0	0	0	0	-	0	-	-	0
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	0	0	0	0	0	0	0	-	0
14	Other mining and quarying	0	0	0	0	0	-	0	-	-	0
15	Food and beverages	551	1	0	0	0	1	0	0	1	0
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	7	0	0	0	-	-	1	0	0	1
17	Textiles	0	0	-	-	0	-	0	-	0	0
18	Wearing apparel	0	0	0	-	-	-	-	-	-	0
19	Leather and leather products	1	0	0	0	0	0	0	0	0	0
20	Wood and wood products (excl furniture)	1	0	0	0	0	0	13	0	0	0
21	Pulp, paper and paper products	0	0	0	0	0	-	0	-	0	0
22	Printed matter and recorded media	5	1	0	0	0	0	3	0	2	1
24	Chemical products and man-made fibres	-	-	0	-	-	-	-	-	-	-
25	Rubber and plastics	1	3	0	0	3	0	4	0	1	0
26	Other non-metallic mineral products	1	0	0	0	-	0	39	0	-	0
27	Basic metals	0	0	0	0	0	0	-	0	0	0
28	Fabricated metal products	0	1	0	0	0	-	0	-	-	0
29	Machinery and equipment n.e.c.	-	-	-	-	-	-	-	-	-	0
30	Office machinery and computers	0	0	-	-	0	-	0	0	0	0
31	Electrical machinery and apparatus n.e.c.	0	0	0	0	1	0	0	0	1	0
32	Radio, television and communications apparatus	-	0	0	-	-	-	0	-	-	-
33	Medical, precision and optical instruments	0	0	0	0	0	0	0	0	0	0
34	Motor vehicles and trailers	-	-	-	-	-	-	-	0	-	-
35	Other transport equipment	0	0	0	0	0	0	0	0	0	0
40	Electricity and gas	0	-	-	-	-	-	0	-	-	-
41	Water collection and distribution	1	0	0	-	0	-	0	-	0	0
45	Construction work	4	1	0	1	3	1	185	0	0	0
50	Motor fuel and vechicle trade and repair	4	8	0	3	1	1	6	9	5	0
51	Wholesale trade	118	6	0	0	11	1	7	0	26	0
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	8	5	0	3	6	4	7	0	5	0
60	Land transport services	7	20	6	8	7	-	0	19	2	1
61 - 62	Water and Air transport services	3	0	3	1	1	1	0	0	1	0
63	Auxiliary transport services and travel agencies	14	6	3	15	1	-	3	-	-	0
64	Post and telecommunication services	20	0	0	2	0	8	7	4	6	0
65 - 67	Financial Services	31	4	2	20	11	322	95	39	23	3
70	Real estate services	29	2	0	2	2	4	8	1	3	0
71	Renting services of machinery and equipment	8	34	0	2	1	-	2	19	5	0
72	Computer and related services	9	-	1	13	0	9	16	1	39	0
73	Research and development services	0	-	0	4	0	0	-	0	-	8
74	Other business services	37	2	0	14	2	42	192	0	88	11
75	Public administration and defence	5	16	0	0	0	-	18	-	0	0
80	Education	3	1	0	0	0	0	6	0	2	2
85	Health and social work services	5	0	0	0	0	1	1	0	1	1
90	Sewage and refuse disposal services	8	0	0	1	1	0	4	1	1	0
91	Membership organisation services n.e.c.	2	0	0	0	0	0	0	0	0	0
92	Recreation	6	1	0	1	1	1	2	0	2	0
93	Other services	8	-	0	0	0	0	0	1	-	0
95	Private households with employed persons	-	-	-	-	-	-	-	-	-	-
	Total Intermediate Consumption	917	112	15	89	55	396	622	98	214	32
	Compensation of Employees	508	278	6	55	357	493	55	45	175	23
	Net Operating Surplus	159	124	3	72	99	914	761	557	299	3
	Consumption of Fixed Capital	77	156	0	13	106	198	400	268	148	1
	Taxes	23	6	0	1	5	7	3	0	2	0
	Subsidies	-	-	0	1	-	-	0	0	8	0
	Gross Value Added at basic prices	767	564	10	140	567	1,612	1,219	869	615	27
	Total Output at basic prices	1,684	677	26	229	622	2,008	1,841	967	829	59

Appendix 14.2 (cont.)

2005 Use Table for Domestic Output - BMW Region, €Millions

		74	75	80	85	90	91	92	93	95
	Industries	Other business services	Public administration and defence	Education	Health and social work services	Sewage and refuse disposal services	Membership organisation services n.e.c.	Recreation	Other services	Private households with employed persons
	Products									
1 - 5	Agriculture, Forestry, Fishing	0	1	2	3	-	0	0	0	-
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	8	0	-	0	0	0	0	-
14	Other mining and quarying	0	0	0	-	-	0	0	0	-
15	Food and beverages	5	8	1	13	0	5	0	0	-
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	3	5	4	24	0	0	0	0	-
17	Textiles	0	0	0	0	0	0	0	0	-
18	Wearing apparel	0	-	-	-	0	0	-	0	-
19	Leather and leather products	1	0	0	-	0	0	0	0	-
20	Wood and wood products (excl furniture)	1	0	1	0	0	0	0	0	-
21	Pulp, paper and paper products	0	1	1	5	0	0	0	0	-
22	Printed matter and recorded media	15	10	23	3	2	1	1	1	-
24	Chemical products and man-made fibres	-	-	-	-	-	-	-	-	-
25	Rubber and plastics	1	3	0	26	1	0	0	0	-
26	Other non-metallic mineral products	0	7	0	1	2	1	0	0	-
27	Basic metals	0	0	0	-	0	0	0	0	-
28	Fabricated metal products	-	3	2	0	0	0	0	0	-
29	Machinery and equipment n.e.c.	-	0	0	-	-	-	-	-	-
30	Office machinery and computers	0	0	0	0	0	0	0	0	-
31	Electrical machinery and apparatus n.e.c.	0	0	0	2	0	0	0	0	-
32	Radio, television and communications apparatus	-	-	0	0	-	-	-	-	-
33	Medical, precision and optical instruments	1	2	3	32	0	0	0	0	-
34	Motor vehicles and trailers	0	0	0	-	-	-	0	-	-
35	Other transport equipment	0	0	0	0	0	0	0	0	-
40	Electricity and gas	-	6	5	3	0	0	-	-	-
41	Water collection and distribution	0	0	0	-	0	1	0	0	-
45	Construction work	7	150	23	4	2	1	1	0	-
50	Motor fuel and vechicle trade and repair	7	7	1	1	1	1	1	1	-
51	Wholesale trade	18	9	9	41	2	2	2	0	-
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	15	29	12	24	1	2	2	2	-
60	Land transport services	4	47	7	12	4	0	0	0	-
61 - 62	Water and Air transport services	4	2	2	1	1	0	0	0	-
63	Auxiliary transport services and travel agencies	-	0	1	-	1	1	-	0	-
64	Post and telecommunication services	10	24	8	-	2	2	0	1	-
65 - 67	Financial Services	34	35	19	10	9	11	5	2	-
70	Real estate services	10	152	7	9	1	1	5	4	-
71	Renting services of machinery and equipment	7	2	1	-	4	1	7	3	-
72	Computer and related services	10	64	8	33	10	5	2	2	-
73	Research and development services	-	5	6	16	4	1	-	0	-
74	Other business services	225	110	54	42	14	19	12	7	-
75	Public administration and defence	9	6	0	4	0	1	1	1	-
80	Education	1	9	65	42	0	0	0	0	-
85	Health and social work services	2	1	1	1,145	1	0	0	1	-
90	Sewage and refuse disposal services	1	11	2	5	51	1	1	1	-
91	Membership organisation services n.e.c.	3	0	0	1	0	14	4	0	-
92	Recreation	4	8	20	0	1	8	11	0	-
93	Other services	-	2	9	4	3	2	1	2	-
95	Private households with employed persons	0	-	0	-	-	-	-	0	-
	Total Intermediate Consumption	396	726	299	1,507	117	80	60	30	-
	Compensation of Employees	478	1,051	1,562	2,105	46	66	176	75	28
	Net Operating Surplus	431	0	10	337	10	5	100	18	0
	Consumption of Fixed Capital	296	300	3	14	5	2	48	9	-
	Taxes	2	-	7	13	3	2	7	4	-
	Subsidies	1	-	1	2	0	0	2	2	-
	Gross Value Added at basic prices	1,207	1,351	1,581	2,467	64	75	328	104	28
	Total Output at basic prices	1,603	2,077	1,880	3,974	182	155	388	134	28

Appendix 14.2 (cont.)

2005 Use Table for Domestic Output - BMW Region, €Millions

Industries / *Products*		total inter-industry	Household expenditure	NPISH	government consumption expenditure	gross fixed capital formation	changes in inventories	International Exports	Domestic Exports	final uses	total uses
1 - 5	Agriculture, Forestry, Fishing	1,578	48	-	-	-	-1	169	1,037	1,253	2,831
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	30	100	-	-	-	-1	17	2	119	149
14	Other mining and quarying	41	-	-	-	6	-0	2	138	145	185
15	Food and beverages	1,482	855	20	-	-	3	2,605	549	4,032	5,514
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	100	145	-	-	9	-8	131	114	391	491
17	Textiles	0	0	-	-	-	13	90	13	116	116
18	Wearing apparel	0	-	-	-	-	-0	82	25	107	108
19	Leather and leather products	4	7	-	-	-	3	1	8	19	23
20	Wood and wood products (excl furniture)	217	13	-	-	-	34	157	90	294	511
21	Pulp, paper and paper products	58	11	-	-	-	-6	2	5	11	70
22	Printed matter and recorded media	138	187	-	-	-	41	405	346	979	1,116
24	Chemical products and man-made fibres	10	-	-	-	-	-	1,262	86	1,348	1,358
25	Rubber and plastics	224	20	-	-	-	-0	259	57	336	560
26	Other non-metallic mineral products	642	7	-	-	-	-0	116	28	151	793
27	Basic metals	70	-	-	-	-	0	21	9	31	101
28	Fabricated metal products	219	19	-	-	14	-4	179	305	512	731
29	Machinery and equipment n.e.c.	0	-	-	-	28	0	174	361	563	563
30	Office machinery and computers	0	0	-	-	-	0	569	91	660	660
31	Electrical machinery and apparatus n.e.c.	59	8	-	-	4	10	8	64	95	153
32	Radio, television and communications apparatus	0	-	-	-	-	-5	239	74	309	309
33	Medical, precision and optical instruments	179	2	-	-	23	4	1,622	13	1,664	1,843
34	Motor vehicles and trailers	0	-	-	-	17	1	61	53	132	132
35	Other transport equipment	0	0	-	-	23	-0	26	40	90	90
40	Electricity and gas	38	67	-	-	-	-	0	39	106	145
41	Water collection and distribution	49	4	-	9	-	-	-	-	13	62
45	Construction work	2,904	59	-	-	6,226	-	-	-	6,284	9,188
50	Motor fuel and vechicle trade and repair	115	292	-	-	112	-	-	8	412	527
51	Wholesale trade	1,083	-	2	0	96	8	783	80	969	2,052
52	Retail trade and repair of household goods	-	1,704	-	-	-	-	-	0	1,705	1,705
55	Hotel and restaurant services	279	1,201	-	-	-	-	194	394	1,789	2,067
60	Land transport services	396	280	-	-	-	-	19	73	372	768
61 - 62	Water and Air transport services	34	11	-	-	-	-	-	2	13	47
63	Auxiliary transport services and travel agencies	65	209	-	-	-	-	-	106	315	380
64	Post and telecommunication services	152	243	-	-	-	-	4	327	574	726
65 - 67	Financial Services	1,258	887	-	-	-	-	5	174	1,067	2,325
70	Real estate services	396	1,519	-	-	58	-	-	100	1,678	2,074
71	Renting services of machinery and equipment	273	74	-	-	-	-	542	327	943	1,215
72	Computer and related services	344	-	-	-	53	-	476	61	590	935
73	Research and development services	93	-	-	45	-	-	102	4	151	244
74	Other business services	1,514	60	-	-	576	-	192	242	1,070	2,584
75	Public administration and defence	137	20	-	2,449	12	-	-	-	2,481	2,618
80	Education	135	212	532	1,121	-	-	-	-	1,865	2,000
85	Health and social work services	1,221	644	117	2,723	-	-	-	-	3,484	4,704
90	Sewage and refuse disposal services	160	52	-	6	-	-	-	-	57	217
91	Membership organisation services n.e.c.	32	62	92	-	-	-	-	-	155	187
92	Recreation	73	202	-	-	16	-	11	149	377	450
93	Other services	52	79	-	-	-	-	13	46	139	190
95	Private households with employed persons	0	28	-	-	-	-	-	-	28	28
	Total Intermediate Consumption	15,856	9,332	763	6,353	7,273	89	10,539	5,644	39,992	55,848
	Compensation of Employees	13,920									
	Net Operating Surplus	10,309									
	Consumption of Fixed Capital	3,117									
	Taxes	277									
	Subsidies	640									
	Gross Value Added at basic prices	26,983									
	Total Output at basic prices	42,839									

Appendix 15.1

2005 Input-Output Table - SE Region, €Millions

		1 - 5	10 - 13	14	15	16,23,36-37	17	18	19	20
	Products	Agriculture, Forestry, Fishing	Coal, Peat, Petroleum and Metal Ore Extraction	Other mining and quarying	Food and beverages	Tobacco, Petroleum, Furniture and Recycling	Textiles	Wearing apparel	Leather and leather products	Wood and wood products (excl furniture)
1 - 5	Agriculture, Forestry, Fishing	693	0	0	1,945	2	0	0	0	51
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	44	5	0	35	0	0	0	0
14	Other mining and quarying	4	1	18	0	0	0	0	-	0
15	Food and beverages	142	-	-	264	0	0	-	-	0
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	29	1	9	26	124	0	0	0	4
17	Textiles	0	0	0	0	-	2	0	-	-
18	Wearing apparel	0	0	0	0	0	0	-	-	-
19	Leather and leather products	0	0	-	-	0	0	-	-	0
20	Wood and wood products (excl furniture)	0	0	0	5	40	0	-	-	44
21	Pulp, paper and paper products	1	0	0	61	7	1	0	0	0
22	Printed matter and recorded media	5	0	0	2	0	0	0	0	0
24	Chemical products and man-made fibres	38	1	1	10	1	3	0	0	4
25	Rubber and plastics	1	1	0	42	21	0	0	0	1
26	Other non-metallic mineral products	1	1	13	19	32	0	-	-	0
27	Basic metals	0	0	0	0	14	0	0	-	0
28	Fabricated metal products	21	3	1	26	16	0	0	0	4
29	Machinery and equipment n.e.c.	6	1	0	2	0	0	0	0	-
30	Office machinery and computers	0	0	0	0	0	0	-	-	0
31	Electrical machinery and apparatus n.e.c.	0	0	0	0	-	0	0	-	0
32	Radio, television and communications apparatus	0	0	0	0	0	0	0	-	0
33	Medical, precision and optical instruments	0	0	0	0	0	-	-	-	-
34	Motor vehicles and trailers	-	0	-	-	0	0	-	-	-
35	Other transport equipment	0	0	0	-	0	-	-	-	0
40	Electricity and gas	69	23	10	143	15	4	0	0	24
41	Water collection and distribution	3	0	0	0	2	0	0	-	1
45	Construction work	40	16	19	12	4	0	0	0	2
50	Motor fuel and vechicle trade and repair	18	6	4	9	2	0	0	0	1
51	Wholesale trade	295	15	21	263	69	11	4	0	37
52	Retail trade and repair of household goods	0	-	0	-	0	0	-	0	0
55	Hotel and restaurant services	23	1	8	94	20	2	1	0	4
60	Land transport services	8	28	166	259	23	7	1	0	18
61 - 62	Water and Air transport services	3	1	17	48	9	1	0	0	0
63	Auxiliary transport services and travel agencies	3	0	0	4	1	0	0	0	0
64	Post and telecommunication services	14	1	3	44	9	2	0	0	3
65 - 67	Financial Services	134	42	28	338	58	7	3	0	8
70	Real estate services	8	1	0	4	1	0	0	0	0
71	Renting services of machinery and equipment	4	1	31	13	2	0	0	0	2
72	Computer and related services	1	15	6	21	19	1	0	0	2
73	Research and development services	1	0	0	7	1	1	0	0	1
74	Other business services	12	19	9	257	70	4	6	0	21
75	Public administration and defence	26	1	1	7	4	1	0	0	1
80	Education	0	0	-	1	0	0	0	0	0
85	Health and social work services	55	0	-	6	1	0	0	0	0
90	Sewage and refuse disposal services	2	1	1	27	2	1	1	0	4
91	Membership organisation services n.e.c.	8	-	0	1	0	-	0	-	-
92	Recreation	4	0	0	8	1	0	0	0	0
93	Other services	3	5	3	12	4	1	0	0	1
95	Private households with employed persons	-	-	0	-	0	-	-	0	-
	Total Intermediate Consumption	1,676	231	375	3,979	605	52	20	1	241
	International Imports	787	103	37	3,690	1,567	100	50	2	147
	Domestic Imports	246	5	54	590	22	6	1	0	43
	Product Taxes less Subsidies	-46	5	21	-201	14	2	1	0	3
	Total Consumption at purchasers' prices	2,662	343	486	8,059	2,208	160	72	4	434
	Compensation of Employees	328	89	50	1,176	267	80	22	1	132
	Net Operating Surplus	1,636	84	23	1,588	87	8	4	1	75
	Consumption of Fixed Capital	425	20	10	205	61	13	4	0	23
	Non-Product Taxes less Subsidies	-682	5	7	77	11	3	2	0	5
	Gross Value Added	1,707	198	90	3,046	426	104	33	3	234
	Total Output	4,369	541	577	11,105	2,634	264	105	6	668

Appendix 15.1 (cont.)

