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An Empirical Examination of Risk Equalisation in a Regulated Community Rated Health Insurance Market

by

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A thesis submitted for the Degree of Doctor of Philosophy of the
National University of Ireland

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The author hereby declares that, except where duly acknowledged,
this thesis is entirely his own work and
has not been submitted for any degree in the
National University of Ireland, or in any other University.

Signature

For those who aren't here to share this moment

Abstract

Despite universal access entitlements to the public healthcare system in Ireland, over half the population is covered by voluntary private health insurance. The market operates on the basis of community rating, open enrolment and lifetime cover. A set of minimum benefits also exists, and two risk equalisation schemes have been put in place but neither was implemented.

These schemes have proved highly controversial. To date, the debate has primarily consisted of qualitative arguments. This study adds a quantitative element by analysing a number of pertinent issues.

A model of a community rated insurance market is developed, which shows that community rating can only be maintained in a competitive market if all insurers in the market have the same risk profile as the market overall. This has relevance to the Irish market in the aftermath of a Supreme Court decision to set aside risk equalisation.

Two reasons why insurers' risk profiles might differ are adverse selection and risk selection. Evidence is found of the existence of both forms of selection in the Irish market.

A move from single rate community rating to lifetime community rating in Australia had significant consequences for take-up rates and the age profile of the insured population. A similar move has been proposed in Ireland. It is found that, although this might improve the stability of community rating in the short term, it would not negate the need for risk equalisation.

If community rating were to collapse then risk rating might result. A comparison of the Irish, Australian and UK health insurance markets suggests that community rating encourages higher take-up among older consumers than risk rating. Analysis of Irish hospital discharge figures suggests that this yields significant savings for the Irish public healthcare system.

This thesis has implications for government policy towards private health insurance in Ireland.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

Private health insurance is a widely used method of healthcare financing in Ireland. Despite universal access entitlements to the public healthcare system, over 50% of the Irish population is covered by private health insurance, the purchase of which is voluntary. The Irish private health insurance market is heavily regulated, with legislation specifying community rating (everyone must be charged the same premium for the same plan), open enrolment (insurers may not refuse to cover an applicant) and lifetime cover (insurers may not refuse to renew cover), with some minor exceptions. A set of prescribed minimum benefits, which must be covered by any eligible plan, is also set out in regulations.

Having consisted of a State-owned monopoly provider for 40 years, the market first experienced competition in 1997. When the market was opened up to competition as a result of a European directive, the legislation that was put in place also allowed for a risk adjustment mechanism – risk equalisation as it is known in Ireland – to be implemented in order to support community rating.

Risk equalisation proved highly controversial however, and despite schemes being on the statute books from 1996 to 1999 and again from 2003 to 2008 (when it was set aside by the Irish Supreme Court), no payments were ever made under either

scheme in Ireland. The debate surrounding the implementation of risk equalisation in Ireland has largely centred on qualitative arguments, with relatively little quantitative research carried out in the area. This study adds a quantitative element to that debate.

A number of questions are addressed in this study. Firstly, the extent to which community rating can operate in the presence of multiple insurers without a risk adjustment mechanism is examined. One of the reasons it might not do so is if selection effects lead to differing risk profiles on the part of insurers. The Irish market is therefore tested for indications of adverse selection on the part of consumers and risk selection on the part of insurers.

A change in the form of community rating in operation in the Irish private health insurance market has been proposed. The effect of a similar change in Australia in 2000 is examined and implications drawn for the Irish case. Finally, the community rated Irish and Australian private health insurance markets are compared with the risk rated UK market to assess the impact of community rating on overall take-up and the age profile of the insured population, and Irish hospital discharge data are examined to assess the impact that a breakdown of community rating might have on the Irish public hospital system.

This study comes at a time when Government policy towards the private health insurance market in Ireland is under review. In particular, a change to the form of

community rating is anticipated in the near future, while work is currently being carried out on the design of a future risk equalisation scheme.

1.2 Private Health Insurance as a Method of Financing Healthcare

Healthcare systems around the world are funded in a variety of ways. This can be done through taxation, social health insurance, user charges, medical savings accounts, private health insurance or some combination thereof. Each method of healthcare financing has advantages and disadvantages and different countries have had diverse experiences of the various funding methods. This is partly due to different combinations of methods and partly due to structural issues across healthcare systems.

Private health insurance plays a role in healthcare funding in most countries in the European Union. However, the role it plays and the degree to which it is used vary considerably. Private health insurance can be substitutive (acting as an alternative to the statutory healthcare system), complementary (providing cover for services not covered, or not fully covered, by the statutory system) or supplementary (providing enhanced choice, benefits not covered by the statutory system and/or faster access to healthcare services). Private health insurance usually plays a relatively minor role in healthcare system funding, although the Dutch system (since reforms in 2006) is a notable exception in the European context, as is the United States, where private health insurance is a major source of funding for healthcare services.

Private health insurance as a funding method for healthcare brings with it a number of issues that are not necessarily features of other funding methods. One of these is the basis on which premiums are set. Insurance premiums normally take account of the risk that a consumer represents to an insurer – this is referred to as risk rating. However, some health insurance markets around the world operate on the basis of what is known as community rating, whereby everyone is charged the same premium for the same cover, with the premium based on the overall risk of the insured community. The other main type of rating is group rating, which is the most common rating type in the US private health insurance industry, whereby premiums are based on the overall risk of an insured group – members of that group all pay the same premium, but premiums may vary between groups.

Another issue that private health insurance raises is selection. Selection is a feature of many insurance markets, not just for private health insurance, and results from information asymmetry. Selection is defined by Newhouse (1996) as “actions of economic agents on either side of the market to exploit unpriced risk heterogeneity and break pooling arrangements, with the result that some consumers may not obtain the insurance they desire.” (Newhouse, 1996: 1236).¹

Selection can occur in different forms. One such form is adverse selection, whereby consumers have more information about their risk status than insurers. This can lead

¹ In this thesis, selection is used to describe the outcome of such actions. This differs from Newhouse’s (1996) definition, but is a common use of the term selection, and is brought to the reader’s attention to avoid confusion.

to low-risk consumers under-insuring or not purchasing insurance at all, while high-risk consumers over-insure. A second form of selection is risk selection (also known as cream skimming or cherry picking), whereby insurers can classify consumers into low- and high-risk categories and try to attract low-risk consumers while discouraging or refusing to cover high-risk consumers.

Community rating is often accompanied by two other regulatory provisions. The first is open enrolment, which prohibits insurers from refusing cover to an applicant, while the second is lifetime cover, which prohibits insurers from refusing to renew cover to an existing insured life, irrespective of his/her claims history. Although community rating, open enrolment and lifetime cover reduce the opportunity for insurers to engage in risk selection, they increase the incentive for insurers to engage in this activity. Community rating might also increase incentives for consumers to engage in adverse selection.

If adverse selection and/or risk selection result in insurers having different risk profiles, this can lead to insurers with higher risk profiles having to charge higher premiums than insurers with lower risk profiles. This might encourage lower-risk insured lives to switch to a lower-cost provider, leaving a higher concentration of higher-risk lives with the higher-cost insurer, thus accentuating the differential between risk profiles. If this continues, it can – in the extreme – lead to what is known as a ‘death spiral’, whereby one or more insurers with relatively high risk profiles are forced to withdraw from the market.

Risk adjustment mechanisms have been proposed in order to counteract the effects of differing risk profiles – due to adverse selection, risk selection or a combination of the two. These mechanisms are designed to spread the cost of high-risk insured lives between insurers in proportion to their market shares and have been implemented in a number of community rated private health insurance markets worldwide.

1.3 The Role of Private Health Insurance in the Irish Health System

Although it is not uncommon for health systems in various countries to be described as unique, the Irish health system certainly differs significantly from other health systems in Europe and elsewhere.

The Irish health system is primarily financed through general taxation, which accounts for approximately 80% of funding. Although government spending on health has increased significantly in nominal terms in recent years, and has also trended upwards as a proportion of GDP, it still lags behind in international comparisons. However, health spending measured as a proportion of GNP, which many feel is a more accurate indicator of economic activity in Ireland, would be higher than health spending as a proportion of GDP. Nevertheless, it would appear that the Irish health system is still recovering from severe cutbacks in the 1980s.

Nearly one third of the population in Ireland benefits from medical cards. These cards are primarily given to those who are below specified income thresholds. Between 2001 and 2008, those aged 70 and over were also entitled to medical cards irrespective of income, although this universal entitlement for the over-70s was reversed from January 2009. Medical cards entitle holders to free access to primary care General Practitioners, while the remainder of the population largely pay out-of-pocket payments for primary care, although private health insurance covers partial reimbursements for primary care and the degree to which this feature has been offered on private health insurance plans has increased in recent years.

Access to hospital care is based on universal entitlement to the public hospital system. Those with medical cards are entitled to free access to this system, while those without medical cards pay only nominal charges. In the context of the current economic recession and a sharp deterioration in public finances however, the possibility of co-payments for those with medical cards has been discussed.

Despite the universal access entitlements to the public hospital system, over half the population is covered by private health insurance, the purchase of which is voluntary, paying over €1.65bn in premiums in 2008. Private health insurance gives holders a greater choice of hospitals (public and private), superior accommodation in public hospitals and, in some cases, a choice of consultant, although most consultants operate in both the public and private sectors. It is also perceived as

giving holders faster access to hospital treatment, and there is some evidence to support this perception.

1.4 Overview of the Irish Private Health Insurance Market

The Irish private health insurance market in its current form dates back to 1957, when the Voluntary Health Insurance Board (now trading as Vhi Healthcare) was established as a statutory body, with the aim of providing voluntary insurance cover for the 15% of the population who at that time did not qualify for free access to the public hospital system on the basis of high earnings. However, over time the proportion of the population purchasing private health insurance far exceeded 15%, despite access entitlements to the public hospital system being extended to the entire population.

Vhi Healthcare operated as a statutory monopoly for 40 years until the mid-1990s when the market was opened up to competition as a result of the European Third Non-Life Insurance Directive. When this Directive was transposed into Irish legislation in the form of the Health Insurance Act, 1994, the legislature formalised a number of the practices that Vhi Healthcare was already operating on a *de facto* basis.

These practices included community rating, whereby consumers pay the same premium for the same insurance plan irrespective of the risk they represent to the

insurer; open enrolment, whereby insurers may not refuse cover to applicants, except in very limited circumstances; and lifetime cover, whereby insurers may not refuse to renew cover, except in very limited circumstances. A set of minimum benefits was also specified, which must be covered by any eligible plan offered by insurers.

In order to safeguard community rating in the face of competition, a risk equalisation scheme was also brought forward in 1996. Risk equalisation aims to equitably neutralise differences in insurers' costs due to differing risk profiles. It does so by requiring insurers with lower than average risk profiles to contribute to a fund, from which payments are made to insurers with above average risk profiles. The risk equalisation scheme in Ireland proved controversial, particularly to the first new entrant into the market after deregulation, BUPA Ireland, which was a branch of the British United Provident Association and began selling private health insurance in Ireland in 1997. BUPA Ireland continued to oppose the scheme until the scheme was withdrawn in 1999.

After a consultation process in the late 1990s, the then government published a White Paper on private health insurance in 1999 (Department of Health and Children, 1999). This set the tone for public policy towards the private health insurance market from then on, and was reflected in the Health Insurance (Amendment) Act, 2001. One of the main policies was the introduction of a new risk equalisation scheme. Another was the establishment of an independent statutory regulatory body for the industry. The Health Insurance Authority was established in

2001, and a new risk equalisation scheme was promulgated in 2003, with The Health Insurance Authority having a significant role to play in the operation of this scheme.

However, as with the first scheme, the 2003 scheme also proved controversial and was strongly opposed by BUPA Ireland, which mounted a number of legal challenges against the scheme. After the Irish High Court dismissed BUPA Ireland's challenge in late 2006, BUPA Ireland announced its withdrawal from the Irish private health insurance market. In early 2007 it sold its book of business to Quinn Insurance, which already operated in other non-life insurance markets in Ireland. BUPA Ireland also appealed the case to the Irish Supreme Court.

In the interim, a third insurer, VIVAS Health, entered the market in late 2004. Although it too was opposed to the risk equalisation scheme, it was more vociferous in its opposition to Vhi Healthcare's differential prudential regulation relative to the other health insurers operating in Ireland. Specifically, VIVAS Health argued that Vhi Healthcare's statutory position gave it a competitive advantage against other competing health insurers, particularly as Vhi Healthcare was not required to keep the same level of solvency reserves as its competitors and had begun diversifying its business without the need to establish subsidiary companies. In mid-2008, Hibernian Insurance, which already operated in other non-life insurance markets in Ireland, bought a majority stake in VIVAS Health and it now trades as Hibernian AVIVA Health.

In July 2008, the Supreme Court set aside the Risk Equalisation Scheme, 2003, ruling that the establishment of the scheme was *ultra vires* (beyond the powers of) the Minister for Health and Children. The judgment revolved around the definition of community rating contained in the Health Insurance Act, 1994, as amended. Therefore, despite being on the statute books from 1996 to 1999 and again from 2003 to 2008, payments were never made under risk equalisation in Ireland.

The setting aside of the Risk Equalisation Scheme, 2003 left a hiatus in the market and interim measures were put in place by the Minister in late 2008 in an attempt to bolster community rating in the absence of risk equalisation. Specifically, these consist of a community rating levy that insurers must pay for each member they insure, and increased tax relief at source for older consumers, designed to ensure that the net premium payable by consumers remains consistent, so as to adhere to community rating.

Various risk adjustment schemes are currently operated in the health insurance systems of a number of other countries, including Australia, which is probably the most similar system to that of Ireland. Australia also has a voluntary private health insurance system, with a relatively high take-up rate, operating alongside a public system with universal entitlement. It also operates community rating (although it modified its system of community rating in 2000), open enrolment and lifetime cover. Risk adjustment is also practiced in public health systems in a number of countries, including the UK.

1.5 Specific Research Questions

The nature of the Irish private health insurance market raises a number of questions in relation to risk equalisation. The Irish market is heavily regulated, one of the regulations being mandated community rating, supported by open enrolment and lifetime cover. Another specific feature of the Irish market is the accentuated nature of the staggered entry of insurers. This stems from the fact that a State-backed monopoly was in operation for 40 years before the market first experienced competition from another provider. Thus, the Irish private health insurance market provides an interesting case study in the broader debate over the necessity and appropriateness of risk equalisation.

The overarching question is whether risk equalisation is necessary and this has been vigorously debated in Ireland. The debate about risk equalisation in Ireland has been largely based around qualitative arguments – the support of community rating on one side versus the effect on competition and the attractiveness of the market to new entrants on the other side. There has however, been a dearth of empirical analysis to support these arguments. The question of whether risk equalisation is necessary in turn leads on to a number of further questions, which are examined in this study.

The first of these is whether community rating could operate in the absence of risk equalisation. Those who argue for the introduction of risk equalisation claim that it is necessary to support community rating. A formulaic model is therefore presented

in Chapter 3 to examine whether community rating can operate in a market with multiple insurers in the absence of a risk adjustment mechanism. Specific issues relating to the operation of community rating in the Irish market are then discussed and the model is applied to the Irish market in the wake of the 2008 Supreme Court ruling on risk equalisation, which centred on the definition of community rating in Irish legislation.

The proponents of risk equalisation in Ireland point to the difference in risk profiles between Vhi Healthcare and its competitors – with the former having a higher proportion of older, high-risk members than the latter – as evidence of the need for a risk equalisation scheme. Community rating can be undermined if insurers have different risk profiles. Two possible causes of different risk profiles are adverse selection and risk selection. Adverse selection describes a situation in which high-risk consumers choose more comprehensive cover and low-risk consumers choose less generous, cheaper cover. Risk selection entails insurers trying to attract low-risk lives and discourage high-risk lives. Chapter 4 therefore examines whether there is any evidence of either form of selection in the Irish private health insurance market, which could give rise to differences in risk profiles between insurers.

It has been suggested that community rating brings with it an inherent instability, as low-risk (often younger) consumers are charged more than they actuarially would be for insurance, thus cross-subsidising high-risk (often older) consumers. In order for insurance to remain affordable to the entire community, this requires a sufficient

flow of younger consumers into the market. It has been proposed that lifetime community rating (whereby those who enter the market later in life must pay late entry loadings, thereby encouraging people to join at a younger age) be introduced in Ireland in an attempt to reduce the instability arising from community rating. In Chapter 5, this measure is examined, supported by analysis of the introduction of a similar measure in the Australian private health insurance market in 2000. In particular, this analysis aims to examine whether the introduction of lifetime community rating would reduce the need for risk equalisation in Ireland.

If community rating were to break down, possibly as a result of a lack of risk equalisation, then it is possible that the market could revert to risk rating, whereby the risk that a consumer represents to an insurer is taken into account when setting premiums. A similar effect would be seen if risk segmentation on the part of insurers were to become widespread. In practice, this would lead to lower premiums for younger consumers and higher premiums for older consumers, compared with a system of community rating. In Chapter 6, the Irish market is compared with two other markets – Australia, which operates on the basis of community rating, and the UK, which operates on the basis of risk rating – to ascertain what impact a change to risk rating would mean for the age profile in the privately insured market. Analysis is then undertaken, using data relating to hospital discharges in Ireland, to examine the effect this might have on the Irish public health system.

1.6 Rationale for the Current Study

Much of the debate surrounding risk equalisation in Ireland has centred on qualitative arguments. Proponents of the scheme argue that a measure such as risk equalisation is necessary to support community rating, while opponents argue that risk equalisation is anti-competitive and a barrier to entry. Community rating in the private health insurance market in Ireland has broad cross-party support in the Oireachtas (parliament), as do the principles of open enrolment and lifetime cover, while risk equalisation was also broadly supported, though perhaps not as widely as the other principles.

The competition argument used against risk equalisation focuses on the low number of insurers operating in the Irish health insurance market. The dominant position of Vhi Healthcare has also been used by opponents of risk equalisation in Ireland to argue against the scheme. In particular, BUPA Ireland argued that risk equalisation would force smaller players in the market to subsidise the dominant player, a former State-backed monopoly.

Most of these arguments have been qualitative in nature, however (see, for example, DKM Economic Consultants, 2005; Goodbody Economic Consultants, 2007). There has been a relative shortage of quantitative research presented to support either side of the debate. That was the primary reasoning for the current study, which will add an empirical element to the debate surrounding risk equalisation in Ireland.

Most observers accept at least the possibility that some form of risk adjustment mechanism might be required in certain circumstances to support community rating, although the degree to which such a mechanism is required is the subject of some debate. The starting point of this study therefore is to examine the extent to which community rating could operate in the absence of some form of risk adjustment mechanism. The model presented in Chapter 3 offers a formulaic representation of the answer to this question.

Selection issues are often discussed in the context of insurance markets in general, and health insurance is no different. Selection can take the form of adverse selection, where consumers choose to insure or not insure, or choose the level of insurance, based on their own state of health; or risk selection, where insurers try to attract low-risk lives and avoid high-risk lives if possible. The combination of community rating and open enrolment accentuates the likelihood that consumers might engage in adverse selection. The presence of community rating, which means that insurers are not permitted to charge different rates to different consumers based on the level of risk those consumers represent to the insurers, also increases insurers' incentives to engage in risk selection. Risk adjustment has been suggested as a means of combating either or both types of selection. However, despite the appearance of arguments in relation to risk selection in particular in the debate surrounding risk equalisation in Ireland, no empirical evidence has thus-far been

presented to confirm or refute the suggestion that it is present in the market. This study empirically tests for both adverse selection and risk selection.

The structure of the Irish market lends itself to an examination of whether either form of selection exists. Most plans available in the market are broadly similar in terms of the cover they provide for hospital treatment, with the main differences being on the basis of the level of hospital accommodation covered. This allows an examination of whether adverse selection is evident, as plans can be differentiated on the basis of the generosity of cover for hospital accommodation. There are also significant similarities between plans on offer between insurers covering similar levels of hospital accommodation, which facilitates an examination of whether risk selection is evident. If neither form of selection were evident then it would suggest that risk equalisation would be less likely to be triggered, while if one or both forms are present then it would suggest that risk equalisation would be more likely to be triggered. It should be noted however, that even if evidence of selection is not found, this would not suggest that risk equalisation is not needed. Rather, the possibility of selection, and its associated adverse effects, means that it might still be worthwhile to have a risk equalisation scheme in place in order to combat any selection that may occur in the future. Whether or not selection is found would be indicative of the likelihood of such a scheme being triggered.

One criticism that has been levelled against community rating is that it may perhaps entail an inherent instability, as it relies on intergenerational solidarity. This means

that a constant stream of younger, healthier, low-risk consumers is needed in order to keep insurance affordable for older, sicker, high-risk consumers. It has been suggested that the current form of community rating in operation in Ireland – single-rate community rating – is particularly vulnerable to this type of instability. A move to lifetime community rating, where age at entry has an impact on premiums, has been proposed and is anticipated in the near future. Such a change was implemented in Australia in 2000. If such a change were to improve the stability of community rating, then this could mitigate the need for a risk adjustment mechanism. The effect that the move to lifetime community rating had in Australia is therefore examined, and implications drawn for the Irish case.

If community rating were to fail altogether, due to the instability that it creates, or be abandoned (although this is unlikely given the widespread political support for it), then an alternative would be risk rating. Risk rating is applied in many other insurance markets in Ireland, such as the motor and home insurance markets, and it is also applied in health insurance markets in other countries, such as the UK. The differences between a community rated health insurance market and a risk rated one are therefore examined, using the examples of Ireland and Australia (community rated) versus the UK (risk rated).

Although it is unlikely that risk rating will be applied in the Irish private health insurance market, if risk segmentation by insurers were to become widespread then the net result would be similar. It is therefore instructive to examine what difference

community rating makes in the Irish context. An argument that has been used to justify the subsidisation of private health insurance in the Irish market is that it takes some of the pressure off the public healthcare system, by encouraging some patients to be treated privately. If community rating were to break down or be undermined then significant numbers of older consumers, facing substantially higher premiums, would likely discontinue cover and rely on the public healthcare system. Analysis is therefore carried out of the effect this might have on the public hospital system in Ireland. This is particularly relevant given the current deterioration of the public finances in Ireland.

1.7 Research Contributions

As previously mentioned, much of the debate in relation to risk equalisation in the Irish private health insurance market has been based on qualitative arguments. This study will therefore bring a new dimension to the debate, by using empirical evidence.

The Irish private health insurance market is an example of a regulated health insurance market, in which community rating is mandated. The staggered nature of entry of insurers into the market is accentuated by the presence of a statutory monopoly for 40 years before the second entrant, with the third entrant following seven years later.

Although there is widespread acceptance that differential risk profiles between insurers will lead to different premiums being charged, the model presented in Chapter 3 puts this into a formulaic representation. Its application to the Irish market following the Supreme Court ruling is also topical.

Although adverse selection and risk selection are often discussed in literature on insurance markets, it can be difficult to empirically test for them. In this regard, the features of the Irish private health insurance market are conducive to testing for evidence of either type of selection.

Shifting from single rate community rating to lifetime community rating is not widespread in private health insurance markets, Australia being a notable exception. In this context, the proposed shift in Ireland follows that of Australia in its form. While there has been some analysis of this shift in Australia, this thesis takes such analysis a step further by trying to simulate the effect such a move would have in this country.

The comparison of community rating with risk rating is based on a number of similarities between the health systems in the three countries examined in Chapter 6 – Ireland, Australia and the UK. The analysis of the utilisation of public hospital resources by patients of different ages in different categories (public and private) is also novel.

As well as adding empirical evidence to underpin elements of the debate surrounding risk equalisation in Ireland, the findings of this study will help to inform public policy in the area of private health insurance in Ireland, at a time when aspects of the current policy are under review with a view to reform.

1.8 Structure

The rest of this thesis is structured as follows. Chapter 2 details the background to the private health insurance market in Ireland. This includes a discussion of the role that private health insurance plays in the Irish health system, and an examination of the development of the market, from a legislative standpoint and from the point of view of competition. The controversy surrounding risk equalisation in Ireland, as well as other controversial aspects of the market, are also discussed.

A model of a community rated insurance market is presented in Chapter 3, and this model is used to examine whether, or to what extent, community rating can be successfully maintained in first a monopoly situation and then a multi-insurer market. This mirrors the Irish situation in the 1990s, when the market moved from a monopoly provider (Vhi Healthcare) to a competitive market, with community rating mandated by legislation. The model is then used to examine the implications of the 2008 Supreme Court ruling on the Risk Equalisation Scheme, 2003 for community rating in the Irish private health insurance market.

Selection issues are examined in Chapter 4. Data from surveys of consumers commissioned by The Health Insurance Authority are used to test for evidence of adverse selection and risk selection. The former is tested for by comparing the characteristics of those purchasing plans with different levels of cover, as differentiated by the level of hospital accommodation covered, while the latter is tested for by comparing the characteristics of those purchasing plans with the same level of hospital accommodation on offer from different insurers.

Chapter 5 reviews issues relating to different forms of community rating, and their effects on adverse selection. The effect that the changeover from single-rate community rating to lifetime community rating had in Australia is then examined. The take-up rates of private health insurance and the age profile of the insured population changed quite dramatically in Australia as a result of the move. These changes are modelled and the results are applied to the Irish data to simulate what might happen in Ireland if and when a similar change is effected here. The potential effect of a move to lifetime community rating on risk equalisation is also examined, with reference to the Australian experience.

In Chapter 6, two community rated health insurance markets (Ireland and Australia) are compared with a risk rated market (the UK) in an effort to determine the effect that community rating has on the age profile of the market. All three countries share a number of similarities in terms of the presence of voluntary private health insurance markets alongside universal entitlements to use the public healthcare

systems in those countries. However, differences are also evident, and these are noted in the discussion. Analysis of data on discharges from public hospitals in Ireland is then undertaken to discern the effect that an increase in older consumers relying on the public hospital system – which would result from a collapse of community rating – would have on that system.

Chapter 7 summarises the results of this research, draws conclusions thereon and identifies possible areas for future research.

CHAPTER 2

BACKGROUND TO THE PRIVATE HEALTH INSURANCE MARKET IN IRELAND

2.1 Contextual Overview

Private health insurance in Ireland plays a significant role in the healthcare system. Just over half of the population is covered by private health insurance, despite universal access entitlements to the public hospital system. After 40 years of a State-owned monopoly provider, competition was introduced to the market in the 1990s. Since then, market regulation has led to much controversy. There is a significant overlap between the provision of public and private healthcare in Ireland, and this has led to much debate about the role and impact of private health insurance.

2.1.1 Private Health Insurance in the Irish Insurance System

Private health insurance, although only in existence for just over half a century, has become ingrained in the Irish societal landscape. At the end of 2008, 2.299 million people in Ireland were covered by private health insurance, representing an estimated 51.6% of the population. Total premium income from private health insurance in 2008 was €1,652.2m, up from €1,477.8m in 2007 (Source: HIA, 2009).²

² Data from the most recent Household Budget Survey, relating to 2004/05 (CSO, 2007b) show that households in Ireland spent an average of €12.43 on private health insurance out of an average weekly expenditure of €787.12. Thus, private health insurance accounted for an average of 1.58% of weekly household expenditure.

By comparison, gross premium income for Irish Insurance Federation members operating in the non-life insurance market in Ireland in 2008 was €3,333.5m, while gross premium for the life sector in 2008 was €10,097.0m (Source: Irish Insurance Federation, 2009b).³ It should be noted that the non-life figures do not include private health insurance.⁴ It can be seen from these figures that the private health insurance market is quite substantial relative to other forms of non-life insurance in Ireland. It can be seen from Table 2.1 that premiums in the private health insurance market have grown strongly in recent years, while they have fallen in each year since 2004 in the non-life insurance market, and although strong growth was witnessed in the life market until 2007, there was a sharp fall in this category of insurance in 2008.

Table 2.1 Insurance Premium Income in Ireland (€m), 2002-2008

Year	Private Health Insurance	Non-Life	Life
2002	821.9	3,954.9	7,253.3
2003	978.2	4,239.1	7,644.4
2004	1,061.1	3,999.8	7,929.7
2005	1,152.7	3,841.1	9,738.6
2006	1,236.2	3,822.9	12,327.2
2007	1,477.8	3,610.7	14,594.4
2008	1,652.2	3,333.5	10,097.0

Source: HIA (2009), Irish Insurance Federation (2007, 2008, 2009b)

³ The Irish Insurance Federation is the representative body for insurance companies in Ireland. According to its 2009 Annual Report (Irish Insurance Federation, 2009a), its members collectively write over 95% of all life and non-life insurance business in Ireland. The 2009 Annual Report also lists Quinn Insurance, Vhi Healthcare and Hibernian AVIVA Health as members.

⁴ The non-life insurance categories that are included in these figures are motor, property, liability, personal accident/travel insurance and other non-life business. The other non-life business category includes marine, aviation and transit (MAT), credit and suretyship, other financial loss covers and legal expenses insurance (see Irish Insurance Federation, 2009b: 24).

2.1.2 Private Health Insurance in the Irish Health System

One of the main factors affecting the cost of access to medical services in Ireland is possession of a medical card. Entitlement to a medical card is primarily based on financial circumstances (i.e. it involves a means test), although in 2001 eligibility to a medical card was extended to all those aged 70 or over, irrespective of income. In the Budget delivered in October 2008 (Department of Finance, 2008), the Government removed this universal eligibility entitlement, although after much public opposition, the proposed income threshold for the over-70s medical card was raised so that those aged 70 or over with earnings of €700 per week or less (or €1,400 per week or less for a married couple) would still qualify for a medical card, and the means test would only apply to those applying for the over-70s medical card from 1 January 2009 (see Department of Health and Children, 2008b). The proportion of the population with a medical card currently stands at 30% (Source: HSE, 2009).

Those with medical cards are entitled to⁵:

- Free GP (family doctor) services
- Prescribed drugs and medicines (with some exceptions)
- In-patient public hospital services, out-patient services and medical appliances
- Dental, optical and aural services

⁵ See http://www.citizensinformation.ie/categories/health/entitlement-to-health-services/medical_card. Accessed on 15 December 2008.

- Maternity and infant care services
- Some personal and social care services, for example, public health nursing, social work services and other community care services
- A maternity cash grant of €10.16 on the birth of each child.

For those not entitled to a medical card (or a GP visit card⁶), primary care is usually paid for out-of-pocket on a fee-for-service basis, although the Drugs Payment Scheme reimburses expenditure on prescription medicines above a set threshold (€100 per month since 1 January 2009), while the Treatment Benefit Scheme operated by the Department of Social and Family Affairs provides assistance in meeting the cost of some dental and optical services. Currently, all Irish residents are entitled to access to public hospitals and public hospital consultant treatment. For those who qualify for a medical card, such access is free of charge, while those without a medical card must pay nominal fees. From 1 January 2009 these fees are set at €100 per out-patient or Accident & Emergency visit without a GP referral (unless admitted to hospital as a result of attending A&E), and €75 per night as an in-patient up to a maximum of €750 in a continuous 12-month period.

Tables 2.2 and 2.3 contain a number of indicators of private and public health spending in Ireland since the mid-1990s, just before the introduction of competition into the market for private health insurance in Ireland (see Section 2.3).

⁶ GP visit cards were introduced in 2005 and entitle the holder to free GP services only. The means tested income threshold for a GP visit card is higher than that for a medical card

As can be seen from the figures, Ireland's healthcare system is primarily funded through public expenditure, the vast majority of which is raised via taxation. The figures from the World Health Organization (WHO, 2009a) show that, in 2007, total expenditure on health represented 7.9% of GDP⁷, and that this has been on an upward trend since the turn of the century (see Table 2.2). However, this is still below the figures for many other EU countries (see OECD, 2009). The figures also show that general government expenditure on health accounted for almost 80% of total expenditure on health in Ireland, with the remaining 20% accounted for by private sector expenditure on health.

The figures show that out-of-pocket payments by private households accounted for the majority of private sector expenditure on health (57.3% in 2007), and that this proportion has risen significantly since the turn of the century. This largely reflects out-of-pocket payments for primary care services by those who do not qualify for a medical card. Meanwhile, prepaid and risk-pooling plans (private health insurance) accounted for 40.9% of private sector expenditure on health – or 8.3% of total expenditure on health – in 2007. The proportion of private expenditure on health accounted for by prepaid and risk-pooling plans has also increased sharply since

⁷ It should be noted however, that many believe that GNP is a better measure of Ireland's economic activity (see, for example, Kennedy, 2001). As the level of GNP is lower than GDP in Ireland, the proportion of this accounted for by health expenditure would be higher than the ratio presented in Table 2.2, which uses GDP. However, GDP is the measure used by the World Health Organization, so its figures are presented in the table. Calculations based on the figure for THE from WHO (2009a) and national accounts figures from the Central Statistics Office (CSO, 2009) show that total expenditure on health in 2007 was 7.7% of GDP (compared with the 7.9% calculated by the WHO based on national accounts figures from Eurostat) compared with 9.1% of GNP. This results from the fact that GNP was approximately 15% lower than GDP at current market prices in 2007 (see CSO, 2009). McDaid, Wiley, Maresso & Mossialos (2009) suggest that, if health spending as a proportion of GNP were used for comparison then Ireland would consistently have a higher expenditure as a proportion of GNP than the EU average.

2000.⁸ The same source shows that general government expenditure on health in 2007 represented 17.2% of general government expenditure.

