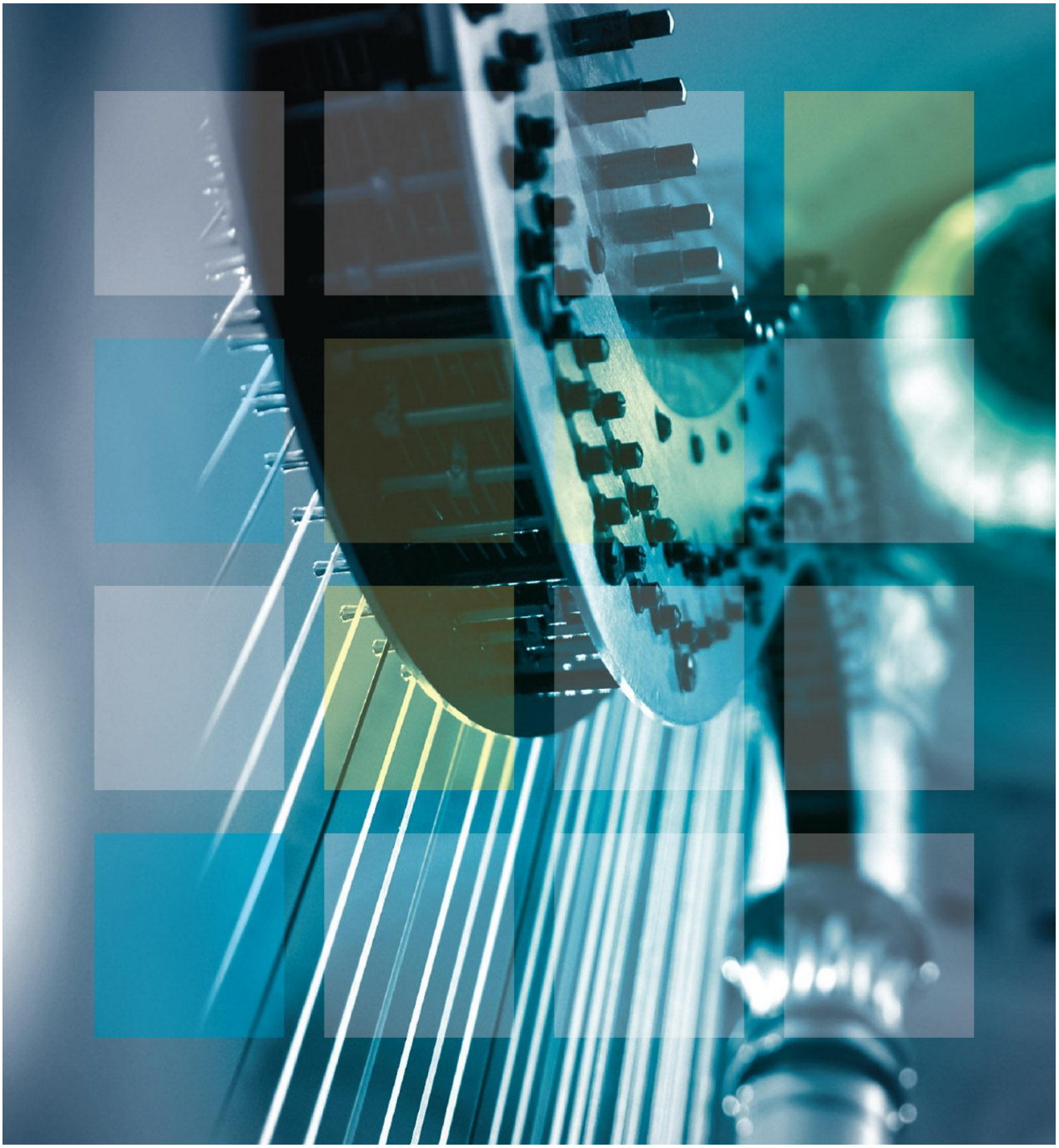
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Effective Rates of Corporation Tax in Ireland:

Technical Paper, April 2014

An Roinn Airgeadais
Department of Finance

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EXECUTIVE SUMMARY

This Technical Paper considers calculations for an effective tax rate on corporate profits in Ireland. This is done under three broad headings: using model companies; using official national statistics; and using company financial reports. Between these, eight approaches for calculating the effective tax rate on company profits are identified.

An effective tax rate is simply the tax burden as a proportion of the tax base. For companies this is corporate income tax as a proportion of corporate profits. Although relatively simple in theory the eight approaches considered in this Technical Paper result in a wide range of estimates ranging from 2.2 per cent to 15.5 per cent for the most recent data available. The most recent values of the eight measures and their average since 2003, where available, are reported in Table 1.

Table 1: Selected Effective Corporate Tax Rates Attributed to Ireland

Approaches 1 to 8	Year	Current Estimate	Average Since 2003
MODEL COMPANY APPROACH (SECTION 2)			
1. European Commission/ZEW	2012	14.4%	n/a
2. World Bank/PwC	2012	12.3%	n/a
NATIONAL AGGREGATES APPROACH (SECTION 3)			
National Income Accounts (Section 3.1)			
3. **Effective Tax Rate on 'Net Operating Surplus'**	2012	8.4%	10.9%
4. Eurostat 'Implicit Tax Rate' on Corporate Income[1]	2012	5.9%	8.3%
Corporation Tax Distribution Statistics (Section 3.2)			
5. **'Tax Due' as a Proportion of Taxable Income**	2011	10.4%	10.7%
6. **'Tax Burden' as a Proportion of Taxable Income[2]**	2011	11.8%	11.9%
COMBINED COMPANY APPROACH (SECTION 4)			
7. **Average Tax Rate of Irish Times Top 1000 Companies**	2012	15.5%	n/a
8. **Average Tax Rate of Irish Incorporated Companies in US BEA Data**	2011	2.2%	n/a

Source: Various & Authors' Calculations

[1] The most recent published figure for Ireland relates to 2010 and is contained in the 2012 Edition of Eurostat's *Taxation Trends in the EU* publication. The authors have recreated that Eurostat methodology in order to estimate a figure for 2012 on the same basis.

[2] This is the tax burden imposed by the calculation of the amount of Corporation Tax due in Ireland before the deduction of the Double Taxation Relief for corporate income tax paid on that income in other jurisdictions. See Section 3.2 for more details.

This Technical Paper explains the methodology behind these approaches and attempts to assess their suitability as measures of the effective corporate tax rate in Ireland. At the outset it should be noted that there is no single best measure that summarises the effective corporate tax rate. Different approaches are relevant depending on the task in hand. For some measures, looking at the result for a single year can be misleading due to the impact of the business cycle on; income and capital gains/losses, the use of 'trading losses carried forward' and the timing of tax payments. The purpose of this Paper is to provide detail on the effective corporate tax rate that is applied to the aggregate total of corporate profits in Ireland.

1. The Model Company Approach

The first method is a comparison of the estimated tax liability in different jurisdictions for a model or benchmark company. It is based on the creation of model companies which are endowed with certain characteristics. The analysis then examines how the profits of such model companies would be taxed across a range of jurisdictions. While this is a strength in terms of comparability across jurisdictions, it does mean that the model cannot represent the composition of all companies that operate in each country. This methodology does calculate the appropriate effective rate for the model company, providing a good comparison of effective tax rates across countries in a standard setting. It can also give an insight into the breadth of the taxable base by comparing the calculated effective rate to the headline or statutory rate. It cannot, however, calculate an effective tax rate for a company that operates across multiple jurisdictions and it offers limited insight in respect of companies that operate across borders as international trading is usually excluded as a feature of the model company.

Two reports using the model company approach are assessed in this Technical Paper, one undertaken for the European Commission by ZEW Centre for European Economic Research (Approach No.1 – 14.4 per cent in 2012) and a second for the World Bank by PwC (Approach No. 2 – 12.3 per cent in 2012). However, the conclusion is that neither is suitable for providing an estimate of the effective rate of Corporation Tax on the aggregate total of corporate profits earned in Ireland.

2. The National Aggregates Approach

The second approach to determining effective corporate tax rates is to look at the average corporate tax burden of the entire corporate sector in a country using statistics commonly

available from the relevant tax authority or statistical agency in each country. The idea here is to look at a measure of the total amount of corporation tax in a given year and to divide it by the total amount of profit earned by companies operating in the country. Within this approach, a number of measures of taxation (tax paid or tax due) and income (taxable income or operating surplus) can be used. Using data from the Central Statistics Office and the Revenue Commissioners, four estimates of the effective tax rate on profits earned in Ireland are analysed.

This Technical Paper shows that the most appropriate measures of the effective corporate income tax rate applying to the total of corporate profits in Ireland are the tax rate as calculated based on 'Net Operating Surplus'[3] from the National Income Accounts which are produced by the Central Statistics Office (Approach No. 3) , and the tax due as a proportion of Taxable Income from the Corporation Tax Distribution Statistics produced by the Revenue Commissioners (Approach No. 5). The most recent figures are 8.4 per cent for the former and 10.4 per cent for the latter, and their averages since 2003 are 10.9 per cent and 10.7 per cent, respectively as shown in Table 1 above. The two measures are similar in concept but there are notable differences between them.

The primary reason the effective rate on Net Operating Surplus (Approach No. 3) is, on average, below the headline 12.5 per cent rate is because a portion of the interest expenditure incurred by non-financial corporations is not deducted when determining Net Operating Surplus in the national accounts. This interest is attributed to the financing rather the operating of non-financial corporations in the national accounts. In 2011, non-financial corporations incurred €7.5 billion of interest expenditure of which €5.2 billion was excluded from the determination of Net Operating Surplus as it was attributed to the financing rather than the operating of the companies. This lowers the effective tax rate on Net Operating Surplus as it increases the measure of profit on which the effective rate is based.

The average of tax due as a proportion of Taxable Income (Approach No. 5) is lower than the 12.5 per cent rate because Taxable Income includes the foreign-source profits of Irish-resident companies, all of which are granted relief for any corporate income tax paid in other countries on these foreign-source profits so as to avoid double taxation. In 2011, this relief was €567 million and once account is taken of that the Revenue Commissioners' data indicates a corporate tax burden in Ireland of 11.8 per cent of Taxable Income (Approach No. 6).

[3] From National Accounts the measure of Net Operating Surplus can be used to represent the aggregate of corporate profits in the economy.

Eurostat publish an annual set of implicit tax rates (ITRs) for a range of tax bases including corporate income. Using Eurostat's methodology the 2012 figure for this implicit tax rate on corporate income in Ireland is estimated in this Technical Paper to be 5.9 per cent (Approach No. 4). The rate has averaged 8.3 per cent since 2003. There are a number of issues that mean this is not an appropriate measure of the tax burden imposed by the Irish system of Corporation Tax on company profits subject to tax in Ireland. Foremost amongst these is the inclusion of interest and dividend income received by investment funds which are valued at around €1 trillion based in Ireland, which have a disproportionate impact on the Irish measures relative to most other EU countries. These receipts are counted as part of the income of the corporate sector in Eurostat's measure but are an artificial inflating of the measure of corporate profitability in Ireland. The income of such collective investment funds is taxed at the level of the investor rather than the fund, as is standard international practice.