2005 Input-Output Table - SE Region, €Millions

		21	22	24	25	26	27	28	29	30	31
	Products	Pulp, paper and paper products	Printed matter and recorded media	Chemical products and man-made fibres	Rubber and plastics	Other non-metallic mineral products	Basic metals	Fabricated metal products	Machinery and equipment n.e.c.	Office machinery and computers	Electrical machinery and apparatus n.e.c.
1 - 5	Agriculture, Forestry, Fishing	0	0	2	0	0	0	0	0	1	1
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	0	4	0	0	69	0	0	0	0
14	Other mining and quarying	-	0	8	0	4	4	0	0	-	0
15	Food and beverages	0	0	11	0	0	-	0	0	-	0
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	5	1	3	7	6	25	12	0	0	1
17	Textiles	1	0	0	0	0	0	0	-	0	0
18	Wearing apparel	0	0	-	0	-	-	-	-	0	-
19	Leather and leather products	0	0	0	-	0	-	-	-	0	-
20	Wood and wood products (excl furniture)	1	1	1	2	2	0	1	1	0	0
21	Pulp, paper and paper products	60	57	29	1	8	0	1	1	2	0
22	Printed matter and recorded media	7	391	-	0	0	0	0	0	8	0
24	Chemical products and man-made fibres	3	8	360	6	4	2	1	1	4	1
25	Rubber and plastics	2	1	15	35	3	0	0	8	2	4
26	Other non-metallic mineral products	0	4	7	12	135	0	6	4	1	1
27	Basic metals	0	1	1	4	4	1	33	0	0	1
28	Fabricated metal products	2	2	11	27	7	8	35	37	13	5
29	Machinery and equipment n.e.c.	1	1	6	2	2	1	4	4	2	0
30	Office machinery and computers	0	1	0	0	0	0	-	0	194	0
31	Electrical machinery and apparatus n.e.c.	0	0	0	0	0	0	0	-	25	22
32	Radio, television and communications apparatus	0	0	0	0	0	0	0	1	127	21
33	Medical, precision and optical instruments	0	0	0	0	-	0	-	0	1	0
34	Motor vehicles and trailers	0	0	0	-	-	0	-	-	0	0
35	Other transport equipment	0	0	-	0	0	0	0	-	-	0
40	Electricity and gas	7	8	130	28	72	27	14	13	5	11
41	Water collection and distribution	1	16	11	1	1	5	1	4	0	0
45	Construction work	1	9	10	1	3	1	3	1	2	15
50	Motor fuel and vechicle trade and repair	0	1	5	2	3	3	1	0	1	6
51	Wholesale trade	10	7	232	48	101	18	59	62	1	21
52	Retail trade and repair of household goods	0	-	-	-	-	0	0	-	-	0
55	Hotel and restaurant services	7	42	88	15	10	3	9	12	51	12
60	Land transport services	15	31	10	29	0	3	-	15	74	17
61 - 62	Water and Air transport services	2	55	77	5	10	4	4	3	18	15
63	Auxiliary transport services and travel agencies	0	2	5	2	1	0	1	1	15	3
64	Post and telecommunication services	3	9	28	15	19	2	8	13	3	8
65 - 67	Financial Services	17	199	453	22	66	24	58	64	64	30
70	Real estate services	1	4	2	2	1	0	1	1	0	1
71	Renting services of machinery and equipment	1	5	10	2	8	0	10	1	0	2
72	Computer and related services	4	34	511	9	6	0	6	4	31	82
73	Research and development services	0	16	16	2	2	1	2	2	13	13
74	Other business services	21	85	1	58	70	9	25	3	49	23
75	Public administration and defence	1	1	6	1	2	2	3	1	2	2
80	Education	0	0	4	0	0	0	0	0	1	0
85	Health and social work services	0	3	41	1	1	0	1	1	6	2
90	Sewage and refuse disposal services	1	1	13	3	2	10	20	0	0	0
91	Membership organisation services n.e.c.	0	1	1	0	-	0	0	0	0	0
92	Recreation	0	3	10	0	1	0	0	1	7	1
93	Other services	3	2	4	3	4	0	4	2	0	2
95	Private households with employed persons	-	-	-	-	-	0	-	-	0	-
	Total Intermediate Consumption	178	1,000	2,124	346	559	222	321	261	726	323
	International Imports	171	7,179	16,967	268	227	171	391	543	10,799	873
	Domestic Imports	4	42	107	17	30	8	16	22	70	22
	Product Taxes less Subsidies	2	135	502	15	15	2	4	7	124	19
	Total Consumption at purchasers' prices	355	8,356	19,700	646	830	404	732	833	11,719	1,237
	Compensation of Employees	146	605	1,348	257	335	105	371	312	226	248
	Net Operating Surplus	50	2,780	8,359	101	212	85	185	224	256	29
	Consumption of Fixed Capital	2	95	813	38	117	24	56	48	89	19
	Non-Product Taxes less Subsidies	4	10	47	7	15	7	13	29	1	46
	Gross Value Added	203	3,490	10,567	403	678	221	624	613	572	341
	Total Output	557	11,847	30,267	1,049	1,509	625	1,357	1,446	12,291	1,578

Appendix 15.1 (cont.)

2005 Input-Output Table - SE Region, €Millions

		32	33	34	35	40	41	45	50	51	52
	Products	Radio, television and communications apparatus	Medical, precision and optical instruments	Motor vehicles and trailers	Other transport equipment	Electricity and gas	Water collection and distribution	Construction work	Motor fuel and vechicle trade and repair	Wholesale trade	Retail trade and repair of household goods
1 - 5	Agriculture, Forestry, Fishing	0	0	0	0	0	-	44	0	2	6
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	0	0	0	39	0	0	0	0	0
14	Other mining and quarying	0	0	-	0	-	-	99	0	1	0
15	Food and beverages	0	0	0	-	1	0	2	1	7	20
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	0	0	0	0	169	1	117	6	24	6
17	Textiles	0	0	0	0	-	-	3	0	0	1
18	Wearing apparel	0	0	-	-	-	-	0	0	0	0
19	Leather and leather products	0	-	-	0	-	-	0	-	0	-
20	Wood and wood products (excl furniture)	0	0	0	0	0	0	270	0	0	1
21	Pulp, paper and paper products	1	2	0	0	1	0	16	0	3	3
22	Printed matter and recorded media	2	1	0	0	9	2	134	4	6	11
24	Chemical products and man-made fibres	11	2	0	0	0	1	34	0	1	2
25	Rubber and plastics	2	-	1	0	0	1	191	4	7	4
26	Other non-metallic mineral products	-	1	0	0	0	0	911	2	10	3
27	Basic metals	-	5	6	2	0	0	28	0	0	0
28	Fabricated metal products	14	12	8	0	11	0	506	2	1	2
29	Machinery and equipment n.e.c.	6	3	1	0	2	1	33	1	0	1
30	Office machinery and computers	6	1	0	0	1	0	3	0	0	0
31	Electrical machinery and apparatus n.e.c.	6	4	-	1	3	0	49	0	0	0
32	Radio, television and communications apparatus	233	13	27	0	1	0	16	0	1	0
33	Medical, precision and optical instruments	6	2	0	-	-	0	0	0	0	0
34	Motor vehicles and trailers	0	0	0	-	-	-	0	0	0	0
35	Other transport equipment	0	-	-	-	-	-	0	-	0	-
40	Electricity and gas	51	17	3	3	925	16	122	17	38	124
41	Water collection and distribution	0	3	9	0	-	3	18	1	3	4
45	Construction work	11	2	0	2	22	13	7,495	1	8	20
50	Motor fuel and vechicle trade and repair	5	1	8	0	0	1	49	32	13	9
51	Wholesale trade	19	20	26	3	124	5	993	12	6	47
52	Retail trade and repair of household goods	-	-	0	-	0	0	0	0	0	0
55	Hotel and restaurant services	4	27	6	2	3	2	82	6	14	219
60	Land transport services	3	10	3	1	0	1	78	29	125	72
61 - 62	Water and Air transport services	23	7	3	1	0	-	10	6	18	5
63	Auxiliary transport services and travel agencies	23	3	0	0	1	1	14	27	282	69
64	Post and telecommunication services	14	16	4	0	7	3	49	28	93	88
65 - 67	Financial Services	23	46	19	7	120	9	327	77	190	240
70	Real estate services	0	1	0	0	0	3	512	36	111	323
71	Renting services of machinery and equipment	4	1	0	0	5	3	425	11	16	27
72	Computer and related services	20	18	3	0	12	6	128	24	72	73
73	Research and development services	21	11	1	0	-	1	13	0	11	2
74	Other business services	8	32	12	2	41	36	812	104	14	276
75	Public administration and defence	2	2	1	0	2	0	206	7	11	29
80	Education	1	0	0	0	0	0	2	0	1	1
85	Health and social work services	7	3	0	0	2	0	13	1	4	3
90	Sewage and refuse disposal services	0	0	1	0	17	8	166	8	22	40
91	Membership organisation services n.e.c.	0	1	0	0	0	0	1	0	0	0
92	Recreation	3	4	0	0	0	0	5	1	4	4
93	Other services	1	1	1	0	1	0	2	1	1	1
95	Private households with employed persons	-	0	-	-	0	-	-	0	-	-
	Total Intermediate Consumption	529	274	143	26	1,522	119	13,978	452	1,122	1,742
	International Imports	1,837	1,782	225	55	964	25	4,174	110	651	303
	Domestic Imports	23	12	5	2	39	2	503	10	30	47
	Product Taxes less Subsidies	4	19	21	3	37	3	250	56	81	53
	Total Consumption at purchasers' prices	2,394	2,087	395	85	2,561	149	18,905	628	1,883	2,144
	Compensation of Employees	343	444	85	242	535	69	7,059	643	3,215	2,528
	Net Operating Surplus	1,042	982	15	13	332	1	3,020	396	5,406	1,267
	Consumption of Fixed Capital	193	130	28	22	537	1	253	51	568	169
	Non-Product Taxes less Subsidies	25	4	2	5	13	0	18	50	217	151
	Gross Value Added	1,604	1,560	129	282	1,417	72	10,349	1,139	9,407	4,116
	Total Output	3,997	3,647	524	367	3,978	221	29,254	1,768	11,290	6,260

Appendix 15.1 (cont.)

2005 Input-Output Table - SE Region, €Millions

		55	60	61 - 62	63	64	65 - 67	70	71	72	73
	Products	Hotel and restaurant services	Land transport services	Water and Air Transport	Auxiliary transport services and travel agencies	Post and telecommunication services	Financial Services	Real estate services	Renting services of machinery and equipment	Computer and related services	Research and development services
1 - 5	Agriculture, Forestry, Fishing	165	0	1	0	0	0	3	0	0	2
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	0	0	0	0	0	0	0	0	0
14	Other mining and quarying	1	0	0	2	0	0	1	-	-	0
15	Food and beverages	583	1	5	6	6	5	0	0	8	1
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	15	61	91	12	7	6	3	9	11	4
17	Textiles	1	0	0	0	0	0	1	0	0	0
18	Wearing apparel	0	0	0	0	0	0	0	0	0	0
19	Leather and leather products	-	0	0	0	0	0	0	-	0	-
20	Wood and wood products (excl furniture)	5	0	0	1	1	0	11	1	1	0
21	Pulp, paper and paper products	7	1	0	1	1	4	3	1	1	1
22	Printed matter and recorded media	26	4	3	15	13	53	12	3	18	2
24	Chemical products and man-made fibres	3	0	0	0	0	0	1	0	0	1
25	Rubber and plastics	2	6	1	3	20	2	2	1	7	1
26	Other non-metallic mineral products	3	2	1	1	7	0	19	0	1	0
27	Basic metals	0	0	0	0	1	0	-	0	1	0
28	Fabricated metal products	2	3	1	1	2	1	7	1	2	0
29	Machinery and equipment n.e.c.	0	0	0	0	1	0	1	4	1	0
30	Office machinery and computers	0	0	0	0	0	0	1	0	1	0
31	Electrical machinery and apparatus n.e.c.	0	1	0	0	8	0	0	1	6	0
32	Radio, television and communications apparatus	0	0	1	1	118	1	1	1	16	1
33	Medical, precision and optical instruments	0	0	0	0	3	0	-	0	3	0
34	Motor vehicles and trailers	0	-	0	0	0	0	-	-	0	-
35	Other transport equipment	-	-	2	0	-	0	-	-	-	-
40	Electricity and gas	152	12	8	20	27	15	18	24	50	10
41	Water collection and distribution	5	0	1	1	1	0	1	1	2	1
45	Construction work	24	2	2	40	53	43	271	5	1	1
50	Motor fuel and vechicle trade and repair	14	22	9	10	5	17	9	56	27	2
51	Wholesale trade	600	38	80	19	272	21	45	20	1	6
52	Retail trade and repair of household goods	0	3	0	0	0	0	1	1	0	0
55	Hotel and restaurant services	89	13	104	9	62	27	13	9	100	4
60	Land transport services	55	71	3	108	42	35	10	38	50	6
61 - 62	Water and Air transport services	34	3	271	68	67	43	4	14	10	3
63	Auxiliary transport services and travel agencies	115	200	250	390	53	73	32	44	5	7
64	Post and telecommunication services	144	14	29	43	1,418	269	68	44	356	17
65 - 67	Financial Services	224	75	148	174	135	3,817	1,627	158	629	40
70	Real estate services	128	17	36	51	51	111	52	17	39	12
71	Renting services of machinery and equipment	35	72	15	43	14	8	8	0	87	5
72	Computer and related services	66	88	108	149	33	257	62	44	1,649	41
73	Research and development services	2	4	3	0	5	5	3	1	6	120
74	Other business services	523	118	32	200	261	227	360	229	1,355	126
75	Public administration and defence	20	49	2	3	9	14	73	2	6	1
80	Education	14	2	1	13	2	2	23	0	31	8
85	Health and social work services	22	1	3	2	4	14	1	1	6	3
90	Sewage and refuse disposal services	47	4	6	7	10	8	16	13	26	4
91	Membership organisation services n.e.c.	8	1	1	3	5	4	1	1	2	0
92	Recreation	44	3	7	27	19	15	5	5	50	1
93	Other services	58	3	13	6	10	10	2	20	6	5
95	Private households with employed persons	-	0	-	-	0	0	-	0	-	-
	Total Intermediate Consumption	3,236	897	1,237	1,426	2,749	5,110	2,768	771	4,571	434
	International Imports	1,547	258	900	1,749	962	10,306	139	1,301	4,570	37
	Domestic Imports	179	22	34	79	175	264	27	27	101	6
	Product Taxes less Subsidies	200	257	227	73	51	616	180	65	206	10
	Total Consumption at purchasers' prices	5,163	1,434	2,398	3,327	3,937	16,296	3,114	2,164	9,448	487
	Compensation of Employees	1,663	1,086	473	639	1,161	4,166	283	245	1,100	209
	Net Operating Surplus	542	276	286	193	537	6,792	6,292	1,547	958	52
	Consumption of Fixed Capital	269	271	306	269	561	1,413	2,989	752	495	25
	Non-Product Taxes less Subsidies	96	19	22	29	34	66	-1	-1	4	1
	Gross Value Added	2,570	1,651	1,087	1,131	2,293	12,436	9,562	2,544	2,558	287
	Total Output	7,733	3,085	3,484	4,458	6,229	28,732	12,677	4,708	12,006	774

Appendix 15.1 (cont.)

2005 Input-Output Table - SE Region, €Millions

	Products	74 Other business services	75 Public administration and defence	80 Education	85 Health and social work services	90 Sewage and refuse disposal services	91 Membership organisation services n.e.c.	92 Recreation	93 Other services	95 Private households with employed persons
	Products									
1 - 5	Agriculture, Forestry, Fishing	1	4	26	12	-	1	1	0	-
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	1	0	0	0	0	0	0	-
14	Other mining and quarying	0	0	0	-	2	0	0	0	-
15	Food and beverages	16	7	0	4	2	7	8	0	-
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	29	25	11	28	4	1	3	2	-
17	Textiles	0	0	0	-	0	0	0	0	-
18	Wearing apparel	0	-	0	0	0	0	0	0	-
19	Leather and leather products	0	-	0	-	0	-	-	0	-
20	Wood and wood products (excl furniture)	3	0	2	0	0	0	1	0	-
21	Pulp, paper and paper products	16	7	18	20	2	0	1	0	-
22	Printed matter and recorded media	167	24	55	6	10	4	12	6	-
24	Chemical products and man-made fibres	3	6	2	101	5	1	2	2	-
25	Rubber and plastics	4	5	0	25	4	1	1	1	-
26	Other non-metallic mineral products	1	10	0	1	9	1	4	0	-
27	Basic metals	0	0	0	-	0	0	0	0	-
28	Fabricated metal products	1	9	6	1	2	0	0	0	-
29	Machinery and equipment n.e.c.	2	1	0	0	0	0	0	0	-
30	Office machinery and computers	0	1	0	0	0	0	0	0	-
31	Electrical machinery and apparatus n.e.c.	1	0	0	-	0	0	0	0	-
32	Radio, television and communications apparatus	2	1	0	3	0	0	2	0	-
33	Medical, precision and optical instruments	0	0	-	0	0	0	0	0	-
34	Motor vehicles and trailers	-	-	0	-	0	0	0	0	-
35	Other transport equipment	-	-	-	0	-	-	-	-	-
40	Electricity and gas	130	115	109	20	18	3	26	13	-
41	Water collection and distribution	3	1	0	-	2	7	2	1	-
45	Construction work	53	329	64	5	16	2	5	1	-
50	Motor fuel and vechicle trade and repair	31	17	1	2	6	2	3	4	-
51	Wholesale trade	105	73	41	224	19	9	16	8	-
52	Retail trade and repair of household goods	0	-	0	0	0	0	0	0	-
55	Hotel and restaurant services	263	90	46	42	7	12	19	3	-
60	Land transport services	90	162	22	29	32	2	6	6	-
61 - 62	Water and Air transport services	119	22	37	11	10	3	6	2	-
63	Auxiliary transport services and travel agencies	194	1	4	-	14	6	12	8	-
64	Post and telecommunication services	421	135	50	-	20	17	21	21	-
65 - 67	Financial Services	735	107	84	44	62	42	89	39	-
70	Real estate services	245	554	28	26	9	4	55	30	-
71	Renting services of machinery and equipment	66	7	3	-	30	3	17	20	-
72	Computer and related services	301	193	20	80	50	24	22	23	-
73	Research and development services	4	14	24	46	24	3	6	0	-
74	Other business services	2,545	528	176	72	114	100	136	89	-
75	Public administration and defence	77	19	1	9	1	2	8	6	-
80	Education	10	28	197	89	3	1	2	0	-
85	Health and social work services	13	3	3	1,584	5	2	2	5	-
90	Sewage and refuse disposal services	38	33	7	16	321	2	8	8	-
91	Membership organisation services n.e.c.	27	0	0	1	0	56	28	1	-
92	Recreation	54	49	109	0	6	59	83	4	-
93	Other services	72	7	40	11	27	9	11	62	-
95	Private households with employed persons	0	-	0	0	-	-	-	0	-
	Total Intermediate Consumption	5,846	2,590	1,191	2,511	837	389	620	366	-
	International Imports	3,260	336	187	1,089	106	40	206	51	-
	Domestic Imports	140	57	45	22	14	13	34	10	-
	Product Taxes less Subsidies	360	424	84	153	15	8	50	10	-
	Total Consumption at purchasers' prices	9,605	3,406	1,506	3,775	972	450	910	438	-
	Compensation of Employees	4,002	3,796	4,276	5,989	198	284	757	349	108
	Net Operating Surplus	2,347	0	30	1,122	47	21	456	91	0
	Consumption of Fixed Capital	1,080	1,083	2	43	21	9	202	40	-
	Non-Product Taxes less Subsidies	-7	-	24	47	11	7	12	15	-
	Gross Value Added	7,422	4,879	4,332	7,201	277	322	1,428	496	108
	Total Output	17,028	8,285	5,837	10,976	1,249	771	2,337	933	108