Table 2.2 Health Expenditure Ratios in Ireland (%), 1995-2007

Year	THE/GDP	GGHE/THE	PvtHE/THE	PRP/PvtHE	OOP/PvtHE
1995	6.7	71.9	28.1	32.4	47.9
1996	6.5	71.3	28.7	31.9	45.4
1997	6.4	73.9	26.1	32.8	48.3
1998	6.2	73.8	26.2	33.5	43.6
1999	6.2	73.1	26.9	29.3	42.4
2000	6.3	73.5	26.5	28.5	41.0
2001	7.0	74.1	25.9	23.9	46.2
2002	7.1	76.0	24.0	26.1	52.0
2003	7.3	77.2	22.8	29.2	58.8
2004	7.5	78.6	21.4	32.3	63.4
2005	8.2	79.5	20.5	33.3	59.3
2006	7.5	78.3	21.7	38.6	57.2
2007	7.9	79.7	20.3	40.9	57.3

Source: WHO (2009a)

Key: THE = Total expenditure on health; GDP = Gross domestic product; GGHE = General government expenditure on health; PvtHE = Private sector expenditure on health; PRP = Prepaid and risk-pooling plans; OOP = Private households' out-of-pocket payments

However, these ratios do not fully demonstrate the increase in health expenditure in absolute levels, as it must be borne in mind that this period coincided with a period of economic boom in Ireland – the so-called ‘Celtic Tiger’ years. The fact that the Irish economy is officially in recession at the time of writing could mean that the landscape for health expenditure is considerably different in the near-term future.⁹

⁸ The remaining element of private expenditure on health is non-profit institutions serving households (NGOs). According to the WHO figures, this accounted for 27% of private expenditure on health in 2000 but by 2007 this proportion had dropped to under 2%.

⁹ Indeed, speaking in September 2009, the Minister for Health and Children stated that there would be significant cutbacks in health spending in 2010. See <http://www.irishhealth.com/article.html?id=16155>.

Table 2.3 puts this increase in health expenditure in the context of absolute monetary levels. Total expenditure on health increased by just over 310% between 1995 and 2007, while private sector expenditure on health increased by approximately 195% over the same period. The amount spent on prepaid and risk-pooling plans increased by over 270% over the period, while the amount of out-of-pocket payments increased by over 250% over the period. However, it should be noted that these increases coincided with relatively strong population growth in Ireland, which experienced a shift from net outward migration to net inward migration during the period. On a per capita basis, total expenditure on health increased by just under 270% between 1995 and 2007.

Table 2.3 Health Expenditure in Ireland (€m), 1995-2007

Year	THE	GGHE	PvtHE	PRP	OOP
1995	3,561	2,560	1,001	324	479
1996	3,836	2,734	1,102	351	500
1997	4,361	3,222	1,139	374	550
1998	4,894	3,610	1,284	430	560
1999	5,656	4,133	1,523	446	645
2000	6,574	4,833	1,741	496	714
2001	8,128	6,019	2,109	504	975
2002	9,280	7,057	2,223	580	1,157
2003	10,143	7,826	2,317	676	1,362
2004	11,066	8,694	2,372	767	1,504
2005	13,205	10,494	2,711	903	1,607
2006	13,168	10,307	2,861	1,104	1,637
2007	14,610	11,650	2,960	1,210	1,695

Source: WHO (2009a)

Key: THE = Total expenditure on health; GGHE = General government expenditure on health; PvtHE = Private sector expenditure on health; PRP = Prepaid and risk-pooling plans; OOP = Private households' out-of-pocket payments

As Nolan (2006) notes however, the level of resources generated by private health insurance in Ireland is not commensurate with the leverage within the health system enjoyed by those with private cover.¹⁰ One major element contributing to the degree of leverage referred to here is the fact that much of the treatment of privately insured persons takes place in public hospitals. Figures from 2002 (Department of Health and Children, 2002) suggest that there were approximately 12,000 acute beds in public hospitals in Ireland at that time. Approximately 20% of beds in public hospitals are designated private, in other words for use by privately insured patients.¹¹ It was also estimated that the number of beds in private hospitals at the time was approximately similar to the number of private beds in public hospitals. More recent figures from a report commissioned by the Health Service Executive¹² (HSE, 2007) show that private beds accounted for just over 17% of beds in public hospitals and that the number of private beds in public hospitals exceeded the number of beds in private hospitals (although the report excluded some beds in private hospitals from its totals).¹³

According to the country's largest private health insurer, Vhi Healthcare (VHI, 2003), approximately half of the bed capacity used by its members in that financial year was in public hospitals. Figures from the Central Statistics Office (CSO,

¹⁰ This was also noted by Smith (2009).

¹¹ Beds in public hospitals may be designated as public beds or private beds, or in a small number of instances be non-designated. Examples of non-designated beds would be those in Intensive Care Units or Coronary Care Units.

¹² The Health Service Executive is the body responsible for the provision of public healthcare services in Ireland. It was established in 2005 to replace the previous system of regional health boards. For further details, see O'Morain (2007).

¹³ Data on discharges from public hospitals (for example ESRI 2006, 2008a, 2008b) show that private patients account for more than 25% of discharges, although this might reflect more intensive use of private beds than public beds – an issue that is examined in Chapter 6.

2008b) show that 60% of the hospital inpatient stays of those aged 18 and over with private health insurance were in public hospitals, with the remaining 40% in private hospitals.¹⁴ By comparison, 92% of such stays of those with medical cards and 97% of stays of those with neither private health insurance nor a medical card were in public hospitals. Insurers have a financial incentive to have their members treated in private beds in public hospitals rather than in private hospitals. This is due to the fact that insurers are not currently charged the full economic cost of private beds in public hospitals. However, the government is committed to moving to a situation where insurers do pay the full economic cost of such beds and therefore the charges for these beds have been increased in recent years, most recently by 20% following the Budget announced in October 2008 (Department of Finance, 2008).¹⁵

The State also subsidises private health insurance in other ways. The main such subsidy is the availability of tax relief on premiums. This was available from the outset of the market, but while it was previously available at the marginal rate of tax, this was changed over two tax years (1995/96 and 1996/97) to the standard income tax rate (currently 20%).¹⁶ Since April 2001 this tax relief has been deducted at

¹⁴ Recently published figures suggest that 45% of private patient throughput in public hospitals was not subject to bed charges as the patients were accommodated in public beds, while a further 5% was not charged for because the patients were accommodated in non-designated beds, leaving only 50% of private patient throughput subject to bed charges as a result of staying in private beds (Comptroller and Auditor General, 2009). However, the report also notes that private accommodation in public hospitals was used to accommodate 83,541 bed-days for public patients. An example of private beds being used to accommodate public patients would be private rooms being used as isolation units to prevent the spread of hospital-acquired infections.

¹⁵ O'Brien & Shanahan (2009) note that a steering group has been set up, comprising officials from the Departments of Finance and Health & Children, along with representatives of the Health Service Executive, to assess the economic cost of providing private beds in public hospitals. This steering group is expected to report in December 2009.

¹⁶ Thomson, Foubister & Mossialos (2009) note that tax relief on private health insurance premiums has been reduced or abolished in a number of older EU Member States in recent years, although

source. The provision of this tax relief was estimated to have cost €321m in 2008. (Source: Unpublished correspondence from Revenue Commissioners.)

A Government White Paper on Private Health Insurance, published in 1999 (Department of Health and Children, 1999) noted that two earlier reports¹⁷ had recommended the abolition of tax relief on private health insurance premiums, but suggested that the equity and effectiveness concerns behind these calls were addressed by reducing the rate of tax relief from the marginal rate to the standard rate. The White Paper also noted the argument that some incentive to purchase private health insurance could be justified “on the basis that those who opt for private cover effectively forgo a statutory entitlement while continuing to contribute to the funding of the public health service through taxation.” (Department of Health and Children, 1999: 24).

A more recent report from the Commission on Taxation (2009) acknowledges that tax relief on premiums helps to attract and retain people in the health insurance market, and that in the absence of private health insurance the State would have to provide treatment for greater numbers of people under the public system. However, the report cautions that “there is a sizeable deadweight element as many individuals would pay these premiums in the absence of the tax relief.” (Commission on Taxation, 2009: 258-259). Overall, the Commission recommends the continuation

according to Vrangbaek (2009), tax rules encouraging private health insurance take-up were introduced in Denmark in 2002.

¹⁷ These reports were those of the Commission on Taxation (1982) and the Commission on Health Funding (1989).

of tax relief on health insurance premiums but on a more limited basis. Specifically, it recommends a flat-rate tax relief per person irrespective of the amount of coverage purchased. This would differ from the current pro-rata system, under which those who pay more for their health insurance receive more relief in absolute monetary terms.

Another way in which the State subsidises the private health insurance market is indirectly, via the provision of education and training for medical professionals. Since much of the treatment of privately insured individuals takes place in public hospitals, and since most hospital consultants work in both public and private practice¹⁸, the training of these medical professionals, which is subsidised by the State, also benefits private patients.

In its White Paper in 1999 (Department of Health and Children, 1999), the then government reiterated its commitment to maintaining State support for the private health insurance market “in view of the alternative it provides to publicly-funded care and in recognition of the importance of community rating/open enrolment.” (Department of Health and Children, 1999: 23). It went on to state that it considered the continuance of State facilitation of private healthcare to be appropriate, on the basis that it encourages people to take responsibility for meeting the cost of their

¹⁸ The Competition Authority (Competition Authority, 2005) notes that there are approximately 1,800 public consultant posts in Ireland, of which 1,500 are filled, and that 90% of public consultants are also engaged in private practice. It further notes that there are only approximately 170-200 consultants who work exclusively in the private sector.

own healthcare, thus reducing the demands on the public system, and that the facilities and services are available in the private sector to take the strain.

However, studies undertaken in the UK (Emmerson, Frayne & Goodman, 2001) and Canada (Stabile, 2001) suggest that subsidisation of private health insurance by the State does not represent good value for money, as the costs of the subsidies outweigh the benefits in terms of the savings from lower utilisation of the public healthcare service. Palangkaraya, Yong, Webster & Dawkins (2009) also conclude that reforms in the Australian private health insurance market had income distributive effects that favoured high-income households, leading to a subsidy of approximately AUS\$887m per annum to households who might have purchased health insurance even in the absence of such a subsidy. Mossialos & Dixon (2002) also suggest that subsidies to private sources of healthcare funding, such as private health insurance, are regressive. A more mixed assessment comes from Frech III & Hopkins (2004), who found that a 30% rebate given to private health insurance subscribers in Australia since 1997 could not be justified on the basis of freeing up public resources, but that additional justification could come from the provision of choice to consumers and a reduction in waiting times for those left relying on the public hospital system.

Meanwhile, a model presented by Wright (2006) suggests that an insurance premium subsidy increases the prices charged by private hospitals and doctors, without a significant net effect on the number of consumers insured, and that relatively

wealthy consumers are the ones who benefit from higher quality treatment in private hospitals (which would include shorter waiting lists or private rooms), as they are the ones who choose to purchase insurance and receive treatment in private hospitals rather than be treated for free in public hospitals. He also finds that the private sector does not provide a safety valve for the public sector, but rather responds to reduced public hospital quality by reducing its own quality while increasing private hospital profit and doctor income. He concludes that if policy-makers wish to increase the numbers privately insured then it might be better to reduce monopoly power in the private sector rather than introducing premiums subsidies or reducing public hospital quality.

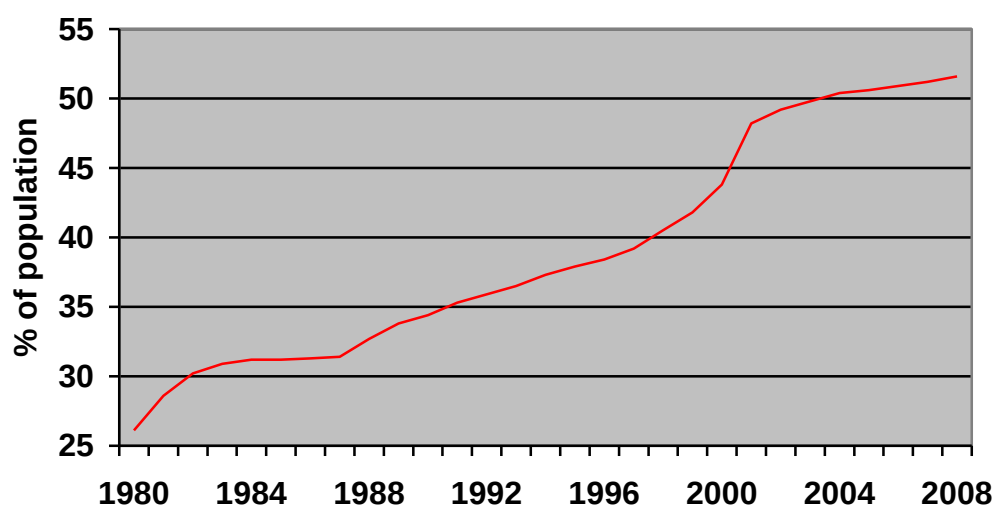
2.1.3 The Market for Private Health Insurance in Ireland

The growth of private health insurance in Ireland has been remarkable, particularly in light of the universal entitlement to access the public hospital system. In 1957, when the Voluntary Health Insurance Board was established (see Section 2.2), the top 15% of earners in the country were not entitled to free access to the public hospital system. However, in 1979 eligibility for free access to public hospital accommodation was extended to the entire population, while universal eligibility for free treatment by public hospital consultants followed in 1991.

Despite this however, private health insurance coverage has far exceeded the 15% initially envisaged, as can be seen in Figure 2.1. As mentioned in Section 2.1.1,

coverage of private health insurance in Ireland reached 51.6% at the end of 2008 (Source: HIA, 2009).¹⁹ The OECD (2004) found that Ireland, with an estimated take-up of PHI of almost 44 percent in 2000, and Australia, with almost 45 percent take-up in the same year, were the largest duplicate health insurance markets in the OECD. Duplicate insurance in this instance refers to the situation where private insurers operate in parallel to the public healthcare system.

Figure 2.1 Percentage of Irish Population Covered by Private Health Insurance, 1980-2008



Source: 1980-1999: Department of Health and Children (1999), Appendix IV; 2000: NESF (2002), Table 2.3; 2001-2008: HIA (2009), Appendix A

Note: Figures for 1980-2000 relate to end-February, figures for 2001-2007 relate to end-December.

The role of the private health insurance market in Ireland has changed over time. Initially, it was envisaged that the system would play a substitutive role for those not entitled to free access to the public hospital system. However, enrolment was not

¹⁹ However, Donnellan (2009) states that the HIA confirmed that numbers insured fell by approximately 13,000 in the first quarter of 2009, the first such fall since it began to collect quarterly figures in 2001. O'Brien (2009) meanwhile notes that the number of people covered by private health insurance in Ireland had fallen by 21,000 in the first half of 2009.

limited to those ineligible for free hospital treatment. For some, private health insurance offered the option of better accommodation or choice of consultant, while it gave the option of treatment in private hospitals to many subscribers, irrespective of their entitlements to public hospital treatment. Therefore, private health insurance in its early days in Ireland also played a supplementary role. Since entitlements to the public healthcare system were extended, the substitutive role has been eliminated, and private health insurance now plays primarily a supplementary role, with elements of a complementary system.²⁰

Hospital plans (which account for the vast majority of coverage in Ireland) provide access to semi-private²¹ or private rooms in public hospitals and access to private hospitals (in a semi-private or private room) depending on the level of cover provided by the plan. There is also a perception (backed up by some evidence, which will be discussed in Section 2.1.4) of shorter waiting periods for those with private health insurance. Most hospital plans provide limited cover for ancillary (non-hospital) services, such as visits to general practitioners (GPs), physiotherapists, etc., which must be paid for out-of-pocket by those without medical cards.²² However, in recent years, an increasing number of hospital plans

²⁰ Substitutive health insurance substitutes for the statutory healthcare system, complementary health insurance provides complementary cover for services not covered, or not fully covered, by the statutory system, while supplementary health insurance enhances consumer choice and/or provides faster access to healthcare services. For a fuller discussion of this categorisation, see Mossialos & Thomson (2002b, 2004, 2009).

²¹ A semi-private room may contain up to five beds.

²² These plans usually make a contribution towards the cost of visiting a GP, physiotherapist, etc., although they do not generally cover the full cost. Furthermore, these contributions are subject to an excess for ancillary treatment, which must be met by allowable expenses, rather than actual expenses, before contributions are made by the insurer. For example, if a plan has an excess for ancillary cover of €300, and provides a contribution of €20 per visit to a GP, while a GP visit costs, say, €50, then an

with significant ancillary cover have been introduced.²³ Some ancillary plans have also been introduced, some of which may be purchased on a stand-alone basis, others of which can also be combined with hospital plans. The ancillary plans would primarily be complementary, while the hospital plans (the ones with limited ancillary cover) would primarily be supplementary. The combined hospital and ancillary plans would be both complementary and supplementary.

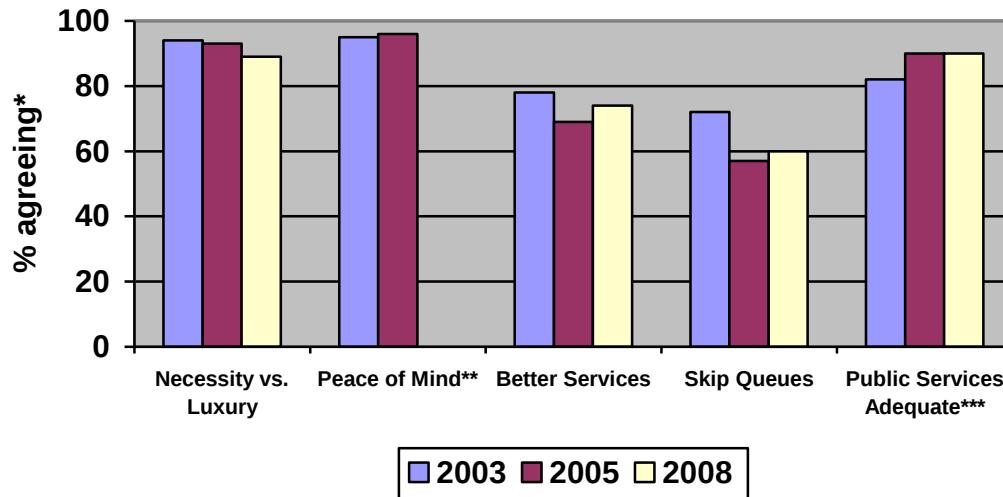
2.1.4 Consumer Attitudes Towards Private Health Insurance in Ireland

Given the universal access entitlements to the public hospital system, the question must be asked as to why so many Irish consumers choose to voluntarily take out private health insurance. Surveys of consumers undertaken by The Health Insurance Authority – the independent statutory regulatory body for the private health insurance industry in Ireland – provide some answers to this question. Among the questions asked as part of the quantitative surveys, a number of statements were read out and respondents were asked to rate their level of agreement with those statements. Figure 2.2 shows the level of agreement with certain statements among those surveyed who had private health insurance.

insured person on such a plan would need to make 15 visits to a GP – not six – before the excess would be reached.

²³ These plans tend to make contributions towards the cost of visits to a GP, physiotherapist, etc., although they do not generally cover the full cost. However, the excess on ancillary expenditure for such plans is typically €1. Some of the ancillary or combined plans will only cover limited numbers of visits to various types of practitioners.

Figure 2.2 Consumer Attitudes to Private Health Insurance in Ireland



* Includes those who responded Agree and Strongly Agree

** Not asked in 2008

*** Percentage disagreeing

Source: HIA (2003a, 2005a, 2008c)

From this Figure, it can be seen that the vast majority of those with private health insurance view it as a necessity rather than a luxury. This might be strongly linked to the disagreement with the statement that there is no need for private health insurance in Ireland as public services are adequate. Interestingly, significant numbers of those without private health insurance also disagreed with this statement, suggesting a widespread lack of confidence in the public hospital system in Ireland. Insured respondents in the 2003 and 2005 surveys also indicated strongly that private health insurance provides peace of mind. In all three surveys, a majority of

those insured agreed that having private health insurance means always getting a better level of healthcare service and being able to skip the queues for treatment.²⁴

These findings are similar to those of an earlier study, undertaken by the Economic and Social Research Institute and reported in Harmon & Nolan (2001) and Nolan & Wiley (2000). The ESRI survey shows that the two most important reasons cited for having private health insurance were “fear of large medical or hospital bills”, with 88.5% of respondents citing this as being very important, and “being sure of getting into hospital quickly when you need treatment” (86.4%). These reinforce the idea of private health insurance providing peace of mind and being seen as allowing people to skip long waiting lists for public treatment.

Earlier research by Vhi Healthcare, referred to in the 1999 government White Paper on Private Health Insurance, also reinforce these findings. According to this research, the most commonly cited reasons for having private health insurance were “protection against large hospital/medical bills; peace of mind about healthcare needs; faster access to hospital beds/avoidance of waiting lists; option of private/semi-private accommodation.” (Department of Health and Children, 1999: 8).

Although it is to be expected that those consumers who have private health insurance would view it as important, it is interesting to note that this view also

²⁴ For further details of these findings, and further discussion of consumer attitudes and behaviour in relation to private health insurance, see Turner (2006).

appears to be shared to a degree by non-consumers (those who never had private health insurance and those who previously had it but no longer had it when surveyed). Over half (54%) of non-consumers sampled in the 2003 survey (HIA, 2003a) agreed that private health insurance is a necessity rather than a luxury. Although this proportion was lower in the 2005 survey (HIA, 2005a), with 43% of non-consumers agreeing with this statement, fewer non-consumers (32%) disagreed, with the remainder neither agreeing nor disagreeing or stating that they did not know. Similarly, in 2008 (HIA, 2008c), more non-consumers agreed (41%) than disagreed (35%), with the remainder neither agreeing nor disagreeing or stating that they did not know.

This would suggest that a significant number of non-consumers would like to have private health insurance. Indeed, 42% of non-consumers sampled in the 2003 survey said that they were likely to get private health insurance at some stage in the future, while 34% of those in the 2005 survey said they were likely to get it, as did 27% in the 2008 survey. The reduction in this proportion over time might, in part, be due to continued premium increases in the intervening period.

Indeed, affordability appears to be the major factor behind non-consumers not having private health insurance. In both the 2003 and 2005 surveys, the most quoted reason for not having private health insurance among those who have never had it was that it was too expensive or that the person could not afford it (42% of those who have never had cover cited this as their main reason for not having private

health insurance in the 2003 survey, while 38% cited it as the main reason in the 2005 survey). In the 2008 survey, possession of a medical card was the most commonly cited reason for not having private health insurance (33% cited this as the main reason for not having it), followed closely by it being expensive or that the person could not afford it, at 32%.

Cost factors were also the most commonly cited reason for previous consumers (those who previously had private health insurance but no longer had it when surveyed) in all three surveys allowing their coverage to lapse. Furthermore, when non-consumers (those who never had private health insurance and those who previously had it but no longer had it when surveyed) were asked what would encourage them to take out health insurance, having more money was the most commonly cited factor in all three surveys. A reduction in premiums was the second most commonly cited factor in the 2003 and 2005 surveys and the third most commonly cited factor in the 2008 survey.

This mirrors the finding in an earlier study, undertaken by the Economic and Social Research Institute and reported in Nolan & Wiley (2000), which showed that 23% of non-consumers would be very likely to take out private health insurance in response to a 10% fall in the price of insurance (a total of 52% said that they would be very or quite likely to take out insurance after such a price fall).

A major reason for the attractiveness of private health insurance to both consumers and non-consumers is a lack of confidence in the public health system. When asked whether they agreed or disagreed with the statement “There is no need for private health insurance in Ireland, public services are adequate”, 82% of consumers and 58% of non-consumers in the 2003 survey disagreed. In the 2005 survey, disagreement with this statement was registered by 90% of consumers and 51% of non-consumers. In the 2008 survey, agreement the level of disagreement remained at 90% among consumers but had reduced to 43% among non-consumers, although fewer non-consumers agreed with the statement (33%) than disagreed. Eight percent of consumers and 24% of non-consumers agreed with this statement in the 2003 survey, while only 3% of consumers agreed with it in 2005 and 2008 and 21% of non-consumers agreed in 2005.

This suggests that, although the level of dissatisfaction with the public health service in Ireland remains very high among those with private health insurance, the level of dissatisfaction among those without private health insurance seems to be reducing somewhat, although their attitudes appear to remain ambivalent at best.²⁵

Evidence for why the public health service is not seen as adequate comes from figures compiled by the Central Statistics Office (CSO). Its Quarterly National Household Survey module on health, carried out in 2001 (CSO, 2002), shows that just over a quarter (25.9%) of the adult (over-18) population had a medical card at

²⁵ A recently released report from the Health Consumer Powerhouse (2009) suggests that the Irish health system appears to suffer from a problem of perception, with responses to a patient organisation survey being considerably more negative than results from official figures.

that point in time, while 46.3% had private health insurance only, a further 2.1% had both²⁶ and 25.6% had neither.²⁷ Distinct trends emerge between those with and without private health insurance, particularly in relation to waiting periods.²⁸

In the sample as a whole, 1.6% of people were on inpatient waiting lists when the survey was carried out.^{29, 30} However, when broken down by medical cover, the figures range from 3.2% of those with medical cards only to 1.0% of those with private health insurance only. The figures were 2.3% for those with both a medical card and private health insurance and 1.0% for those with neither form of cover.

²⁶ Of those who responded to the consumer surveys carried out on behalf of The Health Insurance Authority, 5% in the 2003 survey reported that they had both private health insurance and a medical card, while 3% in the 2005 survey said they had both, as did 4.7% in the 2008 survey. These figures translate into 16%, 12% and 13.7%, respectively, of medical card holders sampled who had private health insurance (see HIA, 2003a, 2005a, 2008c). This is further evidence that the public system is not considered adequate, as medical card holders have free access to public hospital accommodation and consultants.

²⁷ A similar survey relating to the third quarter of 2007 (CSO, 2008b) shows that 24% of respondents had a medical card only, 44% had private health insurance only, 5% had both and 27% had neither. The CSO noted that the increase in the proportion of respondents with both forms of cover was largely driven by the 70+ age-group, who would have qualified for a medical card from 2001 onwards (see Section 2.1.2). Specifically, the proportion of those with both forms of cover in the 70+ age-group increased from 10% in 2001 to 33% in 2007, while the level of medical card coverage for this age-group rose from 79% in 2001 to 95% in 2007. However, the figures also show that the proportion of people aged 65-69 with both forms of cover increased from 5% in 2001 to 10% in 2007.

²⁸ Distinct differences are also evident between those with and without a medical card, with the former being significantly more likely to have a GP consultation or other health appointment in the two weeks prior to the survey being administered, and having one or more listed medical conditions. Those with medical cards also tended to rate their self-assessed health status lower than those without a medical card. However, it should be noted that the age profile of those with medical cards was older than those without.

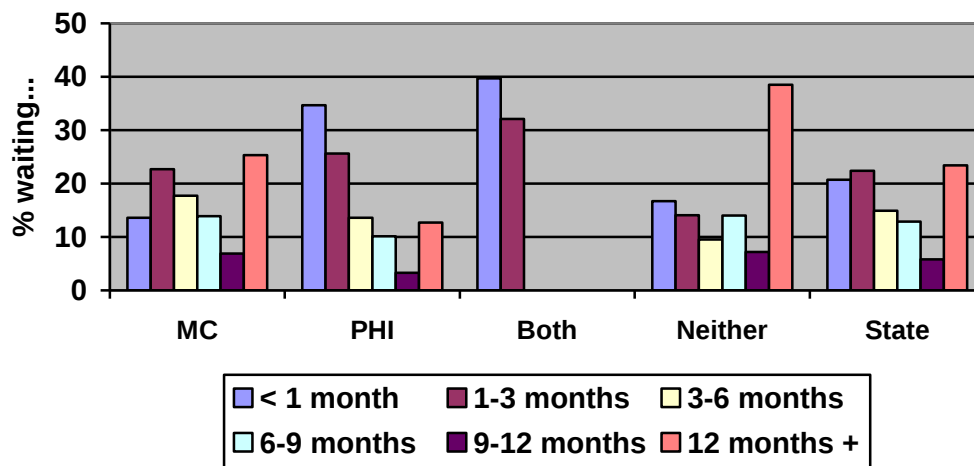
²⁹ Private health insurance in Ireland is primarily focused on providing cover for hospital treatment, i.e. inpatient and day case treatment, rather than outpatient treatment. This is confirmed by consumers' perceptions of the most important element of cover.

³⁰ A survey of health systems in Europe (Health Consumer Powerhouse, 2008a) noted that severe waiting list problems in Ireland seem to be improving, but the associated press release (Health Consumer Powerhouse, 2008b) suggested that waiting times should be cut further, particularly for specialist appointments. The index ranked Ireland 11th out of 31 countries, up from 16th in 2007. It should be noted that the report ranked Ireland 15th, but the revised press release ranked Ireland 11th – it would appear that an error was made in the tally of marks assigned to Ireland in the report. The 2009 report (Health Consumer Powerhouse, 2009) ranked Ireland 13th out of 33 countries.

However, while the likelihood of being on a waiting list showed a distinct trend between those with and without a medical card, the length of time people were waiting showed a distinct trend between those with and without private health insurance.

Just over a quarter of those with medical cards only who were on waiting lists for inpatient treatment had been waiting over a year for treatment (see Figure 2.3). By contrast, only 12.7% of those with private health insurance only had been waiting that long. Of those with neither form of cover, 38.5% had been waiting over a year, while the sample size in the group with both, who had been waiting for over a year, was too small for estimation by the CSO.

Figure 2.3 Inpatient Waiting Lists by Type of Medical Cover, Q3 2001



Source: CSO (2002)

At the other end of the scale, just over 60% of those with private health insurance only and nearly 72% of those with both private health insurance and a medical card

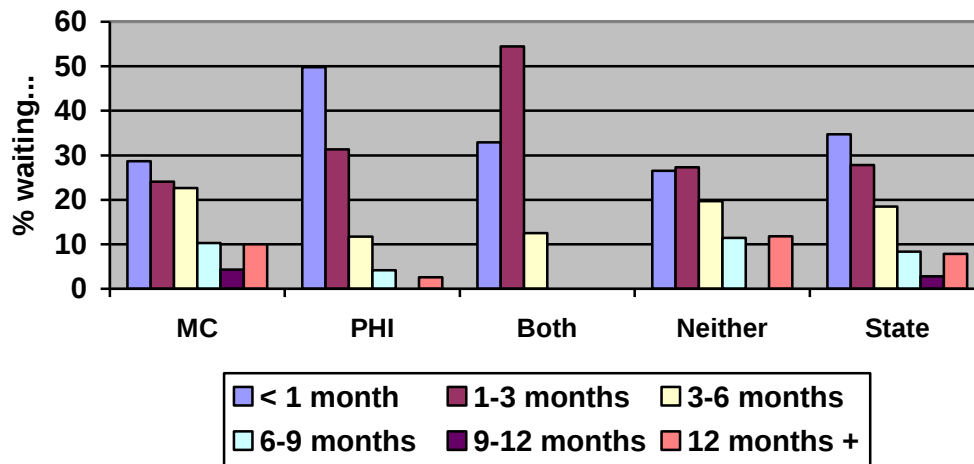
had been waiting less than three months, while only 36.3% of those with medical cards only and just under 31% of those with neither form of cover had been waiting less than three months for treatment. It would appear from these figures that those with private health insurance cover (on its own or with a medical card) tend not to be waiting as long for treatment as those without private health insurance cover (those with a medical card only or neither form of cover).

A similar pattern emerges in relation to waiting lists for day care procedures or investigations. Nationally, 1.3% of people were on such waiting lists when the CSO survey was carried out. Of those with medical cards only, 2.3% were on a day care procedure or investigation waiting list, while only 0.8% of those with private health insurance only were on such a list. The corresponding figure for those with both a medical card and private health insurance was 1.8%, while the figure for those with neither form of cover was 1.0%. The breakdown of waiting times for each of these categories is shown in Figure 2.4.

Again, it can be seen that those with private health insurance tend to be waiting for less time than those without it. A little over half of those with a medical card only or with neither form of cover had been waiting less than three months for day care procedure or investigation, compared with over 80% of those with private health insurance only or those with both. One in ten of those with a medical card only, and a slightly higher proportion of those with neither form of cover, were waiting over a year for such treatment, compared with just 2.6% of those with private health

insurance only (again, the sample size of those with both forms of cover, who had been waiting over a year, was too small for estimation by the CSO).

Figure 2.4 Day Care Procedure/Investigation Waiting Lists by Type of Medical Cover, Q3 2001



Source: CSO (2002)

As O'Morain (2007) notes, a common waiting list for public and private patients was called for by the Commission on Health Funding (1989), but has not been implemented.³¹ This is despite the fact that, in the most recent health strategy (Department of Health and Children, 2001), the government acknowledged that the public-private mix in hospitals is a contributory factor to long waiting lists for public patients. The strategy document notes "Waiting times for public patients for some non-emergency (elective) treatment are unacceptably long. While this is due primarily to the problems of capacity discussed above, the current mix between public and private practice is a contributory factor." (Department of Health and Children, 2001: 100).

³¹ Colombo & Tapay (2004) also suggest that having a single waiting list for public and private patients could help to limit inequalities in access.

As part of the policy response to this, as proposed in the health strategy, the National Treatment Purchase Fund (NTPF) was established in 2002. This provides a facility for public patients who have been waiting longer than three months for an operation or procedure in a public hospital to be treated at the State's expense in a private hospital in Ireland or the UK. Over 135,000 patients have been treated under the NTPF up to the end of 2008. According to the NTPF, the median waiting times for all procedures in Ireland in December 2008 was 2.6 months (NTPF, 2009), down from 3.4 months at the end of 2007 (NTPF, 2008). These figures also show that, as at December 2008, 13,863 patients were waiting for surgical treatment for more than three months, of whom 1,576 (or just over 11%) were waiting for 12 months or longer. According to NTPF (2008), in December 2007, there were 17,747 patients awaiting surgical procedures for more than three months, of whom 4,637 (or just over 26%) were waiting for 12 months or more. According to NTPF (2009), the NTPF treated 36,269 patients in 2008, including nearly 21,000 inpatient procedures, over 12,000 outpatient consultations and over 3,000 MRI scans (increases of 5%, 17% and 35% compared with 2007). These figures suggest that the National Treatment Purchase Fund is having a positive impact on waiting times for public patients.

The Office of the Comptroller and Auditor General – the body which oversees the administration of public funds – recently reported that procedures purchased from private hospitals by the NTPF generally cost less than the equivalent procedures

carried out in the public hospital system, which suggests that the NTPF also provides value for money for the taxpayer (Comptroller and Auditor General, 2009).