In recent years the measures of effective corporate income tax rates based on the data from the CSO's National Accounts have been falling. The primary reason for this is the treatment of capital gains and trading losses carried forward under Corporation Tax which caused the effective rate in the National Accounts to be higher in the years up to 2007 (because of Corporation Tax due on the capital gains of companies) and lower in the years since then (because of use of trading losses carried forward to reduce tax due). Net Operating Surplus is not affected by capital gains or losses carried forward but corporate tax can be higher or lower depending on these gains and losses. The recent trend in Ireland has been for those factors to result in a decreasing effective rate on Net Operating Surplus.

3. The Combined Company Approach

A final methodology is to aggregate firm-level data according to some fixed criteria. The National Aggregates Approach described in the previous section is based on aggregating firms by country, either for national accounts or taxation purposes. The Combined Company Approach equally aggregates firm-level data but the criteria for inclusion do not necessarily match jurisdictional boundaries. The approach uses published or reported company accounts and determines an aggregate or average measure of tax paid on company income using the data collected. The approach may not be informative in determining the effective tax rate on profits by country as the company data is usually not disaggregated by each country of operation, as would be required under a system of country-by-country reporting. The approach is appropriate for determining the effective tax rate of the companies included. However, if the companies included operate across multiple jurisdictions the approach can

give an accurate estimate of the global effective tax rate for those *companies* but will not necessarily be reflective of the corporate income tax imposed by any particular *country*.

The *Irish Times* aggregate the tax paid for their set of 'The Top 1000 Irish Companies' but the extent to which the aggregated data reflect profits earned in Ireland and tax paid only in Ireland is not clear (Approach No. 7). The federal economics statistics agency in the United States, the Bureau of Economic Analysis (BEA), aggregates the data of all foreign-owned subsidiaries of US companies (Approach No. 8). The BEA provides a by-country breakdown of the figures but the country allocation is done on the basis of place of incorporation rather than location of operations. For all countries in the BEA data the figures are the profits earned and tax paid of companies incorporated in *those* countries, which may represent the profit and tax outcomes for those companies in many *other* countries. The BEA figures attributed to Ireland relate to the Irish-incorporated subsidiaries of US companies. There is no restriction on these companies to limit their operations to Ireland. The figures in BEA data represent their operations everywhere, not just in Ireland (to the extent they have any in Ireland at all). The profits reported by these Irish-incorporated subsidiaries of US companies are far in excess of the totals that appear in either the CSO's or Revenue Commissioners' data. The BEA data does highlight the ability of certain US companies to achieve very low effective rates for the foreign tax paid on their non-US sourced profits arising from their operations across multiple jurisdictions (including Ireland) but cannot give an appropriate measure of the effective corporate tax rate applying to their Irish profits.

The conclusion of this Technical Paper is that the data from the CSO and Revenue Commissioners provide the best estimate of the effective rate of Corporation Tax on the total profits that are subject to Irish tax (Approaches No.3 and No. 5). The figures in this Technical Paper show that, since 2003, these have averaged 10.9 per cent and 10.7 per cent respectively.

SECTION 1: INTRODUCTION

1.1 BACKGROUND

The effective rate of corporation tax paid by companies has been the subject of much debate in Ireland and internationally. It is part of the broader debate on international tax issues which has a particular focus on the taxation of multinational companies – some of whom appear to be able to structure their global affairs in such a way as to pay very low effective rates of tax.

The question of what is the effective rate of corporation tax in Ireland has been asked repeatedly but, in the absence of a single, internationally agreed, methodology, there have been a variety of conflicting answers from a variety of different sources. During the course of debate at Committee Stage of Finance (No.2) Act 2013 on November 27th 2013, it was agreed that the Department of Finance would provide the Oireachtas Committee on Finance, Public Expenditure and Reform with a Technical Paper on the matter by the end of the first quarter of 2014.

The Department of Finance commissioned Seamus Coffey, Lecturer in Economics in University College Cork, to conduct the work jointly with Kate Levey, a tax-qualified Assistant Principal in the Fiscal Policy Division of the Department of Finance.

The contribution of staff in the Central Statistics Office, the Office of the Revenue Commissioners and PwC Ireland in supplying and explaining the data referred to in this Technical Paper is gratefully acknowledged. Of course, all errors and omissions remain the responsibility of the authors.

This Technical Paper looks at three different methodologies used in the calculation of 'effective rates' of corporation tax generally. The main figures being quoted in respect of Ireland are examined in further detail in sections two to four. In the case of the measures reported for the National Aggregates Approach some differences between the reported figures are also explained. The work is important provide clarity about the seemingly conflicting figures that are frequently quoted. This paper should serve as a resource to those seeking to understand the issues.

Corporation Tax

Companies operating in Ireland are chargeable to corporation tax at the 12.5 per cent rate on the profits that are generated from their trading activities. The 10 per cent corporation tax rate for profits from manufacturing expired at the end of 2010 and the 12.5 per cent rate now

applies to such profits. A higher 25 per cent rate applies in respect of investment, rental and other non-trading profits, as well as certain petroleum, mining and land-dealing activities, while chargeable capital gains are taxable at the capital gains tax rate of 33 per cent.

A company resident in Ireland is liable to Corporation Tax on its worldwide profits. Whether or not these profits are brought into Ireland is irrelevant for this purpose. For Irish resident companies with foreign-source profits, double taxation relief is available for corporate income tax paid in other jurisdictions. A company which is not resident in Ireland for tax purposes but which has a taxable presence in Ireland will only be liable for Corporation Tax on its profits sourced in Ireland.

What is meant by the 'effective' rate of corporate tax?

The statutory or headline rate of tax is the rate that is applied to the 'taxable income' of companies in order to calculate their tax liability before any tax credits are applied in order to reduce the tax liability.

Generally speaking, corporation tax is understood to apply to the profits made by companies. The 'effective' rate of tax is generally understood to mean the tax paid as a percentage of the profits of companies. Profit is generally understood to be its turnover / income less current expenses (labour, raw materials and depreciation of fixed assets).

When comparing corporate tax rates across countries, (and when comparing the tax rates applied to different sectors of the economy or factors of production), the 'effective' tax rate should be a better measure of the actual level of tax burden than the statutory or headline rate because it takes account of the existence of tax reliefs/credits and differences in the taxable base.

Table 2.1.1 sets out a simplified example of the difference in effective rate arising for two companies, with identical total amounts of income and expenses, due to the fact that some of the expenses incurred by Company A qualify for the Research and Development (R&D) Tax Credit. In general terms, and subject to certain limits, 25 per cent of eligible R&D expenditure can be used as a credit against corporation tax due.

Table 2.1.1: Simplified Example of Impact of Tax Credits on Effective Rates of Tax

	Company A	Company B
Income from Sales	**100,000**	**100,000**
less		
Wages Relating to R&D	(2,000)	-
All Other Wages	(48,000)	(50,000)
Materials	(30,000)	(30,000)
equals		
Profit	**20,000**	**20,000**
Statutory Tax Rate	12.5%	12.5%
Tax at 12.5%	2,500	2,500
R&D Tax credit (25% of €2,000 R&D wages)	(500)	-
Tax Payable	**2,000**	**2,500**
Effective Tax Rate	(2,000/20,000) = **10%**	(2,500/20,000) = **12.5%**

Source: Authors' Calculations

The impact of tax credits is relatively easy to understand and also tends to be more identifiable in corporation tax statistics.

The impact caused by differences in the taxable base, however, is more difficult to understand and to compare. These differences arise when certain types of income are exempt from taxation and thus not counted as part of the taxable base or where there are differences in the range of expenses that are deductible for tax purposes.

The taxable base in respect of corporate profits in Ireland is very broad as evidenced by the fact that the effective rates of tax shown under the two separate model company approaches are close to the statutory headline rate of 12.5 per cent.

What's so confusing?

In theory, the calculation of an effective corporate tax rate is straightforward. It is:

$$\frac{\text{Tax Liability}}{\text{Company Profit}} \times 100$$

Differences in the calculation of effective tax rates can be the result of the inclusion of different measures of the tax liability in the numerator and different measures of company

profit in the denominator.

There are a variety of measures of corporate profit including: trading income and taxable income based on accounting and taxation principles, and operating surplus and net entrepreneurial income based on the economic principles of national income accounting. It is also the case that measures of corporate income can be limited to that earned within a region (i.e. territorial) or the income earned by a company which can operate across borders (i.e. worldwide). This variety of options for the denominator is one reason for the different effective corporation tax rates that may be attributed to the one country.

The choice of options for the tax measure in the numerator is more limited but can also lead to some variation in the calculation of effective tax rates. The tax liability arising in respect of the profits earned in a given year is the most appropriate numerator. However, tax paid to the relevant tax authority in a given period is also sometimes used and there can be timing differences between the two measures.

1.2 Different Methodologies

This Technical Paper assesses three broad methodologies applied in analysis that attempts to estimate effective corporate tax rates for Ireland. Throughout this section, the figures arising from the different approaches are numbered consistent with Table 1 of the Executive Summary.

Two of the figures that are frequently quoted when referring to effective corporate tax rates are based on model company analyses. These are from a report produced for the European Commission in 2012 by the Zentrum für Europäische Wirtschaftsforschung (ZEW or the Centre for European Economic Research) and the *Paying Taxes 2014 - The Global Picture* report produced for the World Bank by PricewaterhouseCoopers, PwC. The most recent rates for Ireland from these are:

	Current Estimate
1. European Commission/ZEW:	14.4 per cent in 2012
2. World Bank/PwC:	12.3 per cent in 2012

The effective tax rates provided by these reports are based on the creation of model companies which are endowed with certain characteristics. The reports then examine how the profits of such model companies would be taxed across a range of jurisdictions.

The model company approach is designed to analyse the experience of a 'typical' company. This analysis is very useful for comparing the taxable base across different jurisdictions. However, all such comparisons are limited to the extent that the company's structure and characteristics may not be representative of the norm in different countries. In such a study it would not be appropriate to use a different model company for each country as then it would be impossible to determine if differences in the effective corporate tax rate were due to differences in the corporate tax regime across countries or differences in the characteristics of the model company used in each country. The application of the tax regime of each country to a standard model company means that differences are solely a result of the differing tax treatment of the company's profits in each country.

Both of these studies show an effective rate of tax for Ireland close to the headline rate of 12.5 per cent which reflects the broad taxable base in Ireland. Neither takes account of tax incentives. However, in the context of Ireland, there are only a very small number of targeted incentives in any event, with the largest, in terms of cost, being the R&D tax credit (€261m in 2010). The two studies are examined in further detail in section two.

The second approach is to look at the average corporate tax burden of the entire corporate sector in a country. The idea here is to look at the total amount of corporation tax paid in a given year and to divide it by the total amount of profit earned by companies operating in the country. This is a relatively straightforward concept and is probably the most relevant to the question of what is the average rate of tax that companies are paying on the profits they make in Ireland.

Unfortunately, the simplicity is confined to the concept. In reality, there are significant differences in the answers produced using this approach depending on the measure of tax that is used as the numerator and the measure of profit that is used as the denominator which is where the main issues arise.