Appendix 15.1 (cont.)
2005 Input-Output Table - SE Region, €Millions

	Products	Total Inter-Industry	hhld expenditure	NPISH	government consumption expenditure	gross fixed capital formation	changes in inventories	int exports	dom exports	Final Uses	Total Uses
	Products										
1 - 5	Agriculture, Forestry, Fishing	2,966	207	-	-	-	20	339	837	1,403	4,369
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	199	22	-	-	33	15	270	3	343	541
14	Other mining and quarying	147	-	-	-	36	-8	19	384	430	577
15	Food and beverages	1,105	80	13	-	-	-1	9,238	670	10,000	11,105
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	900	286	-	-	44	-8	1,113	298	1,734	2,634
17	Textiles	9	-	-	-	-	1	140	115	255	264
18	Wearing apparel	0	0	-	-	-	-0	45	60	105	105
19	Leather and leather products	1	-	-	-	-	-1	-	7	6	6
20	Wood and wood products (excl furniture)	399	7	-	-	-	-4	204	62	269	668
21	Pulp, paper and paper products	340	32	-	-	-	0	186	-	218	557
22	Printed matter and recorded media	1,019	175	-	-	-	-	10,579	74	10,828	11,847
24	Chemical products and man-made fibres	624	45	-	-	-	33	28,340	1,225	29,643	30,267
25	Rubber and plastics	430	44	-	-	-	-5	464	116	619	1,049
26	Other non-metallic mineral products	1,226	5	-	-	-	-11	276	13	283	1,509
27	Basic metals	104	-	-	-	-	10	511	-	521	625
28	Fabricated metal products	814	26	-	-	56	1	287	174	543	1,357
29	Machinery and equipment n.e.c.	89	13	-	-	28	3	1,078	236	1,357	1,446
30	Office machinery and computers	210	0	-	-	25	8	11,894	153	12,082	12,291
31	Electrical machinery and apparatus n.e.c.	129	-	-	-	32	12	1,196	209	1,449	1,578
32	Radio, television and communications apparatus	590	33	-	-	54	-22	3,039	304	3,408	3,997
33	Medical, precision and optical instruments	16	-	-	-	1	-2	3,626	7	3,631	3,647
34	Motor vehicles and trailers	1	-	-	-	18	-0	414	91	523	524
35	Other transport equipment	2	-	-	-	-	-4	285	85	365	367
40	Electricity and gas	2,689	872	-	-	-	-	16	401	1,289	3,978
41	Water collection and distribution	115	9	-	96	-	-	-	-	106	221
45	Construction work	8,631	184	-	-	19,959	-	-	480	20,623	29,254
50	Motor fuel and vechicle trade and repair	419	957	-	-	371	-	-	20	1,349	1,768
51	Wholesale trade	4,126	1,420	9	0	471	47	5,099	118	7,164	11,290
52	Retail trade and repair of household goods	7	6,175	-	-	-	-	-	77	6,252	6,260
55	Hotel and restaurant services	1,678	3,066	-	-	-	-	2,146	843	6,055	7,733
60	Land transport services	1,794	1,058	-	-	-	-	112	121	1,291	3,085
61 - 62	Water and Air transport services	1,071	155	-	-	-	-	1,814	444	2,413	3,484
63	Auxiliary transport services and travel agencies	1,869	2,154	-	-	-	-	342	93	2,589	4,458
64	Post and telecommunication services	3,573	1,469	-	-	-	-	400	787	2,656	6,229
65 - 67	Financial Services	10,904	3,709	-	-	-	-	12,942	1,177	17,828	28,732
70	Real estate services	2,478	8,588	-	-	373	-	-	1,238	10,199	12,677
71	Renting services of machinery and equipment	1,019	113	-	-	-	-	3,374	202	3,689	4,708
72	Computer and related services	4,318	-	-	-	331	-	7,060	296	7,688	12,006
73	Research and development services	411	-	-	99	-	-	179	85	363	774
74	Other business services	9,267	192	-	-	1,732	-	4,572	1,265	7,760	17,028
75	Public administration and defence	624	54	-	7,518	54	-	36	-	7,661	8,285
80	Education	442	493	1,538	3,364	-	-	-	-	5,396	5,837
85	Health and social work services	1,829	1,369	417	7,361	-	-	-	-	9,147	10,976
90	Sewage and refuse disposal services	924	218	-	107	-	-	-	-	325	1,249
91	Membership organisation services n.e.c.	155	248	369	-	-	-	-	-	617	771
92	Recreation	601	826	-	-	108	-	304	499	1,737	2,337
93	Other services	434	380	-	-	-	-	58	61	500	933
95	Private households with employed persons	0	108	-	-	-	-	-	-	108	108
	Total Intermediate Consumption	70,695	34,790	2,346	18,545	23,726	85	111,997	13,328	204,816	275,512
	International Imports	81,245	7,995	30	-	6,407	465	3,959	-	18,856	100,101
	Domestic Imports	3,223	1,409	2	0	185	6	2,304	1,035	4,940	8,164
	Product Taxes less Subsidies	4,139	8,226	-	-	3,364	-	-	-	11,591	15,730
	Total Consumption at purchasers' prices	159,302	52,420	2,378	18,545	33,682	556	118,260	14,363	240,204	399,506
	Compensation of Employees	52,045									
	Net Operating Surplus	49,846									
	Consumption of Fixed Capital	13,848									
	Non-Product Taxes less Subsidies	471									
	Gross Value Added	116,210									
	Total Output	275,512									

Appendix 15.2

2005 Input-Output Table - BMW Region, €Millions

		1 - 5	10 - 13	14	15	16,23,36-37	17	18	19	20
	Products	Agriculture, Forestry, Fishing	Coal, Peat, Petroleum and Metal Ore Extraction	Other mining and quarying	Food and beverages	Tobacco, Petroleum, Furniture and Recycling	Textiles	Wearing apparel	Leather and leather products	Wood and wood products (excl furniture)
1 - 5	Agriculture, Forestry, Fishing	378	0	0	1,151	0	0	0	0	17
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	1	6	0	1	0	0	0	-	0
14	Other mining and quarying	2	-	8	0	0	0	0	0	0
15	Food and beverages	324	-	-	516	0	0	-	0	0
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	1	0	0	3	13	0	0	0	2
17	Textiles	0	-	-	0	0	0	-	0	0
18	Wearing apparel	-	0	0	-	0	0	-	0	-
19	Leather and leather products	0	-	0	0	0	0	-	0	0
20	Wood and wood products (excl furniture)	0	0	0	4	27	-	0	-	60
21	Pulp, paper and paper products	1	0	0	27	2	0	0	0	2
22	Printed matter and recorded media	4	0	0	2	0	0	0	0	1
24	Chemical products and man-made fibres	-	0	0	8	0	0	0	0	0
25	Rubber and plastics	2	1	0	7	5	0	0	-	1
26	Other non-metallic mineral products	1	0	5	5	3	0	-	-	0
27	Basic metals	0	0	-	5	2	0	0	-	0
28	Fabricated metal products	14	1	0	6	3	0	1	0	10
29	Machinery and equipment n.e.c.	0	0	0	0	0	0	0	-	-
30	Office machinery and computers	0	-	0	0	0	0	-	-	0
31	Electrical machinery and apparatus n.e.c.	0	-	0	0	0	0	-	0	0
32	Radio, television and communications apparatus	0	0	0	0	0	0	-	0	-
33	Medical, precision and optical instruments	0	0	0	0	0	0	0	0	0
34	Motor vehicles and trailers	0	0	0	0	0	0	-	0	0
35	Other transport equipment	0	-	-	0	0	0	0	-	0
40	Electricity and gas	5	0	1	6	1	0	0	-	0
41	Water collection and distribution	2	0	0	3	0	1	0	-	2
45	Construction work	32	0	-	4	1	0	0	0	10
50	Motor fuel and vechicle trade and repair	10	0	1	3	1	0	0	0	1
51	Wholesale trade	65	1	3	201	12	2	1	1	6
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	13	0	2	26	6	1	1	1	4
60	Land transport services	6	1	-	73	11	-	1	1	19
61 - 62	Water and Air transport services	2	0	1	1	1	0	0	0	0
63	Auxiliary transport services and travel agencies	2	0	0	1	1	0	0	0	0
64	Post and telecommunication services	8	0	1	11	1	0	0	0	2
65 - 67	Financial Services	117	4	8	109	13	4	3	1	6
70	Real estate services	3	0	0	0	0	0	0	0	0
71	Renting services of machinery and equipment	5	0	12	5	0	0	1	0	2
72	Computer and related services	1	0	2	8	6	1	0	0	3
73	Research and development services	1	-	0	0	1	0	0	0	1
74	Other business services	11	19	1	85	15	1	7	1	13
75	Public administration and defence	17	0	0	3	1	0	0	0	1
80	Education	0	0	-	0	0	0	0	0	0
85	Health and social work services	38	0	-	1	1	0	0	0	0
90	Sewage and refuse disposal services	2	0	0	9	0	1	1	0	4
91	Membership organisation services n.e.c.	5	-	-	0	0	-	0	-	-
92	Recreation	1	0	0	1	0	0	0	0	0
93	Other services	2	0	1	4	1	0	0	0	1
95	Private households with employed persons	-	-	0	-	0	0	-	0	-
	Total Intermediate Consumption	1,077	34	49	2,291	130	14	17	5	169
	International Imports	534	8	14	1,387	87	34	43	7	103
	Domestic Imports	316	10	72	877	46	8	10	2	52
	Product Taxes less Subsidies	-46	3	7	-194	6	1	1	0	2
	Total Consumption at purchasers' prices	1,881	54	141	4,361	268	58	71	14	326
	Compensation of Employees	162	58	40	308	137	43	23	5	102
	Net Operating Surplus	1,132	36	0	787	67	8	6	4	63
	Consumption of Fixed Capital	262	0	3	49	17	6	6	1	18
	Non-Product Taxes less Subsidies	-606	1	1	9	1	1	1	-0	2
	Gross Value Added	950	95	44	1,153	222	58	36	9	185
	Total Output	2,831	149	185	5,514	491	116	108	23	511

Appendix 15.2 (cont.)

2005 Input-Output Table - BMW Region, €Millions

		21	22	24	25	26	27	28	29	30	31
	Products	Pulp, paper and paper products	Printed matter and recorded media	Chemical products and man-made fibres	Rubber and plastics	Other non-metallic mineral products	Basic metals	Fabricated metal products	Machinery and equipment n.e.c.	Office machinery and computers	Electrical machinery and apparatus n.e.c.
1 - 5	Agriculture, Forestry, Fishing	0	0	0	0	0	0	0	0	1	0
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	-	-	-	0	5	-	0	0	-	0
14	Other mining and quarying	-	0	0	0	9	-	0	0	-	0
15	Food and beverages	0	0	23	1	0	0	0	0	0	0
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	1	0	0	0	0	2	1	0	0	0
17	Textiles	0	-	-	0	0	0	0	0	0	0
18	Wearing apparel	0	-	-	-	0	0	0	0	0	0
19	Leather and leather products	0	0	-	0	0	0	0	0	0	0
20	Wood and wood products (excl furniture)	0	-	-	6	0	0	1	-	0	0
21	Pulp, paper and paper products	3	-	4	1	1	-	1	0	-	-
22	Printed matter and recorded media	0	-	16	0	1	0	0	0	2	-
24	Chemical products and man-made fibres	0	0	0	-	-	0	0	0	-	-
25	Rubber and plastics	1	0	5	40	0	0	4	0	1	0
26	Other non-metallic mineral products	0	0	1	2	97	-	3	0	-	0
27	Basic metals	-	-	0	0	3	0	41	4	3	0
28	Fabricated metal products	0	0	3	0	8	-	33	32	5	0
29	Machinery and equipment n.e.c.	0	-	-	0	-	0	-	0	0	0
30	Office machinery and computers	0	0	0	0	0	-	0	0	-	0
31	Electrical machinery and apparatus n.e.c.	0	0	0	0	0	0	0	0	6	9
32	Radio, television and communications apparatus	0	-	0	0	0	0	0	0	0	-
33	Medical, precision and optical instruments	0	0	0	0	0	0	0	0	4	0
34	Motor vehicles and trailers	0	-	-	-	-	0	0	-	0	0
35	Other transport equipment	0	-	0	-	0	0	0	0	0	0
40	Electricity and gas	0	-	0	2	2	-	0	1	-	-
41	Water collection and distribution	0	-	22	0	0	0	0	2	-	-
45	Construction work	0	0	0	1	2	0	2	1	0	0
50	Motor fuel and vechicle trade and repair	0	0	0	1	1	0	1	0	0	0
51	Wholesale trade	2	18	32	8	15	4	7	11	130	6
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	1	1	1	6	6	0	5	5	1	0
60	Land transport services	2	2	1	11	40	0	26	7	3	1
61 - 62	Water and Air transport services	0	1	1	0	1	0	0	0	1	0
63	Auxiliary transport services and travel agencies	0	-	1	1	0	0	0	0	0	0
64	Post and telecommunication services	0	0	0	3	6	0	2	1	0	0
65 - 67	Financial Services	2	5	24	6	37	0	22	20	5	1
70	Real estate services	0	0	0	1	0	0	0	0	0	0
71	Renting services of machinery and equipment	0	0	0	3	7	0	5	1	0	0
72	Computer and related services	1	-	24	5	4	0	3	3	2	2
73	Research and development services	0	-	-	1	0	0	1	-	1	-
74	Other business services	4	6	5	23	22	0	12	1	37	2
75	Public administration and defence	0	0	0	1	1	0	2	0	0	0
80	Education	0	0	0	0	0	0	0	0	0	0
85	Health and social work services	0	0	4	1	0	0	1	1	0	0
90	Sewage and refuse disposal services	0	0	0	1	1	0	7	0	0	0
91	Membership organisation services n.e.c.	0	0	0	0	-	0	0	0	0	0
92	Recreation	0	0	0	0	0	0	0	0	0	0
93	Other services	0	0	0	1	2	0	1	1	0	-
95	Private households with employed persons	0	-	-	-	-	0	0	-	0	-
	Total Intermediate Consumption	20	33	170	125	275	8	180	92	201	22
	International Imports	20	1,071	500	164	105	46	246	184	137	82
	Domestic Imports	6	12	127	53	117	14	40	36	39	17
	Product Taxes less Subsidies	0	0	12	4	12	22	3	2	4	0
	Total Consumption at purchasers' prices	46	1,115	808	347	509	90	469	314	380	122
	Compensation of Employees	16	1	226	144	119	7	143	141	124	27
	Net Operating Surplus	7	-	306	50	102	3	77	80	132	3
	Consumption of Fixed Capital	0	-	16	18	58	1	20	10	24	2
	Non-Product Taxes less Subsidies	1	-0	2	1	5	0	23	17	1	0
	Gross Value Added	24	1	550	214	284	11	262	249	281	32
	Total Output	70	1,116	1,358	560	793	101	731	563	660	153

Appendix 15.2 (cont.)