In terms of the characteristics of those who purchase private health insurance, not surprisingly there is a significant differential between social classes, while some age effects can also be seen. Table 2.4 shows that significant majorities of those in higher social classes A, B and C1 (upper middle class, middle class, and lower middle class, respectively) are covered by private health insurance, while those in the lower social classes of C2, D and E (skilled working class, other working class, and casual workers and those dependent on welfare, respectively) are less likely to have it. Those in the farming class have take-up rates broadly similar to the overall average.

Table 2.4 Private Health Insurance Coverage by Social Class

Social Class	AB	C1	C2	DE	Farming	Overall
2003	70%		31%		39%	47%
2005	85%	75%	46%	18%	55%	52%
2008	89%	65%	42%	18%	49%	49%

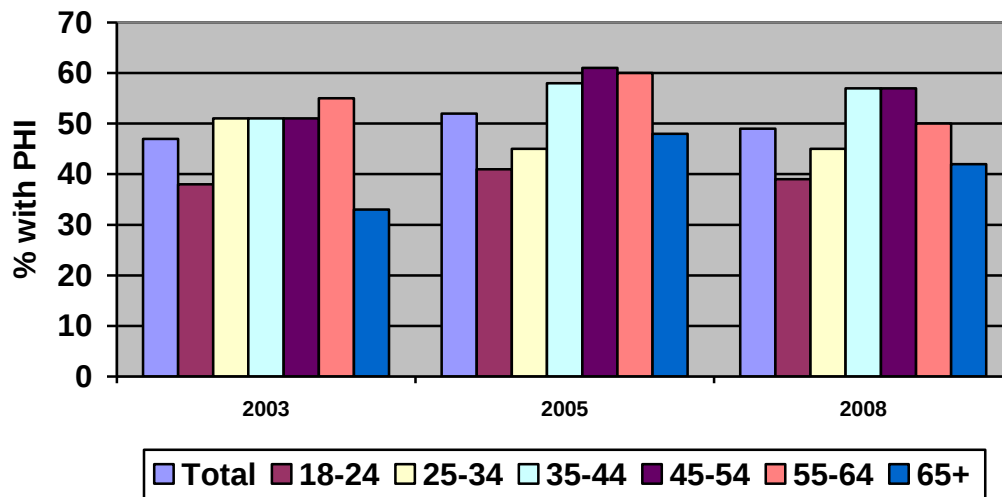
Source: HIA (2003a, 2005a, 2008c)

Figure 2.5 meanwhile, shows the coverage of private health insurance by age-group. It can be seen from this Figure that those in the younger and older age-groups tend to have lower coverage rates than those in the middle-age groups.³² Figures based on cluster analysis reported in the 2008 survey (HIA, 2008c) show that the three broad

³² CSO (2008b) shows a similar pattern, with the highest level of private health insurance take-up recorded among those aged 35-64.

segments of the market are Young Singles (30%), Couples (44%) and Retirees (26%).

Figure 2.5 Private Health Insurance Coverage by Age



Source: HIA (2003a, 2005a, 2008c)

Figures compiled by the Central Statistics Office (CSO, 2008b) show that those with private health insurance also tend to perceive their health status in a more positive light. Of those aged 18 and over surveyed, 52% of those with private health insurance perceived their health status as Very Good, 40% perceived it as Good, 7% perceived it as Fair and only 1% perceived it as Poor. By comparison, only 27% of those with medical cards considered themselves to be in very good health, 43% in good health, 25% in fair health and 5% in poor health. The corresponding figures for those with neither form of medical cover were 56%, 38%, 5% and 1% respectively. (These figures are presented in Table 6.9.) This last group comprises those who effectively self-insure for medical treatment, or rely on the public health care system.

2.1.5 Equity and Private Health Insurance in Ireland

Although a full discussion of the equity of private health insurance in Ireland is beyond the scope of this study, it would nevertheless be appropriate to briefly outline some of the issues that have been raised in relation to this issue, as some of them relate to the role that private health insurance plays in the Irish healthcare system.

The issue of the inequity of what has been described as a two-tier health system in Ireland is one that has received much examination. This two-tier system in Ireland developed over a period of decades and has been institutionalised, as noted by Wren (2003).

Much of the basis for concern is the close and complex interaction between the public and private healthcare delivery mechanisms in Ireland. In this regard, Nolan (2005) notes that, in terms of the delivery of healthcare services in Ireland, some services are publicly funded and delivered, some are publicly funded but privately delivered, some are privately funded and delivered and others are privately funded but publicly delivered.

One of the main interactions between the private and public systems, as noted earlier, is that many privately insured patients receive treatment in beds designated

for use by private patients in public hospitals³³ and, as seen in Section 2.1.4, evidence suggests that privately insured patients tend to have shorter waiting times on average than public patients. This system of bed designation is one that successive governments have not only permitted but encouraged.

For example, in the Programme for Economic and Social Progress (Department of the Taoiseach, 1991), which was one of a series of agreements between the social partners, including the government, employers and unions, the then government recognised the important role that voluntary health insurance played in the health system. The Programme envisaged that, over time, private patients admitted to public hospitals for non-emergency treatment would be accommodated only in semi-private or private beds and not in wards. However, the document notes “In gradually implementing the new system the Government will be sensitive to the need to ensure that the public hospital system caters adequately for the requirements of private patients and that the important role and contribution of voluntary health insurance is not diminished in any way.” (Department of the Taoiseach, 1991: 28).

Concerns have also been raised that, due to differential methods of payment between public and private patients, hospital consultants have incentives to prioritise the treatment of the latter group, leaving non-consultant hospital doctors to treat their

³³ As noted by NESF (2002), attitudes towards equity might be different where private patients are treated in private hospitals and are seen as paying their own way.

public patients. Consultants are generally paid a salary for their public work and are paid on a fee-for-service basis for their private work.³⁴

Wren (2003) estimates that some consultants earned an average of €130,000 from private practice in 2002, and €280,000 between their public and private practices combined. She also notes that, while anecdotal evidence suggests that consultants prefer to spend time with their private practice, leaving non-consultant hospital doctors to treat many of their public patients, a Value for Money Audit of the Irish Health System, commissioned by the Department of Health and Children and published in 2001 (Deloitte & Touche, 2001), found no systematic evidence of such practices, although it did acknowledge that a lack of information hindered the making of informed judgments on the issue.

The concern over consultants' treatment of public versus private patients has been reflected in the negotiations between the Health Service Executive and hospital consultants to draw up a new consultant contract. The agreement reached between the HSE and the Irish Hospital Consultants Association (the body representing the majority of hospital consultants in Ireland) means that new consultants (and any consultants who choose to transfer from their existing contracts to the new contracts) must agree to carry out their private practice on public hospital campuses and, except in limited cases, limit their private practice to 20% of their workload.³⁵ Three

³⁴ For further discussion on this and its effects on equity, see Nolan (2005).

³⁵ The previous contracts, which still apply to existing consultants who do not choose to switch to the new contracts, allow most consultants to carry out private practice, in some cases only on a public hospital campus, but in other cases off-site private practice is also permitted.

new types of contracts will be available – the first (and highest paid) will be for consultants who agree to carry out only public work, the second for those who agree to limit their private work to 20% of their workload, and the third (and lowest paid) for consultants appointed in exceptional circumstances who are permitted to carry out private work outside the public hospital campus (see Department of Health and Children, 2008a for further details). A recent report from the Comptroller and Auditor General (2009) states that 37% of consultants who have accepted the new contract are on the first category of contract, i.e. they are not permitted to engage in private practice.

It is interesting to note that similar issues have arisen in England in recent years. Prior to October 2003, consultants working for the NHS were permitted to engage in private practice, provided that private income for full-time consultants did not exceed 10% of their NHS income. Part-time consultants were permitted to engage in unlimited private practice. However, concerns were raised by the House of Commons Health Select Committee, including about potential conflicts of interest arising from private practice. Under new contracts, from October 2003, new consultants, and any consultants on the old contracts who opt to take the new contracts, are permitted to engage in private practice with no limit on the amount of income they can earn from such practice. However, undertaking private practice at the expense of NHS work may affect pay progression.

Morris et al (2008) show that the mean total income across all consultants in England in 2003/4 was £110,773, comprising mean NHS income of £76,628 and mean private income of £34,144. The ratio of mean private income to mean NHS income was 0.45. For those on part-time contracts, this ratio was 0.71, while for those on full-time contracts it was 0.26 – far in excess of the 10% permitted under the old contract. Those on maximum part-time contracts (who receive ten elevenths of a full-time salary) had a ratio of 0.79. They also note that approximately 60% of consultants undertook private practice alongside their NHS work. They also find that there was a positive correlation between waiting lists and private income across specialties. However, they argue that the causality is uncertain. It could be that private practice is undertaken at the expense of NHS work or that long waiting lists for certain specialties encourage more people to buy private health insurance.

The counter-argument to claims of inequitable access to healthcare on the basis of ability to pay for private health insurance is that those who are privately insured are also paying for the public system via taxation but are opting not to use it, and are therefore effectively paying twice and are also freeing up capacity in the public system for use by those who rely solely on it.

However, Smith (2009) notes that equity in healthcare can be measured in a number of different ways (such as rights, capacity to benefit, health status, access to health care or health) and that the outcomes can differ depending on which of these is pursued. Using a flow of funds analysis, she examines equity in the financing of the

Irish healthcare system. She notes that, overall the system is moderately progressive, but that progressivity and equity do not necessarily coincide. Her findings indicate that there is cross-subsidisation of lower income groups by higher income groups at the overall system level, but that this masks different patterns for different types of provider/function and for different resource flows.

She finds that, in terms of equity, there are uneven patterns of resource flows that are not evident in summary measures. Some of these patterns involve cross-subsidies from rich to poor, but others involve cross-subsidies in the opposite direction. Some of these unusual effects are due to restrictions in eligibility for public resources. She suggests that, although some of these are relatively small resource flows (for example, the NTPF accounts for less than 1% of total public expenditure on health), they are symptomatic of wider problems in the system. She concludes that, when it comes to equity in the Irish healthcare system, the devil is very much in the detail.

Figures from the consumer surveys commissioned by The Health Insurance Authority (HIA, 2003a, 2005a, 2008c) show that approximately six in ten of those covered by private health insurance have made at least one claim on their policy, either for themselves or for someone else covered by their policy. If these patients did not have the option of private health insurance, then it is clear that they would place additional strain on an already stretched public healthcare system. However, the fact that many of these claimants would have been treated in private beds in public hospitals and by consultants who also work in the public healthcare system,

might limit the degree to which private health insurance relieves pressure on the public healthcare system in Ireland.

Palangkaraya et al (2009) suggest, in the context of the Australian health system, that encouraging greater take-up of private health insurance might not reduce utilisation in public hospitals, as private treatment of patients will compete with public treatment for limited medical resources (such as specialists), thus reducing the amount of such resources that would be available for public patients. They also note that another argument put forward for encouraging private health insurance, that of increased consumer choice, is limited by the universality principle underlying the Australian health system, which is intended to ensure equity of access to all citizens, whether privately insured or not. A similar universality principle applies in the Irish health system.

The Department of Health and Children, in its White Paper (Department of Health and Children, 1999), summarised the main arguments for and against the existing public-private mix of hospital services.

The main advantages, as outlined in the White Paper, include that it helps to attract and retain high quality medical staff into the public healthcare system; it promotes efficient use of consultants' time by having public and private patients on the same site; it encourages active linkages between the two systems vis-à-vis dissemination of medical knowledge and best practice; it allows patients who are admitted to

public hospitals on an emergency basis to avail of private healthcare (since private hospitals tend not to have Accident & Emergency facilities); and it provides an additional revenue stream for the public hospital system.

The principal disadvantages, as outlined in the White Paper, include that the lack of full economic charging for private beds in public hospitals may give rise to some distortion and leads to reduced revenue to the State compared with a system of full economic charging; it provides an incentive for consultants to spend more time with private patients, because of the different payment methods for consultants (fee-for-service for treating private patients versus salary for treating public patients); and the growth of private health insurance poses a potential threat to access for public patients.

Plans have been proposed on a number of occasions to implement some form of universal health insurance in Ireland, which is favoured by a number of opposition political parties. For example, two reports commissioned by The Adelaide Hospital Society have investigated options for a social health insurance system to replace the current tax-financed public health system (Thomas, Normand & Smith, 2006, 2008).³⁶ More recently, Fine Gael, the main opposition party in the Irish parliament, unveiled plans for the introduction of universal health insurance as part of significant

³⁶ However, Wagstaff (2009) finds that countries that have switched from tax financing to social health insurance financing of their healthcare systems increase health spending per capita by 3-4% without significant impact on what he calls amenable mortality, except for breast cancer, on which social health insurance systems perform worse than tax financed system. Meanwhile, Billauer (2009) argues that healthcare is not suitable for provision on the basis of universal insurance.

reforms of the health service (see www.faircare.ie).³⁷ The Labour Party, the second largest opposition party in the Irish parliament, has also discussed proposals for universal health insurance in Ireland (Labour Party, 2001). Both the Fine Gael and Labour Party proposals also included free GP care for all, which is not currently a feature of the Irish health system.

However, in the 1999 White Paper (Department of Health and Children, 1999), the then government noted that universal social health insurance had been suggested but it decided against implementing such a change. Among the reasons cited for this were that the existing system was considered adequate to meet future needs, subject to the implementation of some reforms; it felt that concerns over equity of access could be dealt with in terms of targeted initiatives and general improvements in the public healthcare system; the level of consensus required for such a change was not evident; many of the European systems with social health insurance were facing similar challenges to Ireland; it felt that the new system would be administratively more complex and costly; and the cost of overhauling the existing system would be considerable.

Recent government policies have been aimed at a greater separation of public and private hospital treatment. In particular the policy of hospital co-location, favoured by the current government, aims to have private patients treated in private hospitals built on the campuses of public hospitals. The argument put forward in favour of

³⁷ However, Burke (2009) argues that the Fine Gael proposals lack much of the detail required to assess the feasibility of their implementation.

this is that it will allow beds in public hospitals that are currently designated private to be re-designated as public beds. Tax incentives for the development of private hospitals were also available in recent years.

At the launch of the co-location initiative in 2005, the Minister for Health and Children noted that the public-private mix had proved difficult to manage and that resource and cost sharing is not as clear as it should be, but that the new initiative would bring greater clarity by separating the management and financing of a substantial proportion of private beds (Department of Health and Children, 2005b). However, this initiative has proved controversial and planning objections have been raised to a number of the co-located developments. Furthermore, in the supplementary budget delivered in April 2009 (details available at <http://budget.gov.ie/>), it was announced that tax incentives for private hospitals would be discontinued, with transitional arrangements made for those projects that had reached a certain stage of development.

2.2 Legislative Background

The private health insurance market in Ireland, in its current form, was established with the passing of the Voluntary Health Insurance Act, 1957 (the 1957 Act). Prior to this, a number of small-scale attempts at establishing a private health insurance market had been made but without much success (see O'Morain, 2007 for further

details). The 1957 Act established the Voluntary Health Insurance Board (VHI), which now trades as Vhi Healthcare.

In 1992, the European Third Non-Life Insurance Directive³⁸ was passed. Among other provisions, this Directive required EU Member States to open their non-life insurance markets to competition. This Directive was reflected in the Health Insurance Act, 1994 (the 1994 Act) in Ireland. This Act, and associated regulations brought forward in 1996, gave legislative foundation to a number of principles that VHI had been operating on a *de facto* basis. In particular, the 1994 Act enshrined in legislation what have become known as the three ‘pillars’ of the Irish private health insurance market – community rating, open enrolment and lifetime cover.

Community rating in the Irish context means that insurers are not permitted to vary premiums or benefits between individuals on the same health insurance contract, subject to some exceptions. Firstly, premiums payable by a person under 18 years of age may be waived or reduced. If reduced, the premium payable by an under-18 year old may not exceed 50% of the premium payable by an adult under a similar contract effected by the same insurer. Secondly, premiums may be reduced for a full-time student, dependent on the policyholder, between the ages of 18 and 23, provided that the premium payable by such a student is not more than 50% of the premium payable by an adult under a similar contract. Members of group schemes may also have their premiums reduced by up to 10% relative to the full adult

³⁸ Council Directive 92/49/EEC of 18 June 1992

premium.³⁹ However, within each of these categories, the premiums payable must be the same for all persons falling under those categories.

The current system of community rating in operation in the Irish market is known as single-rate community rating. This means that a person's age at entry does not affect the premium that they pay. However, a change has been proposed, involving a move to lifetime community rating, similar to the change introduced in the Australian private health insurance market in 2000. Lifetime community rating involves consumers who delay taking out private health insurance until older ages paying late entry loadings to reflect the fact that they had not contributed to the community rate at an earlier age. This policy is discussed in greater detail in Chapter 5.

Open enrolment means that insurers must accept any applicant,^{40,41} although insurers may impose waiting periods, which are age-related.⁴² Three types of waiting periods

³⁹ There is another provision which states that a person who is a member of a restricted membership undertaking and is in receipt of a pension may have his/her premium reduced, but this does not apply to the 'open' insurers. It should also be noted that there is no formal definition in the legislation of a group scheme. In practice, group schemes are operated or facilitated by, *inter alia*, employers, trade unions, credit unions, alumni associations and by insurers for those who join online. A significant majority of insured persons in the market in Ireland are members of a group scheme, as noted by HIA (2007).

⁴⁰ Unless the person has committed fraud that caused, or could have caused, financial loss to an insurer.

⁴¹ The original regulations, brought forward in 1996, specified that this applied only to those aged under-65 when first applying for health insurance, or applying after a break in cover of 13 weeks or more, but this stipulation was removed in revised regulations in 2005, meaning that those aged 65 and over may not now be refused cover (except in the limited circumstances outlined in the preceding footnote).

⁴² The Health Insurance Authority (HIA, 2008d) notes that it has, following requests, provided advice to the Department of Health and Children in relation to the compatibility of these age-related waiting periods with equality legislation and the proposal for such age-related waiting periods to be removed as part of any move to lifetime community rating.

are permitted – an initial waiting period (for a first-time applicant or an applicant who has had a break in cover of 13 weeks or more), one for pre-existing conditions and one for upgrades in cover. The maximum permitted waiting periods in each of these categories are outlined in Table 2.5. Even during the initial waiting period however, insured persons are eligible for minimum payments for health services provided as a result of accident or injury. During the waiting period for an upgrade in cover, insured persons will still be covered at the lower level of cover, subject to any initial or pre-existing condition waiting periods that they may be serving. Lifetime cover means that insurers may not refuse to renew cover for any insured person.⁴³ In the context of lifetime cover, it should be noted that private health insurance contracts in Ireland are generally annual contracts.

Table 2.5 Maximum Permitted Waiting Periods

Age	Under-55	55-59	60-64	65+
Initial	26 weeks*	52 weeks		104 weeks
Pre-existing Condition	5 years	7 years	10 years	
Upgrade in Cover	2 years			5 years

** However, maternity benefits are not covered for the first 52 weeks.*

In addition to these three ‘pillars’, regulations were brought forward in 1996 specifying a set of minimum benefits that any eligible health insurance contract must provide. These minimum benefit regulations were designed “to ensure that individuals do not significantly under-insure due to lack of proper understanding of the restrictions which, in the absence of a specified minimum entitlement, could

⁴³ Unless the person has committed fraud or the insurer ceases to carry on health insurance business in the State.

apply to some types of policies.” (Department of Health and Children, 1999: 54). However, monetary amounts specified in these regulations were not inflation-linked and are now significantly out-of-date, given the rate of medical inflation. In practice however, cover provided by all insurers is significantly greater than the minimum required under these regulations. A commitment was made in the 1999 White Paper (Department of Health and Children, 1999) to amend the minimum benefit regulations, and following a consultation process on the issue, The Health Insurance Authority recommended to the Department of Health and Children that these regulations should remove the references to monetary amounts wherever feasible (see HIA, 2003c, 2005b, 2007).

Regulations were also brought forward in 1996 specifying a risk equalisation scheme to operate between insurers. The aim of risk equalisation is to “equitably neutralise differences in insurers’ claim costs that arise due to variations in the health status of their members.” (HIA, 2009: 9) This aim is achieved by means of transfers of money from insurers with relatively low-risk membership profiles to a risk equalisation fund, from which money is received by insurers with relatively high-risk membership profiles. These regulations were revoked in 1999 during a period of consultation on the future of private health insurance, which led to the publication of the White Paper in 1999 (Department of Health and Children, 1999).

Following on from this White Paper, the Health Insurance (Amendment) Act, 2001 was passed. Among other provisions, this Act allowed for the Minister for Health

and Children to introduce regulations specifying a new risk equalisation scheme. These were later introduced in 2003.

The 2001 Act also made provisions for the establishment of The Health Insurance Authority (HIA), an independent statutory body to regulate the private health insurance market in Ireland, which was established on 1 February 2001. The HIA is responsible for regulating the conduct of health insurance business in Ireland, although its role is primarily one of monitoring and advising the Minister for Health and Children. It does not have widespread powers to impose sanctions on insurers in the event of non-compliance with legislation. However, proposals were put forward to give the HIA more powers (HIA, 2007; Competition Authority, 2007; Private Health Insurance Advisory Group, 2007⁴⁴), and the Health Insurance (Miscellaneous Provisions) Act, 2009 made changes in this regard. The HIA is funded by a levy on private health insurers, currently set at 0.14% of premium income.

2.3 Competition in the Market

For 40 years from its establishment in 1957, Vhi Healthcare had a monopoly position in the market for private health insurance in Ireland. The 1957 Act provided that no other health insurer could enter the market without the approval of the Minister for Health. O'Morain (2007) notes that Private Patients Plan applied to

⁴⁴ The Private Health Insurance Advisory Group (2007) also recommended that certain existing powers of the Financial Regulator be applied to health insurers.

enter the Irish market in 1988 but that this application was rejected by the Department of Health and Children.

There were a number of restricted membership undertakings in existence in 1957 and a number of others have been established since then, but membership of these undertakings is restricted to certain, mostly vocational groups, and they therefore do not compete to any great extent with the insurers that are subject to open enrolment. At the end of 2008, there were 8 restricted membership undertakings operating in Ireland (HIA, 2009), down from 10 at the end of 2007 (HIA, 2008d).⁴⁵ The largest of these are operated by, or on behalf of, An Garda Síochána (the Irish police force), the country's prison officers, and employees of the State-owned Electricity Supply Board (ESB).

After the passing of the Health Insurance Act, 1994, the first entrant into the market was the British United Provident Association, which set up BUPA Ireland in 1996. BUPA Ireland began selling plans in the Irish market in January 1997. VIVAS Health was established in 2004 and was the third provider in the market. Following an unsuccessful challenge against the Risk Equalisation Scheme, 2003 in the Irish High Court, BUPA Ireland announced its withdrawal from the market in December 2006. BUPA Ireland's business was subsequently acquired by Quinn Insurance Limited, which already sold other forms of non-life insurance in Ireland, and was re-branded Quinn Healthcare in April 2007. In early 2008, Hibernian Insurance

⁴⁵ Section 12 of the Health Insurance (Miscellaneous Provisions) Bill, 2008 provides that, from the date of commencement of that Section, there will be a prohibition on the establishment of any new restricted membership undertakings.

Limited, part of the AVIVA group, which already sold both life and non-life insurance in Ireland, acquired a majority stake in VIVAS Health. In July 2008 VIVAS Health was re-branded Hibernian Health, and was later re-branded Hibernian AVIVA Health.⁴⁶

At the time of writing, Vhi Healthcare, Quinn Healthcare and Hibernian AVIVA Health are the only three insurers operating in the unrestricted market for private health insurance in Ireland. Recent figures suggest that Vhi Healthcare has a 70% market share, Quinn Healthcare a 20% share and VIVAS Health 6%, with the remaining 4% accounted for by the restricted membership undertakings (see HIA, 2008c).

Under the 1957 Act, Vhi Healthcare was not mandated to make profits, merely to break even in any given year. However, it has made profits over the years, and these have helped to build up its solvency reserves. BUPA Ireland was part of the British United Provident Association, which is a non-profit organisation. However, it too made profits in the Irish market. VIVAS Health was the first for-profit insurer to operate in the market for private health insurance in Ireland. Both Quinn Healthcare and Hibernian AVIVA Health are for-profit insurers.

⁴⁶ In this thesis, this insurer is variously referred to as VIVAS Health, Hibernian Health and Hibernian AVIVA Health, depending on the time period under discussion. Similarly, BUPA Ireland and Quinn Healthcare are used at various points to describe that insurer, also depending on the time period under discussion.

The relatively low number of insurers in the Irish private health insurance market has been an issue of concern in recent years. The HIA commissioned a report on competition and risk equalisation in the Irish market, which was carried out by the York Health Economics Consortium and published in 2003 (YHEC, 2003).

One of its findings was that the prospect of risk equalisation and the status of Vhi Healthcare as a State-backed dominant player, combined with uncertainty at the time over its future status, were among the main factors contributing to the low level of existing competition and limited scope for future competition. The report suggested that, even if risk equalisation payments were implemented, the Irish market would still likely attract some new entrants, but fewer than if payments were not implemented.

The report also concluded that, in the absence of risk equalisation, the benefits to consumers of new entrants might be limited, as “lower prices and higher profits for insurers could be achieved for some but older people with health insurance, less inclined to move between insurers, would lose from the absence of full risk equalisation.” (YHEC, 2003: 97).

The reference to older people being less likely to move between insurers is borne out by the results of three surveys of consumers carried out on behalf of the HIA (HIA, 2003a, 2005a, 2008c). These show that, by late 2002 (when the field-work for the study published in 2003 was carried out), only 6% of respondents who had health

insurance had ever switched health insurer. The 2005 survey found that this had increased to 10%, and the 2008 survey showed that, by late 2007 (when the field-work for the 2008 report was carried out) this figure had levelled off at 10% - nearly 11 years after the introduction of competition into the market.⁴⁷

The surveys also showed that fewer than one in seven of those who have not switched have seriously considered switching. Figures from the 2003 and 2005 reports also showed that older people were less likely to have switched or to have considered switching than other age groups.

These findings suggest that competition among insurers is primarily for first-time purchasers of health insurance, who tend to be younger than the average age of existing consumers in the market.⁴⁸ This phenomenon would work to the disadvantage of Vhi Healthcare, as the longest-established insurer in the market, and is consistent with the idea of adverse retention, put forward by Altman, Cutler & Zeckhauser (1998), which is the tendency for people who do not switch plans to magnify cost differentials between plans. One of the factors that Altman et al (1998) suggest will affect the extent of adverse retention is the length of time for which the plans have been offered – the suggestion being that if people do not switch plans to

⁴⁷ By comparison, Buchmueller & Feldstein (1996) found that 3-6% of enrolees in plans that were effectively free to University of California employees switched plans between 1993 and 1994 (i.e. a single switching opportunity), despite the fact that no cost savings were to be made. The authors also noted that this was consistent with “normal” switching rates for other large health benefit programs with multiple options. It could be argued that there is less choice in the Irish market, due to the low number of insurers, but given that the Buchmueller & Feldstein findings relate to switching when no cost savings were to be made, this would suggest that price, a major basis of competition, was not a deciding factor in this rate of switching.

⁴⁸ For example, HIA (2005a) shows that the mean age at which consumers take out private health insurance in Ireland is 30, compared with a mean age of insured consumers of 44.

any great extent then adverse retention will drive up the costs of older plans relative to newer ones.

In addition to adverse retention, an issue of relevance to competition in the market is risk selection (also known as cream skimming or cherry picking), whereby insurers attempt to attract low-risk lives in order to reduce claim costs and increase profits. Community rating, which operates in the Irish market, accentuates incentives for insurers to engage in risk selection, and while open enrolment and lifetime cover reduce the opportunities for cherry picking, they do not eliminate them, as risk selection may occur in subtle forms, such as marketing or plan design, as noted by YHEC (2003). These issues are discussed in more detail in Chapter 4.

Further to BUPA Ireland's withdrawal from the market, the Minister for Health and Children requested the HIA and The Competition Authority to report on competition in the market. Both reports (HIA, 2007; Competition Authority, 2007) recommended, among other measures, the normalisation of Vhi Healthcare's regulatory position (discussed further in Section 2.5), an increase in the powers available to the HIA, measures designed to facilitate switching by consumers and an updating of the minimum benefit regulations. A third report was commissioned by the Minister around the same time (Private Health Insurance Advisory Group, 2007), and many of its recommendations were similar. This latter report led to a number of policy changes by the government, including the discounting of risk equalisation payments by 20% (although a stay on such payments was in place at the time and the

Risk Equalisation Scheme, 2003 was set aside by the Supreme Court without payments ever having been made under the scheme).

One result of the increased number of insurers operating in the market has been a rise in the number of private health insurance plans available to consumers. HIA (2008d) notes that in 1996, Vhi Healthcare offered five health insurance products. By 2003 the number of products being offered by the open membership insurers (BUPA Ireland and Vhi Healthcare at that time) had risen to 18. By the time the report (HIA, 2008d) was compiled, it noted that there were in excess of 100 products being offered by the open membership insurers (Quinn Healthcare, Vhi Healthcare and VIVAS Health at that time). HIA (2009) states that there were over 60 products and over 100 product variations available in the market at the end of 2008.

The large number of products available in the market could potentially lead to confusion among consumers. Thomson & Mossialos (2007) conclude that if consumers find it difficult to compare plans in terms of price and quality then product differentiation could restrict competition. Maynard & Dixon (2002) also note that the benefits of competition might be eroded if people experience difficulty in comparing plans available in the market. They note that this is one of the arguments in favour of a standardised benefits package, but that insurers are often reluctant to comply. Evidence of difficulty in comparing plans from European markets was noted by Mossialos & Thomson (2002b).

Evidence from the surveys of consumers carried out on behalf of the HIA suggests that significant numbers of people do not find it straightforward to compare plans. When asked their level of agreement or disagreement with the statement “There is adequate information to enable me to compare plans on offer from different private health insurers”, 31% of respondents to the 2008 survey (HIA, 2008c) agreed or strongly agreed, while 29% disagreed or strongly disagreed (15% neither agreed nor disagreed, while 25% responded that they did not know, although it should be noted that this statement was read out to those with and without private health insurance. In the 2005 survey (HIA, 2005a), these figures were 35%, 23%, 18% and 25%, respectively. In the 2003 survey (HIA, 2003a), 54% of respondents (including 77% of those with private health insurance) stated that they were satisfied or very satisfied with the quality of information that helps them to compare plans on offer by health insurers, while 18% said they were dissatisfied and 27% said they did not know. Meanwhile, in the same survey, 57% of respondents (including 78% of those with private health insurance) stated that they were satisfied or very satisfied with the accessibility of such information, while 17% said they were dissatisfied with this and 27% said they did not know.

These findings suggest that people are finding it increasingly difficult to compare plans, and it is interesting to note that this coincides with the sharp increase in the number of plans available in the market. Despite this however, majorities of respondents to all three surveys indicated that they would like to see more providers competing in the market for private health insurance in Ireland.

The HIA has also noted that special offers have been marketed in the private health insurance arena in recent times, such as discounts on other insurance products to those who purchase private health insurance from certain insurers or discounts for people who purchase private health insurance on specified dates. It noted that the latter activity, while of benefit to consumers by contributing to competition and innovation in the market, may undermine community rating “if special terms are marketed and structured in such a way that only a subgroup of the population are aware of the terms and are in a position to avail of them.” (HIA, 2008d: 14).

The difficulty in comparing plans across the market is cited by respondents to the HIA’s consumer surveys (HIA, 2003a, 2005a, 2008c) as one of the reasons why some consumers have not switched providers, although the reason most commonly cited in all three surveys for not switching was satisfaction with current provider, with an increasing number of non-switching consumers citing this in more recent surveys. The most commonly cited reason for switching was cost savings.

The recent entry of general insurers into the market for private health insurance, and the anticipated normalisation of Vhi Healthcare as an authorised non-life insurer (see Section 2.5), may lead to bundling of private health insurance with other forms of insurance. For example, the Quinn Group has offered free household insurance to the value of €200 and free travel insurance to customers who have motor and health

insurance with the Quinn Group.⁴⁹ Hibernian AVIVA Health has also run a ‘match more, make more’ promotion, offering cash back to customers who have multiple policies with the group, including health and motor insurance.⁵⁰

There is currently some degree of product bundling between private health insurance and travel insurance, with Vhi Healthcare’s travel insurance plan paying for medical care while abroad only after the limit on the overseas cover element of the insured person’s private health insurance plan has been exceeded. As the market for private health insurance is possibly close to saturation (although HIA, 2008c shows that 27% of those who do not already have private health insurance intend to take it out at some point in the future), diversification into other insurance – and non-insurance – offerings would appear to be a possibility for competition in the market in the future.

2.4 Risk Equalisation as a Source of Controversy

One of the main sources of controversy in the Irish private health insurance market since deregulation in the 1990s has been risk equalisation. Although a risk equalisation scheme was in place when it entered the market, BUPA Ireland was always opposed to the scheme on the basis that it would, in its view, be forced to subsidise the State-backed dominant insurer. Monetary transfers under the 1996

⁴⁹ See http://www.quinn-healthcare.com/press_and_media/pressrelease280508.htm.

⁵⁰ See <http://www.hibernianavivahealth.ie/whats-new/press-releases/2009/press-release-27.xml>.

scheme were never made and the regulations governing the scheme were revoked in 1999 as part of a review of the market.

The Health Insurance (Amendment) Act, 2001 made provision for another risk equalisation scheme and this was introduced as the Risk Equalisation Scheme, 2003. This scheme made provision for monetary transfers to take place between insurers and a risk equalisation fund, to be administered by the HIA. Under the 2003 Scheme, insurers would submit details of claims by age and gender to the HIA, which would indicate the claim costs that each insurer incurred given its existing risk profile. The HIA would then calculate the market average risk profile and apply this risk profile to each insurer's data, to simulate what each insurer would have paid in claims if they each had the market average risk profile. The difference between what each insurer paid in claim costs and what they would have paid if they had the market average risk profile would be what the insurer would pay into, or receive from, the risk equalisation fund. Claim costs would be equalised up to a given level, known as equalised benefits, which broadly equated to the level of cover provided by the most popular plans in the market.