There are two commonly-used measures of total corporate profit in the economy and using them produces the following four effective rates:

	Current Estimate	**Average**
Using a National Accounts measure of 'economic profit'		
3. Effective Tax Rate on Net Operating Surplus:	8.4 per cent	10.9 per cent
4. Eurostat Implicit Tax Rate on Corporate Income:	5.9 per cent	8.3 per cent

Using the Revenue Commissioners' measure of 'taxable profit'

5. Tax Due as a Proportion of Taxable Income: 10.4 per cent 10.7 per cent
6. Tax Burden as a Proportion of Taxable Income 11.8 per cent 11.9 per cent

Understanding the most appropriate figures to use from the National Accounts tables as well as the differences between these figures and those from the Revenue Commissioners' statistics is an important element of understanding the determination of effective Corporation Tax rates in Ireland. The *Taxation Trends in the European Union Report* contains a measure of the 'implicit tax rate on corporate income' in respect of each EU Member State. The 2012 edition refers to a rate of 6.8 per cent for Ireland in 2010. This Technical Paper applies the same methodology to 2012 data and shows in an estimated implicit tax rate for corporate income of 5.9 per cent. The rate is based on data compiled by the Central Statistics Office, collated by Eurostat and is essentially a National Accounts measure. There are some notable features of the Irish economy, mainly the impact of the International Financial Services Sector, that explain the difference between both these measures derived from National Accounts data and highlight the inappropriateness of this implicit tax rate as a measure of the effective tax rate on corporate income in Ireland. These and other issues relating to the national aggregates approach are examined in section three.

The final method involves aggregating the data available from company financial statements. The numerator can either be the tax charge made in the company's accounts for a particular accounting period or the cash tax payment made during a particular accounting period, usually a year in both cases. The denominator is generally pre-tax accounting profits.

Two instances of the application of this approach are considered in this report and, in respect of 2012 and 2011, are:

Current Estimate

7. *The Irish Times* Top 1000 Irish Companies Average Tax Rate: 15.5 per cent
8. Irish-Incorporated Companies in US BEA data Average Tax Rate: 2.2 per cent

This method is useful for getting the effective tax rate of companies as it calculates an effective tax rate in terms of accounting profit, which best reflects their bottom line. However, the approach presents a number of significant difficulties in determining the effective corporate tax rate that applies in a particular country. One reason for this is that companies can operate in multiple countries and the tax charge in their financial accounts can reflect the tax due across a number of jurisdictions. There can also be issues for the

assigning of companies to countries due to differences in the corporate tax residency rules used in different jurisdictions. While the measures are useful in considering the effective tax rates of companies, they are not as relevant to establishing the most appropriate measure of the effective rate of corporation tax in Ireland.

The purpose of this Technical Paper is to present an analysis of the main methodologies used to determine effective rates of corporation tax imposed on corporate profits in Ireland. In doing so the Note assesses their appropriateness and limitations as a potential measure of the effective corporation tax rate in Ireland. The purpose is not to find a definitive effective corporate tax rate for Ireland as no single measure is best. The broad conclusion is that the measures set out in section three using national aggregate data provide the best estimates of the effective corporate tax rate that company profits in Ireland are subject to. Since 2003 these indicate a tax rate in the region of 11 per cent.

SECTION 2: THE MODEL COMPANY APPROACH

2.1 EUROPEAN COMMISSION/ZEW: THE GRIFFITH/DEVEREUX METHODOLOGY

As a project undertaken for the European Commission, the Zentrum für Europäische Wirtschaftsforschung (ZEW or the Centre for European Economic Research) produced a report on effective tax levels for companies using the Griffth/Devereaux methodology. The approach is to calculate a set of effective tax rates by:

- Type of assets, and
- Source of finance

and then use these to determine an overall average effective corporate tax rate (AETR). The calculated effective tax rates by types of asset are shown in Table 2.1.1 and the average effective tax rates by source of finance are shown in Table 2.1.2. The overall average effective tax rate for Ireland arising from this method is 14.4 per cent (labelled Approach 1 in Table 1 of the Executive Summary).

Table 2.1.1: AETR by Type of Asset

Type of Asset	AETR
Industrial Buildings	12.8%
Intangibles	11.7%
Machinery	11.5%
Financial Assets	24.4%
Inventories	11.6%

Source: ZEW

Table 2.1.2: AETR by Source of Finance

Source of Finance	AETR
Retained Earnings	16.2%
New Equity	16.2%
Debt	11.0%

Source: ZEW

The AETR provides information about the effective tax burden on profitable investments, i.e. investments generating an economic rent. The AETR relies on a forward-looking approach which assumes a hypothetical investment project and estimates the tax payments of related decisions. It evaluates “ex ante” the tax consequences of alternative choices. This contrasts to backward-looking measures which are based on ex-post data arising from aggregate macroeconomic accounts or from companies’ accounts.

The AETR is measured as the difference between the net present value (NPV) of the pre-tax

income and post-tax income of a new investment project relative to the NPV of the pre-tax income stream derived from the real pre-tax rate of return. The approach essentially determines the reduction in the value of the profit stream as a result of the application of corporate income tax.

With increasing profitability the AETR will come closer to the statutory corporate income tax rate. The underlying economic reason is the easing relative influence of depreciation, interest deductibility and other tax accounting rules on the effective tax burden with rising profits. The calculations are based on a hypothetical investment project. In order to carry out a comprehensive analysis the model considers five different types of assets: industrial buildings, intangibles, machinery, financial assets, and inventories. Furthermore, the model incorporates three different financing policies: new equity, retained earnings, and debt. The AETR is an average rate from the five types of assets and three financing policies.

Table 2.1.3: Average Effective Tax Rates by Type of Asset and Source of Finance, 2012

	Industrial Buildings	Intangibles	Machines	Financial Assets	Inventory	Mean
Retained Earnings	14.3	13.2	13.0	27.5	13.1	**16.2**
New Equity	14.3	13.2	13.0	27.5	13.1	**16.2**
Debt	9.9	8.9	8.6	18.8	8.8	**11.0**
Mean	**12.8**	**11.7**	**11.5**	**24.4**	**11.6**	**14.4**

Source: ZEW

The rate that is attributed as the effective rate is the 14.4 per cent which is the mean rate that results from using each financing source and each type of asset. The rate is higher than the headline 12.5 per cent rate of Corporation Tax in Ireland because of the application of the 25 per rate on non-trading income, particularly in the case of Financial Assets in the ZEW analysis.

The approach is useful for comparing the impact of credits and reliefs and the width of the tax base across jurisdictions. On this metric Ireland has a relatively simple system with limited reliefs and credits and a broad base. However, the method is not appropriate for the purposes of trying to determine the effective rate of Corporation Tax applied to the total profits of the firms actually operating in Ireland.

2.2 World Bank/PwC: Paying Taxes

The annual *Paying Taxes* report "uses a case study approach to measure the taxes and contributions paid by a standardised business and the complexity of an economy's tax compliance system. This case study scenario uses a set of financial statements and assumptions about transactions made over the year. Tax experts from a number of different firms in each economy (including PwC) compute the tax and mandatory contributions due in their jurisdiction based on the standardised case study facts".

The report identifies a 'total tax rate' of 25.7 per cent applying to the company's commercial profits in Ireland in respect of 2012. This total tax figure includes:

- Profit Tax Rate of 12.3 per cent
- Labour Tax Rate of 12.1 per cent (labour taxes payable by the company)
- 'Other' Tax Rate of 1.3 per cent (includes commercial rates, landfill tax, motor tax among others)

It is the 12.3 per cent rate that is sometimes quoted as the 'effective rate' of corporation tax in Ireland (labelled 'Approach 2 in Table 1 of the Executive Summary).

The calculations are based on a 'model company' with the following features:

- Manufacturer of ceramic flowerpots with 60 employees
- Has the following assets – two plots of land, one building, machinery, office equipment, computers and one truck (also leases one truck)
- No imports or exports
- Turnover of 1050 times income per capita and total capital of 102 times income per capita
- Is in its second year of trading
- Made a loss in year 1 and made a capital gain on the sale of some land in year 2 (note – capital gains tax was payable on the gain at 30 per cent in 2012)
- Does not qualify for investment incentives or any benefits apart from those related to the age or size of the company
- Commercial Profit is equal to 59.4 times income per capita and is defined as follows:
    - "sales minus cost of goods sold, minus gross salaries, minus administrative expenses, minus other expenses, minus provisions, plus capital gains (from the property sale) minus interest expense, plus interest income and minus commercial depreciation"

The commercial profit figure is important because it acts as the denominator for the calculation of the 'profit tax rate'. It differs from conventional accounting profit as reported in financial statements in one important respect – it includes all of the taxes paid by the company which are normally deductible as an expense in calculating net accounting profits (e.g. PRSI, motor tax, commercial rates).

Table 2.2.1: The Total Tax Rate calculation for Ireland in 2012 in *Paying Taxes*[4]

		€000	**€000**	**€000**
Profit Before Tax (PBT)				**1,648**
Add back above the line taxes borne:				
Social Security Contributions paid by employer		232		
Total Labour Taxes			232	
Tax paid by company for check transactions		0.1		
Motor Renewal tax (road tax)		3		
Stamp duty on insurance contracts		1		
Environmental duties - Landfill tax		1		
Commercial Property Rates		19		
Total 'Other' Taxes			24	
				257
Profit before all taxes borne (PBT) - "Commercial Profit"				**1,904**
Corporate income tax on PBT after necessary adjustments for depreciation and losses forward	@12.5%	(206)		
Corporate income tax on chargeable gains from sale of land	@30.0%	(29)		
Total Corporate Taxes			(235)	
Total Labour Taxes			(232)	
Total 'Other' Taxes			(24)	
Total taxes borne				**(492)**
Profit after tax				**1,413**
Total Tax Rate - Total taxes borne / Commercial Profit				**25.7%**
Composed of:				
Profit Tax Rate - Total Corporate Taxes / Commercial Profit				**12.3%**
Labour Tax Rate - Total Labour Taxes / Commercial Profit				**12.1%**
'Other' Tax Rate - Total 'Other' Taxes / Commercial Profit				**1.3%**

Source: PwC Ireland

[4] PwC Ireland provided us with the computation detailing the calculation of the profit tax figure of 12.3 per cent. Readers should note that totals are affected by 'rounding'.

If the deductible tax payments are stripped out of the "commercial profit" figure in order to bring it back to the concept of "accounting profit", the effective rate is actually 14.3 per cent (235 'Total Corporate Taxes' / 1,648 'Profit Before Tax') which is much closer to the figure from the Griffith Devereux methodology. This is a combination of the 12.5 per cent rate applied to net trading profits (which have been adjusted to take account of the losses forward from prior year and capital allowances/depreciation) and the 30 per cent rate applied to the capital gain made on the sale of land.

This methodology is useful as it allows a comparison of effective tax rates across countries in a standard setting and can give an insight into the breadth of the taxable base by comparing the calculated effective rate to the headline or statutory rate. However, the method is not appropriate for the purposes of trying to determine the effective rate of Corporation Tax applied to the total profits of the firms actually operating in Ireland.

SECTION 3: THE NATIONAL AGGREGATES APPROACH

3.1 CENTRAL STATISTICS OFFICE: NATIONAL INCOME ACCOUNTS

A number of measures of the effective tax burden on corporations can be estimated from National Accounts tables published by the Central Statistics Office. This section summarises the two measures labelled as 'Approaches 3 and 4' in Table 1 of the Executive Summary, explains the methods behind them and assesses their appropriateness for Ireland. These measures, and their rates for 2012, are:

3. Effective Tax Rate on Net Operating Surplus: 8.4 per cent
4. Eurostat's Implicit Tax Rate on Corporate Income: 5.9 per cent

National Accounts data can be used to determine the level of corporate profitability in the economy. From National Accounts the measure of Net Operating Surplus can be used to represent the aggregate of corporate profits in the economy from production activity. The determination of Net Operating Surplus is based on the production process and its calculation is relatively straightforward as shown in the table below[5].