2005 Input-Output Table - BMW Region, €Millions

		32	33	34	35	40	41	45	50	51	52
	Products	Radio, television and communications apparatus	Medical, precision and optical instruments	Motor vehicles and trailers	Other transport equipment	Electricity and gas	Water collection and distribution	Construction work	Motor fuel and vechicle trade and repair	Wholesale trade	Retail trade and repair of household goods
1 - 5	Agriculture, Forestry, Fishing	0	0	0	0	0	-	3	0	0	1
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	-	-	-	0	6	0	0	0	0	0
14	Other mining and quarying	0	0	-	0	-	-	21	0	0	0
15	Food and beverages	0	0	0	-	1	0	2	1	1	15
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	0	0	0	0	0	0	30	0	0	1
17	Textiles	0	-	-	0	-	-	0	-	0	0
18	Wearing apparel	0	-	0	0	-	-	0	0	-	0
19	Leather and leather products	0	0	-	0	-	-	1	0	0	0
20	Wood and wood products (excl furniture)	1	0	-	0	0	0	99	0	-	0
21	Pulp, paper and paper products	2	4	-	0	0	0	2	0	0	1
22	Printed matter and recorded media	2	2	0	0	1	1	28	1	0	3
24	Chemical products and man-made fibres	2	-	-	-	0	0	-	0	-	0
25	Rubber and plastics	2	34	3	0	0	0	70	2	2	2
26	Other non-metallic mineral products	4	1	0	0	0	0	465	0	0	0
27	Basic metals	1	0	1	0	0	0	8	0	0	0
28	Fabricated metal products	4	5	0	0	1	0	83	1	-	0
29	Machinery and equipment n.e.c.	-	0	0	0	-	0	-	0	-	0
30	Office machinery and computers	0	0	0	0	0	0	0	0	0	0
31	Electrical machinery and apparatus n.e.c.	6	4	2	0	-	0	25	0	0	0
32	Radio, television and communications apparatus	0	-	0	-	-	-	0	0	-	0
33	Medical, precision and optical instruments	0	117	0	0	0	0	11	0	0	0
34	Motor vehicles and trailers	0	-	0	-	0	-	-	-	-	-
35	Other transport equipment	0	0	0	0	-	-	0	0	0	0
40	Electricity and gas	0	2	0	-	-	1	0	1	-	-
41	Water collection and distribution	1	3	0	0	0	1	5	0	-	0
45	Construction work	2	0	0	0	2	4	2,445	0	1	4
50	Motor fuel and vechicle trade and repair	1	0	2	0	0	0	15	9	3	3
51	Wholesale trade	46	45	6	1	3	1	162	2	9	7
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	1	8	2	0	0	0	22	1	0	34
60	Land transport services	1	3	2	0	0	0	9	4	7	11
61 - 62	Water and Air transport services	1	0	0	0	0	-	1	1	1	0
63	Auxiliary transport services and travel agencies	0	1	0	-	0	0	1	4	1	3
64	Post and telecommunication services	0	1	0	0	0	0	4	5	6	2
65 - 67	Financial Services	3	7	4	0	10	2	68	18	12	34
70	Real estate services	0	0	0	0	0	1	81	5	9	53
71	Renting services of machinery and equipment	0	0	0	0	1	1	112	3	1	7
72	Computer and related services	4	10	1	0	1	2	18	3	-	10
73	Research and development services	0	24	1	-	-	0	2	0	-	0
74	Other business services	2	3	4	0	-	9	255	9	17	37
75	Public administration and defence	0	0	0	0	0	0	32	2	1	8
80	Education	0	0	0	0	0	0	0	0	0	0
85	Health and social work services	1	1	0	0	0	0	6	0	0	1
90	Sewage and refuse disposal services	0	0	0	0	1	2	26	2	5	4
91	Membership organisation services n.e.c.	0	0	0	0	0	0	0	0	0	0
92	Recreation	0	1	0	0	0	0	1	0	0	1
93	Other services	0	0	0	-	0	0	0	0	0	0
95	Private households with employed persons	0	-	-	-	-	-	-	0	-	-
	Total Intermediate Consumption	91	280	31	4	28	28	4,112	75	78	244
	International Imports	123	569	35	82	38	4	811	30	11	40
	Domestic Imports	40	128	13	1	4	9	575	31	41	106
	Product Taxes less Subsidies	1	9	2	0	-0	1	55	10	13	14
	Total Consumption at purchasers' prices	255	986	81	87	70	42	5,553	147	143	405
	Compensation of Employees	51	335	42	2	47	20	2,309	195	578	764
	Net Operating Surplus	2	384	1	0	4	0	1,223	162	1,120	468
	Consumption of Fixed Capital	0	136	8	0	25	0	97	9	159	31
	Non-Product Taxes less Subsidies	2	2	0	0	0	0	6	14	51	37
	Gross Value Added	55	857	51	3	75	21	3,635	380	1,909	1,300
	Total Output	309	1,843	132	90	145	62	9,188	527	2,052	1,705

Appendix 15.2 (cont.)

2005 Input-Output Table - BMW Region, €Millions

		55	60	61 - 62	63	64	65 - 67	70	71	72	73
	Products	Hotel and restaurant services	Land transport services	Water and Air Transport	Auxiliary transport services and travel agencies	Post and telecommunication services	Financial Services	Real estate services	Renting services of machinery and equipment	Computer and related services	Research and development services
1 - 5	Agriculture, Forestry, Fishing	20	0	0	0	0	0	0	0	0	0
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	0	0	0	0	0	0	0	0	0
14	Other mining and quarying	0	0	0	0	0	0	0	-	-	0
15	Food and beverages	561	0	0	0	0	1	0	0	0	1
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	7	0	0	0	-	0	1	0	0	2
17	Textiles	0	0	-	-	0	0	0	-	0	0
18	Wearing apparel	0	0	0	-	-	0	-	-	-	0
19	Leather and leather products	1	0	0	0	0	0	0	0	0	0
20	Wood and wood products (excl furniture)	1	0	0	0	0	0	13	0	0	0
21	Pulp, paper and paper products	1	0	0	0	0	0	0	-	0	0
22	Printed matter and recorded media	5	1	0	0	0	0	3	0	1	2
24	Chemical products and man-made fibres	-	-	0	-	-	0	-	0	-	-
25	Rubber and plastics	1	3	0	0	3	0	4	0	1	0
26	Other non-metallic mineral products	1	0	0	0	-	0	40	0	-	0
27	Basic metals	0	0	0	0	0	0	-	0	0	0
28	Fabricated metal products	0	1	0	0	0	0	0	-	-	0
29	Machinery and equipment n.e.c.	-	-	-	-	-	0	-	0	-	0
30	Office machinery and computers	0	0	-	-	0	0	0	0	0	0
31	Electrical machinery and apparatus n.e.c.	0	0	0	0	2	0	0	0	1	0
32	Radio, television and communications apparatus	-	0	0	-	-	0	0	0	0	-
33	Medical, precision and optical instruments	0	0	0	0	0	0	0	0	0	0
34	Motor vehicles and trailers	0	0	-	-	-	0	-	0	-	-
35	Other transport equipment	0	0	0	0	0	0	0	0	0	0
40	Electricity and gas	0	-	-	-	-	0	0	0	0	-
41	Water collection and distribution	1	0	0	-	0	0	0	-	0	0
45	Construction work	4	1	0	1	3	1	191	1	0	1
50	Motor fuel and vechicle trade and repair	4	9	0	3	1	1	6	12	5	1
51	Wholesale trade	125	7	0	0	13	0	8	0	27	1
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	8	5	0	3	7	4	8	0	4	2
60	Land transport services	7	21	6	8	7	0	0	23	2	3
61 - 62	Water and Air transport services	3	0	2	1	1	1	0	1	0	0
63	Auxiliary transport services and travel agencies	14	6	3	16	1	0	3	-	-	1
64	Post and telecommunication services	20	0	0	2	0	8	7	5	6	1
65 - 67	Financial Services	31	4	1	21	12	329	100	49	20	12
70	Real estate services	28	2	0	2	2	4	8	1	3	1
71	Renting services of machinery and equipment	8	34	0	2	1	0	2	24	4	1
72	Computer and related services	9	-	1	13	0	9	17	2	39	1
73	Research and development services	0	-	0	4	0	0	-	0	-	26
74	Other business services	36	1	0	13	2	38	190	0	78	36
75	Public administration and defence	5	16	0	0	0	0	19	-	0	1
80	Education	3	1	0	0	0	0	6	0	1	6
85	Health and social work services	6	0	0	0	0	1	1	0	0	3
90	Sewage and refuse disposal services	8	0	0	1	1	0	5	1	1	1
91	Membership organisation services n.e.c.	2	0	0	0	0	0	0	0	0	0
92	Recreation	5	1	0	1	1	2	2	0	2	0
93	Other services	8	-	0	0	0	0	0	2	-	1
95	Private households with employed persons	0	0	-	-	-	0	-	0	-	-
	Total Intermediate Consumption	931	113	15	90	59	401	636	122	198	107
	International Imports	161	48	3	68	44	129	48	62	69	12
	Domestic Imports	185	30	18	72	34	198	131	29	84	29
	Product Taxes less Subsidies	23	18	0	9	3	5	44	1	2	2
	Total Consumption at purchasers' prices	1,300	208	37	239	140	732	859	214	354	151
	Compensation of Employees	511	277	6	55	371	488	56	51	150	79
	Net Operating Surplus	157	123	3	72	102	906	760	643	295	10
	Consumption of Fixed Capital	77	154	0	13	108	192	396	308	143	5
	Non-Product Taxes less Subsidies	23	6	0	1	5	6	3	-0	-6	-1
	Gross Value Added	767	559	10	141	586	1,592	1,215	1,001	581	93
	Total Output	2,067	768	47	380	726	2,325	2,074	1,215	935	244

Appendix 15.2 (cont.)

2005 Input-Output Table - BMW Region, €Millions

	Products	74 Other business services	75 Public administration and defence	80 Education	85 Health and social work services	90 Sewage and refuse disposal services	91 Membership organisation services n.e.c.	92 Recreation	93 Other services	95 Private households with employed persons
	Products									
1 - 5	Agriculture, Forestry, Fishing	0	1	2	3	-	0	0	0	-
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0	10	0	0	0	0	0	0	-
14	Other mining and quarying	0	0	0	0	-	0	0	0	-
15	Food and beverages	6	8	0	12	0	5	0	0	-
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	3	5	3	22	0	0	0	0	-
17	Textiles	0	0	0	0	0	0	0	0	-
18	Wearing apparel	0	-	-	0	0	0	-	0	-
19	Leather and leather products	1	0	0	0	0	0	0	0	-
20	Wood and wood products (excl furniture)	1	0	1	0	0	0	0	0	-
21	Pulp, paper and paper products	0	1	1	5	0	0	0	0	-
22	Printed matter and recorded media	19	10	22	3	2	1	1	2	-
24	Chemical products and man-made fibres	0	-	-	0	-	-	-	-	-
25	Rubber and plastics	2	3	0	26	1	0	0	0	-
26	Other non-metallic mineral products	0	7	0	1	2	1	0	0	-
27	Basic metals	0	0	0	-	0	0	0	0	-
28	Fabricated metal products	0	3	2	0	0	0	0	0	-
29	Machinery and equipment n.e.c.	0	0	0	0	-	-	-	-	-
30	Office machinery and computers	0	0	0	0	0	0	0	0	-
31	Electrical machinery and apparatus n.e.c.	0	0	0	2	0	0	0	0	-
32	Radio, television and communications apparatus	-	-	0	0	-	-	-	-	-
33	Medical, precision and optical instruments	1	2	4	37	0	0	0	0	-
34	Motor vehicles and trailers	0	0	0	0	-	-	0	-	-
35	Other transport equipment	0	0	0	0	0	0	0	0	-
40	Electricity and gas	-	6	5	3	0	0	-	-	-
41	Water collection and distribution	0	0	0	-	0	2	0	0	-
45	Construction work	9	151	22	3	2	1	1	0	-
50	Motor fuel and vechicle trade and repair	8	7	0	1	1	1	1	1	-
51	Wholesale trade	24	10	9	43	2	2	2	1	-
52	Retail trade and repair of household goods	-	-	-	-	-	-	-	-	-
55	Hotel and restaurant services	19	30	11	24	1	2	2	2	-
60	Land transport services	6	48	6	11	4	0	0	0	-
61 - 62	Water and Air transport services	5	2	2	1	1	0	0	0	-
63	Auxiliary transport services and travel agencies	0	0	1	-	1	1	-	0	-
64	Post and telecommunication services	13	24	7	0	2	2	0	1	-
65 - 67	Financial Services	41	36	17	10	9	12	6	2	-
70	Real estate services	12	150	7	9	1	1	5	5	-
71	Renting services of machinery and equipment	9	2	1	0	4	1	8	4	-
72	Computer and related services	12	65	8	33	10	5	2	2	-
73	Research and development services	0	4	5	14	3	1	-	0	-
74	Other business services	280	107	40	40	13	18	12	9	-
75	Public administration and defence	12	6	0	4	0	1	1	2	-
80	Education	2	9	62	41	0	0	0	0	-
85	Health and social work services	2	1	1	1,146	1	0	0	1	-
90	Sewage and refuse disposal services	1	11	2	5	51	1	1	1	-
91	Membership organisation services n.e.c.	4	0	0	0	0	14	4	0	-
92	Recreation	5	8	19	0	1	7	12	1	-
93	Other services	0	2	8	4	4	2	1	3	-
95	Private households with employed persons	0	-	0	0	-	-	-	0	-
	Total Intermediate Consumption	500	730	267	1,505	118	80	63	38	-
	International Imports	254	113	42	577	14	6	13	6	-
	Domestic Imports	298	291	117	105	19	24	35	14	-
	Product Taxes less Subsidies	38	138	21	57	1	2	4	1	-
	Total Consumption at purchasers' prices	1,090	1,271	448	2,243	152	112	114	59	-
	Compensation of Employees	598	1,051	1,538	2,103	46	66	181	94	28
	Net Operating Surplus	530	0	7	333	10	5	102	23	0
	Consumption of Fixed Capital	365	296	1	14	5	2	49	11	-
	Non-Product Taxes less Subsidies	2	-	6	11	3	2	5	2	-
	Gross Value Added	1,494	1,347	1,552	2,461	64	75	336	131	28
	Total Output	2,584	2,618	2,000	4,704	217	187	450	190	28

Appendix 15.2 (cont.)
2005 Input-Output Table - BMW Region, €Millions

	Products	Total Inter-Industry	hhld expenditure	NPISH	government consumption expenditure	gross fixed capital formation	changes in inventories	int exports	dom exports	Final Uses	Total Uses
	Products										
1 - 5	Agriculture, Forestry, Fishing	1,578	48	-	-	-	-1	169	1,037	1,253	2,831
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	30	100	-	-	-	-1	17	2	119	149
14	Other mining and quarying	41	-	-	-	6	-0	2	138	145	185
15	Food and beverages	1,482	855	20	-	-	3	2,605	549	4,032	5,514
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	100	145	-	-	9	-8	131	114	391	491
17	Textiles	0	0	-	-	-	13	90	13	116	116
18	Wearing apparel	0	-	-	-	-	-0	82	25	107	108
19	Leather and leather products	4	7	-	-	-	3	1	8	19	23
20	Wood and wood products (excl furniture)	217	13	-	-	-	34	157	90	294	511
21	Pulp, paper and paper products	58	11	-	-	-	-6	2	5	11	70
22	Printed matter and recorded media	138	187	-	-	-	41	405	346	979	1,116
24	Chemical products and man-made fibres	10	-	-	-	-	-	1,262	86	1,348	1,358
25	Rubber and plastics	224	20	-	-	-	-0	259	57	336	560
26	Other non-metallic mineral products	642	7	-	-	-	-0	116	28	151	793
27	Basic metals	70	-	-	-	-	0	21	9	31	101
28	Fabricated metal products	219	19	-	-	14	-4	179	305	512	731
29	Machinery and equipment n.e.c.	0	-	-	-	28	0	174	361	563	563
30	Office machinery and computers	0	0	-	-	-	0	569	91	660	660
31	Electrical machinery and apparatus n.e.c.	59	8	-	-	4	10	8	64	95	153
32	Radio, television and communications apparatus	0	-	-	-	-	-5	239	74	309	309
33	Medical, precision and optical instruments	179	2	-	-	23	4	1,622	13	1,664	1,843
34	Motor vehicles and trailers	0	-	-	-	17	1	61	53	132	132
35	Other transport equipment	0	0	-	-	23	-0	26	40	90	90
40	Electricity and gas	38	67	-	-	-	-	0	39	106	145
41	Water collection and distribution	49	4	-	9	-	-	-	-	13	62
45	Construction work	2,904	59	-	-	6,226	-	-	-	6,284	9,188
50	Motor fuel and vechicle trade and repair	115	292	-	-	112	-	-	8	412	527
51	Wholesale trade	1,083	-	2	0	96	8	783	80	969	2,052
52	Retail trade and repair of household goods	-	1,704	-	-	-	-	-	0	1,705	1,705
55	Hotel and restaurant services	279	1,201	-	-	-	-	194	394	1,789	2,067
60	Land transport services	396	280	-	-	-	-	19	73	372	768
61 - 62	Water and Air transport services	34	11	-	-	-	-	-	2	13	47
63	Auxiliary transport services and travel agencies	65	209	-	-	-	-	-	106	315	380
64	Post and telecommunication services	152	243	-	-	-	-	4	327	574	726
65 - 67	Financial Services	1,258	887	-	-	-	-	5	174	1,067	2,325
70	Real estate services	396	1,519	-	-	58	-	-	100	1,678	2,074
71	Renting services of machinery and equipment	273	74	-	-	-	-	542	327	943	1,215
72	Computer and related services	344	-	-	-	53	-	476	61	590	935
73	Research and development services	93	-	-	45	-	-	102	4	151	244
74	Other business services	1,514	60	-	-	576	-	192	242	1,070	2,584
75	Public administration and defence	137	20	-	2,449	12	-	-	-	2,481	2,618
80	Education	135	212	532	1,121	-	-	-	-	1,865	2,000
85	Health and social work services	1,221	644	117	2,723	-	-	-	-	3,484	4,704
90	Sewage and refuse disposal services	160	52	-	6	-	-	-	-	57	217
91	Membership organisation services n.e.c.	32	62	92	-	-	-	-	-	155	187
92	Recreation	73	202	-	-	16	-	11	149	377	450
93	Other services	52	79	-	-	-	-	13	46	139	190
95	Private households with employed persons	0	28	-	-	-	-	-	-	28	28
	Total Intermediate Consumption	15,856	9,332	763	6,353	7,273	89	10,539	5,644	39,992	55,848
	International Imports	8,183	2,552	12	-	909	161	901	-	4,535	12,718
	Domestic Imports	4,515	3,940	3	6	693	18	2,668	2,520	9,848	14,363
	Product Taxes less Subsidies	312	2,379	-	-	556	-	-	-	2,935	3,247
	Total Consumption at purchasers' prices	28,867	18,203	777	6,359	9,431	268	14,108	8,164	57,310	86,176
	Compensation of Employees	13,918									
	Net Operating Surplus	10,309									
	Consumption of Fixed Capital	3,117									
	Non-Product Taxes less Subsidies	-363									
	Gross Value Added	26,981									
	Total Output	55,848									