This was unlike the Australian system of reinsurance (as the risk adjustment mechanism was known there), under which only the claim costs of the elderly (those aged 65 and over) and chronically ill (those who spend more than 35 days a year in hospital) were equalised, although according to Industry Commission (1997), this covered over 48% of total claim costs by the late 1990s. It also differed from the

Australian system of reinsurance, in that the latter only redistributed a set proportion (79%) of the claim costs of the two groups covered by reinsurance (see, for example, PHIAC, 2006), whereas under the Irish scheme all the costs of the equalised benefits would be redistributed. In 2007, the Australian risk adjustment mechanism was amended. It is now known as risk equalisation and equalises a proportion of the cost of hospital benefits for people aged 55 and over (on a sliding scale from 15% to 82%, increasing with age) and 82% of the value of high-cost claims, i.e. those over AUS\$50,000 (see PHIAC, 2007, 2008b).

Under the 2003 scheme in Ireland, the HIA had a role in advising the Minister for Health and Children on whether or not to commence risk equalisation payments. Specifically, if a measure called the Market Equalisation Percentage (which is equal to the amount of monetary transfers under risk equalisation expressed as a percentage of the claims paid in the market subject to risk equalisation) were below 2%, no transfers would be made. If the Market Equalisation Percentage (MEP) were between 2% and 10%, the HIA would be required to make a recommendation to the Minister on whether or not payments should be triggered, while if it were above 10% then the Minister would commence payments, unless, having consulted with the HIA, the Minister felt that the commencement of risk equalisation payments would not be in the best overall interests of health insurance consumers. (See HIA, 2003b, 2008b for further details.)

For each of the six-monthly periods from 1 July – 31 December 2003 to 1 January – 30 June 2005, the MEP was found to lie between 2% and 10% (see HIA, 2005c). For the first two periods, the HIA recommended that payments should not be commenced. For the third of these periods, the HIA recommended that payments should be commenced, but having reviewed representations from the insurers, as required under legislation, the Minister decided not to commence payments.⁵¹ She did this on the basis that the introduction of risk equalisation payments would be premature in advance of a Government decision regarding the commercial status of Vhi Healthcare (see Department of Health and Children, 2005a). For the fourth of these periods, the HIA again recommended that payments should be commenced and this time the Minister decided to commence payments from 1 January 2006. She noted that the government had, at that stage, approved legislation in relation to the commercial status of Vhi Healthcare (see Department of Health and Children, 2005c).

Once payments under the scheme were triggered, BUPA Ireland challenged the scheme through the Irish courts. It had already made a complaint to the European Commission that the scheme constituted illegal State aid, but the Commission ruled in 2003 that it did not. BUPA Ireland took the Commission to the European Court

⁵¹ Under the Risk Equalisation Scheme, 2003, the HIA was obliged to notify insurers of its intended decision in relation to the triggering of payments, and insurers had 21 days to make representations thereon to the HIA, which the HIA was then obliged to consider before making its final recommendation. If it recommended the triggering of payments, and if the Minister was minded to follow this recommendation, then the Minister in turn was obliged to notify insurers of his/her decision and consider any representations from insurers before making a final decision. (See HIA, 2003b, 2008b).

of First Instance, but in 2008 this Court dismissed BUPA Ireland's challenge to the Commission's decision.⁵²

In a High Court ruling in November 2006, BUPA Ireland's challenge was dismissed, but BUPA Ireland appealed this to the Supreme Court. Following the High Court judgment, BUPA Ireland announced in December 2006 that it was withdrawing from the market and its business was taken over and re-branded as Quinn Healthcare in April 2007. In July 2008, the Supreme Court overturned the High Court decision and set aside the Risk Equalisation Scheme, 2003. Its decision was taken on the basis of the definition of community rating in the 1994 Act, as amended (see Section 3.2.2 for further details).

A stay on payments under the Risk Equalisation Scheme, 2003 had been put in place subject to the outcome of the legal challenge. By early 2008, before the Supreme Court set aside the scheme, BUPA Ireland would have been liable to pay over €33m into the risk equalisation fund, and Quinn Healthcare would have been liable to pay just over €1m, while Vhi Healthcare was set to have received over €32m from the fund, with over €2m being due to the ESB Staff Medical Benefit Fund, the only one

⁵² The Court's judgment contended that private health insurance constituted a service of general economic interest (SGEI), and suggested that national governments of Member States had wide discretion in determining what constituted an SGEI. As noted by Thomson & Mossialos (2008), this gives national governments considerable scope to regulate private health insurance on the basis that it serves the general good, particularly if private health insurance covers a significant proportion of the population. Sauter (2008) meanwhile argues that the Court's judgment in this case applied the Altmark criteria, which are used to determine whether State aid is involved in the context of public service compensation, extremely flexibly and that it virtually ignored the issue of competition.

of the restricted membership undertakings participating in the scheme.^{53,54} VIVAS Health was not, at that time, liable for payments under the scheme, as the scheme included a three-year exemption from making risk equalisation payments for new insurers in the market.

Following the setting aside of the Risk Equalisation Scheme, 2003 by the Supreme Court, in November 2008 the Minister for Health and Children announced interim measures, to be put in place for three years, while work is carried out on a new risk equalisation scheme. According to the Minister, the Government was of the opinion that, in the absence of some method of supporting the cost of health insurance for older consumers, such consumers could face significant increases in prices or reductions in benefits. She went on to state “If that happened, the chances we could ever re-establish a community rated market would have been severely diminished.” (Department of Health and Children, 2008c).

The interim measures, which were approved by the European Commission in June 2009 (see European Commission, 2009a), comprise two elements. The first is a community rating levy on health insurers for each person they insure. The levy is set at €160 for each adult and €53 for each child aged under-18. The second element is increased tax relief for those aged 50 and over, on a sliding scale. All insured persons will continue to benefit from the 20% tax relief at source (mentioned in

⁵³ These figures relate to the periods January – June 2006, July – December 2006 and January – June 2007. For details see HIA (2008a).

⁵⁴ When the Risk Equalisation Scheme, 2003 was brought forward, the restricted membership undertakings were given an opportunity to opt out of the scheme. ESB Staff Medical Provident Fund was the only one which did not avail of this option.

section 2.1.2), but those aged 50 and over will get additional tax relief, as outlined in Table 2.6. The measures are designed to be revenue neutral.

Table 2.6 Additional Tax Relief Available Under Interim Measures

Age	50-59	60-69	70-79	80+
Additional tax relief	€200	€500	€950	€1,175

Source: Department of Health and Children (2008c)

Since tax relief on health insurance premiums is deductible at source, consumers pay the net premiums (net of the tax relief), and the insurers then claim back the tax relief for all of their members from the Revenue Commissioners. The additional tax relief will therefore be claimed back by the insurer. This means that insurers with higher proportions of older consumers will benefit more from the additional tax relief.⁵⁵ It should be noted that the interim scheme may be thought of as a form of risk adjusted premium subsidies, as outlined in Van de Ven, Van Vliet, Schut & Van Barneveld (2000), which are further discussed in Section 5.3 and that therefore a form of risk adjustment is currently in place in Ireland despite the fact that no risk equalisation scheme is currently in place.

The combination of the interim measures is likely to mean that Vhi Healthcare, with a higher proportion of older members, will receive more money in additional tax relief than it has to pay in the community rating levy, while Quinn Healthcare and Hibernian AVIVA Health, with lower proportions of older members, will have to

⁵⁵ The Commission on Taxation (2009) notes that these measures are designed to be in place for a limited time period and acknowledges that it is appropriate that they be implemented on a temporary basis.

pay more money in the community rating levy than they will receive in additional tax relief. Indeed, approximate figures provided by the Department of Health and Children to accompany the announcement of the interim measures (Department of Health and Children, 2008d) suggest that just over 32% of Vhi Healthcare members are aged 50 or over, compared with just over 16% of Quinn Healthcare members and 13% of Hibernian Health members (see Table 2.7).

Table 2.7 Approximate Share of Customers by Age Group

	Under-50	50-59	60-69	70-79	80+
VHI	1,000,000	207,000	151,000	85,000	32,000
Quinn	370,000	46,000	21,000	4,000	900
Hibernian	84,000	9,000	3,000	500	100

Source: Department of Health and Children (2008d)

Subsequently, on 28 November 2008, Vhi Healthcare announced it was increasing its premiums by an average of 23% from 1 January 2009, while on the same day Quinn Healthcare announced an average increase of 16%, also to take effect from 1 January 2009 (see Quinn Healthcare, 2008; VHI, 2008b). Vhi Healthcare stated in its press release that it was not passing on the cost of the community rating levy, while Quinn Healthcare stated in its press release that the community rating levy meant that it had to increase premiums by eight percentage points more than would otherwise have been the case. Quinn Healthcare said that it had planned to increase premiums by an average of 8% but that the community rating levy amounted to 12% of premiums. However, it said that it would not pass on the full cost of the levy, hence the additional eight percentage points of an increase in its premiums.

In December 2008, Hibernian Health stated its intention to challenge the new levy once the legislation is published. It also stated that it would pass on the cost of the levy to consumers from 18 January 2009, but that if its challenge were successful it would refund the levy to those consumers who paid it (see Hibernian Health, 2008). This challenge has not yet, at the time of writing, come before the courts.

Also in December 2008, the Health Insurance (Miscellaneous Provisions) Bill, 2008 was published. This Bill, which was enacted as the Health Insurance (Miscellaneous Provisions) Act, 2009, includes provisions to enact the community rating levy and additional tax relief for consumers aged 50 and over. It also amends the definition of community rating to mandate that the net premium (which is defined as the premium payable less any tax relief due to the individual) charged to each insured person must be the same as for any other insured person on the same contract (subject to the exceptions discussed in Section 2.2).

2.5 Other Controversial Aspects of the Market

In addition to the regulation of health insurance business by the HIA, health insurers in Ireland must comply with prudential regulatory requirements.⁵⁶ However, this has been another source of controversy in recent years, due to a different prudential

⁵⁶ In July 2009, the report of a body charged with finding ways of reducing public expenditure recommended that The Health Insurance Authority be merged with the Financial Regulator (Special Group on Public Service Numbers and Expenditure Programmes, 2009). This is despite the fact that the HIA is funded by a levy on insurers and not by the Exchequer. The Private Health Insurance Advisory Group (2007) previously recommended that private health insurers be regulated by the Financial Regulator in all respects, leaving the HIA with an administrative role in relation to risk equalisation and an advisory role to the Minister.

regulatory regime being applied to Vhi Healthcare from that applying to its competitors. Under the 1957 Act, Vhi Healthcare was not subject to the Insurance Acts in Ireland. In particular, this means that it was not required to maintain the same level of solvency reserves as its competitors. In practice, this level of reserves equates to approximately 40% of premium income. However, other requirements were made of Vhi Healthcare that were not applicable to its competitors, chief among which was the obligation on Vhi Healthcare to seek Ministerial approval for price increases on its health insurance plans or for new plans that it wanted to launch.⁵⁷

Immediately prior to BUPA Ireland's withdrawal from the market, all three insurers had different prudential regulatory accountability. Vhi Healthcare, as a statutory body, reported to the Minister for Health and Children, BUPA Ireland, as a tied agent of BUPA Insurance Limited, was regulated by the Financial Services Authority in the UK, while VIVAS Health was regulated by the Financial Regulator in Ireland. However, since the recent takeover activity in the market, things have become somewhat more straightforward, as both Quinn Healthcare and Hibernian AVIVA Health are regulated by the Financial Regulator.

Following a number of complaints, particularly from VIVAS Health, the European Commission deemed that Vhi Healthcare's derogation from solvency requirements should be removed, and legislation was drafted to normalise Vhi Healthcare's status. It should be noted that such a move had been proposed in 1999 (Department of

⁵⁷ In practice it was rare for the Minister not to approve price increases.

Health and Children, 1999), but had not been carried out, although it had been recommended in three reports in early 2007 (Competition Authority, 2007; HIA, 2007; Private Health Insurance Advisory Group, 2007).

The Voluntary Health Insurance (Amendment) Act, 2008 (the 2008 Act) made provision for Vhi Healthcare to be regulated by the Financial Regulator from 1 January 2009. However, this was later pushed back to 31 March 2009 and again to 1 September 2009. The European Commission has lodged court proceedings against Ireland for the ongoing delay in removing Vhi Healthcare's derogation (see European Commission, 2009b). However, as reported in the Irish media (Oliver, 2009), Vhi Healthcare is struggling to meet this solvency requirement and might require further equity in order to achieve the required level of reserves. The deadline for meeting the solvency requirement has now been further put back to 31 December 2009. Any intervention by the government in order to assist Vhi Healthcare in meeting the solvency requirements would likely raise State aid issues at European level. The idea of the government assisting Vhi Healthcare in meeting solvency requirements was mooted as far back as 1999 in the White Paper (Department of Health and Children, 1999). In its Annual Report for the year ending 31 December 2008, Vhi Healthcare noted that its solvency ratio at the end of 2008 was 27.7%, down from 35.3% (see VHI, 2009).⁵⁸

⁵⁸ It should be noted that Vhi Healthcare changed its accounting period in 2008 from year ending end-February to year ending end-December. Therefore, VHI (2009) covers the period 1 March 2008 – 31 December 2008, whereas VHI (2008a) covers the period 1 March 2007 – 29 February 2008, even though both are titled Annual Report and Accounts, 2008.

Another provision of the 2008 Act is that Vhi Healthcare should set up subsidiary companies to undertake non-health insurance business. This was another source of controversy relating to Vhi Healthcare's statutory status. Under amendments to the 1957 Act, Vhi Healthcare was able to diversify into other business areas with the permission of the Minister for Health and Children. However, for its competitors to do so, they would be required to set up subsidiary companies. In recent years, Vhi Healthcare has begun selling travel insurance and dental insurance, as well as setting up an on-line health shop and minor injury clinics.

In addition to the controversy surrounding the prudential regulation of Vhi Healthcare, there has been much controversy since deregulation in relation to Vhi Healthcare's continued dominance in the market. Having been in a monopoly position for 40 years, it has retained the majority of consumers in the market. However, the three surveys of consumers carried out on behalf of the HIA have shown that this dominance has been reduced, with Vhi Healthcare's market share being reduced from 82% in the 2003 survey (HIA, 2003a) to 76% in the 2005 survey (HIA, 2005a) to 70% in the 2008 survey (HIA, 2008c). It should be noted that the survey figures relate to the share of the overall market, including the restricted membership undertakings. Vhi Healthcare's share of the open market for private health insurance would therefore be slightly higher in each case.

Vhi Healthcare's competitors have argued that this dominance, combined with its State ownership, distorts competition in favour of Vhi Healthcare. YHEC (2003)

also noted that Vhi Healthcare's dominance in the market was cited as one contributory factor to the low level of competition in the market and suggested that the prospect of buying some of Vhi Healthcare, if it were to be split up, might be an attractive one to a potential new entrant.

The idea of splitting Vhi Healthcare into a number of smaller companies has been raised on a number of occasions, including during the parliamentary debates on the Voluntary Health Insurance (Amendment) Bill, 2007, which later became the Voluntary Health Insurance (Amendment) Act, 2008. However, any move to split Vhi Healthcare into a number of smaller companies would have to take into account the effect on consumer choice, particularly in light of the fact that 70% of consumers choose to remain with Vhi Healthcare in its current form.

2.6 Summary

The market for private health insurance in Ireland, in its current form, dates back to 1957. Although it was put in place to provide a scheme for a relatively small proportion of the population, who were not at that time entitled to free access to public hospital services, the popularity of private health insurance has increased significantly in the last 50 years, despite the introduction of universal access entitlements to the public hospital system at no – or very little – cost. Its role has also changed over that period, from a primarily substitutive role, with some element

of a supplementary role, to a primarily supplementary role, with an element of a complementary role.

Over 50% of the Irish population is now covered by private health insurance, paying combined premiums of over €1.65bn in 2008. However, take-up rates of private health insurance in Ireland vary widely depending on social class, with higher take-up rates among those in higher social classes. This, and the fact that private patients appear to have shorter waiting times for treatment, which is often delivered in public hospitals and by consultants who also work in the public system, has raised concerns over the equity of the Irish healthcare system as it currently stands. Private health insurance also appears to have greater importance in the Irish health system than its contribution to overall health financing in Ireland – which is primarily financed through general taxation – would suggest.

The market for private health insurance in Ireland is heavily regulated, and the regulation largely reflects the behaviour of the State-owned monopoly provider prior to the deregulation of the market in the 1990s. Community rating, open enrolment, lifetime cover and a prescribed set of minimum benefits are among the main regulatory features of the market. Since deregulation, two other insurers have entered the market, although both of these have been taken over by companies that already sold other forms of non-life insurance in Ireland.

The continued presence of the former monopoly as the dominant player in the market (it still has approximately 70% market share – partly due to a very low rate of switching among private health insurance consumers in Ireland), and its differential prudential regulation, compared with its competitors, have been two of the main sources of controversy in the market.

The other main source of controversy has been risk equalisation. This is a scheme designed to support community rating, by requiring insurers with relatively favourable risk profiles to contribute to a fund, from which payments would be made to insurers with relatively unfavourable risk profiles. Although on the statute books from 1996 to 1999 and again from 2003 to 2008, no risk equalisation payments have ever been made between private health insurers in Ireland, and the 2003 scheme was set aside by a judgment of the Supreme Court in 2008. Since then, interim measures have been introduced to underpin community rating, while work is carried out on a new risk equalisation scheme.

It is in this context that the current study has been carried out. This study will add a quantitative dimension to a debate about community rating and risk equalisation that has, to date, largely been based on qualitative arguments.

The next Chapter sets out a formulaic model of a community rated health insurance market, first under monopoly conditions (such as existed in Ireland until BUPA Ireland entered the market), and then after the introduction of multiple insurers (a

situation similar to that which has pertained in Ireland since 1997). Using certain assumptions, the model examines whether community rating can continue to operate in the presence of multiple insurers, each of which operates community rating among its own insured community. The Supreme Court ruling on the Risk Equalisation Scheme, 2003 is then examined in the context of the model.

CHAPTER 3

COMMUNITY RATING IN THE ABSENCE OF RISK EQUALISATION

3.1 Introduction

As discussed in Chapter 2, community rating forms one of the fundamental ‘pillars’ of the Irish private health insurance market, alongside open enrolment and lifetime cover. A system of risk equalisation was also introduced to support community rating. However, as discussed in Chapter 2, this proved to be highly controversial and, despite being on the statute books from 1996 to 1999 and again from 2003 to 2008, when it was set aside by the Supreme Court, no payments have yet been made under risk equalisation schemes in Ireland.

BUPA Ireland, which stood to pay a considerable sum of money into any risk equalisation fund, argued that community rating was a legal requirement in the Irish private health insurance market, and that therefore it operated as required by law. They argued on this basis that risk equalisation was not necessary in order for community rating to operate. However, Vhi Healthcare consistently argued that risk equalisation was essential to underpin community rating.

Other authors have argued that some form of risk adjustment is required to ensure stability in a community rated market (this is discussed in more detail in Chapter 4). For example, the Society of Actuaries in Ireland referred to risk equalisation as a “logical concomitant to a voluntary health insurance system based on community

rating open enrolment and lifetime cover.” (Society of Actuaries in Ireland, 2002: para 13.1).

This chapter briefly reviews some of the issues relating to community rating in the Irish private health insurance market. A formulaic model of community rating is then developed, with a view to assessing whether community rating could continue to function in a market with multiple insurers. The results of this model are then used to draw conclusions about the implications for community rating of the Supreme Court decision to set aside the Risk Equalisation Scheme, 2003.

3.2 Community Rating in the Irish Context

3.2.1 The Form of Community Rating in Ireland

Community rating in Ireland pre-dates the legislative imperative for such a rating system. Prior to the opening of the private health insurance market in Ireland to competition, Vhi Healthcare operated community rating on a *de facto* basis. When the market was deregulated in the mid-1990s, community rating was put on a legislative footing.

The legislative definition of community rating in Ireland is contained in the Health Insurance Act, 1994. It specifies that insurers are not permitted to vary premiums or benefits by reference to a person’s age, gender, or current or prospective state of

health. However, it does permit some exceptions, notably for children aged under-18, full-time dependent students aged 18-23, and members of a group scheme. However, premiums may not be varied among insured persons falling into these categories (see Section 2.2 for further details).

The system of community rating that operates in Ireland is known as single-rate community rating. This means that a person's age at entry into the market for private health insurance is not taken into account when setting the premium for that person. Therefore, it is possible for a person to only take out private health insurance when he/she is older, and therefore more in need of it, while avoiding paying into the community rate in his/her younger years. The only defence that health insurers in Ireland currently have against this type of behaviour is the set of age-related maximum waiting periods that they may impose on consumers who take out insurance for the first time or after a break in cover of 13 weeks or more (see Table 2.5).

Surveys of consumers, carried out on behalf of The Health Insurance Authority (HIA 2003a, 2005a) show that, for the most part, people tend to take out private health insurance at relatively young ages, and relatively few wait until older ages to take out private health insurance for the first time (see Table 5.4).

Although such behaviour is not prevalent, the risk remains that, if large numbers were to delay taking out private health insurance until they needed it, this would

reduce the numbers of younger people in the market, which would lead to increases in average claim costs, which in turn would lead to increases in the community rated premium, which may lead higher numbers of younger people to put off taking out private health insurance (or, indeed, to younger people withdrawing from the market on the basis that it is not economically worthwhile to remain in the market), which would, in turn, lead to further increases in average claim costs, leading to what is known as an adverse selection death spiral (a concept that is discussed further in Chapter 4).

For this reason, the Advisory Group on the Risk Equalisation Scheme (Advisory Group to the Minister for Health on the Risk Equalisation Scheme, 1998) recommended a change from single-rate community rating to lifetime community rating. Lifetime community rating operates on the basis of late entry loadings being applied to those who wait until older ages before taking out health insurance for the first time, and a similar change was implemented in Australia in 2000. Such a change was included in Irish government policy in 1999 (Department of Health and Children, 1999) but has not yet been implemented. This is discussed further in Chapter 5.

3.2.2 *Legal Issues Surrounding the Definition of Community Rating in Irish Legislation*

Recent court cases in Ireland relating to risk equalisation have highlighted the importance of the definition of community rating in Irish legislation. After risk equalisation payments were triggered by the Minister for Health and Children from 1 January 2006, BUPA Ireland took out an injunction against the Risk Equalisation Scheme, 2003. One of the bases for the injunction was that the promulgation of the scheme was *ultra vires* (beyond the powers of) the Minister, as community rating was operating in the market as prescribed by the Health Insurance Act, 1994, as amended.⁵⁹

Section 7 of the 1994 Act, as amended, specifies that insurers may not vary premiums or benefits among people on the same health insurance contract. It goes on to state “A health insurance contract that complies with [the conditions outlined in an earlier paragraph within that Section] shall be known as a community rated health insurance contract and ‘community rating’ shall be construed accordingly.” (Sections 7 and 12 of the Health Insurance Act, 1994, as amended, are reproduced in Appendix A.)

The Risk Equalisation Scheme, 2003 was brought forward under the terms of Section 12 of the 1994 Act, as amended. This Section noted that, in forming its

⁵⁹ This discussion relates to the definitions of the Act, as amended, at the time when the Supreme Court decision was taken. It should be noted that the Health Insurance (Miscellaneous Provisions) Act, 2009 further amended the definition of community rating (see Footnote 120).

decision on whether to recommend to the Minister for Health and Children to trigger payments, The Health Insurance Authority must have regard to “the best overall interests of health insurance consumers” and it went on to note that this “includes a reference to the need to maintain the application of community rating across the market for health insurance and to facilitate competition between undertakings.” (Emphasis added.)

BUPA Ireland argued that the only valid definition of community rating is the Section 7 one, which defines community rating within plans, and that therefore the Section 12 definition was essentially invalid, which would invalidate the entire risk equalisation scheme.

The case was heard by the High Court in 2006 and its judgment was delivered in November of that year. In that judgment, Mr Justice Liam McKechnie noted that the definition of community rating was central to the case. However, he ruled that the Section 12 definition was reasonable, and that therefore the Risk Equalisation Scheme, 2003 was not invalid as a result. BUPA Ireland appealed this decision to the Supreme Court, and its judgment was delivered in July 2008.

The Supreme Court agreed that the definition of community rating was central to the case, but decided that the Section 12 definition could not be construed so differently from the Section 7 definition. The Chief Justice, in the judgment, suggested that, if the Oireachtas (parliament) had wanted such a different interpretation to be given to

the Section 12 definition that it would have made that clear. Therefore, it was the Supreme Court's view that Section 12 could only be interpreted as referring to the maintenance of community rated plans across the market. On this basis, the Court ruled that the Risk Equalisation Scheme, 2003, as adopted by the Minister, "was founded on an erroneous interpretation of subsection 10(iii) in s. 12. That is to say the scheme was introduced on the basis that community rating meant community rating across the entire insured population and not as defined in the Act." The Court therefore determined that the 2003 scheme, since it was founded on an erroneous interpretation of community rating, was *ultra vires* (beyond the powers of) the Minister, and therefore should be set aside. It should be noted however, that the Supreme Court judgment did not question the need for risk equalisation in a community rated health insurance market with open enrolment and lifetime cover.

3.3 Community Rating: A Numerical Example

The basic principle behind community rating is that high-risk insured lives pay the same as low-risk insured lives. If there is only one insurer in the market, practicing community rating among its members, then inherently community rating applies across the market. However, if two insurers are operating in the market, each operating community rating among their own members, then community rating will only apply across the market if each insurer has the same proportion of high risk and low risks as the market average.

To demonstrate this, let us first take a numerical example. The findings of this example can then be generalised into a model form.

Firstly, a number of assumptions are made, as follows:

Assumption 1. There are 1,000,000 insured lives in the market.

Assumption 2. In the overall market, 25% of people are high-risk and 75% of people are low-risk.

Assumption 3. Premium per member = expected claim cost per member (in other words, for the sake of simplicity, we ignore the investment income, administrative loading and profit loading elements of a fair premium – see Harrington & Niehaus, 2003 for a discussion of the elements of a fair insurance premium).

Assumption 4. Claim costs for high-risk lives are €200 per person, while claim costs for low-risk lives are €100 per person.

If there were only one insurer in the market, insuring all of the insured lives and operating community rating, then the community-rated premium would be the expected claim cost per insured person.

From the above assumptions, we can calculate this as

$$[(€200 \times 250,000/1,000,000) + (€100 \times 750,000/1,000,000)] = €125$$

Now let us expand this example to include two insurers, A and B, each operating community rating among its own members. In addition to the above assumptions, let us also assume

Assumption 5. Insurer A has a 75% share of the market (i.e. 750,000 lives) and Insurer B has the remaining 25% share (i.e. 250,000 lives).

Now, let us first assume that each insurer has the same proportions of high-risk and low-risk lives as the market average. Thus,

Assumption 6. Insurer A has 187,500 high-risk and 562,500 low-risk lives (25% and 75%, respectively, of 750,000). Insurer B has 62,500 high-risk and 187,500 low-risk lives (25% and 75%, respectively, of 250,000).

Insurer A's premium per person (which is equal to expected claim cost per person) is

$$[(€200 \times (187,500/750,000) + (€100 \times 562,500/750,000)] = €125$$

Insurer B's premium per person (which is equal to expected claim cost per person) is

$$[(€200 \times 62,500/250,000) + (€100 \times 187,500/250,000)] = €125$$

It can therefore be seen that if each insurer has the same proportions of high-risk and low-risk lives as the market average and each practices community rating within its own membership base, then community rating still applies across the market.

We can also see that high-risk lives and low-risk lives across the market will, on average, be paying the same premium, as all insured lives are paying €125 in premium payments.

However, let us now assume that Insurer A has a higher proportion of high-risk lives than the market average, and consequently a lower proportion of low-risk lives than the market average. This means that Insurer B must have a lower proportion of high-risk lives and a higher proportion of low-risk lives than the market average.

Specifically, let us assume

Assumption 7. Insurer A has 90% of the high-risk lives. This means that Insurer A has 225,000 high-risk lives. Consequently, given assumption 5, this means that Insurer A has 525,000 low-risk lives (or 70% of the low-risk lives).

Assumption 8. Assumptions 5 and 7 imply that Insurer B has 10% of the high-risk lives, or 25,000, and 225,000 low-risk lives (or 30% of the low-risk lives).

Insurer A's premium per person is now

$$[\text{€}200 \times (225,000/750,000)] + [\text{€}100 \times (525,000/750,000)] = \text{€}130$$

Insurer B's premium per person is now

$$[\text{€}200 \times (25,000/250,000)] + [\text{€}100 \times (225,000/250,000)] = \text{€}110$$

From these results we can now calculate the average premiums paid by high-risk and low-risk lives.

High-risk lives:

There are 225,000 high-risk lives with Insurer A, each paying €130.

There are 25,000 high-risk lives with Insurer B, each paying €110.

The average premium paid by high-risk lives is therefore

$$[\text{€}130 \times (225,000/250,000)] + [\text{€}110 \times (25,000/250,000)] = \text{€}128.$$

Low-risk lives:

There are 525,000 low-risk lives with Insurer A, each paying €130.

There are 225,000 low-risk lives with Insurer B, each paying €110.

The average premium paid by low-risk lives is therefore

$$[€130 \times (525,000/750,000)] + [€110 \times (225,000/750,000)] = €124.$$

Clearly, high-risk lives are, on average, paying more than low-risk lives, thus meaning that community rating no longer applies across the market. However, it should be noted that the total amount of premium paid in the market is the same under this scenario as it would be if both insurers had the same proportions of high-risk and low-risk lives as the market average, which in turn is the same as if there were only one insurer in the market, using the above assumptions.

To confirm this, note that, under the assumption of one insurer, total premium paid in the market would be

$$1,000,000 \times €125 = €125,000,000.$$

If there were two insurers in the market, each operating community rating among its members, and if each had the same proportions of high-risk and low-risk lives as the market average, as per Assumptions 5 and 6, then the total premium paid in the market would be

$$(750,000 \times €125) + (250,000 \times €125) = €125,000,000.$$

If there were two insurers in the market, each operating community rating among its members, and if each had different proportions of high-risk and low-risk lives, as per Assumptions 7 and 8, then the total premium paid in the market would be

$$(750,000 \times €130) + (250,000 \times €110) = €125,000,000.$$

Thus, if one insurer has a higher proportion of high-risk lives and a lower proportion of low-risk lives than the market average (and consequently the other insurer has a lower proportion of high-risk lives and a higher proportion of low-risk lives than the market average), but both insurers operate community rating within their own insured groups, then the overall level of premiums paid in the market remains the same but the payment of this level of premiums falls disproportionately on the high-risk lives.

3.4 A Formulaic Model of Community Rating

The above example can now be generalised into a formulaic model.

3.4.1 Two-Insurer Model

Firstly, let us restate Assumptions 1-6 in general form:

Assumption 1. There are at total of T insured lives in the market.

Assumption 2. In the overall market, there are H_T high-risk lives and L_T low-risk lives. Therefore, the proportions of high-risk and low-risk lives in the market are H_T/T and L_T/T , respectively. Note that $H_T + L_T = T$.

Assumption 3. Premium per member = expected claim cost per member (in other words, for the sake of simplicity, we ignore the investment income, administrative loading and profit loading elements of a fair premium).

Assumption 4. Claim costs for high-risk lives are C_H per person, while claim costs for low-risk lives are C_L per person, where $C_H > C_L$.

Assumption 5. Insurer A has T_A members, while Insurer B has T_B members, giving these insurers market shares of T_A/T and T_B/T , respectively. Note that $T_A + T_B = T$.

Assumption 6. Insurer A has H_A high-risk and L_A low-risk lives, while Insurer B has H_B high-risk and L_B low-risk lives. Note that $H_A + L_A = T_A$ and $H_B + L_B = T_B$. Note also that $H_A + H_B = H_T$ and $L_A + L_B = L_T$.

Now, we can see that Insurer A's premium (which we denote C_A and which equals expected claim cost per member) is

$$C_A = C_H \cdot \frac{H_A}{T_A} + C_L \cdot \frac{L_A}{T_A} \quad (\text{Equation 3.1})$$

Meanwhile, Insurer B's premium (which we denote C_B and which equals expected claim cost per member) is

$$C_B = C_H \cdot \frac{H_B}{T_B} + C_L \cdot \frac{L_B}{T_B} \quad (\text{Equation 3.2})$$

We can also see from this that, on average, high-risk insured lives will pay what could be termed the high-risk premium (HRP), which can be calculated as

$$HRP = C_A \cdot \frac{H_A}{H_T} + C_B \cdot \frac{H_B}{H_T} \quad (\text{Equation 3.3})$$

Meanwhile low-risk insured lives will, on average, pay what could be termed the low-risk premium (LRP), which can be calculated as

$$LRP = C_A \cdot \frac{L_A}{L_T} + C_B \cdot \frac{L_B}{L_T} \quad (\text{Equation 3.4})$$

If each insurer has the same proportion of high-risk and low-risk lives as the market average, then $H_A/T_A = H_B/T_B (= H_T/T)$ and $L_A/T_A = L_B/T_B (= L_T/T)$, and it can be seen from Equations 3.1 and 3.2 that $C_A = C_B$.

Feeding this back into Equations 3.3 and 3.4, and remembering from Assumption 6 that $H_A + H_B = H_T$ and that $L_A + L_B = L_T$ we can see that

$$\begin{aligned}
HRP &= C_A \cdot \frac{H_A}{H_T} + C_B \cdot \frac{H_B}{H_T} \\
&= C_A \cdot \frac{H_A}{H_T} + C_A \cdot \frac{H_B}{H_T} \\
&= C_A \cdot \left[\frac{H_A}{H_T} + \frac{H_B}{H_T} \right] \\
&= C_A \cdot \left[\frac{H_A + H_B}{H_T} \right] \\
&= C_A \cdot \frac{H_T}{H_T} \\
&= C_A
\end{aligned}$$

And

$$\begin{aligned}
LRP &= C_A \cdot \frac{L_A}{L_T} + C_B \cdot \frac{L_B}{L_T} \\
&= C_A \cdot \frac{L_A}{L_T} + C_A \cdot \frac{L_B}{L_T} \\
&= C_A \cdot \left[\frac{L_A}{L_T} + \frac{L_B}{L_T} \right] \\
&= C_A \cdot \left[\frac{L_A + L_B}{L_T} \right] \\
&= C_A \cdot \frac{L_T}{L_T} \\
&= C_A
\end{aligned}$$

Thus, it can be seen that $HRP = LRP$ and that therefore, high-risk lives and low-risk lives pay the same premium, thus ensuring that community rating operates across the market as well as within each insurer's insured group.