Table 3.1.1: Determination of Net Operating Surplus of the Corporate Sector in 2012

Item	Financial Corporations	Non-Financial Corporations	All Corporations
	€million	€million	€million
Value of Output Produced	**43,824**	**246,264**	**290,088**
Cost of Intermediate Consumption	(29,885)	(157,583)	(187,468)
Gross Value Added	**13,939**	**88,681**	**102,620**
Compensation of Employees Paid	(5,970)	(38,550)	(44,520)
Taxes on Production Paid	(104)	(1,793)	(1,897)
Subsidies on Production Received	0	593	593
Gross Operating Surplus	**7,865**	**48,931**	**56,796**
Consumption of Fixed Capital (Depreciation)	(702)	(8,707)	(9,409)
Net Operating Surplus	**7,163**	**40,224**	**47,387**

Source: Central Statistics Office, Institutional Sector Accounts

Using Net Operating Surplus we can get a measure of the effective rate of corporation tax using the figure for taxation on corporate income in the National Accounts. The tax figure used from the National Accounts is "taxes on the income or profits of corporations" (code D51B). This is equivalent to the Corporation Tax paid into the Exchequer Account in each

[5] Although Table 3.1.1 starts with the Value of Output Produced it should be noted that the CSO begin with an estimate of Gross Operating Surplus and then an estimate of Compensation of Employees paid is used to determine a measure of Gross Value Added. The first two rows in the table are then imputed from the result for Gross Value Added.

year.[6] Dividing this by the estimate of Net Operating Surplus gives an effective tax rate and the 2012 estimate of 8.4 per cent is shown in Table 3.1.2.

Table 3.1.2: Effective Tax Rate on Net Operating Surplus in 2012

Item	Financial Corporations	Non-Financial Corporations	All Corporations
	€million	€million	€million
Corporate Income Tax Paid (D51B)			3,964
Net Operating Surplus	7,163	40,224	47,387
Effective Tax Rate			**8.4%**

Source: Central Statistics Office, Institutional Sector Accounts & Authors' Calculations

Eurostat's 'implicit tax rate' is based on different measures of the tax paid by companies and the income of companies. In principle the 'implicit tax rate' is somewhat equivalent to an average effective tax rate, though the corporate income included in the denominator is not necessarily subject to Corporation Tax.

The tax measure used begins with D51B from the National Accounts but adds taxes paid under D51C2, "taxes on the holding gains of corporations". In Ireland most of the holding gains, or more commonly the capital gains of companies are taxed under Corporation Tax with the gains 're-grossed' to reflect any difference in the rate that would be applied under Capital Gains Tax.[7] However, the capital gains of companies on development land are not taxed under Corporation Tax but instead are taxed under Capital Gains Tax. The CGT paid by companies on the capital gains from development land is what is included in D51C2.

Eurostat's corporate income measure is similar in concept to the Net Entrepreneurial Income measure produced by the CSO. Both include non-trading income and expenses such as interest, dividends and rent. Net Operating Surplus only includes the outcome of trading activities and measures only productive activity. In this report we focus on the Eurostat measure though most of the discussion equally applies to Net Entrepreneurial Income. The transition from Net Operating Surplus to the measure of corporate income derived from the

[6] For 2011 and 2012 an adjustment was made because around €250 million of Corporation Tax receipts that were due to be paid into the Exchequer Account in December 2011 were delayed until January 2012. The CSO assigned the receipts to 2011.

[7] Consider, for example, a simplified situation where the CT rate on non-trading income is 20 per cent and the Capital Gains Tax rate is 40 per cent. If a company has a holding gain of €1 million it will be due to pay €400,000 CGT on that profit. In making its Corporation Tax return the company will report capital gains under 'Other Income'. It will be 're-grossed' to €2 million to which the 20 per cent CT rate is applied resulting in a CT liability of €400,000, which is equivalent to what would have arisen if the €1 million gain had been taxed at the 40% CGT rate. If the CGT rate is lower than the applicable CT rate the capital gains are re-grossed downwards.

methodology applied to the Eurostat data is shown in Table 3.1.3.

Table 3.1.3: Calculation of Eurostat's Implicit Tax Rate on Corporate Income in 2012

Item	Financial Corporations	Non-Financial Corporations	All Corporations
	€million	€million	€million
Corporate Income Tax Paid (D51B + D51C2)			**4,005**
Net Operating Surplus[8]	**7,163**	**40,224**	**48,123**
Interest received by companies after FISIM adjustment	41,776	681	42,457
Interest paid by companies after FISIM adjustment	(23,747)	(5,159)	(28,906)
Dividends received by companies	6,287	2,690	8,977
Dividends paid by companies	(17,505)	(20,965)	(38,470)
Dividends received by:			
General Government	n/a	n/a	1,360
Households, Self-Employed & Non-Profit Institutions	n/a	n/a	1,688
The Rest of the World	n/a	n/a	35,469
Insurance Property Income Paid by companies	(2,748)	-	(2,748)
Insurance Property Income Received by companies	-	-	-
Estimate of Corporate "Income"			**67,950**
Implicit Tax Rate			**5.9%**

Source: Central Statistics Office & Eurostat Institutional Sector Accounts, and Authors' Calculations

Eurostat begin with the Net Operating Surplus figure as shown in Table 3.1.1 and they make a variety of adjustments to take account mainly of interest and dividend flows. The relationship between Net Operating Surplus and Eurostat's measure of corporate income depends on the structure of the economy in question. The scale of interest flows in particular appears to present a somewhat skewed picture of the Irish situation.

The Intermediate Consumption figure used in the determination of Net Operating Surplus includes only some of the interest expenditure of non-financial companies. This is the interest for Financial Intermediary Services Indirectly Measured (FISIM). It is the portion of interest that is attributed to pay the cost of financial services that are not explicitly covered by bank charges and fees but instead are paid through the interest margin levied by banks. The portion of interest that is not attributed to using financial services, that is the interest to

[8] As well as the Net Operating Surplus of Financial and Non-Financial Corporations the total Net Operating Surplus for All Corporations in Table 3.1.3 also includes withdrawals from quasi-corporations, which was equal to €736 million in 2012. This represents the earnings of the owners of large non-incorporated businesses (e.g. large partnerships) which are similar in their economic and financial behaviour to companies of an equivalent size, though the income withdrawn is taxed under Income Tax.

cover the cost of financing, is not used in the determination of Net Operating Surplus as this relates to the financing rather than the productive activities and operating of the companies.

The interest expenditure of non-financial companies in excess of the FISIM adjustment is deducted in the Eurostat measure of corporate income for non-financial corporations. In Table 3.1.3 this can be seen to be €5.2 billion. To the extent that this interest is paid to resident financial corporations it will be included as interest income for them. For Ireland, however, the income receipts of financial corporations are significantly in excess of the interest payments of the other domestic sectors of the economy (households, non-financial corporations and general government). This means that Eurostat's corporate income measure has always exceeded Net Operating Surplus. It can be seen in the Table 3.1.3 that the interest income received by financial corporations in Ireland was close to €42 billion in 2012.[9] One key reason for large interest income for financial firms in Ireland is because it includes income accruing to international collective investment funds that are domiciled in Ireland.

Implicit tax rates attempt to calculate tax paid as a proportion of a potential taxable base of income. In calculating the potential taxable base of the corporate sector, interest income received by collective investment funds is included even though such income is generally exempt from taxation in most EU countries (taxation occurs at the level of the individual investor rather than at the level of the fund). The impact of this on the calculation of implicit rates differs according to the relative size of the funds industry as compared to the overall economy in each EU country. Ireland has a large international investment funds industry and, as a result, the inclusion of this tax-exempt income has a disproportionate impact on the calculation of implicit rates of corporate income for Ireland, as compared to other countries, with the resulting estimates being significantly reduced.

The broad rationale for exempting such funds from direct taxation is to facilitate individuals in collectively investing without suffering double taxation. "Most countries now have a tax system that provides for neutrality between direct investments and investments through a Collective Investment Vehicle (CIV)…"[10]

[9] At an average interest rate of 4 per cent it would require a principal amount of over €1 trillion to generate this amount of interest income.

[10] "Report Of The Informal Consultative Group On The Taxation Of Collective Investment Vehicles And Procedures For Tax Relief For Cross-Border Investors On The Granting Of Treaty Benefits With Respect To The Income Of Collective Investment Vehicles 12 January 2009", Centre for Tax Policy and Administration, OECD.

Ireland is one of the largest fund domiciles in the European Union with over €1 trillion in assets under management[11]. As a result, this issue has a disproportionate impact on the calculation of implicit rates on corporate income for Ireland as the interest and dividend income earned by these funds are counted as income for the financial sector in Ireland. The Balance of Payments will include a contemporaneous outflow of income to reflect the fact that this is the income of non-resident investors in these funds. The income on these funds does not form part of GDP as it is not related to production in Ireland and, although resident in Ireland, the income is not counted in GNP as the investors in the funds are mainly non-residents.

In one sense, it is arguable that the income of tax exempt investment funds should not be included in the denominator at all as it is intended to represent the closest possible approximation to the taxable base of corporate income.

The Eurostat measure also adds dividends received by the other sectors of the economy (the rest of the world, the general government sector, and the sector comprising households, the self-employed and non-profit institutions) to Net Operating Surplus to get the denominator used. The final adjustment made is for income earned by the invested income of insurance funds (pensions and life assurance funds). These are included in the interest and dividend receipts of financial corporations but are subsequently imputed as a flow to the household sector which owns the funds. In Table 3.1.3, the impact of these dividend and insurance property income flows between the sectors largely offset each other. This is not the case for Ireland with interest flows.

As can be seen in Table 3.1.3, in 2012 there was a €20 billion difference between Net Operating Surplus and Eurostat's measure of corporate income. The main driver of this is the net interest income of the financial and non-financial sectors. Non-financial corporations had an additional interest expense of €5.2 billion on top of the €2.4 billion of interest counted as FISIM (which is included in intermediate consumption when determining Net Operating Surplus). On the other hand it can be seen that there is a net interest gain of €18 billion received by financial corporations. Some of this represents the interest income of banks and financial institutions which are subject to Irish corporation tax but in the main it includes the interest income of untaxed investment funds. There will also be some dividends received by these funds in the income measure.

[11] Central Bank Data on Investment Funds in Q3 2013 - Information Release 20 December 2013.

In approximate terms, the dividends paid by corporations in Ireland matches the dividends received by the other sectors with the majority of the dividends paid going to the rest of the world. For financial corporations this reflects the presence and ownership of very large investment funds in Ireland while for non-financial corporations it reflects the large impact of foreign direct investment in Ireland. The income of investment funds is not included in Net Operating Surplus and they are not subject to Irish Corporation Tax. And although the dividends owing by MNCs operating in Ireland are deducted they are added back in as dividends received by the Rest of the World. The profits earned by these FDI companies in Ireland are included in the starting measure of Net Operating Surplus and are subject to Irish Corporation Tax. Table 3.1.4 summarise the effective tax rates from the National Accounts for the past ten years.