Appendix 16.1

2005 Leontief Inverse of Domestic Product Flows with Multipliers - SE Region

		1 - 5	10 - 13	14	15	I6,23,36-37	17	18	19	20
	Products	Agriculture, Forestry, Fishing	Coal, Peat, Petroleum and Metal Ore Extraction	Other mining and quarying	Food and beverages	Tobacco, Petroleum, Furniture and Recycling	Textiles	Wearing apparel	Leather and leather products	Wood and wood products (excl furniture)
1 - 5	Agriculture, Forestry, Fishing	1.197	0.000	0.001	0.215	0.003	0.002	0.001	0.003	0.098
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0.000	1.090	0.012	0.000	0.016	0.000	0.002	0.000	0.001
14	Other mining and quarying	0.001	0.003	1.033	0.000	0.000	0.000	0.000	0.000	0.000
15	Food and beverages	0.041	0.001	0.002	1.033	0.001	0.001	0.001	0.001	0.004
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	0.010	0.007	0.027	0.006	1.051	0.004	0.002	0.002	0.011
17	Textiles	0.000	0.000	0.000	0.000	0.000	1.008	0.001	0.000	0.000
18	Wearing apparel	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000
19	Leather and leather products	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000
20	Wood and wood products (excl furniture)	0.000	0.001	0.001	0.001	0.017	0.001	0.000	0.000	1.071
21	Pulp, paper and paper products	0.001	0.000	0.001	0.007	0.003	0.003	0.005	0.000	0.001
22	Printed matter and recorded media	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001
24	Chemical products and man-made fibres	0.011	0.003	0.001	0.003	0.001	0.012	0.000	0.000	0.008
25	Rubber and plastics	0.001	0.002	0.002	0.004	0.009	0.002	0.000	0.000	0.002
26	Other non-metallic mineral products	0.001	0.005	0.028	0.002	0.014	0.001	0.000	0.001	0.001
27	Basic metals	0.000	0.001	0.000	0.000	0.006	0.000	0.000	0.000	0.001
28	Fabricated metal products	0.007	0.008	0.003	0.004	0.007	0.001	0.001	0.007	0.008
29	Machinery and equipment n.e.c.	0.002	0.002	0.000	0.001	0.000	0.000	0.000	0.001	0.000
30	Office machinery and computers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
31	Electrical machinery and apparatus n.e.c.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
32	Radio, television and communications apparatus	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.001	0.000
33	Medical, precision and optical instruments	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
34	Motor vehicles and trailers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
35	Other transport equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
40	Electricity and gas	0.027	0.064	0.032	0.024	0.013	0.023	0.008	0.010	0.055
41	Water collection and distribution	0.001	0.001	0.000	0.000	0.001	0.002	0.001	0.000	0.001
45	Construction work	0.016	0.044	0.048	0.005	0.004	0.003	0.003	0.002	0.008
50	Motor fuel and vechicle trade and repair	0.005	0.014	0.012	0.002	0.001	0.001	0.001	0.001	0.002
51	Wholesale trade	0.086	0.037	0.052	0.043	0.033	0.044	0.043	0.009	0.072
52	Retail trade and repair of household goods	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
55	Hotel and restaurant services	0.008	0.005	0.019	0.012	0.010	0.009	0.010	0.015	0.009
60	Land transport services	0.006	0.061	0.309	0.027	0.012	0.029	0.016	0.019	0.031
61 - 62	Water and Air transport services	0.002	0.004	0.035	0.006	0.005	0.004	0.002	0.002	0.002
63	Auxiliary transport services and travel agencies	0.005	0.008	0.030	0.005	0.004	0.005	0.004	0.005	0.006
64	Post and telecommunication services	0.008	0.009	0.018	0.010	0.008	0.012	0.011	0.020	0.011
65 - 67	Financial Services	0.051	0.113	0.087	0.052	0.036	0.040	0.043	0.073	0.030
70	Real estate services	0.005	0.007	0.007	0.003	0.002	0.003	0.003	0.005	0.004
71	Renting services of machinery and equipment	0.002	0.007	0.065	0.003	0.002	0.003	0.003	0.003	0.005
72	Computer and related services	0.004	0.041	0.031	0.006	0.012	0.010	0.006	0.043	0.009
73	Research and development services	0.001	0.001	0.001	0.001	0.001	0.004	0.003	0.009	0.002
74	Other business services	0.012	0.063	0.054	0.036	0.042	0.026	0.074	0.041	0.050
75	Public administration and defence	0.008	0.004	0.007	0.003	0.002	0.003	0.004	0.003	0.003
80	Education	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000
85	Health and social work services	0.018	0.000	0.001	0.004	0.001	0.001	0.001	0.001	0.002
90	Sewage and refuse disposal services	0.002	0.004	0.004	0.004	0.002	0.008	0.012	0.042	0.010
91	Membership organisation services n.e.c.	0.002	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000
92	Recreation	0.002	0.001	0.002	0.001	0.001	0.002	0.002	0.001	0.001
93	Other services	0.001	0.011	0.008	0.002	0.002	0.004	0.002	0.010	0.003
95	Private households with employed persons	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
		1.547	1.625	1.934	1.530	1.325	1.273	1.268	1.334	1.525
	Direct and Indirect Multipliers									
	International Imports	0.292	0.328	0.237	0.442	0.683	0.438	0.528	0.429	0.325
	Domestic Imports	0.072	0.016	0.105	0.070	0.013	0.026	0.015	0.023	0.077
	Product Taxes less Subsidies	-0.009	0.022	0.073	-0.015	0.010	0.013	0.017	0.016	0.010
	Compensation of Employees	0.166	0.290	0.303	0.187	0.164	0.360	0.271	0.260	0.296
	Net Operating Surplus	0.528	0.257	0.176	0.282	0.084	0.081	0.091	0.223	0.226
	Consumption of Fixed Capital	0.135	0.074	0.086	0.058	0.040	0.068	0.059	0.042	0.071
	Non-Product Taxes less Subsidies	-0.184	0.013	0.018	-0.025	0.006	0.014	0.020	0.007	-0.006

Appendix 16.1 (cont.)

2005 Leontief Inverse of Domestic Product Flows with Multipliers - SE Region

		21	22	24	25	26	27	28	29	30	31
	Products	Pulp, paper and paper products	Printed matter and recorded media	Chemical products and man-made fibres	Rubber and plastics	Other non-metallic mineral products	Basic metals	Fabricated metal products	Machinery and equipment n.e.c.	Office machinery and computers	Electrical machinery and apparatus n.e.c.
1 - 5	Agriculture, Forestry, Fishing	0.001	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.000	0.001
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0.000	0.000	0.000	0.001	0.002	0.122	0.003	0.000	0.000	0.000
14	Other mining and quarying	0.000	0.000	0.000	0.000	0.003	0.006	0.000	0.000	0.000	0.000
15	Food and beverages	0.002	0.000	0.001	0.002	0.001	0.001	0.001	0.001	0.000	0.001
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	0.012	0.000	0.001	0.011	0.009	0.046	0.012	0.002	0.000	0.002
17	Textiles	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
18	Wearing apparel	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
19	Leather and leather products	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20	Wood and wood products (excl furniture)	0.002	0.000	0.000	0.002	0.002	0.001	0.001	0.000	0.000	0.000
21	Pulp, paper and paper products	1.122	0.006	0.001	0.002	0.006	0.001	0.001	0.001	0.000	0.000
22	Printed matter and recorded media	0.017	1.034	0.000	0.002	0.002	0.001	0.001	0.001	0.001	0.001
24	Chemical products and man-made fibres	0.006	0.001	1.012	0.006	0.003	0.004	0.001	0.001	0.000	0.001
25	Rubber and plastics	0.004	0.000	0.001	1.035	0.003	0.001	0.001	0.006	0.000	0.003
26	Other non-metallic mineral products	0.001	0.000	0.000	0.013	1.099	0.002	0.006	0.003	0.000	0.001
27	Basic metals	0.000	0.000	0.000	0.004	0.003	1.002	0.025	0.001	0.000	0.001
28	Fabricated metal products	0.004	0.000	0.000	0.028	0.006	0.015	1.027	0.026	0.001	0.004
29	Machinery and equipment n.e.c.	0.002	0.000	0.000	0.002	0.002	0.001	0.003	1.003	0.000	0.000
30	Office machinery and computers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.016	0.000
31	Electrical machinery and apparatus n.e.c.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	1.014
32	Radio, television and communications apparatus	0.000	0.000	0.000	0.001	0.001	0.000	0.000	0.001	0.011	0.015
33	Medical, precision and optical instruments	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
34	Motor vehicles and trailers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
35	Other transport equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
40	Electricity and gas	0.021	0.002	0.006	0.040	0.071	0.066	0.017	0.014	0.001	0.012
41	Water collection and distribution	0.003	0.001	0.000	0.001	0.001	0.009	0.001	0.003	0.000	0.000
45	Construction work	0.004	0.001	0.001	0.003	0.005	0.009	0.005	0.002	0.000	0.014
50	Motor fuel and vechicle trade and repair	0.002	0.000	0.000	0.003	0.003	0.007	0.001	0.001	0.000	0.005
51	Wholesale trade	0.025	0.002	0.009	0.056	0.080	0.039	0.049	0.047	0.001	0.017
52	Retail trade and repair of household goods	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
55	Hotel and restaurant services	0.016	0.004	0.003	0.018	0.010	0.007	0.008	0.009	0.005	0.010
60	Land transport services	0.033	0.003	0.001	0.032	0.004	0.016	0.002	0.012	0.007	0.012
61 - 62	Water and Air transport services	0.005	0.005	0.003	0.007	0.010	0.008	0.005	0.003	0.002	0.011
63	Auxiliary transport services and travel agencies	0.006	0.001	0.001	0.008	0.006	0.005	0.004	0.004	0.002	0.005
64	Post and telecommunication services	0.013	0.002	0.003	0.025	0.023	0.009	0.012	0.014	0.001	0.012
65 - 67	Financial Services	0.051	0.022	0.020	0.041	0.069	0.067	0.060	0.057	0.008	0.033
70	Real estate services	0.004	0.001	0.001	0.005	0.004	0.003	0.003	0.002	0.000	0.003
71	Renting services of machinery and equipment	0.004	0.001	0.001	0.004	0.007	0.003	0.009	0.002	0.000	0.003
72	Computer and related services	0.013	0.005	0.021	0.016	0.010	0.010	0.009	0.006	0.004	0.065
73	Research and development services	0.001	0.002	0.001	0.003	0.002	0.003	0.003	0.002	0.001	0.010
74	Other business services	0.060	0.012	0.004	0.080	0.069	0.036	0.032	0.009	0.007	0.033
75	Public administration and defence	0.002	0.000	0.000	0.003	0.002	0.003	0.003	0.001	0.000	0.002
80	Education	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
85	Health and social work services	0.001	0.000	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.002
90	Sewage and refuse disposal services	0.003	0.000	0.001	0.005	0.003	0.024	0.022	0.001	0.000	0.001
91	Membership organisation services n.e.c.	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000
92	Recreation	0.002	0.000	0.001	0.001	0.002	0.001	0.001	0.001	0.001	0.001
93	Other services	0.008	0.000	0.000	0.004	0.004	0.003	0.004	0.002	0.000	0.002
95	Private households with employed persons	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
		1.452	1.110	1.096	1.470	1.528	1.536	1.333	1.241	1.076	1.298
	Direct and Indirect Multipliers										
	International Imports	0.426	0.646	0.590	0.357	0.259	0.403	0.366	0.430	0.910	0.634
	Domestic Imports	0.011	0.005	0.004	0.021	0.026	0.019	0.015	0.018	0.006	0.017
	Product Taxes less Subsidies	0.012	0.014	0.018	0.023	0.017	0.012	0.008	0.009	0.012	0.018
	Compensation of Employees	0.361	0.067	0.060	0.346	0.329	0.266	0.339	0.268	0.030	0.211
	Net Operating Surplus	0.155	0.254	0.294	0.176	0.241	0.218	0.200	0.206	0.031	0.061
	Consumption of Fixed Capital	0.025	0.012	0.032	0.066	0.115	0.069	0.060	0.048	0.011	0.028
	Non-Product Taxes less Subsidies	0.011	0.001	0.002	0.010	0.013	0.014	0.012	0.022	0.000	0.031

Appendix 16.1 (cont.)

2005 Leontief Inverse of Domestic Product Flows with Multipliers - SE Region

		32	33	34	35	40	41	45	50	51	52
	Products	Radio, television and communications apparatus	Medical, precision and optical instruments	Motor vehicles and trailers	Other transport equipment	Electricity and gas	Water collection and distribution	Construction work	Motor fuel and vechicle trade and repair	Wholesale trade	Retail trade and repair of household goods
1 - 5	Agriculture, Forestry, Fishing	0.000	0.000	0.001	0.000	0.000	0.001	0.004	0.001	0.000	0.004
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0.000	0.000	0.002	0.001	0.015	0.001	0.001	0.000	0.000	0.000
14	Other mining and quarying	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.000	0.000	0.000
15	Food and beverages	0.000	0.001	0.001	0.000	0.001	0.002	0.001	0.001	0.001	0.007
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	0.001	0.001	0.003	0.001	0.059	0.009	0.008	0.005	0.003	0.003
17	Textiles	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
18	Wearing apparel	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
19	Leather and leather products	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20	Wood and wood products (excl furniture)	0.000	0.000	0.000	0.000	0.001	0.001	0.014	0.000	0.000	0.000
21	Pulp, paper and paper products	0.000	0.001	0.001	0.000	0.001	0.003	0.001	0.000	0.000	0.001
22	Printed matter and recorded media	0.001	0.001	0.001	0.000	0.004	0.016	0.007	0.004	0.001	0.003
24	Chemical products and man-made fibres	0.003	0.001	0.001	0.000	0.000	0.003	0.002	0.000	0.000	0.000
25	Rubber and plastics	0.001	0.000	0.002	0.000	0.001	0.004	0.009	0.003	0.001	0.001
26	Other non-metallic mineral products	0.000	0.000	0.001	0.000	0.001	0.005	0.047	0.002	0.001	0.001
27	Basic metals	0.000	0.002	0.012	0.004	0.001	0.001	0.002	0.000	0.000	0.000
28	Fabricated metal products	0.004	0.004	0.016	0.000	0.005	0.005	0.025	0.002	0.000	0.001
29	Machinery and equipment n.e.c.	0.002	0.001	0.001	0.000	0.001	0.004	0.002	0.001	0.000	0.000
30	Office machinery and computers	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
31	Electrical machinery and apparatus n.e.c.	0.002	0.001	0.000	0.003	0.001	0.000	0.002	0.000	0.000	0.000
32	Radio, television and communications apparatus	1.062	0.004	0.056	0.000	0.000	0.002	0.001	0.001	0.000	0.001
33	Medical, precision and optical instruments	0.001	1.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
34	Motor vehicles and trailers	0.000	0.000	1.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
35	Other transport equipment	0.000	0.000	0.000	1.000	0.000	0.000	0.000	0.000	0.000	0.000
40	Electricity and gas	0.018	0.007	0.012	0.010	1.305	0.100	0.014	0.015	0.005	0.029
41	Water collection and distribution	0.000	0.001	0.017	0.000	0.000	1.015	0.001	0.001	0.000	0.001
45	Construction work	0.005	0.001	0.004	0.008	0.011	0.087	1.347	0.003	0.002	0.008
50	Motor fuel and vechicle trade and repair	0.001	0.001	0.016	0.001	0.001	0.008	0.003	1.019	0.001	0.002
51	Wholesale trade	0.007	0.007	0.055	0.009	0.044	0.036	0.055	0.011	1.002	0.015
52	Retail trade and repair of household goods	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.000
55	Hotel and restaurant services	0.002	0.008	0.012	0.006	0.002	0.014	0.006	0.006	0.002	0.038
60	Land transport services	0.001	0.003	0.007	0.002	0.003	0.009	0.008	0.019	0.013	0.014
61 - 62	Water and Air transport services	0.007	0.002	0.007	0.003	0.001	0.003	0.002	0.006	0.003	0.003
63	Auxiliary transport services and travel agencies	0.008	0.002	0.005	0.002	0.003	0.013	0.005	0.021	0.029	0.016
64	Post and telecommunication services	0.006	0.007	0.014	0.002	0.006	0.032	0.009	0.026	0.013	0.024
65 - 67	Financial Services	0.011	0.018	0.052	0.024	0.053	0.079	0.035	0.065	0.025	0.063
70	Real estate services	0.001	0.001	0.004	0.001	0.002	0.022	0.027	0.024	0.011	0.055
71	Renting services of machinery and equipment	0.002	0.001	0.001	0.002	0.003	0.018	0.021	0.008	0.002	0.006
72	Computer and related services	0.008	0.007	0.011	0.002	0.008	0.042	0.012	0.022	0.010	0.019
73	Research and development services	0.007	0.004	0.002	0.000	0.000	0.008	0.001	0.000	0.001	0.001
74	Other business services	0.007	0.014	0.039	0.009	0.023	0.219	0.058	0.082	0.008	0.066
75	Public administration and defence	0.001	0.001	0.002	0.001	0.001	0.003	0.010	0.005	0.001	0.006
80	Education	0.001	0.000	0.000	0.000	0.000	0.003	0.000	0.000	0.000	0.001
85	Health and social work services	0.002	0.001	0.001	0.001	0.001	0.003	0.001	0.001	0.001	0.001
90	Sewage and refuse disposal services	0.000	0.001	0.004	0.001	0.008	0.054	0.012	0.007	0.003	0.010
91	Membership organisation services n.e.c.	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.000
92	Recreation	0.001	0.001	0.001	0.002	0.000	0.003	0.001	0.001	0.001	0.002
93	Other services	0.000	0.001	0.002	0.001	0.001	0.003	0.001	0.001	0.000	0.001
95	Private households with employed persons	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
		1.176	1.108	1.369	1.100	1.566	1.834	1.761	1.365	1.143	1.403
	Direct and Indirect Multipliers										
	International Imports	0.518	0.515	0.520	0.174	0.395	0.289	0.276	0.145	0.094	0.132
	Domestic Imports	0.007	0.004	0.014	0.005	0.015	0.017	0.029	0.009	0.004	0.012
	Product Taxes less Subsidies	0.003	0.007	0.046	0.010	0.015	0.029	0.018	0.040	0.010	0.016
	Compensation of Employees	0.113	0.143	0.237	0.677	0.223	0.476	0.407	0.433	0.309	0.473
	Net Operating Surplus	0.293	0.287	0.105	0.054	0.158	0.127	0.226	0.287	0.500	0.280
	Consumption of Fixed Capital	0.059	0.042	0.073	0.066	0.188	0.059	0.042	0.056	0.061	0.062
	Non-Product Taxes less Subsidies	0.007	0.002	0.006	0.014	0.006	0.003	0.003	0.030	0.020	0.025

Appendix 16.1 (cont.)