Let us now assume that Insurer A has a higher proportion of high-risk lives than the market average (and thus a lower proportion of low-risk lives than the market average). Thus, Insurer B has a lower proportion of high-risk lives and a higher proportion of low-risk lives than the market average. We can now restate Assumptions 7 and 8 in general form as

Assumption 7. Insurer A has H_A/H_T of the high-risk lives and L_A/L_T of the low-risk lives.

Assumption 8. Assumption 7 implies that Insurer B has H_B/H_T of the high-risk lives and L_B/L_T of the low-risk lives.

To examine the effects of this on C_A and C_B , we need to revisit Equations 3.1 and 3.2.

Before doing so however, it should be noted that if both insurers have the same proportion of high-risk and low-risk lives as the market average, then the proportion of high-risk lives accounted for by each insurer would equal the proportion of low-risk lives accounted for by that insurer. Put another way,

If $H_A/T_A = H_B/T_B (= H_T/T)$ and $L_A/T_A = L_B/T_B (= L_T/T)$ then $H_A/H_T = L_A/L_T (= T_A/T)$ and $H_B/H_T = L_B/L_T (= T_B/T)$.

To prove this, let us take the example of the high-risk lives with Insurer A. This can be calculated as the total number of insured lives in the market, multiplied by the proportion of the market insured with Insurer A, multiplied by the proportion of high-risk lives within Insurer A's insured community. In other words,

$$H_A = T \cdot \frac{T_A}{T} \cdot \frac{H_A}{T_A}$$

Similarly,

$$H_B = T \cdot \frac{T_B}{T} \cdot \frac{H_B}{T_B}$$

$$L_A = T \cdot \frac{T_A}{T} \cdot \frac{L_A}{T_A}$$

$$L_B = T \cdot \frac{T_B}{T} \cdot \frac{L_B}{T_B}$$

Now, we can see that, if $H_A/T_A = H_B/T_B = H_T/T$ and $L_A/T_A = L_B/T_B = L_T/T$ then

$$H_A = T \cdot \frac{T_A}{T} \cdot \frac{H_T}{T} \Rightarrow \frac{H_A}{T_A} = \frac{T}{T_A} \cdot \frac{T_A}{T} \cdot \frac{H_T}{T} = \frac{H_T}{T}$$

$$H_B = T \cdot \frac{T_B}{T} \cdot \frac{H_T}{T} \Rightarrow \frac{H_B}{T_B} = \frac{T}{T_B} \cdot \frac{T_B}{T} \cdot \frac{H_T}{T} = \frac{H_T}{T}$$

$$L_A = T \cdot \frac{T_A}{T} \cdot \frac{L_T}{T} \Rightarrow \frac{L_A}{T_A} = \frac{T}{T_A} \cdot \frac{T_A}{T} \cdot \frac{L_T}{T} = \frac{L_T}{T}$$

$$L_B = T \cdot \frac{T_B}{T} \cdot \frac{L_T}{T} \Rightarrow \frac{L_B}{T_B} = \frac{T}{T_B} \cdot \frac{T_B}{T} \cdot \frac{L_T}{T} = \frac{L_T}{T}$$

Furthermore, if $H_A/T_A = H_B/T_B = H_T/T$ and $L_A/T_A = L_B/T_B = L_T/T$ then

$$H_A = T \cdot \frac{T_A}{T} \cdot \frac{H_T}{T} \Rightarrow \frac{H_A}{H_T} = \frac{T}{H_T} \cdot \frac{T_A}{T} \cdot \frac{H_T}{T} = \frac{T_A}{T} \quad (\text{Equation 3.5})$$

$$L_A = T \cdot \frac{T_A}{T} \cdot \frac{L_T}{T} \Rightarrow \frac{L_A}{L_T} = \frac{T}{L_T} \cdot \frac{T_A}{T} \cdot \frac{L_T}{T} = \frac{T_A}{T} \quad (\text{Equation 3.6})$$

$$H_B = T \cdot \frac{T_B}{T} \cdot \frac{H_T}{T} \Rightarrow \frac{H_B}{H_T} = \frac{T}{H_T} \cdot \frac{T_B}{T} \cdot \frac{H_T}{T} = \frac{T_B}{T} \quad (\text{Equation 3.7})$$

$$L_B = T \cdot \frac{T_B}{T} \cdot \frac{L_T}{T} \Rightarrow \frac{L_B}{L_T} = \frac{T}{L_T} \cdot \frac{T_B}{T} \cdot \frac{L_T}{T} = \frac{T_B}{T} \quad (\text{Equation 3.8})$$

Thus, we can see that, if $H_A/T_A = H_B/T_B (= H_T/T)$ and $L_A/T_A = L_B/T_B (= L_T/T)$ then $H_A/H_T = L_A/L_T (= T_A/T)$ and $H_B/H_T = L_B/L_T (= T_B/T)$.

Now, from Equations 3.1 and 3.2, remember that

$$C_A = C_H \cdot \frac{H_A}{T_A} + C_L \cdot \frac{L_A}{T_A} \text{ and } C_B = C_H \cdot \frac{H_B}{T_B} + C_L \cdot \frac{L_B}{T_B}$$

Now, as we saw above, if both insurers have the same proportions of high-risk and low-risk lives as the market average (i.e. $H_A/T_A = H_B/T_B = H_T/T$ and $L_A/T_A = L_B/T_B = L_T/T$), then $C_A = C_B$. However, we are now assuming that Insurer A has a higher

proportion of high-risk lives than the market average, and thus a lower proportion of low-risk lives than the market average, while Insurer B has a lower proportion of high-risk lives and a higher proportion of low-risk lives than the market average.

Thus, $H_A/T_A > H_T/T > H_B/T_B$ and $L_A/T_A < L_T/T < L_B/T_B$. From Equations 3.5, 3.6, 3.7 and 3.8, we can see that this also implies that $H_A/H_T > T_A/T > L_A/L_T$ and that $H_B/H_T < T_B/T < L_B/L_T$.

It should be borne in mind at this stage that, since $H_A + L_A = T_A$, then $H_A/T_A + L_A/T_A = 1$, or to put it another way, $L_A/T_A = (1 - H_A/T_A)$. In other words, H_A/T_A and L_A/T_A can be thought of as weights.

Using these observations, it can now be seen that, if Insurer A has a higher proportion of high-risk lives than the market average, then that increases the weight H_A/T_A , and consequently reduces the weight L_A/T_A . At the same time, the weight H_B/T_B is reduced and the weight L_B/T_B is increased.

Thus, we can see that, when calculating C_A , since the weight on the higher number (C_H) has risen and the weight on the lower number (C_L) has been reduced, then C_A , the average premium paid by those with Insurer A, must rise (relative to the situation where both insurers have the same risk profile as the market average). Similarly, when calculating C_B , the weight on the higher number (C_H) has fallen and the weight

on the lower number (C_L) has risen, therefore the overall figure C_B , the average premium charged to those insured with Insurer B, must fall. Therefore, $C_A > C_B$.

We can now examine the effect on the high-risk premium (HRP) and the low-risk premium (LRP). Remember from Equations 3.3 and 3.4 that

$$HRP = C_A \cdot \frac{H_A}{H_T} + C_B \cdot \frac{H_B}{H_T} \text{ and } LRP = C_A \cdot \frac{L_A}{L_T} + C_B \cdot \frac{L_B}{L_T}$$

It should be borne in mind at this stage that, since $H_A + H_B = H_T$, then $H_A/H_T + H_B/H_T = 1$, or to put it another way, $H_A/H_T = (1 - H_B/H_T)$. In other words, H_A/H_T and H_B/H_T can also be thought of as weights.

Since Insurer A has a higher proportion of high-risk lives than in the situation where both insurers have equal proportions, then we can now see that the weight H_A/H_T has risen while the weight H_B/H_T has fallen. Similarly, the weight L_A/L_T has fallen and the weight L_B/L_T has risen.

Thus, for the high-risk premium, we now have a higher weight attached to a higher number (since we have established that now $C_A > C_B$) and a lower weight attached to a lower number. Therefore, HRP must rise. Likewise, for the low-risk premium, we now have a lower weight attached to a higher number and a higher weight attached to a lower number. Therefore, LRP must fall.

Since HRP has risen and LRP has fallen, relative to a situation where both were equal, we can now conclude that $HRP > LRP$. In other words, on average, high-risk lives pay higher premiums than low-risk lives. This is in breach of the community rating principle.

Thus we can see that, if both insurers have similar proportions of high-risk and low-risk lives to the market average, then under the assumptions we set out above, the premiums charged by both insurers will be equal and the average premiums paid by high-risk lives and low-risk lives will also be equal. However, if one insurer has a higher proportion of high-risk lives, and thus a lower proportion of low-risk lives than the market average (which inherently means that the other insurer has a lower proportion of high-risk lives and a higher proportion of low-risk lives than the market average), then the premiums charged by the insurer with the higher proportion of high-risk lives will be higher than the premium charged by the other insurer, and the average premium paid by high-risk lives will be higher than the average premium paid by low-risk lives, thus meaning that community rating breaks down.

3.4.2 Determinants of the Magnitude of Imbalance Between High-Risk and Low-Risk Premiums

It can be seen from the above that the difference between the average premium paid by high-risk lives (HRP) and the average premium paid by low-risk lives (LRP) can

be no greater – and in most cases will be less – than the difference between the premiums charged by Insurer A and Insurer B. Specifically, it should be noted that, from Equations 3.3 and 3.4 that

$$HRP = C_A \cdot \frac{H_A}{H_T} + C_B \cdot \frac{H_B}{H_T} \text{ and } LRP = C_A \cdot \frac{L_A}{L_T} + C_B \cdot \frac{L_B}{L_T}$$

We have already established that, since $H_A + H_B = H_T$, then H_A/H_T and H_B/H_T can be thought of as weights. Similarly, since $L_A + L_B = L_T$, then L_A/L_T and L_B/L_T can also be thought of as weights. Thus it can be seen that both HRP and LRP are simply weighted averages of C_A and C_B , with the weights being H_A/H_T and H_B/H_T , and L_A/L_T and L_B/L_T , respectively, for HRP and LRP.

In the extreme case, where Insurer A has all of the high-risk lives in the market (and therefore none of the low-risk lives) and Insurer B has all of the low-risk lives in the market (and therefore none of the high-risk lives), then $HRP = C_A$ and $LRP = C_B$, thus $HRP - LRP = C_A - C_B$. However, if both insurers have a mixture of high-risk and low-risk lives then $HRP - LRP < C_A - C_B$.

Therefore, two factors that will determine the magnitude of the deviation from community rating, in other words the magnitude of the difference between the average premiums paid by high-risk and low-risk lives, are the difference in premiums between Insurer A and Insurer B, and the relative weights attached to

those premiums, the latter of which are the proportions of the high-risk and low-risk lives in the market that are with Insurer A and Insurer B.

We saw from Equations 3.5, 3.6, 3.7 and 3.8 above that, if $H_A/T_A > H_T/T > H_B/T_B$ and $L_A/T_A < L_T/T < L_B/T_B$, then $H_A/H_T > T_A/T > L_A/L_T$ and that $H_B/H_T < T_B/T < L_B/L_T$. The greater $H_A/H_T - L_A/L_T$ is, the greater will be the relative weight put on C_A (which is higher than C_B) in the calculation of HRP compared with the calculation of LRP. Likewise, the greater $H_B/H_T - L_B/L_T$, the smaller will be the relative weight put on C_B (which is lower than C_A) in the calculation of HRP compared with the calculation of LRP. Thus, the greater the difference between $H_A/H_T - L_A/L_T$ and between $H_B/H_T - L_B/L_T$, the greater will be the difference between HRP – LRP.

We can also see that the greater $H_A/H_T - L_A/L_T$ is, the greater will be $H_B/H_T - L_B/L_T$.

To see this, note that

$$\begin{aligned}
 H_B/H_T - L_B/L_T &= (1 - H_A/H_T) - (1 - L_A/L_T) \\
 &= 1 - H_A/H_T - 1 + L_A/L_T \\
 &= -H_A/H_T + L_A/L_T \\
 &= -(H_A/H_T - L_A/L_T)
 \end{aligned}$$

Therefore, if Insurer A has a greater proportion of the high-risk group than Insurer B, the increase in weight attached to C_A will be equal to the reduction in the weight

attached to C_B , compared with a situation where Insurer A has the same proportion of the high-risk lives in the market as it does of the low-risk lives in the market.

The difference between $C_A - C_B$ will, in turn, be affected by the difference between the average claim costs for high-risk lives and the average claim costs for low-risk lives (i.e. $C_H - C_L$) and by the relative weights attached to those claim costs, which we can see from Equations 3.1 and 3.2 are the relative weights of high-risk and low-risk lives within each insurer's insured population.

The greater the difference between $C_H - C_L$, the greater will be the difference between $C_A - C_B$. In practice, the former could be significant. Berk, Monheit & Hagan (1988) and Berk & Monheit (1992, 2001) find significant difference in expenditure between the sickest and healthiest individuals. Their 2001 paper ranks healthcare expenditures and finds that those in the bottom 50% by expenditure spent an annual average of \$122 per person in medical costs, compared with an average of \$56,459 per person for those in the top 1%.

Likewise, the greater the difference between $H_A/T_A - H_B/T_B$ (and thus the greater the difference between $L_A/T_A - L_B/T_B$), the greater will be the difference between the relative weights attached to C_H and C_L in the calculations of C_A and C_B . It should be noted that $L_A/T_A - L_B/T_B = -(H_A/T_A - H_B/T_B)$, and thus an increase in the absolute magnitude of one leads to a corresponding increase in the absolute magnitude of the other. Therefore, if Insurer A has a higher proportion of high-risk lives than Insurer

B, the increase in the weight attached to C_H is equal to the reduction in the weight attached to C_L , compared with a situation where both have the same proportions of high-risk and low-risk lives as the market average.

3.4.3 General Form Model

We have dealt above with a situation where there are two insurers operating in a market. We can now generalise to a situation with n insurers and see that unless all insurers have the same proportions of high-risk and low-risk insured lives as the market average then community rating will not operate across the market.

Firstly, note that the premiums charged by the various insurers will be as follows⁶⁰:

$$C_i = C_H \cdot \frac{H_i}{T_i} + C_L \cdot \frac{L_i}{T_i} \text{ for each } i = 1 \dots n \quad (\text{Equation 3.9})$$

Note also that the high-risk premium and the low-risk premium will be as follows:

$$HRP = C_1 \cdot \frac{H_1}{H_T} + C_2 \cdot \frac{H_2}{H_T} + \dots + C_n \cdot \frac{H_n}{H_T} \quad (\text{Equation 3.10})$$

And

⁶⁰ It should be noted that the subscripts designating the insurers changes from A and B (as used in previous sections) to $1 \dots n$ to account for the possibility of a greater number of insurers in the market.

$$LRP = C_1 \cdot \frac{L_1}{L_T} + C_2 \cdot \frac{L_2}{L_T} + \dots + C_n \cdot \frac{L_n}{L_T} \quad (\text{Equation 3.11})$$

Now, let us first assume that each insurer has the same proportion of high-risk and low-risk lives as the market average. In this instance, $H_1/T_1 = H_2/T_2 = \dots = H_n/T_n = H_T/T$ and $L_1/T_1 = L_2/T_2 = \dots = L_n/T_n = L_T/T$. From Equation 3.9, we can see that, if this is the case, then $C_1 = C_2 = \dots = C_n$, in other words, each insurer's premium will be the same. We can also see that, under these conditions, using the same logic as in Equations 3.5, 3.6, 3.7 and 3.8, $H_1/H_T = L_1/L_T$, $H_2/H_T = L_2/L_T$, ..., $H_n/H_T = L_n/L_T$. Thus, we can see that

$$\begin{aligned} HRP &= C_1 \cdot \frac{H_1}{H_T} + C_2 \cdot \frac{H_2}{H_T} + \dots + C_n \cdot \frac{H_n}{H_T} \\ &= C_1 \cdot \frac{H_1}{H_T} + C_1 \cdot \frac{H_2}{H_T} + \dots + C_1 \cdot \frac{H_n}{H_T} \\ &= C_1 \cdot \left[\frac{H_1 + H_2 + \dots + H_n}{H_T} \right] \\ &= C_1 \cdot \left[\frac{H_T}{H_T} \right] \\ &= C_1 \end{aligned}$$

And

$$\begin{aligned}
LRP &= C_1 \cdot \frac{L_1}{L_T} + C_2 \cdot \frac{L_2}{L_T} + \dots + C_n \cdot \frac{L_n}{L_T} \\
&= C_1 \cdot \frac{L_1}{L_T} + C_1 \cdot \frac{L_2}{L_T} + \dots + C_1 \cdot \frac{L_n}{L_T} \\
&= C_1 \cdot \left[\frac{L_1 + L_2 + \dots + L_n}{L_T} \right] \\
&= C_1 \cdot \left[\frac{L_T}{L_T} \right] \\
&= C_1
\end{aligned}$$

Therefore, if each insurer has the same proportions of high-risk and low-risk lives as the market average, then the premiums of each insurer are equal and the high-risk premium and the low-risk premium are equal. Thus, all insured persons pay the same, ensuring that community rating operates across the market.

However, let us now assume that one insurer (Insurer j) has a higher proportion of high-risk lives (and therefore a lower proportion of low-risk lives) than the market average. This inherently means that another insurer (Insurer k) must have a lower proportion of high-risk lives (and therefore a high proportion of low-risk lives) than the market average. In terms of our calculations, what this means is that $H_j/T_j > H_T/T$ and thus $L_j/T_j < L_T/T$. Correspondingly, $H_k/T_k < H_T/T$ and thus $L_k/T_k > L_T/T$.

From our analysis above, remembering that H_j/T_j and L_j/T_j are the weights attached to C_H and C_L in the calculation of C_j , while H_k/T_k and L_k/T_k are the weights attached to C_H and C_L in the calculation of C_k , we can see that C_j will rise and C_k will fall,

relative to the situation where all insurers have the same proportions of high-risk and low-risk lives as the market average, thus $C_j > C_k$.

We can also see that, if $H_j/T_j > H_T/T > H_k/T_k$ and $L_j/T_j < L_T/T < L_k/T_k$, then $H_j/H_T > H_k/H_T$ and $L_j/L_T < L_k/L_T$. Thus, a higher weight will be attached to C_j and a lower weight will be attached to C_k in the calculation of HRP, while a lower weight will be attached to C_j and a higher weight will be attached to C_k in the calculation of LRP. Thus, since HRP attaches a higher weight to a higher number and a lower weight to a lower number, while LRP attaches a lower weight to a higher number and a higher weight to a lower number, then $HRP > LRP$, meaning that community rating no longer applies across the market.

It can easily be seen that, if more than one insurer has a higher proportion of high-risk lives than the market average and/or if more than one insurer has a lower proportion of high-risk lives than the market average, the premiums of the former insurers will be higher than the premiums of the latter insurers, and higher weights will be attached to the higher premiums in the calculation of the high-risk premium, while higher weights will be attached to the lower premiums in the calculation of the low-risk premium, meaning that the high-risk premium will inevitably be higher than the low-risk premium, thus meaning that community rating does not apply across the market.

It is clear from the model presented above that, in the absence of some form of risk adjustment mechanism, community rating will break down in a market with multiple insurers if these insurers have differing risk profiles. A risk adjustment mechanism, by effecting monetary transfers from insurers with relatively low risk profiles to insurers with relatively high risk profiles, would mitigate the effect of the differing risk profiles on the respective insurers' premiums. Specifically, it would likely result in higher premiums for the insurer with the relatively low risk profile and would likely allow the insurer with the relatively high risk profile to reduce its premiums, all other things being equal. This would reduce, or – in the case of a perfect risk adjustment mechanism – eliminate, the differences in the average premiums paid by high-risk lives and low-risk lives.

3.5 Application of the Model to the Irish Market

The above model can be applied to the Irish market in the context of the Supreme Court ruling on the Risk Equalisation Scheme, 2003. This ruling allows for community rated health insurance plans but not for community rating across the market for health insurance.

This is similar to the situation outlined in the model, with the slight difference that, instead of a number of insurers operating community rating within their insured populations, the Irish case takes the form of a number of health insurance plans, each of which operates on a community rated basis, but without risk equalisation. There

may be some (formal or informal) risk adjustment between plans offered by the same insurer but risk equalisation is not operating between insurers.

Extending the above model to this situation then, it can be seen that, in the absence of some form of risk adjustment (such as the Risk Equalisation Scheme, 2003, which has been set aside by the Supreme Court), although each health insurance plan in the market is community rated, community rating will not operate across the market. Instead, the model would suggest that high-risk insured lives will end up paying, on average, higher premiums than low-risk insured lives for the same level of cover.

In the absence of some form of risk adjustment, the only way that community rating could operate across the market for health insurance in Ireland is if each health insurance plan available in the market had exactly the same risk profile as the market average. Theoretically, this is possible but highly unlikely as it would require a coincidence of monumental proportions in order to hold. In practice, it has already been confirmed that insurers operating in the market have different risk profiles.

Under the Risk Equalisation Scheme, 2003, The Health Insurance Authority had a role in advising the Minister for Health and Children on whether or not to commence risk equalisation payments. Specifically, if a measure called the Market Equalisation Percentage (which is equal to the amount of monetary transfers under risk equalisation expressed as a percentage of the claims paid in the market subject to risk equalisation) were below 2%, no transfers would be made. If the Market

Equalisation Percentage (MEP) were between 2% and 10%, the HIA would be required to make a recommendation to the Minister on whether or not payments should be triggered, while if it were above 10% then the Minister would commence payments, unless, having consulted with the HIA the Minister felt that the commencement of risk equalisation payments would not be in the best overall interests of health insurance consumers. (See HIA, 2003b, 2008b for further details.)

For each of the six-monthly periods from 1 July – 31 December 2003 to 1 January – 30 June 2005, the MEP was found to lie between 2% and 10% (see HIA, 2005c). This means that there must have been a difference in risk profiles between insurers, and thus between plans, as each insurer offers a similar, though not identical, suite of plans. If each plan had the same risk profile as the market average, then each insurer would, by definition, have the same risk profile as the market average, and the MEP would be equal to zero.

Since this was not the case, it can be concluded that risk profile differences were evident and that therefore community rating was not operating across the market for health insurance in Ireland, since no risk equalisation payments have ever been made, either under the Risk Equalisation Scheme, 1996 or under the Risk Equalisation Scheme, 2003, to adjust for differences in risk profiles between insurers. If risk equalisation had been in operation then, as mentioned in Section 2.4, it would have meant that each insurer would have paid a combination of claims

and net risk equalisation payments (which would have been positive for an insurer with a relatively low risk profile and negative for an insurer with a relatively high risk profile) that would have equated to the claims they would have paid out if they had the market average risk profile.

3.5.1 Limitations of the Model

It should be noted that some of the simplifying assumptions made in the formulation of this model have implications for the applicability of the model in a real-world setting.

Firstly, Assumption 3 held that premiums were based entirely on expected claim costs. In reality, premiums for each insurer will reflect not just expected claim costs, but will also factor in investment income, administrative expenses and profit loadings (see Harrington & Niehaus, 2003). In practice, these are almost certain to differ between insurers. According to Financial Regulator (2007), BUPA Ireland's management expenses in 2006 represented approximately 6.8% of earned premium. According to re-stated accounts contained in VHI (2008a), Vhi Healthcare's operating expenses in the financial year ending February 2007 represented just under 8.2% of earned premium.

If each insurer had precisely the same proportions of high-risk and low-risk lives as the market average, then $H_1/T_1 = H_2/T_2 = \dots = H_n/T_n = H_T/T$ and $L_1/T_1 = L_2/T_2 = \dots$

$= L_n/T_n = L_T/T$, and we have seen above that if this is the case then $H_1/H_T = L_1/L_T$, $H_2/H_T = L_2/L_T$, ..., $H_n/H_T = L_n/L_T$. Thus, we can see from Equations 3.10 and 3.11 that the weights attached to each insurer's premiums would be the same in the calculation of HRP as they would in the calculation of LRP. In other words, even though premiums might differ between insurers, due to differences in investment income, administrative expenses or profit loading, the high-risk premium would still be equal to the low-risk premium, and thus community rating would operate across the market.

However, if at least one insurer has a higher than average proportion of high-risk lives and at least one other insurer has a lower than average proportion of high-risk lives, then the only way that the high-risk premium would equal the low-risk premium is if the premiums of those insurers with above-average proportions of high-risk lives were actually lower than the premiums of those insurers with below-average proportions of high-risk lives, due to better investment of premium income, lower administrative costs, lower profit loadings or a combination of all three, and the differences in premiums and proportions were such that they exactly cancel each other out. This situation is highly unlikely and would only be coincidental if it were to transpire at all.

Secondly, Assumption 4 implies that C_H and C_L are the same across insurers. Again, this is not necessarily the case in practice. Claim costs for high-risk and/or low-risk lives might differ between insurers for reasons such as, *inter alia*, differing payment

agreements between insurers and healthcare providers (for example, one insurer might be able to negotiate a better price for healthcare services) or different disease management practices between healthcare providers (for example, one hospital might encourage patients to convalesce at home with follow-up outpatient visits, whereas another might encourage patients to stay in hospital for longer).

The effects of C_H and C_L differing between insurers would be the same as the effects of differing investment income, administrative expenses or profit loadings, as above. Differing values of C_H and C_L by insurer would lead to different values for $C_1, C_2, \dots, C_n$. To see this, we can re-write Equation 3.9 as

$$C_i = C_{Hi} \cdot \frac{H_i}{T_i} + C_{Li} \cdot \frac{L_i}{T_i} \quad \text{for each } i = 1 \dots n \quad (\text{Equation 3.12})$$

If we assume that each insurer in the market has the same proportions of high-risk and low-risk members as each other insurer, then from Equations 3.10 and 3.11 we can see that

$$HRP = C_1 \cdot \frac{H_1}{H_T} + C_2 \cdot \frac{H_2}{H_T} + \dots + C_n \cdot \frac{H_n}{H_T}$$

And

$$LRP = C_1 \cdot \frac{L_1}{L_T} + C_2 \cdot \frac{L_2}{L_T} + \dots + C_n \cdot \frac{L_n}{L_T}$$

If each insurer has the same risk profile as each other insurer, then $H_1/T_1 = H_2/T_2 = \dots = H_n/T_n = H_T/T$ and $L_1/T_1 = L_2/T_2 = \dots = L_n/T_n = L_T/T$. We have already established, using Equations 3.5, 3.6, 3.7 and 3.8, that, if this is the case then $H_1/H_T = L_1/L_T$, $H_2/H_T = L_2/L_T$, ..., $H_n/H_T = L_n/L_T$. Combining this with the revised equations for HRP and LRP above, we can see that the weights attached to C_1 , C_2 , ..., C_n are the same in the calculations of both HRP and LRP, so that the values for HRP and LRP will be equal and thus community rating would still hold across the market.

If one or more insurers have higher than average proportions of high-risk lives and other insurer(s) have lower than average proportions of high-risk lives, then the only way in which community rating would still operate across the market is if the differences in claim costs exactly balanced the differences in risk profiles, which would be highly unlikely and would only occur by chance.

Thirdly, the model assumes that there are two discrete risk types, high-risk lives and low-risk lives. Again, in practice, there are as many risk types as there are insured persons, although insurers tend to group insured persons with similar characteristics into risk classes, so the practical number of risk classes will be less than the number of insured persons but likely greater than two. In general however, some risk classes

will still have higher expected claim costs than others, and can thus be thought of as broadly high-risk or low-risk.

In terms of the effect on the model, one could envisage a situation where one insurer has higher proportions of some high-risk classes but lower proportions of other high-risk classes, and higher proportions of some low-risk classes but lower proportions of other low-risk classes than the market average. These may, to some extent, cancel each other out, leading to similar risk profiles between insurers.

However, due to other factors, such as plan coverage, provider coverage, length of time in the market, or switching behaviour, it is more likely that insurers that attract higher proportions of one high-risk class would also attract higher proportions of other high-risk classes, while insurers that attract higher proportions of one low-risk class would also attract higher proportions of other low-risk classes. Again, it would be unlikely, and only coincidental, for the relaxation of the assumption of two risk types to exactly negate the effect of differing proportions of different risk types on the maintenance of community rating across the market. It is far more likely that any differential risk profiles between different insurers would lead to a breakdown of community rating across the market.

3.6 Discussion and Conclusions

Community rating within plans in the Irish context could be described as quite a pure form of community rating. However, it is not, to continue with such terminology, 100% pure, as it does allow for exceptions to the community rating rules, such as for children aged under-18, dependent full-time students aged 18-23 and members of group schemes.

A pure form of community rating across the market for health insurance cannot operate in the absence of some form of risk adjustment mechanism, as shown by the model in this chapter. However, the ‘impurities’ in community rating in Ireland mean that perhaps an ‘impure’ form of risk equalisation might suffice in the Irish context.

An example of a less-than-pure form of risk equalisation is that operating in The Health Insurance Plan of California (The HIPC), as described by Shewry, Hunt, Ramey & Bertko (1996). Within The HIPC a risk assessment value (RAV) is calculated for each health plan, based on its enrollee mix compared with the overall enrollee mix of The HIPC. The RAV of The HIPC as a whole is always 1.0. Risk adjustment is implemented when at least one health plan has an RAV that is at least 5% above or below that of The HIPC (i.e. below 0.95 or above 1.05) and adjusts until the RAV of the outlier plan returns to within the 5% threshold of the RAV of The HIPC. This suggests that some degree of risk profile difference is acceptable in

The HIPC, and this might be something that the Irish government might wish to consider in designing a new risk equalisation scheme for the Irish market.

Whether or not pure community rating across the market is required, or even desirable, in Ireland is a decision for the legislature, although Oireachtas (parliamentary) debates suggest that there is broad political support for the idea of community rating across the market. This has been reinforced in parliamentary debates that have taken place since the Supreme Court ruling on the Risk Equalisation Scheme, 2003, which highlights the need to have a precise definition in legislation of the type of community rating that is desired in the market. In the immediate aftermath of the Supreme Court judgment setting aside the Risk Equalisation Scheme, 2003, the Minister for Health and Children called for a period of reflection, although in November 2008, the Minister announced a number of interim measures to stabilise the market while work is carried out on another risk equalisation scheme (see Section 2.4). However, perhaps some reflection in relation to the type of community rating that is desired in the Irish private health insurance market might be useful at this juncture, particularly as this might have implications for the design of any new risk equalisation scheme.

In the meantime however, following the Supreme Court judgment, it is clear that community rating is not operating across the market for private health insurance in Ireland. Instead, it is only mandated to operate within plans, thus leading to a

situation that could be described as ‘communities rating’ rather than community rating – each plan being a distinct community.

Therefore, while high-risk consumers are paying the same as low-risk consumers for the same plan, on average high-risk consumers may be paying more than low-risk consumers for similar levels of cover. The Supreme Court judgment also increases the possibility of risk segmentation, which would be detrimental to community rating in the Irish market. This problem was alluded to by the Minister for Health and Children when introducing the interim measures discussed above.

This in itself raises another issue. Given the number of plans available in the market, with differing levels of cover, is it feasible to operate community rating across the market for health insurance? In response to a consultation paper by The Health Insurance Authority on lifetime community rating (HIA, 2002b), it was suggested by BUPA Ireland (BUPA Ireland, 2002) that the market might benefit from having one standardised, community-rated plan, providing minimum benefits, to be offered by all insurers as the cheapest plan available.

BUPA Ireland’s suggestion that a standardised plan should be the lowest-priced plan in the market has some merit, as if it were not the cheapest plan in the market then insurers could design other plans that were more attractive to low-risk lives and set the premiums of such plans at a lower level than the premium of the standardised

plan, potentially cream-skimming healthy lives away from the standardised community rated plan.

Another option would be to have a series of standardised plans at various cover levels, regulated by an independent body – perhaps The Health Insurance Authority – at standardised prices. However, this could be considered over-regulation of the market, which might make the market unattractive to potential new entrants, particularly if non-standardised plans were prohibited, although this is unlikely.

Such a standardised plan might however form the basis for a future solution to the problem of trying to effectively operate community rating across the market in the presence of multiple insurers offering multiple plans. However, this highlights a possible tension between achieving true community rating in the market and fostering consumer choice.

Another possible solution might be to have an element of plan premiums reflecting a community rate across the market for a standardised level of benefits and an element reflecting the community rate of that plan for all benefits above those standardised benefits (as well as a premium loading to reflect administrative expenses and a profit loading, as per Harrington & Niehaus, 2003). In other words, the premium would be expressed as

$$\text{Premium} = \text{CR}_{\text{market}} + \text{CR}_{\text{plan}} + \text{Premium Loading}$$

The element of premium comprising the community rate for the market could perhaps be tied to the anticipated revised minimum benefit regulations. In this way this element of the premium would reflect a community rate for the benefits to which everyone with qualifying health insurance plans would be entitled. The element of premium reflecting the community rate of the plan would be based on the risk profile of that particular plan, which might have subtle differences from other plans providing broadly similar levels of cover based on the level of hospital accommodation. It should be noted at this point that the Private Health Insurance Advisory Group (2007) made a similar recommendation – that community rating should only be applied to the level of benefits deemed adequate for the majority of the insured population, and not to benefits in excess of this level.

This potential solution raises a number of questions, however. The first is by whom the element of premiums reflecting the community rate for the market would be set. It is possible that an independent body could set this, although it might not have detailed knowledge of payments provided for the standardised benefits. A possible way around this problem might be to have a panel consisting of actuaries from each of the insurers in the market plus one or more independent representatives, although this might lead to difficulties surrounding commercial sensitivity regarding payment rates. A possible middle-ground solution might be for an independent body with actuarial expertise to be given details of payment rates for the standard benefits –

most likely on a statutory basis – and then calculate the market community rate for those benefits.