Table 3.1.4: Effective Tax Rates on Net Operating Surplus and Eurostat's Measure of Corporate Income 2003-2012

All Corporations	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
	€million	€million	€million	€million	€million	€million	€million	€million	€million	€million
Net Operating Surplus										
D51B – Tax on Corporate Income	5,155	5,335	5,503	6,687	6,394	5,071	3,890	3,947	3,751	3,964
Net Operating Surplus	42,678	43,655	46,113	49,664	52,233	40,809	39,148	43,706	48,091	47,387
Effective Tax Rate	**12.1%**	**12.2%**	**11.9%**	**13.5%**	**12.2%**	**12.4%**	**9.9%**	**9.0%**	**7.8%**	**8.4%**
Eurostat Corporate Income										
D51B – Tax on Corporate Income	5,155	5,335	5,503	6,687	6,394	5,071	3,890	3,947	3,751	3,964
D51C2 – Tax on Corporate Holding Gains	144	153	198	310	310	142	55	35	42	41
D51B + D51C2	5,299	5,488	5,701	6,997	6,704	5,213	3,945	3,982	3,793	4,005
Corporate "Income"	55,192	56,548	58,712	68,482	76,572	63,074	53,307	59,781	62,180	67,950
Implicit Tax Rate	**9.4%**	**9.6%**	**9.7%**	**10.2%**	**8.8%**	**8.5%**	**7.6%**	**6.8%**	**6.1%**	**5.9%**

Source: Central Statistics Office & Eurostat Institutional Sector Accounts, and Authors' Calculations

Over the ten-year period the average for the effective rate on Net Operating Surplus has been 10.9 per cent and the implicit tax rate from the methodology applied to the Eurostat has averaged 8.3 per cent, with the difference between them due largely to the interest income of collective investment funds.

The primary reason the effective tax rate on Net Operating Surplus has an average below the headline 12.5 per cent is the treatment of interest in the national accounts. Table 3.1.5 gives the composition in the national accounts of the net interest payments (interest paid minus interest received) for non-financial corporations since 2003.

Table 3.1.5: Composition in the National Accounts of interest paid by non-financial corporations

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
	€million	€million	€million	€million	€million	€million	€million	€million	€million	€million
Net Total Interest Paid	**3,405**	**4,007**	**5,097**	**6,995**	**8,826**	**10,732**	**7,338**	**5,524**	**7,415**	**6,588**
Net FISIM Interest	1,928	2,498	2,781	3,639	4,257	5,049	3,945	2,649	2,007	2,110
Net Interest Paid	1,477	1,509	2,316	3,356	4,569	5,683	3,393	2,875	5,408	4,478

Source: Eurostat, Institutional Sector Accounts

The total interest row represents the overall net interest expenditure of non-financial corporations (total interest paid minus total interest received). The FISIM interest flows attributed in the national accounts is for Financial Intermediary Services Indirectly Measured. This is the portion of interest which is attributed to the provision of services by the financial sector used during the operating of companies that are not paid for directly through bank charges and fees but is instead paid for via the interest margin levied by banks. The net interest paid after the FISIM adjustment is included as intermediate consumption (of financial services) and is used when determining Net Operating Surplus.

The interest in the bottom row of Table 3.1.5 represents the portion of interest paid on loans and received from deposits that is attributed to the financing of companies rather than their operating. This interest is not used when Net Operating Surplus is being determined and so Net Operating Surplus can be considered an over-estimate of profitability of the non-financial corporate sector to the extent that it excludes the net interest cost attributed to the financing of the companies. This interest will be deducted when determining the accounting profit of companies and, in general, is also deducted when calculating the profit that is subject to tax.

The €4,478 million figure for 2012 in Table 3.1.5 can be seen in Table 3.1.3 as the difference between the interest received by non-financial corporations after the FISIM adjustment (of €681 million) and the interest paid by non-financial corporations after the FISIM adjustment

(of €5,159 million).

Over the ten years to 2012, non-financial corporations had net interest expenditure of €35 billion that was not used in the determination of Net Operating Surplus. This interest is received by financial corporations but they pay much of it on to the household and rest of the world sectors as well as other to financial corporations. If we take the Net Operating Surplus measure of corporate profitability and take account of the additional €35 billion of net interest expenditure of non-financial corporations after the FISIM adjustment then the ten-year average for the effective tax rate on this rough measure of overall corporate profitability is equal to 11.9 per cent.

Table 3.1.4 shows that the national accounting measures of the effective tax rate on corporate profits have been falling for the past number of years. This is not the result of changes in Ireland's Corporation Tax regime, which has been largely unchanged over the period, or a reduction in the tax burden on companies. Rather, it reflects the changes in the economic environment and, in particular, one where we have moved from the generation of taxable capital gains during the 'boom' period to the generation of significant trading losses during the recent downturn, which can be carried forward to offset future tax liabilities. These factors are explored in more detail in section 3.3 which tries to reconcile the aggregate effective tax rates found using the data of the Central Statistics Office and the statistics of the Revenue Commissioners.

3.2 Revenue Commissioners: Corporation Tax Distribution Statistics

A second source of aggregate data at national level is the Corporation Tax Distribution Statistics published annually by the Revenue Commissioners. The most recent published data are for 2011 and the following measures of the corporate tax burden, which are labelled approaches 5 and 6 in Table 1 of the Executive Summary, can be found using the figures available:

5. Tax Due as a Proportion of Taxable Income: 10.4 per cent
6. Tax Burden as a Proportion of Taxable Income: 11.8 per cent

In 2011 companies subject to Irish Corporation Tax had gross trading profits of €72.7 billion. Companies are chargeable to Corporation Tax on their profits after taking account of allowable deductions and reliefs provided for in the Taxes Consolidation Act 1997. Expenses that are incurred wholly and exclusively for the purposes of the trade are deductible in computing trading profits, while allowances are available for capital expenditure on plant and machinery, industrial buildings and certain intangible assets used in the trade, with such allowances treated as a deductible trading expense. Companies are charged on their net taxable profits after account is taken of any taxable losses they have incurred in previous years.

The Taxes Consolidation Act 1997 contains certain tax reliefs for companies that are standard features of a corporate tax system, including group relief - which allows for trading losses of a group company to be offset against profits of another group company - and double taxation relief which provides relief for foreign corporate income tax paid on profits earned and taxed abroad. There are also specific tax reliefs for companies that are targeted at promoting investment in key areas of economic importance, including a 25 per cent tax credit for expenditure on research and development, and a relief for start-up companies creating employment.

Using 2011 figures, Table 3.2.1 shows how the Taxable Income is arrived at via the various additions and deductions from the starting point of Gross Trading Profits. The impact of the different expenses, allowances and reliefs can be seen in the calculation.

Table 3.2.1: Calculation of Taxable Income from Total Income in 2011

Item	€million	€million
Manufacturing Trading Profits		18,511.2
Other Trading Profits		54,225.6
Gross Trading Profits		**72,736.8**
plus Balancing Charges		1,080.5
less Allowances		
Capital Allowances Used	8,452.9	
Trading Losses Carried Forward Used	9,518.3	
		(17,971.2)
Net Trading Income		**55,846.1**
plus Other Income		
Net Rental Income	520.4	
Other Income	4,413.4	
Capital Gains	736.5	
		5,670.3
Total Income		**61,516.4**
less Deductions and Expenses		
Trade Charges	14,876.4	
Group Relief	2,742.5	
Current Year Trading Losses	156.0	
Other Expenses	3,678.3	
		(21,453.2)
Taxable Income		**40,062.9**

Source: Revenue Commissioners, Corporation Tax Distribution Statistics

Box 3.1: Main Differences between 'Gross Trading Profits' and 'Taxable Income' in the Revenue Corporation Tax Distribution Statistics

The main differences between the 'Gross Trading Profits' and 'Taxable Income' in the Revenue Corporation Tax Distribution Statistics are explained in detail below.

The large difference in the aggregate statistics arises because the 'Gross Trading Profit' figure contains the total amount of all of the 'addback' adjustments that companies are required to make to 'accounting profit' before deducting the tax-equivalent amount in the case of depreciation and royalties. The remainder of the difference is accounted for by loss relief.

Adjustments to 'accounting profit' in the computation of corporation tax liability

Although the Revenue Corporation Tax Distribution Statistics are not presented in the same format in which a company's tax computation is normally undertaken, the primary differences between the 'Gross Trading Profits' figure and the 'Taxable Income' figure in Table 3.2.1 can be understood by reference to the adjustments that are made to a company's 'accounting profit' figure in computing its tax liability.

At individual company level, 'accounting profit' is the starting point for the computation of a company's tax liability. Accounting profit is what is recorded in a company's financial statements and is derived using accounting standards. Most financial statements are audited with respect to these standards. Tax rules require that a number of adjustments are made to

the ‘accounting profit’ figure in order to generate a ‘taxable profit’ figure to which the rate of tax is then applied. The main adjustments are set out below in detail.

Depreciation and Capital Allowances
The most common of these adjustments relates to depreciation of assets. Under international accounting standards, depreciation recognises that buildings, machinery and other assets eventually wear out in the course of earning business income and so companies are allowed an expense deduction for depreciation that represents the loss in value of assets during the course of the accounting year (not to recognise that fact would result in an overstatement of the business's profits).

The tax rules do not allow a deduction for capital costs so depreciation must be added back to accounting profit. While the tax code does not recognise depreciation, it instead provides for capital allowances for certain fixed assets in place of the disallowed depreciation. These capital allowances are calculated on a standardised basis that differs from accounting depreciation (in Ireland, for example, capital allowances are normally written off on a straight-line basis over 8 years).

The ‘Gross Trading Profits’ figure in Table 3.2.1 contains all of the depreciation that has been added back to accounting profits before capital allowances are given and, as a result, is a significant overstatement of companies’ accounting profits.

Capital allowances accounted for €8.5bn of the difference between ‘Gross Trading Profits’ and ‘Taxable Income’ in 2011.

Royalties and Trade Charges
In today’s economy, much of the value of products can be attributed to intellectual property used in producing the good or service. ‘Royalties’ are typically payments for the right to use such intellectual property. Under international accounting standards, royalties are deductible as an expense in the same way that the purchase of any raw material is deductible as a cost of sales.

However, Irish tax legislation requires that certain types of royalties be added back to accounting profits before a tax deduction is then specifically given in the form of ‘trade charges’ on income.

Unlike the difference between depreciation and capital allowances above, there is no difference in how royalties and ‘trade charges’ are calculated. So, for tax purposes, the taxpayer will add back certain royalty expenses to their ‘accounting profit’ and then deduct the amount again as a ‘trade charge’.

The ‘Gross Trading Profits’ figure in Table 3.2.1 contains all of the royalty expenses that have been added back to accounting profits before trade charges are deducted and, without the subsequent deduction of trade charges for tax purposes, would be a significant overstatement of companies’ profits.

Trade charges accounted for €14.9bn of the difference between ‘Gross Trade Profits’ and ‘Taxable Income’ in 2011.

Loss Relief and Group Relief
Losses will be identifiable for accounting purposes in the year in which they arise. For tax purposes, relief from taxation is given in respect of losses incurred in different periods. Loss relief and group relief account for the vast bulk of the remainder of the difference between ‘Gross Trade Profits’ and ‘Taxable Income’ (after capital allowances and trade charges).
The availability of relief for losses incurred in a business is a well-established feature of

corporation tax, which is in recognition of the fact that a business cycle runs over several years and that it would be unbalanced to tax profits in one year and not allow relief for losses in another. Ireland follows the international norm in that losses incurred in the course of a business are taken into account in arriving at a company's liability to tax.