2005 Leontief Inverse of Domestic Product Flows with Multipliers - SE Region

		55	60	61 - 62	63	64	65 - 67	70	71	72	73
	Products	Hotel and restaurant services	Land transport services	Water and Air Transport	Auxiliary transport services and travel agencies	Post and telecommunication services	Financial Services	Real estate services	Renting services of machinery and equipment	Computer and related services	Research and development services
1 - 5	Agriculture, Forestry, Fishing	0.043	0.000	0.002	0.001	0.001	0.000	0.001	0.000	0.001	0.005
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0.000	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
14	Other mining and quarying	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
15	Food and beverages	0.080	0.001	0.005	0.002	0.003	0.000	0.000	0.001	0.002	0.003
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	0.005	0.022	0.031	0.005	0.003	0.001	0.001	0.003	0.002	0.009
17	Textiles	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
18	Wearing apparel	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
19	Leather and leather products	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20	Wood and wood products (excl furniture)	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.000	0.001
21	Pulp, paper and paper products	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002
22	Printed matter and recorded media	0.005	0.003	0.002	0.005	0.004	0.002	0.002	0.002	0.004	0.007
24	Chemical products and man-made fibres	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002
25	Rubber and plastics	0.001	0.002	0.001	0.001	0.005	0.000	0.000	0.000	0.001	0.001
26	Other non-metallic mineral products	0.001	0.001	0.001	0.001	0.002	0.000	0.003	0.000	0.000	0.001
27	Basic metals	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
28	Fabricated metal products	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.000	0.001
29	Machinery and equipment n.e.c.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000
30	Office machinery and computers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
31	Electrical machinery and apparatus n.e.c.	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.001	0.000
32	Radio, television and communications apparatus	0.001	0.001	0.001	0.001	0.026	0.000	0.000	0.001	0.003	0.002
33	Medical, precision and optical instruments	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000
34	Motor vehicles and trailers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
35	Other transport equipment	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
40	Electricity and gas	0.031	0.008	0.007	0.009	0.010	0.001	0.003	0.008	0.009	0.025
41	Water collection and distribution	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
45	Construction work	0.008	0.004	0.003	0.015	0.017	0.003	0.030	0.002	0.002	0.006
50	Motor fuel and vechicle trade and repair	0.003	0.008	0.004	0.003	0.002	0.001	0.001	0.013	0.003	0.004
51	Wholesale trade	0.088	0.016	0.031	0.009	0.061	0.002	0.006	0.007	0.006	0.017
52	Retail trade and repair of household goods	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
55	Hotel and restaurant services	1.015	0.007	0.035	0.005	0.016	0.002	0.002	0.004	0.013	0.013
60	Land transport services	0.013	1.028	0.005	0.029	0.012	0.002	0.002	0.010	0.007	0.014
61 - 62	Water and Air transport services	0.007	0.004	1.087	0.019	0.017	0.002	0.001	0.004	0.003	0.008
63	Auxiliary transport services and travel agencies	0.023	0.076	0.088	1.101	0.018	0.004	0.004	0.013	0.005	0.019
64	Post and telecommunication services	0.032	0.013	0.018	0.020	1.301	0.015	0.011	0.016	0.052	0.048
65 - 67	Financial Services	0.055	0.044	0.069	0.063	0.045	1.157	0.154	0.047	0.084	0.099
70	Real estate services	0.021	0.010	0.015	0.016	0.014	0.005	1.007	0.006	0.008	0.025
71	Renting services of machinery and equipment	0.007	0.026	0.007	0.013	0.005	0.001	0.002	1.001	0.010	0.010
72	Computer and related services	0.017	0.041	0.046	0.048	0.014	0.013	0.009	0.015	1.165	0.082
73	Research and development services	0.001	0.002	0.002	0.000	0.002	0.000	0.000	0.000	0.001	1.184
74	Other business services	0.095	0.064	0.031	0.072	0.074	0.015	0.040	0.065	0.163	0.250
75	Public administration and defence	0.004	0.017	0.001	0.002	0.003	0.001	0.006	0.001	0.002	0.003
80	Education	0.002	0.001	0.001	0.004	0.001	0.000	0.002	0.000	0.003	0.013
85	Health and social work services	0.005	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.001	0.006
90	Sewage and refuse disposal services	0.010	0.003	0.004	0.003	0.004	0.001	0.002	0.004	0.004	0.010
91	Membership organisation services n.e.c.	0.002	0.000	0.001	0.001	0.001	0.000	0.000	0.000	0.001	0.001
92	Recreation	0.007	0.002	0.003	0.008	0.005	0.001	0.001	0.002	0.006	0.004
93	Other services	0.009	0.002	0.005	0.002	0.003	0.001	0.001	0.005	0.002	0.011
95	Private households with employed persons	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
		1.598	1.412	1.510	1.463	1.674	1.232	1.298	1.236	1.569	1.887
	Direct and Indirect Multipliers										
	International Imports	0.327	0.194	0.405	0.517	0.285	0.432	0.092	0.331	0.534	0.221
	Domestic Imports	0.034	0.012	0.016	0.023	0.040	0.012	0.005	0.008	0.015	0.017
	Product Taxes less Subsidies	0.032	0.093	0.078	0.027	0.018	0.026	0.020	0.019	0.028	0.029
	Compensation of Employees	0.327	0.430	0.219	0.226	0.317	0.181	0.077	0.100	0.189	0.459
	Net Operating Surplus	0.197	0.148	0.153	0.107	0.191	0.284	0.553	0.366	0.158	0.188
	Consumption of Fixed Capital	0.074	0.117	0.121	0.091	0.141	0.062	0.252	0.175	0.075	0.085
	Non-Product Taxes less Subsidies	0.009	0.008	0.009	0.008	0.009	0.003	0.001	0.001	0.001	0.002

Appendix 16.1 (cont.)

2005 Leontief Inverse of Domestic Product Flows with Multipliers - SE Region

	Products	74 Other business services	75 Public administration and defence	80 Education	85 Health and social work services	90 Sewage and refuse disposal services	91 Membership organisation services n.e.c.	92 Recreation	93 Other services	95 Private households with employed persons
	Products									
1 - 5	Agriculture, Forestry, Fishing	0.001	0.002	0.006	0.002	0.001	0.005	0.002	0.001	0.000
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000
14	Other mining and quarying	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.000
15	Food and beverages	0.003	0.002	0.001	0.001	0.004	0.013	0.005	0.001	0.000
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	0.004	0.005	0.004	0.004	0.009	0.004	0.003	0.005	0.000
17	Textiles	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
18	Wearing apparel	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
19	Leather and leather products	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20	Wood and wood products (excl furniture)	0.000	0.001	0.001	0.000	0.001	0.001	0.000	0.000	0.000
21	Pulp, paper and paper products	0.001	0.001	0.004	0.003	0.003	0.001	0.001	0.001	0.000
22	Printed matter and recorded media	0.013	0.005	0.011	0.001	0.015	0.010	0.007	0.009	0.000
24	Chemical products and man-made fibres	0.000	0.001	0.001	0.011	0.006	0.001	0.001	0.003	0.000
25	Rubber and plastics	0.001	0.001	0.000	0.003	0.005	0.001	0.001	0.001	0.000
26	Other non-metallic mineral products	0.001	0.004	0.001	0.000	0.012	0.003	0.002	0.001	0.000
27	Basic metals	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
28	Fabricated metal products	0.000	0.002	0.002	0.000	0.003	0.001	0.001	0.000	0.000
29	Machinery and equipment n.e.c.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30	Office machinery and computers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
31	Electrical machinery and apparatus n.e.c.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
32	Radio, television and communications apparatus	0.001	0.001	0.000	0.000	0.002	0.002	0.002	0.002	0.000
33	Medical, precision and optical instruments	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
34	Motor vehicles and trailers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
35	Other transport equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
40	Electricity and gas	0.014	0.022	0.027	0.004	0.033	0.013	0.018	0.024	0.000
41	Water collection and distribution	0.000	0.000	0.000	0.000	0.002	0.010	0.001	0.001	0.000
45	Construction work	0.007	0.057	0.017	0.001	0.026	0.008	0.005	0.005	0.000
50	Motor fuel and vechicle trade and repair	0.003	0.003	0.001	0.000	0.008	0.004	0.002	0.005	0.000
51	Wholesale trade	0.013	0.016	0.012	0.026	0.030	0.021	0.012	0.015	0.000
52	Retail trade and repair of household goods	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
55	Hotel and restaurant services	0.020	0.014	0.010	0.005	0.013	0.023	0.011	0.007	0.000
60	Land transport services	0.008	0.022	0.005	0.004	0.040	0.007	0.005	0.010	0.000
61 - 62	Water and Air transport services	0.010	0.005	0.008	0.002	0.015	0.008	0.005	0.005	0.000
63	Auxiliary transport services and travel agencies	0.018	0.005	0.003	0.002	0.026	0.016	0.009	0.014	0.000
64	Post and telecommunication services	0.042	0.028	0.015	0.002	0.043	0.044	0.018	0.040	0.000
65 - 67	Financial Services	0.070	0.038	0.027	0.010	0.108	0.095	0.060	0.073	0.000
70	Real estate services	0.020	0.071	0.008	0.004	0.017	0.013	0.028	0.039	0.000
71	Renting services of machinery and equipment	0.006	0.003	0.002	0.001	0.037	0.008	0.009	0.025	0.000
72	Computer and related services	0.028	0.033	0.007	0.012	0.075	0.049	0.016	0.038	0.000
73	Research and development services	0.001	0.003	0.005	0.006	0.032	0.006	0.003	0.001	0.000
74	Other business services	1.190	0.091	0.046	0.014	0.180	0.191	0.084	0.137	0.000
75	Public administration and defence	0.006	1.004	0.001	0.001	0.004	0.005	0.004	0.008	0.000
80	Education	0.001	0.004	1.035	0.010	0.004	0.003	0.001	0.001	0.000
85	Health and social work services	0.001	0.001	0.001	1.169	0.007	0.004	0.001	0.007	0.000
90	Sewage and refuse disposal services	0.004	0.007	0.003	0.003	1.349	0.006	0.006	0.014	0.000
91	Membership organisation services n.e.c.	0.002	0.000	0.000	0.000	0.001	1.080	0.014	0.002	0.000
92	Recreation	0.005	0.007	0.020	0.000	0.009	0.087	1.039	0.006	0.000
93	Other services	0.006	0.002	0.008	0.002	0.033	0.015	0.006	1.073	0.000
95	Private households with employed persons	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.000
		1.502	1.463	1.294	1.303	2.157	1.757	1.381	1.574	1.000
	Direct and Indirect Multipliers									
	International Imports	0.306	0.125	0.089	0.145	0.299	0.201	0.167	0.171	0.000
	Domestic Imports	0.014	0.012	0.011	0.004	0.023	0.026	0.019	0.016	0.000
	Product Taxes less Subsidies	0.031	0.060	0.019	0.019	0.033	0.024	0.028	0.022	0.000
	Compensation of Employees	0.333	0.544	0.810	0.669	0.376	0.542	0.400	0.492	0.999
	Net Operating Surplus	0.217	0.089	0.048	0.147	0.178	0.138	0.264	0.194	0.001
	Consumption of Fixed Capital	0.098	0.169	0.018	0.012	0.076	0.057	0.115	0.086	0.000
	Non-Product Taxes less Subsidies	0.001	0.001	0.004	0.006	0.015	0.011	0.006	0.019	0.000

Appendix 16.2

2005 Leontief Inverse of Domestic Product Flows with Multipliers - BMW Region

		1 - 5	10 - 13	14	15	I6,23,36-37	17	18	19	20
	Products	Agriculture, Forestry, Fishing	Coal, Peat, Petroleum and Metal Ore Extraction	Other mining and quarying	Food and beverages	Tobacco, Petroleum, Furniture and Recycling	Textiles	Wearing apparel	Leather and leather products	Wood and wood products (excl furniture)
	products									
1 - 5	Agriculture, Forestry, Fishing	1.191	0.001	0.001	0.275	0.004	0.002	0.002	0.003	0.046
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0.001	1.039	0.002	0.001	0.000	0.000	0.003	0.000	0.000
14	Other mining and quarying	0.001	0.000	1.046	0.000	0.000	0.000	0.000	0.000	0.000
15	Food and beverages	0.153	0.002	0.004	1.141	0.005	0.004	0.004	0.008	0.009
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	0.001	0.001	0.000	0.001	1.029	0.001	0.000	0.000	0.005
17	Textiles	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
18	Wearing apparel	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000
19	Leather and leather products	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.006	0.000
20	Wood and wood products (excl furniture)	0.001	0.001	0.000	0.001	0.064	0.000	0.002	0.000	1.135
21	Pulp, paper and paper products	0.001	0.000	0.000	0.006	0.005	0.000	0.001	0.003	0.004
22	Printed matter and recorded media	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002
24	Chemical products and man-made fibres	0.000	0.000	0.001	0.002	0.000	0.000	0.000	0.000	0.000
25	Rubber and plastics	0.001	0.004	0.000	0.002	0.011	0.001	0.001	0.000	0.002
26	Other non-metallic mineral products	0.002	0.000	0.035	0.002	0.008	0.001	0.000	0.001	0.003
27	Basic metals	0.001	0.001	0.000	0.001	0.005	0.000	0.001	0.000	0.002
28	Fabricated metal products	0.007	0.004	0.001	0.003	0.009	0.003	0.005	0.004	0.023
29	Machinery and equipment n.e.c.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30	Office machinery and computers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
31	Electrical machinery and apparatus n.e.c.	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000
32	Radio, television and communications apparatus	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
33	Medical, precision and optical instruments	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
34	Motor vehicles and trailers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
35	Other transport equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
40	Electricity and gas	0.002	0.000	0.008	0.002	0.002	0.002	0.002	0.000	0.001
41	Water collection and distribution	0.001	0.001	0.002	0.001	0.001	0.008	0.000	0.000	0.006
45	Construction work	0.020	0.005	0.001	0.006	0.006	0.002	0.004	0.003	0.033
50	Motor fuel and vechicle trade and repair	0.005	0.001	0.009	0.002	0.002	0.001	0.001	0.001	0.003
51	Wholesale trade	0.035	0.008	0.020	0.050	0.029	0.020	0.013	0.036	0.019
52	Retail trade and repair of household goods	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
55	Hotel and restaurant services	0.007	0.003	0.011	0.007	0.015	0.011	0.010	0.024	0.010
60	Land transport services	0.006	0.010	0.004	0.017	0.027	0.001	0.009	0.036	0.046
61 - 62	Water and Air transport services	0.001	0.001	0.004	0.001	0.003	0.001	0.000	0.001	0.001
63	Auxiliary transport services and travel agencies	0.001	0.000	0.001	0.001	0.002	0.001	0.000	0.001	0.001
64	Post and telecommunication services	0.004	0.001	0.005	0.004	0.004	0.005	0.005	0.004	0.006
65 - 67	Financial Services	0.064	0.040	0.064	0.042	0.038	0.046	0.032	0.037	0.023
70	Real estate services	0.003	0.001	0.001	0.001	0.002	0.002	0.001	0.004	0.002
71	Renting services of machinery and equipment	0.003	0.004	0.072	0.003	0.003	0.001	0.006	0.003	0.007
72	Computer and related services	0.002	0.001	0.011	0.003	0.015	0.010	0.003	0.015	0.008
73	Research and development services	0.000	0.000	0.000	0.000	0.002	0.004	0.000	0.003	0.003
74	Other business services	0.012	0.151	0.014	0.024	0.043	0.019	0.078	0.038	0.039
75	Public administration and defence	0.007	0.002	0.002	0.003	0.003	0.002	0.005	0.008	0.004
80	Education	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
85	Health and social work services	0.021	0.000	0.000	0.005	0.002	0.002	0.002	0.001	0.002
90	Sewage and refuse disposal services	0.002	0.000	0.001	0.003	0.002	0.008	0.014	0.016	0.013
91	Membership organisation services n.e.c.	0.002	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000
92	Recreation	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.000
93	Other services	0.001	0.000	0.005	0.001	0.002	0.003	0.002	0.002	0.003
95	Private households with employed persons	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
		1.564	1.286	1.328	1.614	1.347	1.163	1.209	1.260	1.462
	Direct and Indirect Multipliers									
	International Imports	0.282	0.079	0.101	0.355	0.223	0.306	0.417	0.340	0.270
	Domestic Imports	0.172	0.091	0.428	0.225	0.124	0.085	0.115	0.107	0.142
	Product Taxes less Subsidies	-0.023	0.021	0.039	-0.043	0.016	0.012	0.010	0.008	0.006
	Compensation of Employees	0.136	0.460	0.276	0.131	0.361	0.408	0.266	0.280	0.301
	Net Operating Surplus	0.558	0.306	0.094	0.333	0.211	0.111	0.103	0.227	0.215
	Consumption of Fixed Capital	0.127	0.033	0.054	0.053	0.063	0.068	0.078	0.051	0.069
	Non-Product Taxes less Subsidies	-0.253	0.009	0.008	-0.055	0.002	0.010	0.011	-0.013	-0.003

Appendix 16.2 (cont.)