The second question arising from this type of solution relates to whether it would facilitate – or even give incentives for – some form of risk selection or market segmentation. This could possibly be the case, as part of the premium would reflect the community rate of the plan membership, which in turn would reflect the risk profile of the plan. However, although risk selection might still be possible under this type of solution, the degree to which this would be effective would be reduced, as part of the premium would reflect the community rate of the market for the standardised level of benefits. This would reduce the potential degree of variation in plan premiums based on the benefits above this level.

Nevertheless, despite the ‘impurities’ in the system of community rating in Ireland, the conclusions of the model remain valid, including that differences in risk profiles between insurers, or indeed between plans, will, in the absence of some risk adjustment mechanism, lead to high-risk consumers paying more, on average, than low-risk consumers. Two possible reasons for differing risk profiles between insurers are adverse selection and risk selection, and these are examined in more detail in the next chapter.

CHAPTER 4

EVIDENCE OF SELECTION IN THE IRISH PRIVATE HEALTH INSURANCE MARKET

4.1 Introduction

Chapter 3 examined whether or not community rating can operate across the market for health insurance in the presence of multiple insurers. The formulaic model presented in Chapter 3 suggests that this is not possible if insurers have different risk profiles from the market average. However, the presence of some risk adjustment mechanism would mitigate this effect.

Differences in risk profile between insurers are highly likely in practice. Two possible reasons for this would be adverse selection and risk selection. These are two forms of market failure that can arise in insurance markets. Risk selection involves insurers trying to select favourable risks to reduce their cost base and thereby maximise profits, while adverse selection involves consumers selecting more or less comprehensive coverage based on their own health status, which may accentuate cost differentials between more and less comprehensive plans.

This Chapter examines whether there is evidence of either form of selection in the Irish private health insurance market. If either or both selection effects are present in the market then it would increase the need for some form of risk adjustment mechanism, such as the risk equalisation scheme that was proposed for the Irish market but set aside by the Supreme Court in 2008.

4.2 A Review of the Issues Surrounding Selection

Much of the literature in the area of competition in the provision of health insurance highlights the issues of risk selection (also known as cream skimming) and adverse selection, which may be present in the health insurance market.

4.2.1 Risk Selection

In insurance markets, there exist individuals who represent relatively low risks to insurers and individuals who represent relatively high risks to insurers. In the case of health insurance, these are relatively healthy and less healthy individuals, respectively.

The expected value of claims for medical expenses would be lower for a relatively healthy individual than for a relatively unhealthy individual. Although a large number of factors will affect the likelihood of claiming for medical expenses, one of the key determinants is age. Studies have shown that average health expenditure rises with age.

For example, Berk et al (1988) and Berk & Monheit (1992, 2001), using data from the US, show that healthcare expenditure is highly concentrated among the highest-spending patients. For example, in 1996 the top 1% of the US population, ranked by

medical expenditure, accounted for 27% of expenditure, and 46.3% of these people were elderly (aged 65 or over). By contrast, the bottom 50% of the population, ranked by medical expenditure, accounted for only 3% of expenditure. Their findings suggest that the concentration is reasonably consistent across time.

Meanwhile, Russo, Wier & Elixhauser (2009) find that hospital costs and utilisation rise with age. Specifically, those aged 45-54 had average length of hospital stays of 4.8 days in 2007, compared with 5.2 for those aged 55-64 and 5.4 days for those aged 65-74. Average hospital costs were \$10,400 for those aged 45-54, compared with \$11,900 for both the 55-64 and 65-74 age groups. Furthermore, they found that the hospitalisation rate per 1,000 population rose from 101.7 in the 45-54 age group to 145.9 in the 55-64 age group and further to 253.4 among those aged 65-74.

In Ireland, figures from the Central Statistics Office (CSO, 2007a) show that 13.3% of the population in 2006 was aged 65 and over, but ESRI (2008b) shows that this age bracket accounted for 30.6% of acute public hospital discharges and 46.1% of total bed-days that year

Therefore, age is a readily available indicator of expected medical expenses and thus of the risk that an individual would represent to a health insurer. Gender can also be an indicator of likely health expenditures, particularly when combined with age. For example, analysis of figures provided to the author by the Economic and Social Research Institute shows that females of child-bearing age are significantly more

likely to have episodes of hospitalisation than males of similar ages, while this relativity is not as marked in other age brackets.

However, Newhouse (1982, 1994, 1996) suggests that age and gender, while inexpensive to collect, only explain a small proportion of the variance in health costs, with prior utilisation being the main predictor. This point was also noted by Van de Ven, Van Vliet, Van Barneveld & Lamers (1994). Nicholson, Bundorf, Stein & Polsky (2004) find that even a simple risk adjustment mechanism based on age and gender would not prevent the risk selection experienced by Health Maintenance Organizations (HMOs) compared with non-HMOs, because the selection is based on other factors that are more difficult to observe, such as health status and preference for medical care. Van de Ven et al (2000) suggest that poor risk-adjusters, such as age and gender sometimes supplemented by an indicator of disability, still leave ample room for insurers to make profits from cream skimming. This point was also made by Van de Ven & Ellis (2000), who argue that, because there is no perfect risk adjustment mechanism there will always be selection incentives, but that the better (more accurate) the risk adjustment mechanism the less a trade-off exists between the goals of efficiency and fairness.

As the payment of claims for medical expenses represents the majority of a health insurer's costs, this means that insurers have a strong incentive to select lower-risk consumers, if possible, in order to maximise profits. This is particularly true in a community rated market, in which insurers receive the same premium for high-risk

consumers as for low-risk consumers, despite higher expected claim costs for the former than for the latter. However, it may also hold true in a risk rated market, where insurers are free to charge premiums based on expected claims. In such markets, the factors that insurers may take into account and their relative accuracy in predicting future health expenditures will determine the degree to which risk selection is incentivised. However, since there is no perfect predictor of future health spending, an incentive will likely remain for risk selection.

Although community rating is often accompanied by open enrolment, whereby insurers are obliged to accept all applicants, irrespective of risk, there are subtle ways in which insurers may still attempt to engage in risk selection. These would include marketing and plan design. A number of authors have noted this possibility, including Field (1985), Kifmann (2002), Light (1998) Mossialos & Thomson (2002a, 2002b), Newhouse (1994), Shewry et al (1996) and Thomson & Mossialos (2007). As an example of subtle risk selection by plan design, additional benefits designed around sports injuries or maternity benefits would, *ceteris paribus*, appeal more to younger consumers, as these consumers would be more likely to make claims for such benefits. Meanwhile, benefits for heart conditions or cancer would, *ceteris paribus*, appeal more to older consumers, as they would be more likely to make claims for these benefits.

Another possible form of subtle risk selection might be for insurers to contract with healthcare providers that are unsuitable for high-risk consumers (Parkin & McLeod,

2001), but there is no evidence of this being an issue in the Irish market. This might be due to the fact that, as noted by Colombo & Tapay (2004), insurers in Ireland have little incentive to engage in selective contracting with providers as one of the main drivers of demand for private health insurance is the additional choice that it provides to consumers.

Thomson & Mossialos (2007) note that product differentiation (of which plan design could be one example) could restrict competition if consumers find it difficult to compare price and quality across a wide range of products. In this regard, both The Health Insurance Authority (HIA, 2007) and The Competition Authority (Competition Authority, 2007) found evidence that consumers find it difficult to compare health insurance products in Ireland and that this contributes to the low level of switching in the market.

Hsiao (1995) suggests that open enrolment and community rating are only moderately effective in combating risk selection, although he also suggests that risk-adjusted premiums for individuals would be technically unfeasible. Sauter (2008) also notes that, in the absence of risk equalisation, other public interest policies, such as community rating and open enrolment, are unlikely to work given the possibilities of risk selection based on the subtle methods described above.

In a report by the York Health Economics Consortium (YHEC), commissioned by the HIA in 2003, the authors note that, although open enrolment means that risk

selection is technically illegal, there remain a number of ways in which insurers could attempt to cream-skim healthier lives. These include “targeted marketing,...structuring insurance plans to appeal most to the healthiest...and offering lower premiums in return for using service providers who follow strict protocols or other utilisation management techniques.” (YHEC, 2003: 50-51) They further note that, while price competition on the basis of efficiency, quality and innovation is desirable, price competition on the basis of a lower risk profile (achieved deliberately or accidentally⁶¹) is socially undesirable. This latter point is echoed by a number of other authors, such as McCarthy, Davies, Gaisford & Hoffmeyer (1995), Mossialos & Thomson (2002a), Newhouse (1982, 1998) and Shewry et al (1996).

In the context of the discussion on subtle forms of risk selection, it is interesting to note that, as part of the 2008 consumer survey commissioned by the HIA, in addition to the quantitative survey of consumers, a survey of employers was undertaken, as well as in-depth interviews with a small number of Human Resource Executives. One of the outcomes of this was that there was some evidence that younger employees viewed the hospital elements of cover as less relevant to them, but that “some insurers were perceived as offering more relevant products to the needs of younger people and marketing of cover for lifestyle based services such as GP visits, tooth whitening, laser eye surgery and physiotherapy.” (HIA, 2008c: 98).

⁶¹ It may be possible for insurers to attract favourable risks without actively targeting lower-risk consumers, although the net result is the same.

The Health Insurance Authority undertook a consultation process on risk equalisation in the Irish private health insurance market in 2002. It published a consultation paper, which was circulated to stakeholders and interested parties (HIA, 2002a) and took account of the responses to this in the formulation of a policy paper on the subject (HIA, 2002c). In its policy paper (HIA, 2002c), the HIA noted two potential difficulties that could arise when risk profiles differ significantly between insurers in the market. These are price following and predatory pricing.

Price following describes a situation whereby an insurer with a significantly lower risk profile would be in a position to charge a significantly lower premium than another insurer with a significantly higher risk profile, reflecting the relative levels of claim costs between the insurers. However, the insurer with the lower risk profile might instead choose to set its premiums slightly below those of the insurer with the higher risk profile. HIA (2002c) notes that this would be a sensible strategy for the low-risk insurer, as this would attract a significant proportion of new consumers in the market and some of the better risks from the other insurers, without attracting too many higher risks from the other insurers.⁶²

This last observation was made on the assumption that high-risk consumers would be less likely to switch insurer than low-risk consumers. This was borne out by the consumer surveys commissioned by the HIA (HIA, 2003a, 2005a, 2008c), which

⁶² Mercer Human Resource Consulting (2005) echoed this view, noting in the Irish context that the community rated model without risk equalisation had led to a situation where “a new entrant’s commercial interest (profitability) is best served by, in the main, shadow pricing and shadow servicing the market.” (Mercer Human Resource Consulting, 2005: 5-6)

suggest that younger consumers (who would tend to be lower risk) tend to be more likely to switch insurer than older consumers (who would tend to be higher risk). If this were to happen then the claim costs of the insurers with the higher risk profiles would rise further as they would either lose, or not attract sufficient numbers of, low-risk consumers.

The HIA noted that, if the price following strategy were followed then all consumers in the market would pay a premium close to that required to cover the claims of the insurers with the highest risk profiles, and if the risk profiles of the latter insurers were to continue to worsen then the premiums for all consumers would continue to rise.

Analysis carried out by the HIA in October 2005 (HIA, 2005c) suggested that price following may have been occurring in the Irish private health insurance market. In particular, the report noted that, between the time BUPA Ireland began selling plans in the Irish market (January 1997) and early 2005, both BUPA Ireland and Vhi Healthcare had implemented eight price increases, with both sets of increases totalling 98%.⁶³

Earlier analysis by the York Health Economics Consortium (YHEC, 2003) also found a high degree of correlation between the premiums of BUPA Ireland and Vhi Healthcare and concluded that the two insurers were “not participating in a price

⁶³ It also noted that Vhi Healthcare had implemented a further price increase in September 2005, but that BUPA Ireland tended to increase prices six months after Vhi Healthcare did, so the 98% figure is based on comparable price increase cycles.

war” (YHEC, 2003:33). It suggested that an alternative interpretation of the price patterns of the two insurers was the presence of Stackelberg competition, whereby Vhi Healthcare set premiums and BUPA Ireland followed by charging similar but slightly lower premiums. Sauter (2008) also notes that the European Commission, in making its decision on BUPA Ireland’s complaint that risk equalisation constituted illegal State aid, had taken into consideration evidence suggesting that BUPA Ireland had adopted a strategy of active risk selection combined with a strategy of price following.

A report by the Society of Actuaries in Ireland (2002) also notes little evidence of price competition in the Irish private health insurance market. The report also suggests that there exists a market incentive for BUPA Ireland to be a price follower. It argues that, in the absence of risk equalisation, it would make little sense for BUPA Ireland to set its prices at a level that would attract significant numbers of Vhi Healthcare’s high-risk members. The report notes that this price following effect would reinforce the natural inertia of consumers.

A number of authors have suggested that incentives for insurers to engage in risk selection mean that a fully competitive market for health insurance is not possible. For example, Arrow (1963) suggests that the equalisation of premiums between those with a low propensity to illness and those with a high propensity (such as would occur under community rating) “could not in fact be carried through if the market were genuinely competitive. Under those circumstances, insurance plans

could arise which charged lower premiums to preferred risks and draw them off, leaving the plan which does not discriminate among risks with only an adverse selection of them.” (Arrow, 1963: 964).

Enthoven (1993) states the issue more bluntly: “A free market does not and cannot work in health insurance and health care. If not corrected by a careful design, this market is plagued by problems of free riders, biased risk selection, segmentation, and other sources of market failure.” (Enthoven, 1993: 44). His proposals for managed competition in the health insurance market involve sponsors acting as intermediaries between consumers and health insurers.⁶⁴ One of the functions of such sponsors is to manage risk selection and thus “create powerful incentives for health plans to succeed by improving quality and patient satisfaction, not by selecting good risks and avoiding bad ones.” (Enthoven, 1993: 33).

The idea of managed competition was one of the central features of proposals for reform of the US healthcare system proposed by the so-called Jackson Hole Group of experts (Ellwood, Enthoven & Etheredge, 1992), which formed the basis of healthcare reforms attempted (ultimately unsuccessfully) by the Clinton administration in the 1990s. One of the suggestions put forward by the Jackson

⁶⁴ Enthoven describes managed competition thus: “A sponsor (either an employer, a governmental entity, or a purchasing cooperative), acting on behalf of a large group of subscribers, structures and adjusts the market to overcome attempts by insurers to avoid price competition. The sponsor establishes rules of equity, selects participating plans, manages the enrolment process, creates price-elastic demand, and manages risk selection.” (Enthoven, 1993:25) For further details on these proposals for managed competition, see Enthoven (1988) and Ellwood et al (1992). In the context of the application of managed competition, Van de Ven et al (1994) state “cream skinning truly is the Achilles’ heel of a wide range of market-oriented strategies in health care...” (Van de Ven et al, 1994: 134)

Hole Group was to ensure that “competition can take place on the basis of health services cost, quality, and patient satisfaction rather than on risk selection and market segmentation.” (Ellwood et al, 1992: 153)

Attitudes towards risk segmentation have changed over time, from it being viewed as efficient in the 1960s and 1970s to a more negative view in the late 1980s and 1990s. Feldman & Dowd (2000) conclude “There appears to be a growing consensus that risk segmentation is undesirable, that “risk adjusted” payments to health plans are necessary either to forestall risk segmentation or to offset its effects, and even that competitive approaches to allocating health care resources may not be viable without such adjustments.” (Feldman & Dowd, 2000: 499).

In a similar vein, Nolan (2005) notes “While asymmetric information, uncertainty and externalities are the most readily identifiable indicators of market failure in the health sector, health care markets also suffer from imperfect competition in the sense that many of the conditions for perfectly competitive markets are absent or deficient.” (Nolan, 2005: 7) As examples of such conditions being absent or deficient, she notes that hospital services are subject to economies of scale, producers can influence levels of demand and/or price, and consumers are not perfectly informed.

The impact of risk selection on the opportunities for a competitive market in health insurance is a common theme in the literature. Light (1998) notes “Unless careful

safeguards are put in places, however, competition between health insurers obeys the inverse coverage law: the more people need insurance, the less coverage they will get and the more they will pay for what they get.” (Light, 1998: 745). He also notes that subtle techniques used to cream skim preferred risks, along with other (unspecified) reasons mean that “competition in health insurance that benefits – rather than harms – society by lowering costs and improving services is difficult to attain.” (Light, 1998: 745)

Regarding the reasons for the competitive incentives for risk selection, Rogal & Gauthier (1998) note that plans gain more by competing on the basis of risk selection than by competing on the basis of cost efficiency and quality. Dunn (1998) notes that a common reason for the implementation of four risk adjustment schemes in the US was the reduction or removal of incentives to select preferred risks. Eggleston (2000) suggests that competition can exacerbate selection incentives in markets for healthcare and health insurance. Van de Ven (1990) also notes that one of the reasons reforms were carried out in the Dutch health insurance system was the incentive for insurers to engage in risk selection rather than improve health care efficiency. Mossialos & Thomson (2002b) suggest that insurers in the EU tend to compete on the basis of risk selection. Colombo & Tapay (2004) suggest that the implementation of risk equalisation in Ireland would “improve fair competition across insurers by reducing the appeal of competition based on risk selection.” (Colombo & Tapay, 2004: 4).

However, Pupp (1981) suggests that, in a competitive market, without government regulation of prices (such as community rating), cream-skimming will tend to ensure that price equals marginal cost for all customers and that it should therefore be encouraged, as it ensures that non-discriminatory prices will be charged. He argues that community rating inherently leads to cross-subsidisation between certain groups and that this can, to some extent, shield those with unhealthy lifestyles (such as smoking) from the social costs of these lifestyles.

Switching is an important factor in both risk selection and adverse selection, as evidence suggests that those who switch tend to be younger. This means that, if a gap opens up between the premiums of one insurer and the premiums of another, then those more likely to switch between insurers to avail of the lower prices would tend to be younger, who are also more likely to be healthier, which would accentuate differentials between the insurers' average claims costs and thereby premiums, which could then lead to further switching, and so on, in extreme cases leading to a 'death spiral'. This possibility was referred to by Industry Commission (1997) among others.

This is a particularly relevant point in the context of the Irish private health insurance market, and ties in with the concept of adverse retention, which is discussed in the next section. Because Vhi Healthcare had such a long period of monopoly presence in the market, many of its older customers have built up a long-standing relationship with the insurer and might be less willing to switch to another

insurer. Younger consumers, by contrast, would be less likely to have built up such a relationship and might therefore be expected to be more likely to switch.

Consumer inertia might therefore work to the advantage of new entrants (such as BUPA Ireland/Quinn Healthcare and VIVAS Health/Hibernian AVIVA Health) and to the detriment of incumbents (in this case Vhi Healthcare). This was alluded to by the Society of Actuaries (2002), who argue that this consumer inertia is more likely to be a positive rather than a negative for a new entrant to a health insurance market, as a new insurer would not want to attract the high-risk customers of the incumbent insurers. They also argue that, in the absence of risk equalisation, it would not make commercial sense for BUPA Ireland to set its prices in such a way as to attract Vhi Healthcare's higher risk members.

There is some evidence from other health insurance markets that corroborates the idea that switching patterns can accentuate differences in risk profiles. For example, Nicholson et al (2004) find that those who switched from non-HMOs to HMOs⁶⁵ in 60 US communities in the 1990s used 11% fewer medical services in the year prior to switching than those who didn't switch from non-HMOs, and that those switchers maintained relatively low use once enrolled in the HMO. Meanwhile, those who switched in the opposite direction (i.e. from HMOs into non-HMOs) used 18% more medical services in the year prior to switching than those who didn't switch from

⁶⁵ HMOs (health maintenance organizations) operate on the basis of managed care, and are therefore more restrictive (less generous) than traditional indemnity insurance policies.

HMOs. The authors estimate that the effect of these people switching is to reduce HMOs' aggregate medical expenditure by 2% per annum.

The idea of switching, or a lack thereof, having an impact on competition has been put forward by a number of authors, including Dudley (1982) and Waterson, (2001). The argument in this case is that if consumers are reluctant to switch then this reduces the effectiveness of competition, and that it might be the case that regulation to encourage competition, which traditionally targets firms rather than consumers, might therefore be less effective at achieving its aims. However, while Dudley (1982) argues that consumer inertia would help incumbents to deter entry and increase profitability, in the case of health insurance the incumbent would more likely suffer if it were left with a less profitable customer base, i.e. a higher proportion of high-risk insured lives.

As mentioned in Section 2.3, the level of switching in the Irish private health insurance market, at 10% in total by late 2007 (HIA, 2008c) is relatively low. This can be put into perspective by examining the Dutch health insurance market, although care should be taken in comparing the two, as the Dutch market underwent significant reform in 2006. Mosca & Schut-Welkzijn (2008) find that between 1 January 2006 and 1 March 2006, when consumers had the option of staying with their existing health insurer or switching to a new one, 26% of consumers in a sample of 2,172 insured persons switched insurer, and that those who were more likely to switch were younger consumers, more educated people, those in good or

excellent health and those on higher incomes, while those who had contact with their health insurer in the previous 12 months were less likely to switch.

Van de Ven & Schut (2009) suggest that the switching rate in the Netherlands in 2006 was 18%, although they note that since 2007 switching rates have dropped to around 4%. Although the 2006 rate reflects significant reforms in the Dutch health insurance system, a stabilisation of switching at around 4% per annum would still be significantly higher than the rate of switching found in the Irish market by the HIA surveys (HIA, 2003a, 2005a, 2008c). The findings of Buchmueller & Feldstein (1996) that 3-6% of consumers switched plans in the University of California in a single year, despite the absence of cost savings, would also suggest that the Irish switching rate is relatively low.

Risk equalisation in the Irish private health insurance market was introduced to support community rating by discouraging risk selection. The literature suggests that risk adjustment (of which risk equalisation is a form) can combat risk selection and/or adverse selection, which might also be an issue for the Irish market.

A number of authors have highlighted the importance of risk adjustment in this regard. One such author is Newhouse (1998), who suggests that the need for risk adjustment stems from community rating, which gives insurers incentives to risk select (a suggestion also put forward in the Irish context by Nolan, 2005). However, Pauly (1984) argues that, under the circumstances outlined by Newhouse

(1982), the problem is not cream-skimming (risk selection) but rather adverse selection. He also argues that cream-skimming will only occur because of regulation (in the form of community rating).⁶⁶ In this regard, he suggests that efficiency may only be achieved by sacrificing equity, although he questions whether the notion of high-risk individuals paying more for insurance than low-risk individuals is inequitable. In an earlier paper (Pauly, 1970), he suggests that community rating leads to a welfare loss relative to experience rating.

The idea of regulatory regimes that place restrictions on the pricing of insurance policies – of which community rating would be one – inducing risk selection and adverse selection has also been put forward by, among others, Mossialos & Thomson (2002a) and Maynard & Dixon (2002), the latter of whom also note that, in the absence of appropriate regulation, market segmentation, cream skimming and the exclusion of vulnerable groups could undermine social objectives. Van de Ven & Ellis (2000) also note that, while community rating gives insurers less opportunity to engage in risk selection, it increases the incentives for such behaviour, an idea also put forward by Dowd & Feldman (1985).

It should be noted at this point that risk selection and adverse selection are not entirely separate. Indeed, there can be significant interaction between the two forms of selection, as pointed out by McCarthy et al (1995), who suggest that risk selection can be used by insurers as a defence against adverse selection by consumers, which

⁶⁶ Hartedny (1994) also argues that community rating and guaranteed issue distort the market for health insurance and can contribute to making insurance less affordable for younger people.

could threaten their financial solvency. Van de Ven & Ellis (2000) suggest that insurers could use adverse selection as a tool for engaging in risk selection, by designing plans in such a way as to encourage high-risk consumers and low-risk consumers to self-select into different plans. Meanwhile, Shewry et al (1996) note, in the context of The Health Insurance Plan of California, that “individual choice is likely to exacerbate any nonrandom risk segmentation that is occurring.” (Shewry et al, 1996: 172).

The role of the regulatory system is also examined in the case of the Swiss and Dutch (pre-reform in 2006) private health insurance systems (Van Kleef, Beck, Van de Ven & Van Vliet, 2008). In both systems, community rating, open enrolment and risk equalisation are operated, and insured persons have the option of a deductible (in return for a lower premium, or a premium rebate as it is described). Van Kleef et al (2008) find that, in the absence of risk equalisation, insurers are forced to incorporate differences in expenditure between low-risk and high-risk groups into the premium rebate given to consumers who opt for a deductible. With risk equalisation, the effect of self-selection on the premium rebate will be smaller, as these differences are adjusted for via the equalisation payments. However, the paper notes that it is unlikely that the Swiss and (pre-reform) Dutch systems fully adjust for self-selection.

While these results arise from an examination of the markets in Switzerland and the Netherlands, they are also relevant for Ireland, where risk equalisation was – and

may again be in the future – in place in a market characterised by community rating and open enrolment and where some health insurance plans offer consumers the option of having deductibles (or excesses, as they are more commonly known in Ireland).

Irish policy-makers appear to have accepted that some form of risk adjustment is essential in the Irish private health insurance market, given its three ‘pillars’ of community rating, open enrolment and lifetime cover. The fact that risk equalisation has not been successfully implemented casts some doubt on the stability of the market in these circumstances, as acknowledged by Nolan (2006).

The government’s view that risk equalisation is essential to underpin community rating stems partly from the conclusions of the report of the Advisory Group set up by the then Minister for Health to report on the risk equalisation scheme (Advisory Group to the Minister for Health on the Risk Equalisation Scheme, 1998). This report also examined the options of a retrospective and prospective system, and concluded that a retrospective system, which formed the basis of both the 1996 scheme and the 2003 scheme in Ireland, was the most practical method. This was in contrast to the Society of Actuaries in Ireland (2002), which recommended the use of a prospective system of risk equalisation.

In an international context, it would appear that risk equalisation often accompanies community rating and open enrolment. Parkin & McLeod (2001) find examples of

17 countries (including Ireland) where risk equalisation takes place (although some of their examples refer to public healthcare systems, such as the National Health Service in the UK) and only one country – South Africa – where community rating operates in the absence of risk equalisation. It should be noted however, that risk equalisation was not on the statute books in Ireland at that time, although a new risk equalisation scheme had been proposed at the time. It is also worth noting that work is currently under way on a proposed risk equalisation scheme in South Africa.

From a review of literature in the area, it would appear that there is a general, though not unanimous, view that risk selection is undesirable, as it distorts the market and prevents a competitive outcome. Risk selection may not always be obvious, and there are subtle ways in which insurers can overcome legal impediments to risk selection, such as community rating and open enrolment. Indeed, while these two regulatory practices are designed to reduce the opportunity for risk selection, they are seen in many cases as increasing the incentive for such behaviour. In the regulatory context, it would also appear that the regulation of firms in the market might not be sufficient to eliminate selection effects, as consumer inertia and switching patterns play an important role. There is also a significant body of literature advocating some form of risk adjustment mechanism in order to combat risk selection.

4.2.2 *Adverse Selection*

While risk selection entails insurers trying to attract low-risk individuals and avoid high-risk individuals, adverse selection refers to the situation whereby higher-risk consumers prefer more comprehensive insurance cover, and are willing to pay more for it, while lower-risk consumers tend to opt for less expensive, less comprehensive cover. This can widen cost differentials between plans offering the two types of cover.

Adverse selection can arise when there is an information asymmetry between insurers and consumers, with the latter having greater knowledge about their health status than the former. In a seminal paper on information asymmetry and its effects on the market mechanism, Akerlof (1970) shows how information asymmetry can reduce the size and quality of markets or, in extreme cases, cause market collapse. He then shows how these principles can be applied in the market for health insurance, where, as the price rises, the average health status of the insured population decreases, as only the sickest or those at high risk of falling ill would be willing to pay higher prices for insurance. In the extreme case, this could lead to no insurance being sold at all.

In many markets, health checks are not required before a health insurance contract is issued. This leaves insurers with only broad indicators of the health status of actual or potential enrollees, the main ones being age and gender. This allows insurers to

place enrollees in broad categories of risk status, but in community rated markets even this may not be reflected in the premiums that an insurer can charge. Dionne & Lasserre (1985) suggest that, under adverse selection in insurance markets, an insured person has no incentive to reveal his/her true risk, which is costly for an insurer to observe.⁶⁷

Rothschild & Stiglitz (1976), in a seminal paper, note that in the presence of imperfect information, a competitive equilibrium may not exist, and even if it does, it may have unusual properties. They show that, in order for equilibrium to occur, high-risk and low-risk consumers must purchase separate insurance contracts. Equilibrium may not exist if the costs to low-risk individuals of pooling with high-risk individuals are low or if the costs of separating are high. Furthermore, even if equilibrium does exist, the negative externality imposed by high-risk individuals on low-risk individuals means such equilibrium may not be Pareto-efficient.

This idea of a separating equilibrium has implications for the idea of community rating, as such a rating regime requires low-risk consumers to pool their risks with high-risk consumers in order to keep insurance affordable for the latter group.

Altman et al (1998) introduce the concept of adverse retention alongside adverse selection. Adverse retention is the tendency for people who do not switch plans to

⁶⁷ They also suggest that, with multi-period contracts, an insurer can detect cheating and can induce an insured person to reveal his/her true risk in the first period. However, this is of limited use in a community rated market, as the insurer would not be in a position to adjust premiums to reflect the true risk of an insured person.

magnify cost differentials between plans, especially as costs are non-linear with age. One of the factors that the authors suggest will affect the extent of adverse retention is the length of time for which the plans have been offered. The last factor suggests that if people do not switch plans to any great extent then adverse retention will drive up the costs of older plans relative to newer ones.

Newhouse (1994) also takes up this point, noting that new insurers tend to appeal more to people who do not already have insurance or those more likely to switch, both categories of which would tend to be relatively healthy. Price & Mays (1985) also note that one possible factor that could give rise to adverse selection is if one plan is older and thus has an older mix of enrolees. Industry Commission (1997) notes that, in practice, risk equalisation means that claims costs of older established funds with a higher proportion of elderly members are shared by newer funds, which suggests that the latter tended to have relatively lower risk profiles. The idea of adverse retention is particularly relevant to the Irish case, given that Vhi Healthcare was operating in the Irish private health insurance market for 40 years before its first competitor.

A recurring theme in the literature on adverse selection is the potential for a ‘death spiral’ to manifest itself. This refers to the situation whereby an insurer with a higher risk profile (a higher proportion of high-risk insured lives and/or a lower proportion of low-risk insured lives) must raise premiums in order to cover the higher risk (and thereby higher claim costs), which increases the differential between

its premiums and those of another insurer with a lower risk profile. As the difference in premiums widens, those most likely to switch from the more expensive insurer are lower-risk lives, who would prefer lower cost cover.⁶⁸ This would further accentuate the difference in risk profiles, which would result in a further widening of the premium differential, and so on. In the extreme case, if not corrected, this could lead to the insurer with the higher risk profile being forced to withdraw from the market.

The possibility of a death spiral occurring in the Irish private health insurance market has been raised in the debate on risk equalisation in recent years. YHEC (2003) acknowledged the theoretical possibility that a death spiral could occur in the Irish private health insurance market. The Society of Actuaries in Ireland (2002) also argued that the private health insurance market in Ireland was potentially unstable at that time, irrespective of risk equalisation, as a significant proportion of the population was taking out private health insurance, despite being entitled to public hospital care. They note that the market might appear to have been stable since 1994, due to the increase in overall take-up, which might reflect deteriorating perceptions of the public system and growth in numbers employed.

⁶⁸ This has been found to be the case in practice. For example, Buchmueller (2006) cites research that suggests a greater degree of price-sensitivity on the part of younger consumers than older consumers, which contributes to adverse selection against plans favoured by the latter group. Ellis (1985) finds that demographic factors explain some of the choice between (less generous) HMO and (more generous) non-HMO plans, and within non-HMO plans. However, prior expenditure patterns significantly improve the explanation of non-HMO plan choice, as well as future expenditure. In particular, expenditure on categories of treatment that are better predictors of future expenditure in those categories (e.g. prescription drugs) are better predictors of health plan choice than expenditure on categories that are not as highly serially correlated (such as inpatient care).

This argument has also been made by advocates of risk equalisation, including Vhi Healthcare, who have suggested that instability in the market due to adverse selection and/or risk selection has been masked by the overall increase in private health insurance take-up as household incomes rose, driven by Ireland's economic growth in the late 1990s and early part of this decade. Sommerville (1998) suggests that growth in membership, combined with the fact that new members tend to be younger than average, protected Vhi Healthcare from the full impact of an ageing membership on claim costs up to the mid-1990s, but speculated that the advent of competition might reduce this insulating effect.

Opponents of risk equalisation, such as BUPA Ireland, have argued however that an adverse selection death spiral is not a realistic proposition in the Irish market, citing as evidence the fact that Vhi Healthcare's membership has grown since the market was deregulated.

However, as reported by Donnellan (2009), Vhi Healthcare's membership has begun to fall as the recession in Ireland has led to discontinuation of coverage and switching to lower cost insurers. In this context, it is worth noting that the Society of Actuaries in Ireland (2002) suggested that, in the event of a market contraction of, say, 5% a year for three or four years, in the absence of risk equalisation, the effect on an insurer with a poorer risk profile could be disproportionate to the reduction in the size of the market and that a death spiral could happen quite quickly.

Although an adverse selection death spiral is a theoretical risk, insurers tend not to be forced out of markets due to death spirals. However, a number of empirical studies, such as Altman et al (1998), Cutler & Zeckhauser (1997) and Cutler & Reber (1998), show how adverse selection can lead to a death spiral at plan level, where more comprehensive plans had to be withdrawn after consumers were given a choice between them and less comprehensive plans, or after changes in the way these plans were subsidised.