Under Irish tax legislation a company incurring a trading loss in an accounting year can carry that loss back for offset against profits in the immediately preceding year and companies are entitled to carry forward unrelieved trading losses for offset against trading profits of the same trade in future accounting periods until the losses are fully relieved or the trade is discontinued.

Group relief for companies is also a basic feature of a modern tax system. It recognises the fact that groups of companies generally comprise a single economic entity and provides a system of relief for trading losses and related matters within the group. The relief may be surrendered to another company of the group subject to strict criteria being met.

Trading Losses Forward and Group Relief together accounted for €12.3bn (€9.5bn + €2.7bn +€.16bn) of the difference between 'Gross Trade Profits' and 'Taxable Income' in 2011.

Corporate Tax is levied on the Taxable Income of €40.1 billion at the appropriate rates. Applying the 12.5 per cent and 25 per cent rates it can be seen in Table 3.2.2 that the gross tax due was €5.3 billion. Once certain reliefs and credits are applied the tax due was €4.2 billion. The adjustments to the gross amount of tax due to give the final amount of tax due are also shown in the Table 3.2.2.

Table 3.2.2: Calculation of Tax Payable from Taxable Income in 2011

Item	€million		€million	€million
Taxable Income	**40,062.9**			
Amount Chargeable at 12.5%	37,940.4	x 0.125 =	4,742.6	
Amount Chargeable at 25.0%	2,121.7	x 0.250 =	530.4	
Amount Chargeable at other rates	0.8		0.2	
Gross Tax Due				**5,273.2**
less Reliefs				
Double Taxation Relief			567.1	
Other Reliefs			208.7	
				(775.8)
plus Clawbacks and Surcharges				96.9
Tax Payable				**4,594.3**
less Credits Used				
Research and Development Credit			152.3	
Income Tax Suffered Credit			65.1	
Gross Withholding Tax on Fees			229.2	
				(446.6)
				4,147.7
plus Credits Refunded Against Other Taxes				131.4
less Payment of Excess R&D Tax Credit				(106.2)
Tax Due				**4,173.4**

Totals may not add due to rounding issues.

Source: Revenue Commissioners, Corporation Tax Distribution Statistics

A number of measures of the tax rate on corporate income can be determined from the above tables but the most appropriate is tax due as a proportion of Taxable Income. Calculations based on gross trading profits, net trading income or total income can be made but these measures fail to account for allowances, deductions and expenses which are standard worldwide in the calculation of corporate income tax. Thus, tax due as a proportion of Taxable Income is the appropriate measure of the tax burden on corporate income from these statistics and is shown in Table 3.2.3. The outcome for 2011 was 10.4 per cent.

Table 3.2.3: Tax Due as a Proportion of Taxable Income in 2011

	Tax Amount	Taxable Income	Tax Rate
	€million	€million	
Tax Due as a Proportion of Taxable Income	4,173.4	40,062.8	10.4%

Source: Revenue Commissioners, Corporation Tax Distribution Statistics & Authors' Calculations

Double Taxation Relief

In the above calculations for 2011, Double-Taxation Relief of €567.1 million is subtracted as part of the transition from gross tax due to tax due. In essence, this does not reduce a company's tax liability but gives credit for tax already paid, albeit in another jurisdiction. Thus, included in the various measures of income shown above is the foreign-source income of Irish-resident companies on which foreign tax has already been paid. The subtraction of Double Taxation Relief understates the amount of tax due by a company and paid on the income declared. If tax had not been paid elsewhere on this income it would have been due in Ireland. The overall amount of tax due and paid would be the same for the company but more of it would have been due in Ireland.

A second measure of the tax burden on the corporate income in the Revenue Commissioners' statistics is Tax Due plus Double Taxation Relief granted for corporate income tax paid elsewhere and gives rise to the following tax measure:

Tax Due in Ireland + Double Taxation Relief for tax paid elsewhere = Tax burden on companies imposed in Ireland:

€4,173.4 million + €567.1 million = €4,739.1 million.

Table 3.2.4: Tax Burden as a Proportion of Taxable Income in 2011

	Tax Amount	Taxable Income	Tax Rate
	€million	€million	
Tax Burden as a Proportion of Taxable Income	4,739.1	40,062.8	11.8%

Source: Revenue Commissioners, Corporation Tax Distribution Statistics & Authors' Calculations

It can be seen that the tax burden imposed by the Irish system of Corporation Tax before the granting of relief for corporate income tax paid abroad is equal to 11.8 per cent of Taxable Income. This is the percentage that would be collected in Ireland if no corporate income tax was paid abroad on foreign-sourced income included in the Taxable Income reported to the Revenue Commissioners.

In 2011, gross tax due as a proportion of Taxable Income was 13.2 per cent, reflecting amounts of Taxable Income chargeable at the 12.5 per cent standard rate and the 25 per cent for non-trading income and the effective 25 per cent rate on company chargeable gains (which has since increased to 33 per cent). The tax burden (i.e. tax due before double taxation relief) as a proportion is reduced to 11.8 per cent and, as shown in the Table 3.2.3, this can be attributed to the availability of a small number of reliefs, and the R&D credit relief in particular.

Table 3.2.5 provides a summary of the main items in the above tables since 2003[12]. Since 2003, the tax due as a proportion of Taxable Income has been stable and has been between 10.4 per cent and 11.1 per cent, averaging 10.7 per cent. After adjusting for Double Taxation Relief the average rate has been 11.9 per cent, again with very little variation.

[12] Note that neither a Taxable Income nor gross tax due figure is available for 2008 due to technical changes on the Revenue Commissioners' computer system that were introduced at that time.

Table 3.2.5: Main Income & Tax Measures from Revenue Commissioners' Corporation Tax Distribution Statistics

	2003	2004	2005	2006	2007	2008	2009	2010	2011
	€million	€million	€million	€million	€million	€million	€million	€million	€million
Gross Trading Profits*	**54,701**	**58,186**	**65,735**	**72,447**	**76,457**	**75,014**	**66,187**	**70,805**	**73,817**
less Allowances	(17,328)	(19,103)	(22,320)	(20,873)	(22,126)	(32,073)	(15,327)	(16,167)	(17,971)
Net Trading Income	**37,373**	**39,083**	**43,415**	**51,574**	**54,332**	**42,941**	**50,860**	**54,638**	**55,846**
plus Other Income	5,118	5,043	6,545	8,390	8,828	8,213	6,350	6,396	5,670
Total Income	**42,491**	**44,126**	**49,960**	**59,964**	**63,160**	**51,154**	**57,210**	**61,034**	**61,516**
less Deductions	(1,527)	(1,863)	(2,103)	(5,070)	(6,354)		(19,454)	(19,818)	(21,454)
Taxable Income	**40,964**	**42,263**	**47,857**	**54,894**	**56,806**		**37,757**	**41,216**	**40,063**
Gross Tax Due	5,825	5,683	6,485	7,443	7,717		5,076	5,422	5,273
less Reliefs & Credits^	(1,493)	(1,263	(1,317)	(1,323)	(1,411)		(1,072)	(1,177)	(1,010)
Tax Due	**4,332**	**4,420**	**5,167**	**6,1110**	**6,305**	**5,122**	**4,004**	**4,246**	**4,173**
% Taxable Income	**10.6%**	**10.5%**	**10.8%**	**11.1%**	**11.1%**		**10.6%**	**10.3%**	**10.4%**
Double Taxation Relief	486	405	408	551	569	555	547	619	567
Tax Burden	**4,818**	**4,826**	**5,576**	**6,670**	**6,874**	**5,677**	**4,550**	**4,864**	**4,739**
% Taxable Income	**11.8%**	**11.4%**	**11.7%**	**12.2%**	**12.1%**		**12.1%**	**11.8%**	**11.8%**

* includes Balancing Charges

^ includes the addition of Surcharges and Clawbacks

Source: Revenue Commissioners, Corporation Tax Distribution Statistics & Authors' Calculations

Although the tax burden on Taxable Income has been steady there have been changes in some of the components used in the calculation of Taxable Income. Most notable of these is the increase in the deductions from Total Income to get Taxable Income. As shown in Table 3.2.6 these deductions mainly comprise trade charges, group relief and other expenses. The total of these deductions used was €5.1 billion in 2006 but had increased to €21.5 billion by 2011.

It should be noted that the amounts given are the total amount of deductions *available* under

each item.[13] These can differ from the actual amounts *used* if, at the level of the firm, the deduction available exceeds the amount of total income, but in the last three years in the table there has not been a significant difference between the total amount of these deductions available and the amount actually used.

Table 3.2.6: Deductions from Total Income to Determine Taxable Income

	2006	2007	2008	2009	2010	2011
	€million	€million	€million	€million	€million	€million
Trade Charges						
Manufacturing	4,532.4	5,518.2	7,336.5	9,014.1	9,274.8	7,666.4
Non-Manufacturing	925.2	1,297.0	2,759.8	2,654.8	3,118.0	7,939.2
Total Trade Charges	**5,457.6**	**6,815.2**	**10,096.3**	**11,668.9**	**12,392.8**	**15,605.6**
Group Relief	2,145.0	2,063.4	3,664.4	3,144.2	3,281.9	2,979.8
Other Expenses	5,302.0	6,335.7	6,714.0	5,241.6	5,246.0	3,678.3
Total Available	**12,904.6**	**15,214.3**	**20,474.7**	**20,054.7**	**20,920.7**	**22,263.7**
Total Used	**5,069.7**	**6,354.3**	**n/a**	**19,453.5**	**19,818.3**	**21,453.5**

Source: Revenue Commissioners, Corporation Tax Distribution Statistics

The increase in these deductions can be seen to be the result of an increase in trade charges used against total income particularly for non-manufacturing firms. Trade charges have increased by €10 billion over the years shown. An examination by the Revenue Commissioners indicates that in recent years certain royalty payments form the vast bulk of trade charges used.

This trend is reflective of the fact that services exports from Ireland, in particular IT, are royalty-intensive and services exports have grown, in recent years, to over 57 per cent of GDP. As described in Box 3.1, royalties in this context are payments for the use of intellectual property (IP). While a high volume of IP-intensive goods and services are sold from Ireland, generally the underlying intellectual property is not typically owned here.

[13] The Revenue Commissioners are unable to provide figures for the amounts used by each deduction for years prior to 2009 and only a figure for the overall amount used for the group of deductions is available.

3.3 RECONCILING THE NATIONAL AGGREGATES MEASURES

The measures that best approximate the effective tax rate on corporate profits in Ireland are those found using national aggregate statistics from either the Revenue Commissioners or the Central Statistics Office. The most appropriate measures are:

Approach 3 - National Income Accounts: Tax Paid as a Proportion of Net Operating Surplus

$$\text{Rate} = \frac{\text{Tax Paid}}{\text{Net Operating Surplus}} \times 100; \qquad 2011: \frac{€3{,}751\text{m}}{€48{,}091\text{m}} \times 100 = 7.8\%$$

Approach 5 - Corporation Tax Distribution Statistics: Tax Due as a Proportion of Taxable Income

$$\text{Rate} = \frac{\text{Tax Due}}{\text{Taxable Income}} \times 100; \qquad 2011: \frac{€4{,}173\text{m}}{€40{,}062.8\text{m}} \times 100 = 10.4\%$$

The most recent year for which both are available is 2011, though a simple comparison of the reported figures for a given year can be inappropriate due to the impact of the economic cycle and the timing of tax payments. In the calculations above it can be seen that there are differences in both the numerator and the denominator between both measures. In 2011, the effective rate from the national accounts data is lower because it has a smaller figure in the numerator and a larger income figure in the denominator. The section attempts to explain the reasons for these differences.