2005 Leontief Inverse of Domestic Product Flows with Multipliers - BMW Region

		21	22	24	25	26	27	28	29	30	31
	Products	Pulp, paper and paper products	Printed matter and recorded media	Chemical products and man-made fibres	Rubber and plastics	Other non-metallic mineral products	Basic metals	Fabricated metal products	Machinery and equipment n.e.c.	Office machinery and computers	Electrical machinery and apparatus n.e.c.
1 - 5	Agriculture, Forestry, Fishing	0.002	0.000	0.005	0.002	0.001	0.000	0.001	0.001	0.001	0.001
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0.000	0.000	0.000	0.000	0.008	0.000	0.000	0.000	0.000	0.000
14	Other mining and quarying	0.000	0.000	0.000	0.000	0.013	0.000	0.000	0.000	0.000	0.000
15	Food and beverages	0.008	0.000	0.020	0.005	0.003	0.000	0.003	0.003	0.001	0.001
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	0.008	0.000	0.000	0.000	0.000	0.019	0.002	0.000	0.000	0.000
17	Textiles	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
18	Wearing apparel	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
19	Leather and leather products	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20	Wood and wood products (excl furniture)	0.001	0.000	0.000	0.013	0.001	0.001	0.002	0.000	0.000	0.000
21	Pulp, paper and paper products	1.048	0.000	0.003	0.001	0.001	0.000	0.001	0.000	0.000	0.000
22	Printed matter and recorded media	0.001	1.000	0.012	0.001	0.001	0.000	0.001	0.000	0.003	0.000
24	Chemical products and man-made fibres	0.000	0.000	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25	Rubber and plastics	0.020	0.000	0.004	1.077	0.001	0.001	0.006	0.001	0.002	0.000
26	Other non-metallic mineral products	0.001	0.000	0.001	0.006	1.141	0.000	0.006	0.001	0.000	0.000
27	Basic metals	0.000	0.000	0.001	0.001	0.005	1.001	0.059	0.010	0.005	0.000
28	Fabricated metal products	0.001	0.000	0.002	0.001	0.012	0.000	1.048	0.059	0.008	0.000
29	Machinery and equipment n.e.c.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000
30	Office machinery and computers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000
31	Electrical machinery and apparatus n.e.c.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.009	1.060
32	Radio, television and communications apparatus	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
33	Medical, precision and optical instruments	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.001
34	Motor vehicles and trailers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
35	Other transport equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
40	Electricity and gas	0.002	0.000	0.000	0.003	0.003	0.000	0.000	0.001	0.000	0.000
41	Water collection and distribution	0.001	0.000	0.017	0.001	0.000	0.000	0.001	0.003	0.000	0.000
45	Construction work	0.007	0.000	0.002	0.003	0.004	0.001	0.005	0.002	0.001	0.002
50	Motor fuel and vechicle trade and repair	0.003	0.000	0.000	0.002	0.003	0.004	0.002	0.001	0.001	0.003
51	Wholesale trade	0.030	0.017	0.026	0.019	0.025	0.043	0.015	0.022	0.200	0.044
52	Retail trade and repair of household goods	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
55	Hotel and restaurant services	0.023	0.001	0.001	0.012	0.010	0.001	0.007	0.009	0.002	0.001
60	Land transport services	0.027	0.002	0.002	0.023	0.061	0.004	0.040	0.016	0.006	0.007
61 - 62	Water and Air transport services	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.003
63	Auxiliary transport services and travel agencies	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.001	0.001	0.000
64	Post and telecommunication services	0.004	0.000	0.001	0.007	0.009	0.001	0.003	0.002	0.001	0.001
65 - 67	Financial Services	0.047	0.006	0.024	0.017	0.067	0.005	0.041	0.045	0.012	0.008
70	Real estate services	0.005	0.000	0.001	0.002	0.001	0.000	0.001	0.001	0.001	0.001
71	Renting services of machinery and equipment	0.003	0.000	0.001	0.007	0.015	0.001	0.009	0.004	0.001	0.002
72	Computer and related services	0.025	0.000	0.020	0.012	0.007	0.001	0.006	0.007	0.004	0.014
73	Research and development services	0.004	0.000	0.000	0.003	0.001	0.000	0.002	0.000	0.002	0.000
74	Other business services	0.075	0.006	0.010	0.055	0.041	0.002	0.023	0.006	0.067	0.021
75	Public administration and defence	0.002	0.000	0.000	0.002	0.003	0.001	0.004	0.001	0.001	0.000
80	Education	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
85	Health and social work services	0.004	0.000	0.005	0.002	0.001	0.000	0.001	0.002	0.000	0.001
90	Sewage and refuse disposal services	0.002	0.000	0.001	0.003	0.002	0.005	0.014	0.001	0.001	0.000
91	Membership organisation services n.e.c.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
92	Recreation	0.002	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000
93	Other services	0.005	0.000	0.000	0.002	0.004	0.000	0.002	0.002	0.000	0.000
95	Private households with employed persons	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
		1.365	1.034	1.162	1.287	1.452	1.094	1.307	1.204	1.339	1.170
	Direct and Indirect Multipliers										
	International Imports	0.336	0.960	0.396	0.336	0.179	0.459	0.396	0.361	0.232	0.572
	Domestic Imports	0.113	0.012	0.107	0.120	0.195	0.145	0.080	0.079	0.077	0.127
	Product Taxes less Subsidies	0.005	0.000	0.009	0.010	0.022	0.219	0.019	0.007	0.009	0.001
	Compensation of Employees	0.321	0.010	0.199	0.328	0.252	0.094	0.260	0.297	0.273	0.211
	Net Operating Surplus	0.180	0.013	0.266	0.145	0.226	0.063	0.161	0.190	0.336	0.063
	Consumption of Fixed Capital	0.036	0.003	0.022	0.058	0.118	0.015	0.051	0.033	0.067	0.023
	Non-Product Taxes less Subsidies	0.009	0.000	0.001	0.003	0.009	0.004	0.034	0.033	0.006	0.003

Appendix 16.2 (cont.)

2005 Leontief Inverse of Domestic Product Flows with Multipliers - BMW Region

		32	33	34	35	40	41	45	50	51	52
	Products	Radio, television and communications apparatus	Medical, precision and optical instruments	Motor vehicles and trailers	Other transport equipment	Electricity and gas	Water collection and distribution	Construction work	Motor fuel and vechicle trade and repair	Wholesale trade	Retail trade and repair of household goods
1 - 5	Agriculture, Forestry, Fishing	0.001	0.001	0.002	0.000	0.002	0.002	0.002	0.001	0.000	0.005
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0.000	0.000	0.000	0.001	0.040	0.001	0.001	0.000	0.000	0.000
14	Other mining and quarying	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.000	0.000	0.000
15	Food and beverages	0.002	0.002	0.005	0.000	0.006	0.007	0.002	0.004	0.001	0.016
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	0.001	0.000	0.001	0.000	0.001	0.001	0.005	0.000	0.000	0.001
17	Textiles	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
18	Wearing apparel	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
19	Leather and leather products	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000
20	Wood and wood products (excl furniture)	0.005	0.000	0.000	0.000	0.000	0.002	0.017	0.000	0.000	0.001
21	Pulp, paper and paper products	0.008	0.002	0.000	0.000	0.000	0.001	0.001	0.000	0.000	0.001
22	Printed matter and recorded media	0.006	0.001	0.001	0.000	0.008	0.019	0.005	0.003	0.000	0.002
24	Chemical products and man-made fibres	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25	Rubber and plastics	0.007	0.021	0.023	0.005	0.001	0.005	0.012	0.004	0.001	0.001
26	Other non-metallic mineral products	0.014	0.001	0.001	0.000	0.002	0.009	0.080	0.001	0.000	0.001
27	Basic metals	0.005	0.000	0.010	0.000	0.001	0.002	0.002	0.000	0.000	0.000
28	Fabricated metal products	0.014	0.003	0.002	0.002	0.009	0.004	0.014	0.001	0.000	0.000
29	Machinery and equipment n.e.c.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30	Office machinery and computers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
31	Electrical machinery and apparatus n.e.c.	0.022	0.003	0.016	0.004	0.000	0.000	0.004	0.000	0.000	0.000
32	Radio, television and communications apparatus	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
33	Medical, precision and optical instruments	0.000	1.068	0.000	0.006	0.002	0.004	0.002	0.000	0.000	0.000
34	Motor vehicles and trailers	0.000	0.000	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
35	Other transport equipment	0.000	0.000	0.000	1.000	0.000	0.000	0.000	0.000	0.000	0.000
40	Electricity and gas	0.000	0.002	0.001	0.000	1.000	0.013	0.000	0.002	0.000	0.000
41	Water collection and distribution	0.002	0.002	0.002	0.003	0.001	1.016	0.001	0.000	0.000	0.000
45	Construction work	0.012	0.001	0.003	0.001	0.015	0.096	1.366	0.003	0.001	0.008
50	Motor fuel and vechicle trade and repair	0.005	0.001	0.019	0.001	0.001	0.009	0.003	1.018	0.002	0.002
51	Wholesale trade	0.154	0.028	0.051	0.017	0.020	0.023	0.028	0.005	1.005	0.007
52	Retail trade and repair of household goods	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.000
55	Hotel and restaurant services	0.004	0.005	0.015	0.000	0.004	0.010	0.005	0.004	0.000	0.021
60	Land transport services	0.007	0.003	0.020	0.001	0.002	0.007	0.008	0.009	0.004	0.007
61 - 62	Water and Air transport services	0.002	0.000	0.002	0.000	0.000	0.001	0.000	0.001	0.001	0.000
63	Auxiliary transport services and travel agencies	0.002	0.001	0.001	0.000	0.001	0.004	0.001	0.008	0.001	0.002
64	Post and telecommunication services	0.001	0.001	0.004	0.000	0.002	0.010	0.002	0.009	0.003	0.002
65 - 67	Financial Services	0.017	0.007	0.038	0.004	0.088	0.050	0.021	0.044	0.008	0.028
70	Real estate services	0.001	0.001	0.002	0.000	0.001	0.015	0.013	0.010	0.005	0.032
71	Renting services of machinery and equipment	0.002	0.001	0.004	0.001	0.007	0.019	0.019	0.007	0.001	0.005
72	Computer and related services	0.016	0.007	0.008	0.001	0.009	0.032	0.005	0.008	0.000	0.007
73	Research and development services	0.000	0.016	0.012	0.000	0.000	0.006	0.001	0.000	0.000	0.000
74	Other business services	0.014	0.008	0.037	0.002	0.010	0.183	0.050	0.023	0.010	0.031
75	Public administration and defence	0.002	0.000	0.003	0.000	0.002	0.003	0.006	0.004	0.001	0.006
80	Education	0.001	0.001	0.001	0.000	0.000	0.003	0.000	0.000	0.000	0.000
85	Health and social work services	0.006	0.001	0.001	0.000	0.003	0.003	0.001	0.001	0.000	0.001
90	Sewage and refuse disposal services	0.001	0.001	0.004	0.000	0.007	0.045	0.006	0.005	0.003	0.004
91	Membership organisation services n.e.c.	0.000	0.000	0.000	0.000	0.000	0.003	0.000	0.000	0.000	0.000
92	Recreation	0.001	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.001
93	Other services	0.001	0.000	0.002	0.000	0.000	0.001	0.001	0.001	0.000	0.000
95	Private households with employed persons	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
		1.344	1.189	1.292	1.051	1.244	1.610	1.688	1.180	1.049	1.196
	Direct and Indirect Multipliers										
	International Imports	0.440	0.346	0.298	0.914	0.286	0.141	0.164	0.074	0.009	0.043
	Domestic Imports	0.150	0.084	0.125	0.019	0.048	0.192	0.117	0.074	0.024	0.080
	Product Taxes less Subsidies	0.007	0.006	0.021	0.001	0.001	0.016	0.012	0.022	0.007	0.010
	Compensation of Employees	0.249	0.225	0.393	0.038	0.380	0.466	0.406	0.413	0.294	0.485
	Net Operating Surplus	0.120	0.250	0.078	0.018	0.096	0.125	0.253	0.355	0.559	0.323
	Consumption of Fixed Capital	0.025	0.087	0.082	0.008	0.188	0.058	0.044	0.035	0.083	0.039
	Non-Product Taxes less Subsidies	0.010	0.002	0.003	0.002	0.002	0.002	0.003	0.028	0.025	0.021

Appendix 16.2 (cont.)

2005 Leontief Inverse of Domestic Product Flows with Multipliers - BMW Region

		55	60	61 - 62	63	64	65 - 67	70	71	72	73
	Products	Hotel and restaurant services	Land transport services	Water and Air Transport	Auxiliary transport services and travel agencies	Post and telecommunication services	Financial Services	Real estate services	Renting services of machinery and equipment	Computer and related services	Research and development services
1 - 5	Agriculture, Forestry, Fishing	0.086	0.001	0.002	0.001	0.001	0.000	0.001	0.000	0.001	0.004
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
14	Other mining and quarying	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000
15	Food and beverages	0.313	0.003	0.002	0.004	0.003	0.001	0.002	0.000	0.003	0.011
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	0.004	0.001	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.010
17	Textiles	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
18	Wearing apparel	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
19	Leather and leather products	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
20	Wood and wood products (excl furniture)	0.001	0.000	0.000	0.000	0.000	0.000	0.009	0.000	0.000	0.002
21	Pulp, paper and paper products	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
22	Printed matter and recorded media	0.003	0.001	0.000	0.001	0.001	0.000	0.003	0.000	0.002	0.011
24	Chemical products and man-made fibres	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25	Rubber and plastics	0.001	0.004	0.001	0.000	0.005	0.000	0.003	0.000	0.001	0.003
26	Other non-metallic mineral products	0.002	0.001	0.000	0.001	0.000	0.000	0.030	0.000	0.000	0.001
27	Basic metals	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
28	Fabricated metal products	0.001	0.001	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.001
29	Machinery and equipment n.e.c.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30	Office machinery and computers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
31	Electrical machinery and apparatus n.e.c.	0.000	0.001	0.000	0.000	0.002	0.000	0.001	0.000	0.001	0.001
32	Radio, television and communications apparatus	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
33	Medical, precision and optical instruments	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
34	Motor vehicles and trailers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
35	Other transport equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
40	Electricity and gas	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
41	Water collection and distribution	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
45	Construction work	0.007	0.004	0.002	0.006	0.006	0.001	0.128	0.001	0.001	0.008
50	Motor fuel and vechicle trade and repair	0.003	0.012	0.012	0.008	0.002	0.001	0.004	0.010	0.006	0.008
51	Wholesale trade	0.076	0.010	0.003	0.004	0.019	0.001	0.009	0.001	0.032	0.009
52	Retail trade and repair of household goods	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
55	Hotel and restaurant services	1.007	0.007	0.004	0.009	0.009	0.002	0.006	0.000	0.006	0.010
60	Land transport services	0.010	1.030	0.141	0.023	0.011	0.000	0.003	0.020	0.003	0.014
61 - 62	Water and Air transport services	0.002	0.001	1.055	0.002	0.002	0.001	0.001	0.001	0.001	0.001
63	Auxiliary transport services and travel agencies	0.008	0.008	0.078	1.044	0.002	0.000	0.002	0.000	0.000	0.006
64	Post and telecommunication services	0.011	0.001	0.002	0.005	1.001	0.004	0.005	0.004	0.008	0.008
65 - 67	Financial Services	0.034	0.010	0.047	0.071	0.020	1.166	0.063	0.049	0.030	0.073
70	Real estate services	0.015	0.004	0.006	0.005	0.003	0.002	1.007	0.001	0.004	0.008
71	Renting services of machinery and equipment	0.005	0.047	0.009	0.006	0.002	0.000	0.004	1.021	0.006	0.007
72	Computer and related services	0.007	0.001	0.019	0.038	0.001	0.005	0.010	0.002	1.045	0.009
73	Research and development services	0.000	0.000	0.001	0.013	0.000	0.000	0.000	0.000	0.000	1.117
74	Other business services	0.031	0.005	0.012	0.050	0.006	0.022	0.113	0.002	0.100	0.193
75	Public administration and defence	0.004	0.022	0.003	0.001	0.001	0.000	0.010	0.001	0.001	0.005
80	Education	0.002	0.001	0.000	0.001	0.000	0.000	0.003	0.000	0.002	0.030
85	Health and social work services	0.005	0.001	0.000	0.001	0.001	0.001	0.001	0.000	0.000	0.016
90	Sewage and refuse disposal services	0.007	0.001	0.002	0.003	0.002	0.000	0.004	0.001	0.002	0.006
91	Membership organisation services n.e.c.	0.001	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.001
92	Recreation	0.003	0.001	0.001	0.002	0.001	0.001	0.001	0.000	0.003	0.003
93	Other services	0.005	0.000	0.000	0.001	0.001	0.000	0.000	0.001	0.000	0.005
95	Private households with employed persons	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
		1.658	1.181	1.408	1.303	1.105	1.211	1.429	1.119	1.259	1.588
	Direct and Indirect Multipliers										
	International Imports	0.191	0.077	0.103	0.207	0.070	0.069	0.065	0.058	0.095	0.109
	Domestic Imports	0.166	0.050	0.443	0.220	0.055	0.104	0.102	0.032	0.112	0.177
	Product Taxes less Subsidies	0.001	0.026	0.012	0.028	0.005	0.003	0.026	0.002	0.005	0.015
	Compensation of Employees	0.336	0.402	0.232	0.212	0.536	0.256	0.127	0.070	0.220	0.490
	Net Operating Surplus	0.237	0.211	0.154	0.267	0.169	0.464	0.454	0.569	0.390	0.146
	Consumption of Fixed Capital	0.072	0.226	0.054	0.064	0.158	0.102	0.224	0.269	0.184	0.068
	Non-Product Taxes less Subsidies	-0.004	0.008	0.002	0.003	0.007	0.003	0.002	0.000	-0.006	-0.004

Appendix 16.2 (cont.)