Buchmueller (2006) notes two examples of health insurance reforms which resulted in overall reductions in health insurance costs to the University of California and Harvard, but at the expense of adverse selection death spirals for the more expensive plans. Monheit, Cantor, Koller & Fox (2004) also find that enrolment patterns in New Jersey's Individual Health Coverage Program (IHCP) from 1994-2001 are consistent with an adverse selection death spiral. However, they note that the causality is difficult to identify, partly due to a number of complicating factors. These include pricing incentives inherent in the IHCP regulatory structure, institutional changes in New Jersey's regulated health insurance products, and improved economic circumstances (which meant that more people could get employer-sponsored health insurance coverage).

Adverse selection has also been found in other markets, such as Australia (Barrett & Conlon, 2001) and Switzerland (Gardiol, Geoffard & Grandchamp, 2005). Luft, Trauner & Maerki (1985) also found evidence of adverse selection in the California

Public Employees' Retirement System (CALPers), while Dowd & Feldman (1985) and Dowd, Feldman, Cassou & Finch (1991) find evidence of adverse selection in the Twin Cities health plan market in Minnesota.

Not all empirical studies find evidence of adverse selection, however.⁶⁹ A private health insurance market that has been the subject of much discussion regarding a death spiral was that of New York in the 1990s. In the early 1990s, Empire Blue Cross/Blue Shield was effectively the insurer of last resort in the New York market, and was obliged to offer plans on the basis of open enrolment, while its competitors were not subject to open enrolment requirements. Largely as a result of financial difficulties experienced by Empire Blue Cross/Blue Shield, the New York Health Care Reform Act, 1993 was passed, which mandated that private health insurance be sold on the basis of community rating, open enrolment and lifetime cover. A risk adjustment scheme was also introduced. Buchmueller & DiNardo (2002), Buchmueller (2006) and Hall (1998) all argue that the introduction of community rating in New York did not result in an adverse selection death spiral, although it did lead to a reduction in the overall amount of insurance purchased in the market and, as Hall (1998) finds, it also led to the withdrawal of a number of plans.

Newhouse (1984) and Thomasson (2002) also find mixed evidence of adverse selection effects and the causation of death spirals. A number of simulations of insurance markets however, including Browne (1992), Feldman & Dowd (1982) and

⁶⁹ Berki & Ashcraft (1980), having reviewed the literature in relation to HMOs and non-HMOs, state that the evidence on adverse selection is mixed, although on balance it does tend to indicate the presence of adverse selection.

Marquis (1992), found that adverse selection will manifest itself in markets with low-risk and high-risk consumers.

In the Irish context, Somerville (1998) argues that the evidence suggests that intergenerational adverse selection had not occurred in Ireland to any great extent up to the mid-1990s. However, he speculates that if adverse selection becomes dominant, then some high-risk groups might be excluded from insurance, despite the presence of community rating. He notes that the maximum age for admission to insurance is some defence against this, but that the high maximum means that it is a weak defence.⁷⁰

Another market with community rating, similar to Ireland, is Australia. Brown III & Connelly (2005b) and Connelly & Brown III (2006) suggest that the move from single rate community rating to lifetime community rating in Australia, while it raised the overall membership numbers and improved the overall risk profile of the insured population, did not fully address the adverse selection issue in Australia. They suggest that an adverse selection death spiral has recommenced in Australia since the introduction of lifetime community rating.

This suggests that adverse selection is perhaps an inherent phenomenon in health insurance markets. One possible explanation for this is offered by Chernew, Cutler

⁷⁰ At that time, the maximum age for admission to health insurance (or, strictly speaking, the maximum age at which insurers were obliged to accept applicants) was 65, but this maximum was removed in 2005. This would presumably, following Somerville's argument, further weaken the defence against adverse selection.

& Keenan (2005), who suggest that it is possible that rising premiums might increase the incentives for low-risk lives to separate from high-risk lives in the risk pool, which would be consistent with the idea of a separating equilibrium as put forward by Rothschild & Stiglitz (1976). This adverse selection behaviour, according to Chernew et al (2005) could potentially lead to the market unravelling. In this context, it is worth noting that rising premiums have been experienced in many markets, including the US (about which Chernew et al, 2005 were writing) and also Ireland. Meanwhile, Dowd & Feldman (1985) argue that biased selection is not necessarily a short-term phenomenon that will be corrected as the population in less generous plans ages. Furthermore, Farley & Monheit (1985) suggest that the presence of multiple health insurance options would exacerbate selection effects. This has relevance in the context of the growing number of plans available in the Irish private health insurance market, as mentioned in Section 2.3.

However, some authors have questioned whether adverse selection is in fact a problem. Ginsburg (1985) argues that biased selection goes together with rational choice, and that, as insured persons gain a greater understanding of their options, adverse selection is likely to increase over time.

Pauly (1985) argues that adverse selection would not be a problem if community rating and easy switching between policies can be avoided. He questions whether adverse selection really leads to any inefficiency in the market, and suggests that inefficiency, in the form of low-risk consumers under-insuring, actually arises from

the information asymmetry between insurers and consumers. YHEC (2003) also suggested that the potential for adverse selection to destabilise the market is greater under community rating, while Buchmueller (2006) also suggests that community rating contributed to the death spirals experienced in the University of California and Harvard.

Feldman (1987) also notes that community rating is seen as a solution to the problem of adverse selection, but he questions whether adverse selection disequilibrium actually exists. He also notes that an absence of risk rating is likely to lead to three sources of market failure – moral hazard, a cross-subsidisation of high-risk lives by low-risk lives, and less than optimal spending on health promotion.

Van de Ven et al (2000) point out that premium rate restrictions – of which community rating would be a form – can lead to selection effects and they note that “in order to eliminate the adverse effects of the selection induced by the rate restrictions, these restrictions have to be supplemented with an adequate risk-adjustment mechanism.” In this context, they find it “remarkable to read so many reports and proposals with respect to premium rate restrictions *without* any reference to a risk-adjustment mechanism.” However, they note that “in most of the risk-adjustment literature it is not well recognized that the selection problems are caused by the premium rate restrictions.” (Van de Ven et al, 2000: 337, emphasis in original).

The idea that community rating creates incentives for adverse selection, particularly in the Australian context, is also noted by Industry Commission (1997), which notes the importance of risk adjustment (or reinsurance as it was then known in Australia) as a stabiliser of community rating, concluding that “in the absence of reinsurance, it is the existence of the community rating regulation which would most negate the principle of community rating.” (Industry Commission, 1997: 441-442)

A review of the literature on adverse selection finds that it results from information asymmetry favouring consumers over insurers and can lead to a reduction in the amount of insurance sold in the market. It can also interact with the phenomenon of adverse retention, which would act to put older insurance plans at a disadvantage relative to newer ones. In extreme cases, it can lead to a ‘death spiral’, whereby risk profile differences lead to an insurer with an unfavourable risk profile withdrawing from the market. However, the available evidence suggests that this has not happened at an insurer level, although it has occurred at a plan level. Evidence from Ireland and Australia suggest mixed experiences with adverse selection. It has been argued that community rating increases the incentive for adverse selection, and that as a result further regulatory intervention – possibly in the form of a risk adjustment mechanism – may be needed to counteract the effect of community rating on the market. However, some authors have questioned whether adverse selection is in fact a problem.

4.3 Adverse Selection and Risk Selection in the Irish Context

The Irish private health insurance market lends itself to an examination of whether adverse selection and/or risk selection are evident. This is due to the structure of the market and the nature of the products sold in the market.

Most health insurance plans available in the market – those which cover hospital treatment – are structured in similar ways (although some now integrate significant non-hospital cover), largely as a result of the minimum benefit regulations. These specify prescribed minimum benefits that any qualifying health insurance plan in Ireland must provide. The broad categories of benefits covered include hospital charges (for inpatient and day-patient services), hospital treatment for listed procedures and out-patient benefits. The structure of the prescribed minimum benefits has been described by Centura Health Administration Ltd. (later VIVAS Health) as stifling innovation, and in their view the regulations mean that “Competitors and potential competitors are forced to imitate the products of the single dominant insurer.” (Centura Health Administration Ltd., 2004: 3).

The majority of plans available in the Irish private health insurance market (those that provide hospital-based benefits or a combination of hospital-based and ancillary benefits) can therefore be examined on the basis of hospital treatment and hospital accommodation. In the 2003 and 2005 consumer surveys carried out on behalf of the HIA (HIA, 2003a, 2005a), approximately three-quarters of insured respondents

said that hospital treatment was the most valued element of their cover, with hospital accommodation a distant second (11% of respondents to both surveys cited this as the most important element).⁷¹ In the 2008 survey (HIA, 2008c), respondents with health insurance were asked to rank the elements of their cover in order of importance. The highest rank was given to receiving hospital treatment as a private patient under a consultant. Receiving out-patient treatment as a private patient was ranked second highest, while the quality of hospital accommodation was ranked third.⁷²

If an insurer has a fully participating agreement with a particular hospital consultant, in which case the consultant accepts the insurer's payment as full payment for services delivered and there is no balance billing of the patient, then a customer of that insurer is covered for treatment by that consultant irrespective of which level of hospital plan they are on. Each of the three insurers has fully participating agreements with the vast majority of consultants. The three insurers also cover broadly similar numbers of hospitals. In particular, they each cover the major acute hospitals in Ireland.

Therefore the main differentiating factor between plans is the level of hospital accommodation covered. Each of the three insurers in the market offers a number of

⁷¹ Similar issues were found in research carried out by the Economic and Social Research Institute, and reported in Harmon & Nolan (2001) and Nolan & Wiley (2000). This research showed that the two most important factors leading Irish consumers to purchase private health insurance were fear of large medical bills and being sure of getting into hospital quickly when treatment is needed, with 88.5% and 86.4% of respondents, respectively, citing these as very important. By comparison, only 27.8% cited being able to have a private or semi-private room in hospital as being very important.

⁷² A partial refund of GP fees was ranked fourth, while receiving maternity care as a private patient was ranked fifth.

plans covering different levels of hospital accommodation, from a semi-private room in a public hospital to a private room in a high-tech hospital (see Section 4.3.1). Plans covering a similar level of hospital accommodation (for example, a private room in a public hospital and a semi-private room in a private hospital) are therefore broadly comparable, as they would also provide cover for similar numbers of hospitals and consultants. Although there would be some differences (particularly in non-hospital cover) between plans providing similar levels of cover for hospital accommodation, these differences would likely not be sufficient to attract large numbers of consumers to one plan over another, as the two main categories of hospital treatment and hospital accommodation would be similar.

4.3.1 Statistical Analysis

An initial review of the data on risk profiles in Ireland, using the consumer surveys commissioned by the HIA and published in 2003 and 2005 (HIA, 2003a, 2005a), provides some interesting results.⁷³ The first survey consisted of a nationally representative sample of 1,001 consumers, of whom 47% were covered by private health insurance. The second involved an initial, nationally representative, sample of 1,002 consumers, of whom 52% were covered, as well as a booster sample of

⁷³ The analysis in this Chapter is based on risk profiles found in surveys carried out on behalf of the HIA. Data relating to risk profiles were requested from the three insurers operating in the Irish market but these requests were refused on the grounds of commercial sensitivity.

consumers who had switched insurer. The results presented in this chapter include this booster sample.⁷⁴

The HIA produces comparisons of plans across insurers (available at http://www.hia.ie/sec4_consumer_information) in order to assist consumers in making more informed decisions about which plan to purchase. Using these comparisons, it is possible to equate plans with broadly similar levels of cover. As noted above, there are some differences in cover between similar plans, but broad comparisons can be made in terms of hospital accommodation in particular. Table 4.1 shows a comparison of BUPA, VHI and VIVAS plans that were offered at the time of one or both of the HIA surveys⁷⁵, ranked by the highest level of hospital accommodation that would be fully covered under the plan.⁷⁶

If adverse selection were present in the market, it would be expected that plans which provide a lower level of cover, in terms of hospital accommodation, would attract a higher proportion of low-risk consumers, while plans providing more comprehensive cover (e.g. private rooms, access to the high-tech hospitals⁷⁷, etc.) would attract a higher proportion of high-risk consumers, who would be more likely

⁷⁴ The raw data from the 2008 survey (HIA, 2008c) was requested but the data received did not include most of the socio-demographic variables. Therefore, the detailed analysis in this chapter could not be carried out on the 2008 data set.

⁷⁵ Other plans have been launched since then but these have not been included in the table. Some of the plans listed in this table have since been closed to new subscribers.

⁷⁶ Higher levels of hospital cover would be partially, but not fully, covered.

⁷⁷ The Blackrock Clinic, the Mater Private and the Beacon Hospital in Dublin are considered high-tech hospitals, which specialise in acute care of serious and complex conditions. Some plans also only provide limited cover for the Galway Clinic.

to be hospitalised, or may have a higher probability of requiring treatment in one of the high-tech hospitals.

Table 4.1 Comparison of Health Insurance Plans by Hospital Accommodation Provided

Cover Level	Hospital Accommodation	BUPA Plan	VHI Plan	VIVAS Plan
1	Semi-private room in a public hospital	Essential	Plan A/A Option	Me, I and We Plans Level 1
2	Private room in a public hospital		<i>First Plan, Family Plan</i>	
3	Private room in a public hospital or semi-private room in a private hospital (excluding high-tech hospitals)	Essential Plus (with/without excess)	Plan B/B Option/B Excess, <i>First Plan Plus, Family Plan Plus, Company Plan, Company Plan Plus</i>	Me, I and We Plans Level 2, Teachers Plan, Nurses Plan
4	Private room in a public hospital or private room in a private hospital (excluding high-tech hospitals)	<i>Health Manager Starter,</i> ⁷⁸ <i>Health Manager</i>	Plan C/C Option, <i>Forward Plan</i>	I and We Plans Level 3, Teachers Plan Plus, Nurses Plan Plus
5	As Level 4 or semi-private room in a high-tech hospital		Plan D/D Option	I and We Plans Level 4
6	As Level 4 or private room in a high-tech hospital	Essential Gold, ⁷⁹ <i>Health Manager Gold</i>	Plan E/E Option	I and We Plans Level 5

Note: Plans in italics also provide significant cover for ancillary (non-hospital) services

Table 4.2 shows a comparison of plans in terms of the average age of respondents to the 2003 survey who said they were covered by that plan. Also included is a

⁷⁸ A limited number of private hospitals are covered by this plan.

⁷⁹ Essential Gold was closed to new subscribers in 2004. However, respondents were found in both surveys who had this plan.

comparison of the claims experience of respondents on the plans. The number of respondents covered by each plan is also included. In some cases a small number of respondents were covered by particular plans, so care should be taken in interpreting the findings for these plans.

Table 4.2 Average Age and Claims Experience by Plan, 2003

Plan	Cover Level	Average Age	% of respondents on plan who had made a claim	Average no. of claims per claimant on the plan	No. of respondents on the plan
Essential	1	34	25.0%	2.50	8
Essential Plus	3	38	48.6%	2.75	35
Essential Gold	6	47	0.0%	0.00	1
Don't know which BUPA plan	N/A	40	19.0%	2.50	21
Plan A/A Option	1	44	66.7%	3.33	21
Plan B/B Option	3	43	60.9%	3.98	276
Plan C/C Option	4	45	59.1%	4.00	22
Plan D/D Option	5	58	100.0%	6.20	11
Plan E/E Option	6	51	80.0%	4.50	5
Plan P, Other VHI, Don't know which VHI Plan	N/A	35	29.4%	2.87	51
Other Insurers	N/A	42	48.0%	5.33	25
Overall		42	54.6%	3.91	476

Broadly speaking, the average age of respondents with more comprehensive plans was higher than that of respondents with plans providing less comprehensive cover. This suggests that younger consumers are more likely to take out less comprehensive plans than older consumers. This would be consistent with adverse selection on the

part of consumers. Furthermore, there is some evidence that the likelihood of claiming is higher among consumers who are covered by more comprehensive plans.

It also appears that the average number of claims made per claimant is higher on the more comprehensive plans than on the less comprehensive ones. However, when the number of claims per year insured is examined, there is no clear trend evident, suggesting that at least part of the reason why those on more comprehensive plans have claimed more often is the fact that they have been insured for longer. The differential claims frequency between less and more comprehensive plans might indicate moral hazard rather than adverse selection, although it is unlikely that significant numbers of people would increase utilisation solely on the basis of better accommodation in hospital, which might not be forthcoming in any case, depending on room availability. Overall however, the table suggests at least a possibility that adverse selection might be present in the market.

A comparison of broadly similar plans between BUPA and VHI suggests that there may also be a certain degree of risk selection in the market. Consumers on VHI plans (red font) tend to have a higher average age than those on comparable BUPA plans (blue font). Furthermore, the proportion of respondents on the VHI plans who made claims is higher than that for the comparable BUPA plans, as is the average number of claims made per claimant, although again this is less clear when the number of claims per year insured is examined.

It would appear from the evidence above that risk selection may be present in the market, with BUPA having a more favourable risk profile than VHI. However, it should be noted that average age is not necessarily an accurate measure of the average risk posed by subscribers to different plans; rather the distribution of members by age would be more accurate.

Table 4.3 Average Age and Claims Experience by Plan, 2005

Plan	Cover Level	Average Age	% of respondents on plan who had made a claim	Average no. of claims per claimant on the plan	No. of respondents on the plan
Essential	1	40	42.9%	2.83	15
Essential Plus	3	44	55.9%	3.14	59
Essential Gold	6	49	60.0%	4.00	5
Health Manager Starter	4	38	57.1%	2.75	7
Health Manager	4	41	66.7%	1.60	9
Health Manager Gold	6	45	100.0%	1.50	2
Don't know which BUPA plan	N/A	42	33.3%	2.17	19
Plan A/A Option	1	44	63.3%	4.33	30
Plan B/B Option/B Excess	3	46	70.8%	3.79	260
Plan C/C Option	4	50	70.4%	5.85	28
Plan D/D Option	5	51	88.9%	2.83	19
Plan E/E Option	6	46	100.0%	3.00	6
Plan P, Other VHI, Don't know which VHI plan	N/A	38	59.3%	4.21	66
Other Insurers	N/A	40	65.6%	6.56	33
Overall		44	65.8%	3.86	561

The results from the 2005 data are presented in Table 4.3 and show similar trends, although less pronounced in the case of risk selection by age. The results for the

VIVAS respondents are excluded from this table, as there was only one respondent found in each of three different VIVAS plans.

4.3.2 *Econometric Results*

Having examined the data, as discussed above, the next step was to model the data econometrically to ascertain whether the same trends were evident.

4.3.2.1 Adverse Selection

In order to test for adverse selection, it was decided to use the level of cover as the dependent variable, with plans ranked by reference to the level of hospital accommodation provided, since this is one of the main differentiating factors between plans, as noted earlier.⁸⁰ Table 4.1 above shows the ranking on this basis. Given the qualitative and ordered nature of the dependent variable, an ordered logit model was used.⁸¹

⁸⁰ It could be argued that this analysis only tests for one form of adverse selection, being that which takes place once a decision has been made to insure. Adverse selection might also take the form of higher risks deciding to insure against medical expenses, while low risks decide not to insure. This could be described as adverse selection ‘against’ the market, while the adverse selection being tested for here involves adverse selection ‘within’ the market. It could further be argued that there is a three-stage choice evident. The first stage is the decision on whether or not to insure. The second stage, conditional on the outcome of the first stage being to insure, is the decision on what level of cover to take out, which is what is being tested for in this Section. The third stage then, conditional on deciding to insure and deciding on the level of cover, is the decision on which insurer to choose, which is analogous to the risk selection analysis in Section 4.3.2.2.

⁸¹ For an accessible discussion of ordered logit models, see DeMaris (1995) and Maddala (1983). For a review of models involving selection, particularly related to health insurance, see Maddala (1985).

Two main measures of the risk posed by an insured person to an insurer are an age/gender combination and some measure of utilisation. Therefore, for each data set (2003 and 2005), these risk variables were grouped together. The age/gender variables were the age of the insured person (AGE), a dummy variable (DUMMALE) set to 1 if they were male and 0 if they were female, and an interaction variable (AGEMALE), which is the product of the person's age and the gender dummy. The measures of utilisation available from the data are a dummy for whether any claims had been made on the respondent's policy, either for themselves or another named person (DUMCLAIMED), and the number of claims made (NUMCLAIMS). The length of time covered under the policy (YEARSCOVERED) was also included to account for the possibility that the number of claims made, and the likelihood of claiming, would increase with length of time covered.

It is possible that, as income rises, people can better afford more comprehensive cover, which could have an impact on their choice. In addition to the risk variables therefore, it was decided to include variables to try to account for income. The choice of these variables was restricted by the data set, as income level was not explicitly measured. However, level of education achieved (EDUCATIONLEVEL) and social class (SOCIALCLASS) were used as proxy variables for income. It could be reasonably expected that, *ceteris paribus*, a more educated person (reflected in a higher value for EDUCATIONLEVEL) would command a higher income than a less educated person⁸², while a person in the higher social classes, such as AB (reflected in a lower value for SOCIALCLASS) would also have a

⁸² Evidence for this effect was found by, for example, Cheeseman Day & Newburger (2002).

higher income than someone in a lower social class. However, social classes F50+ and F50- (farmers with large and small land holdings, respectively) might contain a broader range of income than the other social classes.

Finally, a number of other, miscellaneous variables were added to the regressions. A dummy for whether the respondent had a medical card (DUMMEDICALCARD) was included to test whether the possession of such a card, and therefore the entitlement to free access to the public healthcare system, would lead the card holder to opt for a lower level of cover. An alternative explanation for a negative coefficient on this variable would be that many medical card holders qualify for such cards on the basis of having a low income and might therefore choose a lower level of cover on the basis of affordability (although, from 2001 to 2008, which incorporates the two surveys from which the data were taken, anyone over the age of 70 also qualified, irrespective of income).

Two variables were included to test for the significance of life-stage in the decision on the level of cover to opt for. The first was a dummy variable for being married (DUMMARRIED), set to 1 if the person was married or living as married and 0 if they were single or widowed/divorced/separated. The second was the number of children on the plan (CHILDRENONPLAN). If these variables are significant and have positive coefficients, then it would indicate that those with a spouse/partner or those with children tend to opt for a higher level of cover than single people with no dependents. Again, this behaviour would be consistent with adverse selection, as

those with dependents would bear higher risk if they became ill than those without, while the number of children on a plan would also increase the risk that such a policy unit would represent to an insurer, due to the increased likelihood of a claim being made on that policy.

Another variable included was an indicator of the price sensitivity of the consumer (PREMIUMDISCONT). Respondents to the HIA surveys who had health insurance were asked whether they would discontinue their cover if premiums were to rise on an annual basis by 10%, 20%, 30% and so on in increments of 10 percentage points, up to 100%. This variable reflects the level of annual premium increases that would be required for the respondent to discontinue cover. A positive coefficient on this variable would indicate that more price-sensitive consumers tend to opt for lower levels of cover, while less price sensitive consumers opt for more comprehensive cover.

In the 2005 survey, respondents were asked whether they had various other types of health-related insurance products (cash plan, critical illness policy, permanent health insurance or any other health-related insurance product). A dummy variable (DUMANYOTHERINS) was included in the regression using the 2005 data, set to 1 if a respondent had any of these types of insurance and 0 if they had none. Those who have such other products in addition to private health insurance might be considered more risk-averse. Therefore, a positive coefficient on this variable would indicate that more risk-averse individuals tend to opt for higher levels of cover,

possibly because they may have information about their own state of health that would indicate a higher risk to insurers. This might therefore be indicative of the presence of adverse selection.

For each data set (2003 and 2005), three regressions were run. The first included the age/gender and utilisation variables only. The second added the income proxy variables, while the third also included the ‘other’ or miscellaneous variables described above. The regressions run were therefore of the form

$$y_i^* = x_i' B + \varepsilon_i \quad (\text{Equation 4.1})$$

$$y_i^* = x_i' B + z_i' \Phi + \varepsilon_i \quad (\text{Equation 4.2})$$

$$y_i^* = x_i' B + z_i' \Phi + m_i' \Psi + \varepsilon_i \quad (\text{Equation 4.3})$$

Where

y_i^* is a vector of the dependent variable, i.e. the ordered maximum level of hospital accommodation fully covered by the plan, as set out in Table 4.1

x_i is a matrix of age/gender and utilisation variables

z_i is a matrix of income proxy variables

m_i is a matrix of the other, miscellaneous variables

B , Φ and Ψ are vectors of coefficients

ε_i is a vector of error terms

It should be noted that the observed y_i is determined from y_i^* using the rule

$$y_i = \begin{cases} 0 & \text{if } y_i^* \leq \gamma_1 \\ 1 & \text{if } \gamma_1 < y_i^* \leq \gamma_2 \\ 2 & \text{if } \gamma_2 < y_i^* \leq \gamma_3 \\ \vdots & \\ M & \text{if } \gamma_M < y_i^* \end{cases}$$

The probabilities of observing each value of y are given by

$$\begin{aligned} \Pr(y_i = 0 | x_i, B, \gamma) &= F(\gamma_1 - x_i' B) \\ \Pr(y_i = 1 | x_i, B, \gamma) &= F(\gamma_2 - x_i' B) - F(\gamma_1 - x_i' B) \\ \Pr(y_i = 2 | x_i, B, \gamma) &= F(\gamma_3 - x_i' B) - F(\gamma_2 - x_i' B) \\ &\dots \\ \Pr(y_i = M | x_i, B, \gamma) &= 1 - F(\gamma_M - x_i' B) \end{aligned}$$

Where F is the cumulative distribution function of ε .

Table 4.4 shows the results of the ordered logit regression using the data from the 2003 consumer survey. The fact that age is significant and has a positive coefficient suggests that younger people tend to take out less generous cover, while older people tend to take out more comprehensive cover, which is consistent with the presence of adverse selection. However, the gender variable and the age/gender interaction variable are both insignificant, indicating that there is no gender effect evident in the choice of cover level. In terms of the utilisation variables, both the dummy variable indicating whether a claim was made on the respondent's policy and the number of claims made were insignificant in all three regressions using the 2003 data, as was the length of time covered, indicating that there is no evident pattern of cover selection based on claims history.

Table 4.4 Results from Ordered Logit Model with 2003 Data Using Level of Cover as Dependent Variable

Variable	Age/Gender and Utilisation Only Equation 4.1	Plus Income Proxy Equation 4.2	Plus Income Proxy and Other Variables Equation 4.3
AGE	0.033843* (0.015520)	0.040020* (0.017089)	0.037228* (0.017911)
DUMMALE	0.482342 (0.945231)	0.524796 (0.937878)	0.542693 (0.921881)
AGEMALE	-0.004378 (0.022227)	-0.005798 (0.022023)	-0.004756 (0.021914)
DUMCLAIMED	0.066600 (0.337783)	0.109845 (0.331664)	-0.015721 (0.347901)
NUMCLAIMS	0.036129 (0.046402)	0.036626 (0.044436)	0.045642 (0.043153)
YEARSCOVERED	-0.005464 (0.017115)	-0.007550 (0.017113)	-0.005448 (0.016720)
EDUCATIONLEVEL		0.121986 (0.128790)	0.142765 (0.126375)
SOCIALCLASS		-0.017106 (0.096425)	0.029780 (0.091377)
DUMMEDICALCARD			-1.031148** (0.608068)
DUMMARRIED			0.618275 (0.380433)
CHILDRENONPLAN			-0.133065 (0.103918)
PREMIUMDISCONT			Not Used
LR Index (Pseudo-R ²)	0.026014	0.028604	0.044845
Included Observations	348	348	348

* = Significant at 5% level; ** = Significant at 10% level

Note: Standard errors reported in parentheses are the QML (Huber/White) standard errors

When the income proxy variables were added to the regression, the results did not change significantly. Age remained the only significant variable and there was no meaningful change in the pseudo-R². However, when the ‘other’ variables were added in, they did have an effect on the results. Age remained significant and

retained its positive coefficient, but the pseudo- R^2 increased from less than 0.03 to almost 0.045.

The negative sign on the medical card dummy suggests that those with medical cards are less likely to take out the most comprehensive level of cover and more likely to take out the most basic level of cover, which is consistent with *a priori* expectations. The life-stage variables were both insignificant. The price sensitivity variable (PREMIUMDISCONT) was excluded from the regression, as when it was included it was highly insignificant, reduced the number of included observations by 47 and led to the regression becoming insignificant.

One of the reasons that those who are less likely to claim would tend to take out less generous insurance coverage would be to save money. However, since the premium is heavily dependent on the level of cover (the simple correlation coefficient between level of cover and premium is 0.86), adding this into the above regression would have been deterministic. It was therefore excluded on this basis.

The relatively low level of explanatory power of the model could reflect the fact that coverage for hospital treatment does not vary significantly between insurers or plans, as mentioned earlier, the main differentiating factor instead being the level of cover for hospital accommodation.⁸³ This would be consistent with Ellis's (1985) finding that minimising differences across plans of features that cause self-selection can

⁸³ Explanatory power for this type of regression also tends to be lower than for many OLS regression, due to the discrete nature of the dependent variable.

reduce such self-selection. As mentioned earlier, to a large extent the choice of plan is not made on the basis of cover for treatment, but rather for the ‘hotel’ aspects of plans (i.e. the type of room), which may be less likely to induce adverse selection. This is also consistent with Ginsburg’s (1985) suggestion that limiting the benefit structures of competing plans will limit adverse selection, since the benefit structures of plans available in the Irish market do not differ significantly in terms of the level of cover for hospital treatment, as mentioned earlier.

The results of similar regressions for the 2005 survey data can be seen in Table 4.5. When using this data set, plans with significant ancillary (non-hospital) cover were excluded from the regressions, in order to ensure that this factor did not mask any adverse selection effects that may be present.⁸⁴ It should be noted however, that this means there were no plans at cover level 2 included in the regressions.

These results are somewhat different from those using the 2003 data. In these regressions, age is insignificant, while the number of years covered is significant and positive. This suggests that, although age is not a determining factor in the choice of cover level, length of time insured is. The simple correlation coefficient between these two variables is 0.53. The coefficients on the gender dummy and the age/gender interaction variable are insignificant for the most part, although the interaction variable is significant at the 10% level in the regression including age/gender, utilisation and income proxy variables. The coefficient on the dummy variable for having claimed is insignificant in all three regressions, while the

⁸⁴ No respondents were found in the 2003 survey who were on plans with significant ancillary cover.

coefficient on the number of claims is significant but negative in the last of the three regressions. This suggests that those who made more claims are less likely to take out the most comprehensive cover and more likely to take out the most basic cover, which is contrary to *a priori* expectations.

Of the two income proxy variables, social class is insignificant in both versions of the regression in which it is included, while education level is significant and positive in both, which would be consistent with the hypothesis that those who can afford more comprehensive cover are more likely to take it out. Of the ‘other’ variables, only the price sensitivity variable is significant, and its positive coefficient suggests that more price sensitive consumers opt for less comprehensive cover, while less price sensitive consumers (perhaps because they are better able to afford cover or because they are knowingly higher-risk consumers) tend to take out more comprehensive cover. This would be consistent with *a priori* expectations.

Again, premium is excluded from the model due to the deterministic nature of the relationship between premium and the level of cover provided. Also, the explanatory power of the regression is again relatively low, suggesting that other factors, not captured in the explanatory variables available here, heavily influence the decision on what level of cover to opt for. However, the inclusion of the ‘other’ variables does increase the predictive power of the regression somewhat.

Table 4.5 Results from Ordered Logit Model with 2005 Data Using Level of Cover as Dependent Variable

Variable	Age/Gender and Utilisation Only Equation 4.1	Plus Income Proxy Equation 4.2	Plus Income Proxy and Other Variables Equation 4.3
AGE	-0.009032 (0.011195)	0.003484 (0.010976)	0.016258 (0.015293)
DUMMALE	-1.194911 (0.830935)	-1.388522 (0.858106)	-1.146637 (0.947942)
AGEMALE	0.027048 (0.018209)	0.030300** (0.018410)	0.023235 (0.020717)
DUMCLAIMED	0.421304 (0.324159)	0.338574 (0.327309)	0.264767 (0.360892)
NUMCLAIMS	-0.062656 (0.052751)	-0.052844 (0.049879)	-0.095809* (0.046891)
YEARSCOVERED	0.041128* (0.008602)	0.035137* (0.009027)	0.029714* (0.011615)
EDUCATIONLEVEL		0.401855* (0.106652)	0.367751* (0.115841)
SOCIALCLASS		-0.012163 (0.109863)	-0.090092 (0.116403)
DUMMEDICALCARD			-0.568029 (0.564514)
DUMMARRIED			-0.099803 (0.342495)
CHILDRENONPLAN			0.210008 (0.141837)
PREMIUMDISCONT			0.013292* (0.005235)
DUMANYOTHERINS			0.428871 (0.283050)
LR Index (Pseudo-R ²)	0.039240	0.064082	0.082429
Included Observations	345	345	309

* = Significant at 5% level; ** = Significant at 10% level

Note: Standard errors reported in parentheses are the QML (Huber/White) standard errors

The results of the regressions reported in Tables 4.4 and 4.5 indicate some evidence of adverse selection, with older consumers or those who have been insured for

longer having a higher likelihood of subscribing to more comprehensive plans, while younger consumers or those who have been insured for a shorter period of time have a greater likelihood of subscribing to cheaper, less comprehensive plans. There does not appear to be evidence of adverse selection on the basis of claims history, but the variables measuring this – a dummy for having claimed and the number of claims that have been made on a policy – are perhaps not the most accurate indicators of utilisation, as they do not take into account the intensity of claims made.

Although the explanatory power of these regressions is quite low, it is important to point out that if the explanatory power of the regressions were high then this might suggest that adverse selection is so strong that a death spiral could be imminent or in progress. Therefore a low explanatory power could indicate that the market is not critically unstable. This might be of some comfort to policy-makers, although it should not invite complacency.

It should also be noted that the phenomenon of older, higher-risk consumers being more likely to be found in more comprehensive plans may also be partly due to risk segmentation on the part of insurers. This was highlighted by the Industry Commission report in Australia (Industry Commission, 1997), which noted that premiums facing older people could be affected if insurers were to use plan features to appeal to consumers in particular age and health status categories.