There is some variation between the tax measures used in the numerators of the effective rates. Table 3.3.1 shows the tax paid as included in the National Income Accounts and the tax due as shown in the Corporation Tax Distribution Statistics from the Revenue Commissioners. The measure of tax paid is equivalent to the Corporation Tax paid into the Exchequer Account in each year[14] while the tax due measure is a calculation of the tax liability resulting from reported profits earned in each year.

[14] Again it should be noted that an adjustment of around €250 million was made in 2011 and 2012 for Corporation Tax that should have been paid into the Exchequer Account in December 2011 but was delayed until January 2012 for some reason.

Table 3.3.1: Corporation Tax Measures

Year	NIA Tax Paid	CTS Tax Due	Difference
	€million	€million	€million
2003	5,155	4,332	-823
2004	5,335	4,420	-915
2005	5,503	5,167	-336
2006	6,687	6,120	-567
2007	6,394	6,305	-89
2008	5,071	5,122	51
2009	3,890	4,004	114
2010	3,947	4,246	299
2011	3,751	4,173	422
TOTAL	**45,733**	**43,889**	**-1,844**

Source: Central Statistics Office; Revenue Commissioners

There appears to be a systematic difference between the tax measures and this likely reflects the basis of calculation of each, particularly tax paid, in periods of economic growth or contraction. This is likely down to timing effects on things such as preliminary tax and the impact of the changing economic environment.

Up to 2006 it can be seen that tax paid was substantially greater than tax due. When the construction and credit bubble ended this was reversed and tax due now exceeds tax paid. The means that the measure of tax due from the Revenue Commissioners' Corporation Tax Distribution Statistics is likely to be more stable over time as the Taxable Income and tax due are both based on outcomes from the same year. The measure of tax paid from the Central Statistics Office's national accounts is potentially subject to more volatility as the tax paid in any year may be a function of any preliminary tax paid the previous year and any preliminary tax to be paid for the current year, whereas Net Operating Surplus is based on production only in that year.

In a growing economy this effect may push up the effective tax rate on Net Operating Surplus as tax payments may be increased to make up for a shortfall in preliminary tax the previous year and also in expectation of further increased profits in the current year. This appears to be the case in Ireland with the effective tax rate on Net Operating Surplus peaking at 13.5 per cent in 2006. The subsequent slowdown of the economy means that more preliminary tax from the previous year covers the final tax due while a lower preliminary tax payment will be made in the expectation of lower profits. As a result of this dynamic it can be expected that the tax measure used in the National Income Accounts (payments to the Exchequer Account) will fall by more than the measure of corporate profitability (Net Operating Surplus). This will have the effect of pulling down the effective

tax rate.

This can be seen in the 2008 and 2009 figures when the effective tax rate on Net Operating Surplus fell from 12.4 per cent to 9.9 per cent. In 2009 there was a 4 per cent drop in Net Operating Surplus but a 23 per cent drop in Corporation Tax paid. This likely reflects an excess of preliminary tax paid in 2008 (perhaps based on 2007 profits) meaning there was much less of a shortfall to be made up in 2009 and lower advance preliminary tax reflecting the lower profits expected in 2009. However, the effect of this will only be temporarily seen around the economy's turning point as the payments should adjust to the new pattern of profits relatively quickly.

Table 3.1.4 shows that, after 2009, the effective tax rate on Net Operating Surplus did not increase. In fact it declined further in 2010 and 2011 before rising slightly in 2012. This cannot be explained by the timing issues for the tax paid used in the numerator but can be explained if we look at the income measures used in the denominator which are shown in Table 3.3.2. [15]

Table 3.3.2: Corporate Income Measures

Year	NIA Net Operating Surplus	CTS Taxable Income	Difference
	€million	€million	€million
2003	42,678	40,963	-1,714
2004	43,655	42,262	-1,393
2005	46,113	47,857	1,744
2006	49,664	54,894	5,230
2007	52,233	56,806	4,573
2008	40,809	n/a	
2009	39,148	37,756	-1,392
2010	43,706	41,215	-2,490
2011	48,091	40,062	-8,028
TOTAL	**365,288**	**361,819**	**-3,470**

Source: Central Statistics Office, Revenue Commissioners

The difference between the two income measures appears to be less systematic than that shown for the tax measures in Table 3.3.1 though it can be seen that Taxable Income was higher than Net Operating Surplus in the peak years of the construction and credit bubble and has been lower than Net Operating Surplus during the subsequent downturn. This is

[15] The 2008 Taxable Income figure is unavailable because of a change in the Revenue Commissioners' computer systems introduced at that time. The total row at the bottom of the table excludes 2008 for all columns.

likely the result of the capital gains of companies (excluding those on development land) and the trading losses carried forward, both of which are used when calculating Taxable Income but are not used in the determination of Net Operating Surplus.

The capital gains of companies arising from the disposal of assets (excluding development land) are included in the Taxable Income base for Corporation Tax but are 're-grossed' to reflect the rate that applies under Capital Gains Tax (CGT) at the time the gain is made.[16] Even though the gains are taxed under Corporation Tax it is the CGT rate that applies. Net Operating Surplus only covers productive activity so such capital or holding gains are excluded. The capital gains by companies that were taxed under Corporation Tax are shown in Table 3.3.3 and the role of these can be seen in their inclusion as Other Income in the 2011 calculation for Taxable Income in Table 3.2.1. These gains peaked at almost €3 billion in 2006 and 2007 (in re-grossed terms) and have declined significantly since then. This will have had the effect of pulling up the effective tax rate on Net Operating Surplus during the peak years as the tax paid under Corporation Tax will include tax on these capital gains of companies which are not recorded in Net Operating Surplus.

Table 3.3.3: Capital Gains taxed under Corporation Tax and Losses Available for Corporation Tax

	2003	2004	2005	2006	2007	2008	2009	2010	2011
	€million	€million	€million	€million	€million	€million	€million	€million	€million
Capital Gains (regrossed)	1,096	1,332	2,050	2,994	2,858	1,912	799	645	737
Losses Available									
Manufacturing	2,168	1,432	2,037	897	627	1,412	1,796	3,285	834
Non-Manufacturing	6,144	6,722	7,832	7,922	19,230	28,556	51,913	118,042	180,634
Total	8,312	8,154	9,869	8,819	19,858	29,968	53,709	121,327	181,468

Source: Revenue Commissioners, Corporation Tax Distribution Statistics

For the three years from 2009 to 2011, Table 3.3.2 shows that Net Operating Surplus of companies in Ireland increased while in each of those years the amount of Taxable Income subject to Corporation Tax decreased. Although there are some conceptual differences

[16] See Footnote 6.

between Taxable Income and Net Operating Surplus such as capital allowances versus depreciation, the treatment of interest expenditure and the inclusion of foreign-source profits, the effect of these will be generally stable over time and cannot explain relative changes in the income measures.

The difference that *can* have a varying effect is the treatment of losses carried forward and whether these were considered holding or trading losses in the national accounts at the time they were incurred. As described above the capital gains during the boom caused Taxable Income to be consistently above Net Operating Surplus. In the downturn, the application of losses carried forward to Taxable Income will keep it below Net Operating Surplus.

During the recession many firms have made trading losses, in particular financial corporations who have incurred massive losses from writing down the value of customer loans they held.[17] Unlike capital gains which are counted in Taxable Income when they are crystallised, eligible trading losses are only applied to Taxable Income when the company has a positive profit to tax, thus they can be carried forward. If a firm has an eligible trading loss it can continue to carry it forward until the full offset against Taxable Income has been claimed. Figures on the amount of losses actually *used* against current company profits back to 2003 are not produced. We can, however, see the total amount of losses carried forward *available*. These are shown in Table 3.3.3.[18]

In general trading losses are included when determining Net Operating Surplus so the effect can largely be one of timing rather than level. However many of the losses generated in recent years which are treated as eligible trading losses from a tax perspective are categorised as holding losses from a national accounts perspective. In the main this applies to the losses that financial corporations have incurred on their customer loans. In the national accounts these are treated as holding losses and this means that, each year during the recession, financial corporations can have generated a positive Net Operating Surplus from a national accounts perspective but from an accounting and tax perspective have generated substantial, and sustained, losses. These losses *do not* form part of the production measures taken from the national accounts produced by the CSO and examined in section 3.1, but *do* reduce the tax liability of companies as measured in the Revenue Commissioners' statistics examined in section 3.2. These trading losses carried forward will

[17] For example, the five banks that transferred loans to the National Asset Management Agency (NAMA) incurred losses of around €42 billion on the transfer.

[18] Additional details on the distribution by sector and use of these losses is available from Chapter 26 of the 2012 Annual Report of the Comptroller and Auditor General.
See http://www.audgen.gov.ie/documents/annualreports/2012/report/en/Chapter26.pdf

continue to reduce Taxable Income for a considerable period as the accumulated losses are offset against future profits until they have been fully exhausted.

Figures on the amount of losses carried forward actually used against profits are available from the Revenue Commissioners since 2009 and these show that in 2009 and 2010 €4.9 billion and €3.9 billion of losses carried forward were offset against profits in those years while in 2011 the amount of trading losses carried forward used was €9.5 billion.

Between 2009 and 2011 the Net Operating Surplus reported by the CSO for all companies in Ireland increased by €9 billion. Over the same period the amount of Taxable Income reported by the Revenue Commissioners increased by just €2 billion. Although their treatment of depreciation, interest and foreign-source income differs, by far the biggest reason for the recent difference between them is the deduction of trading losses carried forward from current profits in the determination of Taxable Income, which were around €5 billion higher over the period.

As long as such losses remain available to firms this has the effect of bringing down the effective tax rate on Net Operating Surplus as the amount of Corporation Tax paid into the Exchequer Account includes relief granted for previous losses (through a deduction from current profits) whereas they are not used in the determination of Net Operating Surplus by the CSO in the national accounts framework if they are treated as holding losses. The use of these losses in offsetting the amount of tax paid on current profits pulls down the effective tax rate on Net Operating Surplus. As the losses carried forward are used up it can be expected that Taxable Income will converge on Net Operating Surplus and the effective tax rate of Net Operating Surplus will automatically rise.

Over time it might be expected that these timing and treatment differences of gains and losses between the National Income and Corporation Tax frameworks would “wash out”. And this appears to be the case. The overall eight-year (2003 to 2011, excluding 2008) average tax rate on Net Operating Surplus from the national accounts is 11.1 per cent. The equivalent eight-year average rate for tax due as a proportion of Taxable Income from the Revenue Commissioners’ CTS statistics is 10.7 per cent. The changing economic environment causes fluctuations in the national accounts rate and we are currently at a period where it is less than the rate from the Revenue Commissioners’ statistics but over the eight-year period used in this Paper the rate from the national accounts has been slightly higher.