2005 Leontief Inverse of Domestic Product Flows with Multipliers - BMW Region

	Products	74 Other business services	75 Public administration and defence	80 Education	85 Health and social work services	90 Sewage and refuse disposal services	91 Membership organisation services n.e.c.	92 Recreation	93 Other services	95 Private households with employed persons
	Products									
1 - 5	Agriculture, Forestry, Fishing	0.002	0.003	0.002	0.003	0.001	0.010	0.001	0.002	0.000
10 - 13	Coal, Peat, Petroleum and Metal Ore Extraction	0.000	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
14	Other mining and quarying	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
15	Food and beverages	0.006	0.008	0.002	0.007	0.005	0.038	0.003	0.005	0.000
16,23,36-37	Tobacco, Petroleum, Furniture and Recycling	0.002	0.002	0.002	0.007	0.001	0.002	0.000	0.001	0.000
17	Textiles	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
18	Wearing apparel	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
19	Leather and leather products	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001	0.000
20	Wood and wood products (excl furniture)	0.001	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.000
21	Pulp, paper and paper products	0.000	0.001	0.001	0.002	0.000	0.001	0.000	0.000	0.000
22	Printed matter and recorded media	0.009	0.005	0.012	0.001	0.011	0.006	0.003	0.010	0.000
24	Chemical products and man-made fibres	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25	Rubber and plastics	0.001	0.003	0.000	0.008	0.005	0.002	0.000	0.002	0.000
26	Other non-metallic mineral products	0.001	0.010	0.001	0.001	0.016	0.004	0.001	0.002	0.000
27	Basic metals	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000
28	Fabricated metal products	0.000	0.002	0.002	0.000	0.002	0.000	0.000	0.000	0.000
29	Machinery and equipment n.e.c.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30	Office machinery and computers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
31	Electrical machinery and apparatus n.e.c.	0.000	0.000	0.000	0.001	0.001	0.000	0.000	0.000	0.000
32	Radio, television and communications apparatus	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
33	Medical, precision and optical instruments	0.001	0.001	0.002	0.011	0.001	0.001	0.000	0.000	0.000
34	Motor vehicles and trailers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
35	Other transport equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
40	Electricity and gas	0.000	0.002	0.002	0.001	0.001	0.001	0.000	0.000	0.000
41	Water collection and distribution	0.000	0.000	0.000	0.000	0.002	0.009	0.001	0.002	0.000
45	Construction work	0.007	0.087	0.016	0.002	0.022	0.008	0.005	0.007	0.000
50	Motor fuel and vechicle trade and repair	0.004	0.004	0.000	0.001	0.009	0.004	0.002	0.007	0.000
51	Wholesale trade	0.012	0.009	0.007	0.014	0.018	0.017	0.007	0.006	0.000
52	Retail trade and repair of household goods	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
55	Hotel and restaurant services	0.009	0.013	0.007	0.007	0.008	0.016	0.006	0.013	0.000
60	Land transport services	0.003	0.021	0.004	0.004	0.031	0.005	0.002	0.004	0.000
61 - 62	Water and Air transport services	0.003	0.001	0.001	0.000	0.005	0.001	0.001	0.001	0.000
63	Auxiliary transport services and travel agencies	0.000	0.001	0.001	0.000	0.009	0.008	0.000	0.001	0.000
64	Post and telecommunication services	0.006	0.010	0.004	0.001	0.013	0.016	0.002	0.005	0.000
65 - 67	Financial Services	0.023	0.025	0.013	0.006	0.073	0.088	0.019	0.021	0.000
70	Real estate services	0.006	0.060	0.004	0.003	0.008	0.006	0.013	0.028	0.000
71	Renting services of machinery and equipment	0.004	0.004	0.001	0.001	0.030	0.007	0.019	0.020	0.000
72	Computer and related services	0.006	0.028	0.005	0.010	0.064	0.035	0.006	0.015	0.000
73	Research and development services	0.000	0.002	0.003	0.005	0.023	0.005	0.000	0.001	0.000
74	Other business services	1.125	0.061	0.026	0.017	0.106	0.129	0.036	0.060	0.000
75	Public administration and defence	0.006	1.004	0.000	0.002	0.003	0.004	0.003	0.009	0.000
80	Education	0.001	0.004	1.032	0.012	0.004	0.003	0.001	0.001	0.000
85	Health and social work services	0.001	0.001	0.001	1.322	0.007	0.004	0.001	0.009	0.000
90	Sewage and refuse disposal services	0.001	0.006	0.002	0.002	1.310	0.005	0.004	0.007	0.000
91	Membership organisation services n.e.c.	0.002	0.000	0.000	0.000	0.001	1.081	0.010	0.002	0.000
92	Recreation	0.002	0.004	0.010	0.000	0.004	0.045	1.027	0.003	0.000
93	Other services	0.000	0.001	0.004	0.001	0.022	0.011	0.003	1.015	0.000
95	Private households with employed persons	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.000
		1.244	1.389	1.169	1.452	1.820	1.575	1.179	1.263	1.000
	Direct and Indirect Multipliers									
	International Imports	0.127	0.079	0.044	0.179	0.136	0.083	0.043	0.062	0.000
	Domestic Imports	0.139	0.142	0.071	0.040	0.161	0.187	0.092	0.093	0.000
	Product Taxes less Subsidies	0.017	0.057	0.012	0.017	0.012	0.013	0.010	0.009	0.000
	Compensation of Employees	0.287	0.485	0.826	0.627	0.402	0.502	0.444	0.554	0.999
	Net Operating Surplus	0.260	0.086	0.031	0.120	0.187	0.145	0.272	0.182	0.001
	Consumption of Fixed Capital	0.168	0.151	0.012	0.014	0.085	0.060	0.129	0.086	0.000
	Non-Product Taxes less Subsidies	0.001	0.000	0.003	0.003	0.017	0.009	0.011	0.014	0.000

Appendix 17 – Regional Net Trade Balances, 2005

	International Exports	Domestic Exports	Total Exports	International Imports	Domestic Imports	Total Imports	Net Trade (International)	Net Trade (Domestic)	Net Trade (Total)
SE Region	*€ Millions*	*€ Millions*	*€ Millions*	*€ Millions*	*€ Millions*	*€ Millions*	*€ Millions*	*€ Millions*	*€ Millions*
Agriculture, Forestry & Fishing	440	1,111	1,551	737	1,432	2,169	-297	-320	-618
Manufacturing	80,133	5,178	85,311	47,423	3,667	51,090	32,710	1,511	34,220
Construction	0	480	480	7	0	7	-7	480	472
Distributive Trades & Communications	8,772	2,642	11,413	10,572	1,526	12,098	-1,800	1,115	-685
Business Services	28,478	4,330	32,807	41,060	1,170	42,231	-12,583	3,159	-9,424
Other Services	437	623	1,060	301	368	669	136	255	391
Goods	*80,573*	*6,289*	*86,862*	*48,161*	*5,099*	*53,259*	32,413	1,190	*33,603*
Services	*37,687*	*8,074*	*45,761*	*51,940*	*3,065*	*55,005*	-14,254	5,009	*-9,245*
Total (SE)	118,260	14,363	132,623	100,101	8,164	108,265	18,159	6,199	24,358
BMW Region	*€ Millions*	*€ Millions*	*€ Millions*	*€ Millions*	*€ Millions*	*€ Millions*	*€ Millions*	*€ Millions*	*€ Millions*
Agriculture, Forestry & Fishing	238	1,432	1,670	324	1,111	1,435	-86	320	234
Manufacturing	11,359	3,667	15,026	8,649	5,178	13,827	2,710	-1,511	1,199
Construction	0	0	0	1	480	481	-1	-480	-481
Distributive Trades & Communications	863	1,526	2,389	1,697	2,642	4,338	-834	-1,115	-1,949
Business Services	1,609	1,170	2,779	1,978	4,330	6,308	-370	-3,159	-3,529
Other Services	40	368	408	69	623	692	-29	-255	-284
Goods	*11,597*	*5,099*	*16,695*	*8,973*	*6,289*	*15,262*	2,623	-1,190	*1,433*
Services	*2,511*	*3,065*	*5,576*	*3,745*	*8,074*	*11,819*	-1,234	-5,009	*-6,243*
Total (BMW)	14,108	8,164	22,272	12,718	14,363	27,081	1,390	-6,199	-4,809

Appendix 18 – Regional GVA per Full Time Equivalent, 2005

Region	Employment Type	Persons in Employment (ILO), 2005	FTE 2005	GVA 2005 (Basic Prices)	GVA per FTE 2005	GVA per FTE 2005
		000's	*000's*	*€Millions*	*€000's*	*Index*
BMW	Full-Time	417.7	417.7			
	Part-Time	85.2	39.4			
	Total	502.9	457.1	26,925	58.9	73.4
SE	Full-Time	1,208.7	1,208.7			
	Part-Time	251.2	116.2			
	Total	1,459.8	1,324.8	116,139	87.7	109.2
State	Full-Time	1,626.3	1,626.3			
	Part-Time	336.4	155.6			
	Total	1,962.7	1,781.9	143,064	80.3	100

Appendix 19 – Regional International Export to Production Ratios, 2005

	SE			BMW		
	Domestic Supply	International Exports	Export - Production Ratio	Domestic Supply	International Exports	Export - Production Ratio
	€ mlllion	*€ mlllion*	*%*	*€ mlllion*	*€ mlllion*	*%*
Agriculture, Forestry & Fishing	4,369	440	10.1	2,831	238	8.4
Manufacturing	91,159	80,133	87.9	15,786	11,359	72.0
Construction work	29,254	-	0.0	9,188	-	0.0
Distributive Trades & Communications	44,307	8,772	19.8	8,272	863	10.4
Business Services	75,925	28,478	37.5	9,376	1,609	17.2
Other Services	30,498	437	1.4	10,395	40	0.4
Total	275,512	118,260	42.9	55,848	14,108	25.3

Appendix 20 – Calculation of FTE Employment

In order to derive the direct employment ratios for each region, the full-time equivalents (FTEs) for each region must first be calculated. Estimates of FTE employment were derived from the QNHS by averaging employment across the four quarters[1] and then estimating the average "usual" hours for both full-time and part-time workers in each NACE sector. As not all workers reported having usual hours during the reference period[2] the average usual hours was based only on those workers who did report a usual working week. The "usual" hours used in the calculations were those for the state, rather than separate averages for the respective regions. The ratio of usual full-time hours to usual part-time hours was applied to the total number of part-time employees in each region to estimate the FTEs. It was assumed that persons recorded as full-time were full-time equivalents. For ease of presentation the data were aggregated into the six broad economic sectors used earlier.

The conversion of total employment to full-time equivalent employment reduced headline employment from 1.96 million persons to 1.79 million (or by approximately 9%). Not surprisingly, the conversion to FTEs had the largest impact in NACE 50-64 (Distribution & Communications) and NACE 75 – 95 (Other Services) where part-time employment is more prevalent. Equally, the impact on the Construction sector was very slight, which again is not surprising as Construction workers are typically male employees and in 2005 the sector was operating at full capacity.

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[1] Prior to 1997 the Labour Force Survey (QNHS) was compiled annually, usually in the spring of each reference year. Thus for continuity purposes many analysts in Ireland have used Q2 data interchangeably with annual data. However as this approach doesn't adequately capture the seasonal variation occurring in many sectors, this approach has not been adopted here, but rather the arithmetic average of the four quarters has been taken. Using "hours worked" data taken from the QNHS rather than using estimates taken from enterprise surveys such as the Earnings, Hours and Employment Costs Survey (EHECS) had a number of advantages. For example, the QNHS records *usual* and *actual hours* worked for all NACE whereas the EHECS only records *paid hours* worked.

[2] Some workers reported having variable hours i.e. they don't have any usual working pattern.

Appendix 21 (*Cont.*) Full-Time, Part-Time and FTE Employment 2003 – 2009 by Broad Economic Sector

NACE Rev.1	Employment Type	BMW	S&E	State	BMW	S&E	State	BMW	S&E	State	BMW	S&E	State
		2003			2005			2007			2009		
		000's	*000's*	*000's*	*000's*	*000's*	*000's*	*000's*	*000's*	*000's*	*000's*	*000's*	*000's*
1 - 5	Full-Time & Part-Time	48	71	119	47	68	115	46	71	117	40	62	102
	FTE	44	66	110	43	65	108	42	67	109	36	57	93
10 - 41	Full-Time & Part-Time	81	223	304	84	210	294	79	205	285	74	180	254
	FTE	78	216	295	81	204	285	77	199	276	71	172	242
45	Full-Time & Part-Time	57	138	195	73	174	247	84	199	283	50	121	170
	FTE	55	135	191	72	171	242	82	195	277	47	115	162
50 - 64	Full-Time & Part-Time	114	371	485	125	391	515	139	421	560	128	391	519
	FTE	99	320	419	108	337	444	119	364	483	106	332	438
65 - 74	Full-Time & Part-Time	37	192	229	66	290	357	46	243	288	47	235	282
	FTE	34	178	212	61	271	333	41	224	266	43	216	259
75 - 95	Full-Time & Part-Time	121	358	479	108	326	434	151	429	580	155	446	601
	FTE	107	314	420	92	280	373	131	374	505	135	388	523
All	Full-Time & Part-Time	457	1,352	1,810	503	1,460	1,963	548	1,575	2,123	494	1,435	1,929
	FTE	418	1,229	1,647	458	1,327	1,785	495	1,430	1,925	437	1,278	1,714

Appendix 22 – Price Indices used to compile Regional deflators

The indices chosen to deflate final demand in Chapter 9 were the logical choices from the indices available. A number of alternate deflators could have arguably and perhaps justifiably been used, producing a different set of results.

Select Deflators 2005 - 2007

Sector	Source Deflator	Deflator
Agriculture, Forestry & Fishing	Agricultural Output Prices (Total)	0.8669
Manufacturing	Producer Price Index (Total Manufacturing)	1.0097
Construction	SCS Tenders Price Index	0.9667
Distributive Trades & Communications	Consumer Price Index (Services sub-index)	0.8691
Business Services	Consumer Price Index (Services sub-index)	0.8691
Other Services	Consumer Price Index (Services sub-index)	0.8691

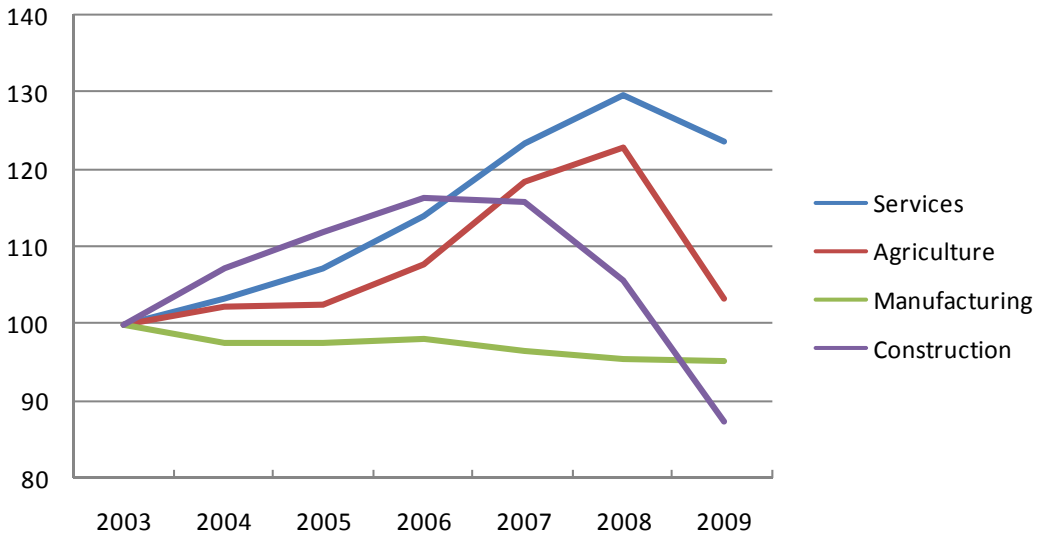
For Manufacturing, the Producer Price Index (Total Manufacturing) was selected[1]. The Society of Chartered Surveyors (2011) six monthly data on tender prices were used to deflate construction rather than the CSO Wholesale Prices for Building & Construction materials as the tender price indices take into account margins and profits. The experimental Services Price Index only commenced in 2006, and so the Services sub-index taken from the Consumer Price Index was used as a substitute or proxy to deflate all market and non-market services. This is a weakness as there is no reason to assume that business-to-household prices had the same trend as business-to-business prices. However no credible or robust alternatives were available[2].

[1] Total Manufacturing excluding NACE 300 could equally have been used as it is typically less volatile than the all industries index (as NACE 300 is a particularly unstable and problematic sector to price).

[2] Although arguably the wage bill (e.g. Average Weekly Earnings) could have been used as a deflator for the non-market element of "Other Services" as wages are the main component of costs in the public sector.

Appendix 22 (*Cont.*)

Index	Base Period	2003	2004	2005	2006	2007	2008	2009
CPI - Services	Dec 2006=100	84.7	87.5	91	96.6	104.7	109.9	104.8
Agriculture (Total Output)	Year 2000=100	99.6	101.8	102.3	107.4	118	122.3	103
Manufacturing industries	Year 2000=100	92.4	90.2	90.1	90.7	89.2	88.2	87.9
SCS Tender Price	H1 1998 = 100	128.3	137.4	143.7	149.2	148.6	135.4	112.1
CPI - Services	Year 2003 = 100	100	103.3	107.4	114.0	123.6	129.8	123.7
Agriculture (Total Output)		100	102.2	102.7	107.8	118.5	122.8	103.4
Manufacturing industries		100	97.6	97.5	98.2	96.6	95.5	95.1
SCS Tender Price		100	107.1	112.0	116.3	115.9	105.5	87.4



Appendix 23 – Estimation of 2009 Regional Domestic Final Demand

At the time of writing, no estimates of national domestic final demand were available. However preliminary estimates of 2009 of Gross National Income, including the components of Total Final Demand were available - see Table 5, 2009 NIE (CSO, 2011b).

Table A22.1 – Components of Total Final Demand, 2005 & 2009

Item	Description	2005	2009
79	Personal Consumption of goods and services	77,820	84,331
80	Net expenditure by central and local government on current goods and services	22,246	27,718
81	Gross domestic fixed capital formation	43,359	24,731
82	Value of physical changes in stocks	730	-2,284
83	Exports of goods and services	132,526	144,782
	Total Final Demand	276,681	279,278

A simple calibration factor of 0.8848 was derived by comparing 2005 Total and Domestic Final Demand. This factor was applied to 2009 Total Final Demand, yielding an estimate of 2009 Domestic Final Demand of €247,106 million.

In order to estimate a sectoral breakdown for 2009 Domestic Final Demand, the sectoral patterns from 2007 were used as a base, to which 2007 – 2009 growth patterns from Gross Value Added at Constant Factor Costs were applied - see Table 4, 2009 NIE. These estimates were then rescaled to total 2009 Domestic Final Demand (€247,106 million). The 2005 sectoral regional patterns were applied to this total. Thereafter regional totals were inflated by 3% inflation to simulate the impact of domestic imports on final demand to estimate domestic final demand for the regions. The final estimates are presented in Table A22.2.

Appendix 23 (*Cont.*)

Table A22.2 – Regional Domestic Final Demand, 2009 (€ Million)

Description	SE	BMW
Agriculture, Forestry, Fishing	1,012	904
Manufacturing	84,072	12,846
Construction work	14,394	4,386
Distribution & Communications	31,328	6,469
Business Services	53,435	6,181
Other Services	29,542	9,950
Total	213,783	40,737

Appendix 24 – Estimation of 2009 Regional GVA

At the time of writing, no estimates of regional GVA for 2009 were available. However preliminary estimates of national GVA at basic prices for 2009 in current prices were available - see item 51 (B.1g) Table 3, 2009 NIE (CSO, 2011b).

The latest estimates for regional GVA are for the reference year 2008 (CSO, 2011c). The regional patterns from the 2008 data were applied to the preliminary estimates for 2009. The GVA per FTE for the 2005, 2007 and 2009 are presented in Table A23.1 for illustration.

Table A23.1 – Regional GVA per FTE (All Sectors)

Year	Region	GVA (Basic Prices)	Total Employment (FTE)	GVA Per FTE (Current Prices)	GVA Per FTE (Constant Prices)
		€ Millions	*000's*	€	€
2003	BMW	22,817	418	54,591	57,479
	SE	102,849	1,229	83,655	87,136
	State	125,666	1,647	76,287	79,617
2005	BMW	26,925	458	58,819	58,819
	SE	116,139	1,327	87,498	87,498
	State	143,064	1,785	80,144	80,144
2007	BMW	30,736	495	62,077	57,486
	SE	135,606	1,430	94,828	88,262
	State	166,342	1,925	86,403	80,420
2009	BMW	26,648	437	60,999	60,172
	SE	117,572	1,278	92,024	89,337
	State	144,220	1,714	84,119	81,970

The results show that the growth in GVA experienced between 2005 and 2007, fell back in the 2008 – 2009 period. Equally the dramatic growth in FTE employment experienced during 2005 – 2007 was not only reversed but employment in 2009 was approximately 4% below 2005 levels. GVA per FTE at constant prices grew by approximately 2% between 2005 and 2009.