The reasons they both have average rate below the headline 12.5 per cent Corporation Tax rate are relatively straightforward. The Taxable Income figure reported by the Revenue Commissioners includes the foreign-source income of Irish-resident companies. These companies are taxed on their worldwide income but are given relief for corporate income tax paid abroad to avoid double taxation. These already-taxed, foreign-source profits of Irish-resident companies are included in Taxable Income but relief is given so that they are not taxed twice.

Net Operating Surplus is derived only from production activity in Ireland and is not affected by foreign-source income. However, as outlined previously, a large part of the interest expense of non-financial companies is not deducted from Net Operating Surplus. For non-financial corporations, only interest that deals with the operating and not the financing of the companies is deducted. All of the interest paid by companies is generally allowable as a deduction for tax purposes so this has an overstating effect on the profitability of companies as measured by Net Operating Surplus.

Although the reasons are different the effect appears to be roughly the same. Both rates have averaged around 11 per cent since 2003. Tax due as a proportion of Taxable Income is below the 12.5 per cent rate because of the inclusion of foreign source profits on which double taxation relief is granted. Tax paid as a proportion of Net Operating Surplus is below 12.5 per cent because of the exclusion of much of the interest paid by non-financial corporations which overstates corporate profitability. Once account is taken of these factors the effective tax rate for both is around 12 per cent.

SECTION 4: COMBINED COMPANY APPROACH

The final approach involves the use of company data to calculate an effective corporate tax rate. It should be clear that the use of company data means that the estimated effective tax rates are for companies rather than countries. Even though this is the case some effective tax rates calculated using this method are attributed to Ireland, even though they should be correctly attributed to the group of companies that make up the sample. In that sense this note will explore the following two measures of the effective corporate tax that have been produced using this method, labelled Approaches 7 and 8 in Table 1 of the Executive Summary:

7. Average Tax Rate of *Irish Times* Top 1000 Irish Companies: 15.5 per cent (2012)
8. Average Tax Rate of Irish-Incorporated Companies in US BEA data: 2.2 per cent (2011)

4.1 *THE IRISH TIMES*: TOP 1000 IRISH COMPANIES

The Irish Times maintain a database of what they term *The Irish Times Top 1000* companies. The data is collected from company reports filed with the Company Registration Office in Ireland but the database generated is not publicly available. For 2012 it was reported that the effective tax rate of the companies in the sample was 15.5 per cent.[19]

It is not clear if this is a simple or weighted average of the effective tax rates of the companies in the sample. It is also the case that profits earned and taxes paid outside of Ireland are included. While the measure may give a useful insight into the effective tax rates of the companies included the sample, it cannot be concluded that the rate arises solely from the interaction of the companies' profits with the Irish Corporation Tax regime.

4.2 US BUREAU OF ECONOMIC ANALYSIS: DIRECT INVESTMENT ABROAD DATA

The federal economic statistics agency in the United States, the Bureau of Economic Analysis, publishes statistics that can be used to produce effective tax rates. As part of their International Economic Accounts they publish data on "Direct Investment and Multinational Companies". The US Direct Investment Abroad (USDIA) data give details on the non-US activities of subsidiary companies which are owned by US parent companies. Table 4.2.1 is

[19] See http://www.irishtimes.com/business/ireland-s-top-companies-paying-effective-tax-rate-of-15-5-on-profits-1.1541494

reproduced for Group II: Majority-Owned Foreign Affiliates in the USDIA data.

Table 4.2.1: Income Statement for US-owned, Irish-Incorporated Companies in BEA USDIA data

	2009	2010	2011
	$million	$million	$million
Sales	237,478	269,639	320,921
Income from equity investments in foreign affiliates	(D)	46,608	61,722
Income from other equity investments	(D)	450	1,902
Capital gains (losses)	(2,368)	17,660	25,762
Other	16,941		
Total Income	**282,177**	**334,357**	**410,307**
Cost of goods sold & selling, general, and admin expenses	(175,382)	(198,670)	(222,430)
Other	(34,882)	(37,243)	(40,843)
Total Costs	**(210,264)**	**(235,913)**	**(263,273)**
Gross Income	**71,913**	**98,444**	**147,034**
Foreign Income Taxes	**2,333**	**3,101**	**3,162**
Effective Foreign Tax Rate	3.2%	3.2%	2.2%

(D) Data withheld by the BEA for confidentiality reasons

Source: US Bureau of Economic Analysis, US Direct Investment Abroad Data

The figure of the effective tax rate has been cited as being reflective of the effective tax rate for US companies operating in Ireland (Stewart, 2014).[20] The effective tax rates for the companies represented in the above table are correct but, in the absence of publicly-available country-by-country reporting data, it cannot be concluded that they are the result of the interaction of the companies' profits with the Irish system of Corporation Tax. This is for the exact same reason as the 15.5 per cent rate from *The Irish Times* Top 1000 Irish Companies can be discounted. There is no way of knowing where the activities of these companies actually take place.

The basis for inclusion in the USDIA data produced by the BEA is place of incorporation. The companies are distributed by country on the basis of their incorporation. However, companies incorporated in one country face no prohibition in operating in another country or across many countries. Table 4.2.1 gives an income statement for Irish-incorporated companies and is not necessarily reflective of their operating activities in Ireland, if indeed they have any at all. In many cases, the companies concerned are Irish registered and tax resident in a zero tax location – they have an Irish name that is disguising their true location.

[20] Stewart, Jim (2014) *PwC/World Bank Report 'Paying Taxes 2014': An Assessment*, IIIS Discussion Paper No. 442. Available from http://www.tcd.ie/iiis/documents/discussion/pdfs/iiisdp442.pdf.

The scale of the figures in Table 4.2.1 shows that the figures are not limited to the Irish operations, if any, of these companies. At $321 billion, or around €230 billion[21], the sales figure is greater than the total amount of exports recorded from Ireland in 2011 of €167 billion. This €167 billion reflects the exports of all firms operating in Ireland not just those of the US-owned, Irish-incorporated companies which are included in the BEA data. It is impossible to tell from the BEA data from where the sales of these companies were actually made. Some of the sales are undoubtedly from Ireland but it is not possible for it to be $321 billion.

It is also impossible to tell where the $3.2 billion of non-US corporation tax paid by these companies in 2011 was actually paid. Irish-incorporated companies are not limited to paying tax in Ireland. Again, some of it will have been paid in Ireland but the full amount would represent more than 60 per cent of all Corporation Tax paid in Ireland in 2011.

It is also the case that some of these companies are not resident in Ireland for tax purposes. If these companies were tax resident in Ireland their pre-tax profits would be subject to Ireland's 12.5 per cent corporation tax on the amount of Taxable Income with little facility to reduce their effective rate below the headline rate.

To use an analogy with a person it is likely that in many cases these are companies which were born here through their incorporation but who "live" somewhere else. It is somewhat similar to the Irish Income Tax system which does not levy income tax on Irish nationals who live abroad. The Irish Corporation Tax system does not levy corporation tax on some Irish incorporated companies whose activities are carried out abroad. If these companies have their place of effective management and control in Ireland then they will be considered resident in Ireland for tax purposes and subject to Irish Corporation Tax on their worldwide income (albeit with relief given for corporate income tax paid in other countries).

The BEA data does highlight how some companies can use the interaction between different tax regimes to achieve very low effective tax rates. It should be noted that the USDIA data produced by the BEA only includes foreign tax paid, so it is an effective foreign tax rate. There is no figure given for the domestic (that is US) corporate income tax paid on the profits earned by these companies.

The US levies a 35 per cent federal corporate income tax on the worldwide profits of US

[21] Based on an average annual exchange rate of US$1 = €0.72 during 2011.

companies. The Irish-incorporated companies in Table 4.3.1 which had $147 billion of gross income in 2011 will be liable to pay around $51.5 billion in US corporate income tax (with credits given for the $3.2 billion of foreign corporate income tax paid). These Irish-incorporated companies therefore face a US tax liability of $48.3 billion on the reported 2011 profits which cannot be avoided but which can be deferred, sometimes indefinitely.[22] It cannot be determined from the BEA data how much of this US tax liability was actually paid. Thus the quoted effective rates are only for foreign corporate income tax paid and not necessarily the total effective tax rate on these profits.

To the extent that the companies in Table 4.2.1 are availing of the deferral provisions in the US tax code their overall effective tax rate could be close to the effective foreign tax rate shown in the table. This would be achieved if the companies are tax resident in a low- or no-tax jurisdiction and their profits are not repatriated to the US parent company. From an Irish perspective it should be noted that the income statement refers to the worldwide operations of these Irish-incorporated companies and, if not tax resident in Ireland, they will be taxed under Irish Corporation Tax only on their profits actually sourced in Ireland. Table 4.2.1 cannot be used to determine anything useful about effective Corporation Tax rates in Ireland but does show that Irish-incorporated companies used by US MNCs have very low effective rates of foreign tax paid outside the US.

[22] Although the US levies corporate income tax on the worldwide profits of US companies the actual tax payment on foreign, that is non-US, profits can deferred using a range of provisions. There is a general deferral principle in the US tax code for foreign-source active income and a general non-deferral regime, known as Subpart F, for foreign-source passive income. Subpart F was introduced in the 1960s but its effectiveness has been reduced with the introduction of exemptions that allow deferral of US corporate income tax due on passive income such as interest, dividends and patent royalties. In these instances the US corporate income tax does not have to be paid until the profits are actually repatriated to the US. In some instances the US companies can decide to keep these profits offshore indefinitely thereby permanently deferring the tax payment.

SECTION 5: CONCLUSION

This Technical Paper considered the effective tax rate on corporate profits in Ireland. It will be appreciated that this apparently straight-forward concept generates significant confusion. There is no single best measure of the effective tax rate and this Paper presents and examines eight different calculations for an effective tax rate on corporate profits in Ireland under three broad headings:

- using model companies;
- using official national statistics; and
- using company financial reports.

The spread of estimates ranges from 2.2 per cent to 15.5 per cent for the most recent data available. Different approaches are relevant depending on the specific nature of the question being addressed. Some approaches are better at measuring the complexity and breadth of corporate tax. Other approaches are better at measuring the effective tax rate of companies. In attempting to assess the effective corporate tax rate that is applied to the aggregate total of corporate profits in Ireland, this Paper has concluded that the approach based on national aggregate statistics is the most suitable.

The data from the Central Statistics Office and the Revenue Commissioners provide the best estimates of the effective rate of Irish Corporation Tax on the total profits that are subject to Irish tax but even within that there remains a choice of measures. This Paper has put forward the thesis that the measures based on Net Operating Surplus and Taxable Income best represent the effective Corporation Tax rate in Ireland.

Much lower effective tax rates can be identified, notably the effective foreign tax rate for US-owned, Irish-incorporated companies, in the direct investment data produced by the Bureau of Economic Analysis. These show how MNCs can structure their activities to generate very low effective tax rates but it is not possible to achieve such low rates for profits earned in Ireland.

The most appropriate effective tax rates identified in this Paper are below the headline 12.5 per cent rate and the reasons for this are the inclusion of foreign-source profits in the case of Taxable Income, and the exclusion of the interest cost of financing in the case of Net Operating Surplus. The impact of these factors is relatively small and the analysis presented here has shown that, since 2003, the effective Corporation Tax rates on Net Operating Surplus and Taxable Income have averaged 10.9 per cent and 10.7 per cent respectively.