It is difficult to empirically model this type of behaviour by insurers, but some inferences may be drawn from analysis of membership trends in recent years. VIVAS Health was the first insurer to market plans on the basis of life-stage. When it launched its first plans in 2004, they were named the Me Plan, I Plan and We Plan, targeted at younger, first-time insurance buyers, individuals looking for more comprehensive cover, and couples and families, respectively. Shortly after these plans were launched, also in 2004, Vhi Healthcare launched its Lifestage Choices plans, alongside its more traditional suite of plans, Plans A to E. The Lifestage Choices plans comprise the First Plan (and First Plan Plus), designed for those starting out in the health insurance market, the Family Plan (and Family Plan Plus), designed for those with children or planning a family, and the Forward Plan, which offers a wider choice of hospital cover.

These plans have proved very popular with consumers. For example, VHI (2007) notes that, by the end of February 2007, the Lifestage Choices plans had attracted almost 200,000 members. Meanwhile, in May 2009, when Hibernian AVIVA Health launched a new suite of plans, it noted that it already insured over 200,000 members (Hibernian AVIVA Health, 2009). It is likely that most of these would have been insured on their Me, I and We Plans. This, coupled with the likely continued growth in membership of Vhi Healthcare's Lifestage Choices plans since 2007, means that it is likely that over 20% of consumers in the market are currently insured on lifestage-based plans. Unfortunately however, it is not possible to analyse the age profiles of members in the various plans, as too few respondents to

HIA (2005a) were found on the Lifestage Choices plans and the VIVAS Health plans to give any robust estimates of the age profiles of members of those plans.

In the years since the Lifestage Choices plans were launched, premium increases by Vhi Healthcare for the Lifestage Choices plans have, for the most part, tended to be equal to or below the average price increases by the company, as for the most part have premium increases for the lower and standard levels of cover on the traditional hospital plans (Plans A, A Option, B and B Option), while premium increases for the more comprehensive plans (Plans D, D Option, E and E Option) have been above the average increases.⁸⁵ This might or might not be indicative of some element of risk segmentation, but the data are perhaps too limited to draw any firm conclusions in this regard.

4.3.2.2 Risk Selection

Binary logit models were used to test for risk selection, using the dummy variable for being insured with VHI as the dependent variable (set to 1 if the respondent was insured with VHI and 0 if the respondent was insured by another health insurer). The level of cover was restricted to level 3, which is the level of hospital cover provided by the most popular plans, such as BUPA's Essential Plus schemes (with and without excess) and VHI's Plan B schemes (including Plan B Option and Plan B

⁸⁵ Sources: Figures for price increases effective 1 September 2005, 2006 and 2007 are detailed in Vhi Healthcare press releases, dated 04 July 2005, 23 June 2006 and 20 July 2007 respectively. Available at www.vhi.ie/press/040705.jsp, www.vhi.ie/press/230606.jsp and www.vhi.ie/press/200707.jsp respectively - all accessed on 23 September 2008. Figures for price increases effective 1 January 2009 are detailed in VHI (2008b).

Excess). By restricting the level of cover to this level, adverse selection effects are removed from the analysis, so any significant difference in the age or claims profiles of insurers could be interpreted as signalling the presence of risk selection. Similar regressions for the most basic and the most comprehensive levels of cover (levels 1 and 6, respectively) were not reliable as there were too few observations.

Again, the regressions contained variables related to socio-demographic indicators and the insured's characteristics. As with the adverse selection models, three regressions were run for each data set (2003 and 2005) – the first using age/gender and utilisation variables only, the second adding in income proxy variables and the third adding the 'other' variables. The regressions run were of the form

$$Y = A + XB + U \quad (\text{Equation 4.4})$$

$$Y = A + XB + Z\Phi + U \quad (\text{Equation 4.5})$$

$$Y = A + XB + Z\Phi + M\Psi + U \quad (\text{Equation 4.6})$$

Where

Y is a vector of the dependent variable, i.e. the dummy variable for membership of VHI

A is a vector of constant terms

X is a matrix of age/gender and utilisation variables

Z is a matrix of income proxy variables

M is a matrix of the other, miscellaneous variables

B, Φ and Ψ are vectors of coefficients

U is a vector of error terms

It should be noted that, in the risk selection regressions, another age variable, AGESQUARED, was included, to take account of the non-linearity that was discovered in the age-related propensity to take out insurance with VHI versus BUPA.⁸⁶ The income proxy variables were included to take account of the fact that VHI premiums are higher than BUPA premiums for plans providing similar levels of cover. (This is confirmed by the fact that, if premium was included in the risk selection regressions using the 2003 data set, it was a perfect predictor of the choice of insurer, while using the 2005 data set premium was a significant predictor of this choice, albeit not perfect as Plan B Excess – which was not offered in 2003 – was cheaper than Essential Plus without an excess.)

The results of the model using the 2003 data can be seen in Table 4.6. The results indicate that age is a significant indicator of the likelihood of being a member of VHI, but the significance of Age² as well as Age suggests that the relationship is non-linear. The combined effect of Age and Age² is that younger people are less likely to be with VHI, while older people are more likely to be with that insurer. A

⁸⁶ When AGESQUARED was included in the adverse selection regressions, it was found to be insignificant, suggesting that there was not a non-linear effect of age on the choice of cover level, and it was therefore omitted from the adverse selection regressions on this basis. Furthermore, AGECUBED was added in to the risk selection regressions and found to be insignificant, so that variable was omitted on the basis that it appears to be a quadratic relationship between age and choice of insurer.

J-curve type of effect is seen in this regard. However, the number of claims, when included alongside the number of years covered, is insignificant, although being covered for a greater number of years increases the likelihood of being insured with VHI. The simple correlation coefficient between number of claims and number of years covered is 0.38, which would suggest that it is not multicollinearity which is causing the insignificance of the former. The explanatory power of the regression indicates that other factors have a large impact on VHI membership.

The addition of the income proxy variables and the 'other' variables show that all of these are insignificant. It is not entirely surprising that the income proxy variables are insignificant however, as the difference in premium between the standard level plans of BUPA and VHI would not likely be sufficient to render affordability a major issue for a large number of people. The results do suggest that, based on the data from the 2003 survey, VHI's standard plans had a less favourable age profile, although not necessarily a worse claims profile, than comparable plans offered by BUPA.

Table 4.6 Results from Binary Logit Model with 2003 Data Using the Dummy for Membership of VHI as Dependent Variable and Restricting Observations to Those with Cover Level = 3

Variable	Age/Gender and Utilisation Only Equation 4.4	Plus Income Proxy Equation 4.5	Plus Income Proxy and Other Variables Equation 4.6
CONSTANT	6.803912* (2.470593)	8.432390* (2.373525)	8.087252* (2.991323)
AGE	-0.332617* (0.118459)	-0.365736* (0.112689)	-0.355776* (0.148377)
AGESQUARED	0.004024* (0.001320)	0.004274* (0.001267)	0.004077* (0.001628)
DUMMALE	0.937113 (1.486372)	1.070990 (1.519455)	1.756130 (1.690095)
AGEMALE	-0.007495 (0.037927)	-0.009993 (0.038160)	-0.020856 (0.040704)
DUMCLAIMED	0.235316 (0.517698)	0.204527 (0.527475)	0.392086 (0.607422)
NUMCLAIMS	-0.005179 (0.134865)	-0.012179 (0.135018)	-0.004824 (0.178899)
YEARSCOVERED	0.104888* (0.040960)	0.112917* (0.041896)	0.119249* (0.047145)
EDUCATIONLEVEL		-0.243546 (0.183645)	-0.304946 (0.211030)
SOCIALCLASS		-0.031134 (0.151530)	-0.036811 (0.160072)
DUMMARRIED			-0.050294 (0.630846)
CHILDRENONPLAN			-0.024396 (0.184009)
PREMIUMDISCONT			0.009266 (0.014157)
McFadden R ²	0.134561	0.143706	0.164497
Included Observations	290	290	250

* = Significant at 5% level

Note: Standard errors reported in parentheses are the QML (Huber/White) standard errors

Table 4.7 Results from Binary Logit Model with 2005 Data Using the Dummy for Membership of VHI as Dependent Variable and Restricting Observations to Those with Cover Level = 3

Variable	Age/Gender and Utilisation Only Equation 4.4	Plus Income Proxy Equation 4.5	Plus Income Proxy and Other Variables Equation 4.6
CONSTANT	5.401491* (1.851940)	7.363297* (2.158127)	7.230462* (2.291054)
AGE	-0.233057* (0.087998)	-0.272189* (0.095280)	-0.190993** (0.105070)
AGESQUARED	0.002530* (0.000948)	0.002811* (0.001015)	0.001673 (0.001098)
DUMMALE	1.444910 (1.261829)	1.579168 (1.296941)	0.888470 (1.325318)
AGEMALE	-0.028578 (0.027575)	-0.029564 (0.028275)	-0.012911 (0.028901)
DUMCLAIMED	0.205748 (0.539897)	0.359139 (0.515686)	0.695993 (0.519424)
NUMCLAIMS	0.080232 (0.141067)	0.053868 (0.124619)	0.059833 (0.125660)
YEARSCOVERED	0.038783** (0.022188)	0.044504* (0.022382)	0.039292 (0.024682)
EDUCATIONLEVEL		-0.327576* (0.139695)	-0.392033* (0.148845)
SOCIALCLASS		-0.007370 (0.131337)	-0.025784 (0.132084)
DUMMARRIED			-0.349543 (0.458997)
CHILDRENONPLAN			-0.347543* (0.159829)
PREMIUMDISCONT			0.008937 (0.006187)
DUMANYOTHERINS			-0.006815 (0.376090)
McFadden R ²	0.057121	0.078060	0.105954
Included Observations	265	265	239

* = Significant at 5% level; ** = Significant at 10% level

Note: Standard errors reported in parentheses are the QML (Huber/White) standard errors

Table 4.7 shows the results from similar models run using the 2005 data. As the number of VIVAS members in the sample was so small, it was decided to exclude those respondents from the regressions. This also allows for more direct comparisons between the results of the two data sets, vis-à-vis any selection effects between BUPA and VHI.

Respondents who had plans which provide significant ancillary cover were also excluded, as this may affect the choice of plan/insurer but the numbers were so low (only four respondents at this level of cover) that the dummy variable for significant ancillary cover proved insignificant when included as an explanatory variable.

The same variables appear in these regressions, although the significance of Age, Age² and the number of years covered are all reduced slightly, compared with the regressions using the 2003 data, with the last two of these being insignificant in the regression including the ‘other’ variables. The correlation coefficient between number of claims and number of years covered using this data set is 0.27, again suggesting that multicollinearity is not the culprit in rendering the former insignificant in all three regressions and the latter insignificant in the regression including the ‘other’ variables.

Again, the results suggest that VHI had a less favourable age profile on its standard plans than BUPA had on its corresponding plans, although not necessarily a less favourable claims profile. The explanatory power of the regressions using the 2005

data is lower than of that using the 2003 data, indicating that other factors account for more of the likelihood of being a VHI member.

The inclusion of the income proxy variables shows that the more educated a person, the less likely they are to be with VHI. If the affordability issue were to come into play, then it would be expected that this variable would have a positive, rather than a negative coefficient.⁸⁷ The inclusion of the ‘other’ variables reduces the significance of Age and makes Age² and the number of years covered insignificant, while the number of children on the plan is the only one of the ‘other’ variables that is significant. The negative coefficient on this variable indicates that those with more children are more likely to have chosen a BUPA plan. Adding premium or the dummy variable for being a switcher significantly improved the explanatory power of the regression but these are somewhat deterministic, and their inclusion in the model is not warranted by theory.

The results of the regressions detailed in Tables 4.6 and 4.7 indicate some evidence of risk selection in the Irish private health insurance market. These regressions compared the characteristics of consumers with plans giving similar levels of cover offered by BUPA Ireland and Vhi Healthcare. The results show that, for a similar

⁸⁷ One possible explanation for the negative sign on the education level variable comes from Park & Kang (2008). They examine whether education induces individuals to have a healthier lifestyle, using data from South Korea. Their results suggest that an increase in education induces people to exercise more and to get regular health checkups, although they note that the effects of education are mainly through its effects on job characteristics and that unobserved determinants of health behaviours are correlated between these two indicators. When BUPA Ireland launched its HealthManager suite of plans, it became the first health insurer in the Irish market to provide significant cover for ancillary health services, such as GP visits. If the behaviour noted by Park & Kang (2008) were repeated in Ireland then this may have induced those with higher education, if they were more interested in getting regular checkups, to join BUPA Ireland.

level of cover, younger consumers are more likely to be covered by BUPA Ireland while older consumers are more likely to be with Vhi Healthcare. As with the adverse selection results, claims history does not appear to be a significant factor in the choice of insurer, but again this could be due to the broad nature of the variables used to measure claims history – a dummy variable for having claimed and a simple number of claims made on the policy, with no indication of the intensity of the claims.

4.3.2.3 Accounting for Adverse Retention

It could be argued, however, that the effect being seen in these regressions is not risk selection, but rather adverse retention, as outlined by Altman et al (1998), or even a combination of both effects. In particular, an argument could be made that BUPA would not have had a chance to attract a similar membership profile as VHI due to the fact that it was not in the market for the same length of time. (Recall that adverse retention would entail high-risk (older) consumers remaining with a longer-established incumbent and low-risk (younger) consumers tending to gravitate towards a new entrant insurer, thereby magnifying cost differentials between the insurers.) The counter-argument to this would be that any VHI member could have switched to BUPA, although as discussed earlier, switching is not common in the Irish market.

Nevertheless, to try to account for the possibility that the results in Tables 4.6 and 4.7 indicate adverse retention rather than, or in addition to, risk selection, the risk selection regressions were re-estimated, restricting the sample to those who had been covered for a maximum of six years for the 2003 survey (since the sampling was carried out in late 2002) and eight years for the 2005 survey – in other words to those who had taken out their policies since BUPA entered the market.

As the sample sizes were more restricted in both cases, the three-regression analysis used above was not as effective, and therefore the results presented in Table 4.8 represent models of similar form to those represented by Equation 4.5, with some modifications. Specifically, YEARSCOVERED was excluded from the regressions presented in Table 4.8, as the sample was restricted on the basis of this variable over a short time-span. Furthermore, when using the 2005 data, some correlations between variables were higher using the restricted sample than using the wider sample as presented in Table 4.7. As a result, AGEMALE was excluded because it was highly correlated with DUMMALE (with a correlation coefficient of 0.92 using the restricted sample), while NUMCLAIMS was also excluded as it was highly correlated with DUMCLAIMED (with a correlation coefficient of 0.70 using the restricted sample). The regression using the 2003 data is significant at the 10% level, while that using the 2005 data is significant at the 5% (and also the 1%) level.

These results show similar patterns to the full sample above, in terms of age. Both Age and Age² are significant using the 2003 data, while Age is significant using the

2005 figures, although Age² is significant at the 10% level. The only other variable that is significant using the 2003 data is education level, and the negative sign on this indicates that people with a higher educational attainment were less likely to be with VHI. This suggests that those people who choose VHI do not do so because of being better able to afford the higher premiums charged by that insurer. The positive and significant coefficient in the 2005 regression of the dummy variable for having claimed suggests that those who took out cover with VHI after BUPA entered the market were more likely to have claimed than those who took out cover with BUPA. The positive and significant coefficient on the dummy for males in the 2005 regression indicates that they are more likely to be with VHI. Again, the level of education is negatively related to the likelihood of being with VHI, suggesting that ability to afford higher premiums does not induce people to join VHI.

Table 4.8 Results from Binary Logit Models with 2003 and 2005 Data Using the Dummy for Membership of VHI as Dependent Variable and Restricting Observations to Those with Cover Level = 3 and who Were Covered Since BUPA Entered the Market

Variable	2003 Data	2005 Data
CONSTANT	14.70432* (4.314063)	14.31553* (4.449672)
AGE	-0.524215* (0.199395)	-0.467566* (0.175852)
AGESQUARED	0.005396* (0.002172)	0.003601** (0.001925)
DUMMALE	1.980835 (1.773817)	2.016810* (0.864364)
AGEMALE	-0.017987 (0.044072)	
DUMCLAIMED	0.416230 (0.897227)	2.185049* (0.880196)
NUMCLAIMS	-0.031890 (0.315744)	
EDUCATIONLEVEL	-0.858349* (0.289345)	-0.675792* (0.344183)
SOCIALCLASS	-0.124967 (0.274329)	-0.310798 (0.475513)
McFadden R ²	0.172235	0.319468
Included Observations	81	67

* = Significant at 5% level; ** = Significant at 10% level

Note: Standard errors reported in parentheses are the QML (Huber/White) standard errors

These results suggest that the effects seen in Tables 4.6 and 4.7 are not just indicative of adverse retention, but that risk selection is also evident. Although the two phenomena might interact to some degree, the results presented in Table 4.8 take account of any possible effects of adverse retention arising from Vhi healthcare's 40-year head start in the market by only focusing on consumers who took out private health insurance since the advent of competition in the market. These results still show evidence of risk selection in comparable plans offered by BUPA Ireland and Vhi Healthcare providing similar levels of cover. Again the evidence of risk selection is based on age rather than claims history, although the same caveat applies regarding the degree of sophistication of the variables measuring claims.

It can be seen from Tables 4.7 and 4.8 that, for the regressions using the 2005 data, the McFadden R^2 in the regression using the more restricted sample is considerably higher than the McFadden R^2 in the regression using the unrestricted sample (the restriction in this case being to those who had taken out private health insurance for the first time since the entry of BUPA Ireland to the market). This suggests that risk selection is more strongly evident among the first-time buyers of private health insurance after the onset of competition. However, the smaller sample size in the restricted sample should be taken into account when interpreting this finding.

While the above evidence suggests that age is a factor in the choice of insurer by first-time buyers of private health insurance in Ireland since competition became a

feature of the market, switching is also a major factor in adverse retention. If low-risk (younger) consumers tend to switch to an insurer with a lower risk profile and high-risk (older) consumers tend to remain with an insurer with a higher risk profile, then this could accentuate differences in claim costs and risk profiles.

The consumer surveys commissioned by the HIA (HIA, 2003a, 2005a, 2008c) examined switching patterns. All three surveys showed that the majority of switchers had switched from Vhi Healthcare to the newer insurers. If these consumers tended to be younger then it could suggest that Vhi Healthcare might be suffering from adverse retention.

The 2003 survey (HIA, 2003a) found that 49% of those who had switched were aged 25-34 at the time of the survey and that three quarters of switchers were aged under 44, while nobody aged 65 or over in the sample had switched. The average age of switchers found in the sample was 34. However, the sample size of switchers (29) was small and therefore care should be taken in interpreting these findings. Of those who had not switched, only 13% said that they had seriously considered doing so, but none of these was aged 65 or over.

The 2005 survey (HIA, 2005a) included a booster sample of switchers, bringing the total number of switchers to 80, which allows for more robust estimation. This survey found that almost two thirds of those who had switched were aged 25-44 when they switched, while only one person aged 65 or over when the survey was

undertaken was found to have switched. The average age of switchers when they switched was 39. Again, only 13% of those who had not switched had seriously considered doing so, but only 6% of those aged 65 or over had contemplated switching.

Although the 2008 survey (HIA, 2008c) did not give details of switching rates by age group, it did highlight the fact that a marginally higher proportion of consumers in the 35-54 age groups were found to have switched (14% compared with an average of 10%). It also found evidence from focus groups that younger consumers were more willing to consider switching between insurers. However, the focus group evidence also suggested that most of the switching in the market tends to be between cover levels with the same insurer rather than between insurers.

It would therefore appear that, while Tables 4.6, 4.7 and 4.8 show evidence of risk selection, adverse retention is also a feature of the Irish private health insurance market. This is to the detriment of Vhi Healthcare, as it would appear from the evidence in the HIA consumer surveys that younger consumers are more likely to switch and that switchers tend to switch from Vhi Healthcare to its newer competitors. This would magnify any differences in risk profiles that would favour the newer insurers compared with Vhi Healthcare.

4.3.2.4 ‘Active’ versus ‘Passive’ Risk Selection

It can be seen from the above discussion that risk selection and adverse retention can sometimes interact and it might be difficult to discern the effects of one from the effects of the other.

At this point, it should be reiterated that risk selection can occur in a number of ways, some more explicit and others more subtle. A distinction could perhaps be drawn between what might be termed ‘active’ risk selection and ‘passive’ risk selection.

While the division between the two could be open to interpretation, one possible way of interpreting it would be that ‘active’ risk selection would entail insurers making conscious decisions or engaging in strategies designed to target low-risk consumers. This would include engaging in what might be considered more subtle risk selection methods such as plan design and marketing.

By comparison, ‘passive’ risk selection could be used to describe risk selection not attributable to insurers’ strategies in relation to their interaction with consumers, but rather what might be considered the natural market forces that could lead a newer insurer to inherently have a more favourable risk profile than an incumbent. This would encompass the idea of adverse retention suggested by Altman et al (1998) and

the possibility of a new insurer engaging in a price following strategy, as noted by HIA (2002c).

Under this interpretation, a new insurer entering a market – such as the Irish one – could naturally expect to attract a relatively low-risk profile of consumers. This might make entry to such a market attractive for new insurers. This would particularly be the case in the absence of some form of redistributive mechanism, such as a risk equalisation scheme, which would counterbalance the effects of such ‘passive’ risk selection. This attractiveness of a market such as the Irish one in the absence of risk equalisation was alluded to by YHEC (2003).

If this categorisation of ‘active’ and ‘passive’ risk selection were to be used in the Irish case, it is unclear from the quantitative analysis presented in this Chapter which type of risk selection is taking place, but intuitively it is likely that elements of both are at play.

4.4 Summary and Conclusions

The Irish private health insurance market consists, primarily, of three competitors, BUPA Ireland (now Quinn Healthcare), Vhi Healthcare and VIVAS Health (now Hibernian AVIVA Health). Features of the Irish market include community rating, open enrolment and lifetime cover, along with a mandated minimum level of cover

that must be provided. The fact that the largest insurer had a monopoly for 40 years before the introduction of competition is also unusual, if not unique.

The majority of products in the market are structured in a similar fashion, catering primarily for hospital treatment, which is what consumers value most highly. The main differentiating factor between plans is the level of hospital accommodation provided. This lends itself to examination of adverse selection and risk selection effects. Analysis of data from two consumer surveys indicates the presence of both effects.

In both cases, it is primarily age that provides the evidence for selection effects, while claims experience does not show as distinct a pattern. This could be due to the fact that having claimed and the number of claims made are not the most accurate indicators of utilisation, as they do not take account of the intensity of claims. The results suggest that older consumers are more likely to choose more comprehensive plans and more likely to be with VHI than with BUPA. The latter finding is also consistent with the notion of adverse retention, put forward by Altman et al (1998) and the suggestion by Price & Mays (1985) that older plans may have an older mix of consumers. The fact that VHI had a 40-year head-start over BUPA, combined with the relatively low levels of switching between insurers and the fact that switchers tend to be younger, appears to be contributing to the relatively unfavourable nature of VHI's membership age profile.

Much of the criticism of risk equalisation in the Irish context has been on the basis that it is anti-competitive. However, this is contrary to the findings of a number of papers, which suggest that risk adjustment would actually improve competition, as it would force insurers to compete on the basis of price, service or efficiency, rather than risk profile. The findings of this research have implications for the debate over risk equalisation in Ireland, as they provide empirical evidence that both adverse selection and risk selection are features of the Irish private health insurance market, and in this context it is worth reiterating that much of the literature surrounding both types of selection suggests that risk adjustment mechanisms are either necessary or a possible solution to either or both of these problems.

It has been suggested that community rating itself gives rise to problems of adverse selection. However, the introduction of lifetime community rating, which entails late entry loadings being applied to consumers who leave it until later ages to take out private health insurance, might reduce the degree to which adverse selection occurs, which in turn might reduce the need for risk equalisation. This is examined further in the next Chapter.

CHAPTER 5

THE EFFECT OF LIFETIME COMMUNITY RATING ON THE NEED FOR RISK EQUALISATION

5.1 Introduction

As was seen in Chapter 4, one theme coming through in the literature on adverse selection and risk selection is the role that community rating plays in facilitating or incentivising these features of the market. In particular, community rating is seen by some as increasing the incentives for risk selection by insurers, as they receive the same premium for a low-risk life as for a high-risk life under community rating, while it also leads to increased incentives for consumers to engage in adverse selection, as they pay the same premium irrespective of the risk they represent to insurers.

Ireland currently operates a system of single rate community rating, whereby the same community rated premium is charged to all applicants for the same insurance plan, irrespective of any factor, including at what age they first took out insurance. It is therefore possible for people in Ireland to take out private health insurance for the first time only when they are more likely to need it, i.e. when they are older, without any penalty. This is sometimes referred to as ‘hit-and-run’ or ‘hit-and-stay’ behaviour, depending on whether the consumer remains insured after receiving treatment and benefitting from cover.

However, single rate community rating is not the only version of community rating. Another version is lifetime community rating. Under this system, a person's age at entry to the market is taken into account when setting their premium, and a system of late entry loadings is implemented, which is designed to encourage people to take out private health insurance at a younger age, thereby contributing to the community rate for longer before they are likely to claim. Australia introduced such a system in 2000 to replace its system of single rate community rating.

This Chapter reviews the fundamental role of community rating from the inception of the Irish private health insurance market. The literature on community rating is then reviewed, with particular emphasis on issues surrounding adverse selection and lifetime community rating. Drawing on data from the Private Health Insurance Administration Council, which produces statistics on the private health insurance market in Australia, the experience of changing from single rate community rating to lifetime community rating in Australia is then examined, particularly in the context of how the changeover affected the risk profile of the insured population. Implications of this are then drawn for the Irish market, where a change to lifetime community rating is anticipated in the near future.

5.2 Background to Community Rating in the Irish Market

As discussed in Chapter 2, the Irish private health insurance market in its current form was established with the passing of the Voluntary Health Insurance Act, 1957.

This Act established the Voluntary Health Insurance Board (now trading as Vhi Healthcare), as a statutory body. For forty years, Vhi Healthcare (VHI) was the only provider of private health insurance to the general population in Ireland. During this time, VHI operated a system of community rating, along with open enrolment and lifetime cover, on a *de facto* basis.⁸⁸ It is not entirely clear how this came about.

For example, in the High Court case on the Risk Equalisation Scheme, 2003, Mr. Justice William McKechnie, in reviewing the development of community rating, notes in Paragraph 94 of his judgement, “As such it seems to be accepted that it [VHI] operated a *de facto* system of community rating, open enrolment and lifetime cover, even though there was no statutory obligation to so do. How precisely it achieved a uniformity of premium for the same bundle of benefits across its entire population, was never a pressing issue, as it operated on a non-profit basis and in a single player market. How precisely it put into practice, what has been described as intergenerational solidarity, was likewise never a matter of concern. But what emerges from the evidence is that its system of PMI [private medical insurance] incorporated a provision of community rating which had the effect of young people, generally low risk, subsidising to some extent older people, generally higher risk.” The Advisory Group to the Minister for Health on the Risk Equalisation Scheme (1998) also noted that it is unclear how community rating in Ireland developed,

⁸⁸ As O’Morain (2007) notes however, there were some exceptions to this in the early days of VHI. For example, he notes that in its first year of operation, subscribers to its Plans A, B and C paid an extra 15% if they were aged 60 or over. It also reserved the right to withdraw cover for illnesses that arose after cover was taken out but which led to recurrent claims, although he notes that this was never implemented in practice. Upper age limits were also imposed on members in the early days.

although it speculated that administrative convenience may have played a role in this regard.

In 1992, the European Third Non-Life Insurance Directive⁸⁹ was passed. This required all EU Member States to facilitate the entry of non-life insurers based in other Member States, thereby fostering cross-border competition. This directive was reflected in the Health Insurance Act, 1994 (the 1994 Act) in Ireland. This Act gave legislative status to the principle of community rating in the health insurance market in Ireland. It also made provisions for the Minister for Health and Children (the Minister) to prescribe regulations governing open enrolment, lifetime cover and a system of minimum benefits to be covered by health insurance contracts. Such regulations were promulgated in 1996.

The importance of community rating to policy-makers is evident from the fact that, of the three ‘pillars’ underlying the private health insurance market in Ireland – community rating, open enrolment and lifetime cover – community rating is the only one which is specified in primary legislation (i.e. the 1994 Act, as amended), while the others are specified in secondary legislation (i.e. the aforementioned regulations). The definition of community rating was updated in the Health Insurance (Amendment) Act, 2001, and it is this definition which remained in force during the period when the Risk Equalisation Scheme, 2003 was in place. The Health Insurance (Miscellaneous Provisions) Act, 2009 further amended this

⁸⁹ Council Directive 92/49/EEC of 18 June 1992

definition in light of the Supreme Court judgment on the Risk Equalisation Scheme, 2003 (see Section 2.4).

Although VHI had operated community rating on a de facto basis since 1957, the government of the day, in formulating the 1994 Act, and in particular in giving community rating such a legislative standing, clearly considered community rating to be a public policy objective. This position appears to have continued beyond the lifetime of that government. In the 1999 White Paper (Department of Health and Children, 1999), published under a different government from that which passed the 1994 Act, it is noted,

“Community rating is the corner-stone of the Irish health insurance system. In the absence of community rating, today’s healthy individual could become tomorrow’s uninsurable risk. The very existence of community rating therefore represents a broad protection to the community as a whole in terms of individual insurance rate stability and equitable access to insurance cover. It provides all insured persons with the peace of mind and certainty that the advent of chronic illness or sustaining serious injury will not render the cost of cover unaffordable. In particular, the inter-generational solidarity which is at the very core of community rating in Ireland has made insurance accessible to those (i.e. the elderly and the chronically ill) who might otherwise not be able to afford the cost of cover.” (Department of Health and Children, 1999: 33).

All qualifying health insurance contracts in Ireland are offered on the basis of community rating, although there was some controversy surrounding add-on plans that BUPA Ireland offered in early 1997, which were risk rated, although the basic plans onto which these were added were community rated. After some debate between BUPA Ireland and the then Minister for Health and Children, these plans were withdrawn.⁹⁰

Community rating relies on what is termed intergenerational solidarity, whereby younger consumers (who generally tend to be lower-risk) effectively subsidise older consumers (who generally tend to be higher-risk) in the expectation – conscious or otherwise – that, when they get older, they in turn will be subsidised by a future generation of younger consumers. This system inherently relies on a constant stream of younger consumers entering the market in order to subsidise older consumers and keep premiums relatively affordable.

The version of community rating that is in operation in Ireland is known as single rate community rating. This is a system whereby anyone who applies for a particular health insurance contract, irrespective of the age at which they apply, is charged the same premium as anyone else who applies for that contract. In 1998, the Advisory Group to the Minister for Health on the Risk Equalisation Scheme (the Advisory Group) published its report (Advisory Group to the Minister for Health on the Risk Equalisation Scheme, 1998). The Advisory Group had been set the task of

⁹⁰ For a fuller discussion of this incident, see Light (1998).

examining issues relating to the health insurance market, specifically in relation to risk equalisation.

Among the issues that the Advisory Group examined was community rating. The Advisory Group examined a number of alternative forms of community rating – single rate community rating, unfunded lifetime community rating, funded lifetime community rating and yearly community rating. The first two of these are pay-as-you-go systems (where the total of premiums in the market for any given year cover the cost of claims in the market for that year), while the latter two are not.

The difference between funded and unfunded lifetime community rating, as outlined by the Advisory Group, is that, with funded lifetime community rating, for consumers of the same age, the excess of premiums over claims in their younger years are invested and the assets accumulated are used to pay the excess of claims over premiums in their older years. Premiums for funded lifetime community rating are set with the objective of ensuring stability of premiums in real terms throughout a policyholder's lifetime with insurance, assuming that medical inflation equals overall inflation. With unfunded lifetime community rating, total premiums in the market in any given year are used to pay total claims in the market in that year. Premiums at each age for unfunded lifetime community rating are set to ensure that consumers pay more than they actuarially would at younger ages and less than they actuarially would at older ages.

Under a system of yearly community rating, the premium paid by a policyholder for a given benefit level varies with his/her attained age, reflecting the risk being borne for policyholders of that age by the insurer at that time. Premiums would therefore rise in real terms over a policyholder's lifetime under this system, and there would be no intergenerational cross-subsidy. In contrast to this system of yearly rating, the other three versions of community rating examined by the Advisory Group operate on what the Group termed level rating (in that the premium remains stable in real terms throughout the life of a policyholder). The Group argued that yearly rating is not appropriate for health insurance, as it would mean that insurance would be unaffordable for older people, many of whom would discontinue cover when they most need it, and recommended level rating instead.

The Advisory Group noted that single rate community rating is inherently unstable, as it gives consumers an incentive to select against the market. In particular, the Group argued that the combination of community rating, open enrolment and lifetime cover in the Irish market had certain elements that should be encouraged. These were guaranteed entry to health insurance before a certain age (which at that time was 65 but this maximum was later removed in 2005), guaranteed renewability and stability of premiums payable after entry to the market. The Group argued that, while lifetime cover was consistent with these principles, open enrolment was inconsistent with these principles, and that it posed a risk to the stability of private health insurance in Ireland as it facilitated adverse selection.

Having examined the options, the Advisory Group recommended the introduction of unfunded lifetime community rating, whereby the premium is partly based on age at entry. The Advisory Group noted that, ideally, if one were to start again, a system of funded lifetime community rating should be introduced, whereby premiums rise with age at entry, and, “for a group of policyholders of the same age, assets are accumulated by investing the excess of premiums over claims during their younger years with the objective of using those assets to pay the excess of claims over premiums during their older years.” (Advisory Group to the Minister for Health on the Risk Equalisation Scheme, 1998: 18)

The Institute of Actuaries in Australia (1997) provides a very clear definition of funded lifetime community rating. It notes that, under such a system, for each age at entry to health insurance, the cost of the average insured health services purchased in each future year of age is estimated, and a level annual premium would be calculated in order to adequately cover future health costs as they arise, taking into account the possibility for investment income. In this way, each age-at-entry cohort funds its own consumption of healthcare and does not rely on a continued stream of new members to maintain a stable annual premium rate. Reserves could be accumulated for young age cohorts, which could then be used to supplement premium income to fund their care at older ages.

However, in order to move to such a system, those who had contributed to the single rate community rating system over a number of years would be left without the

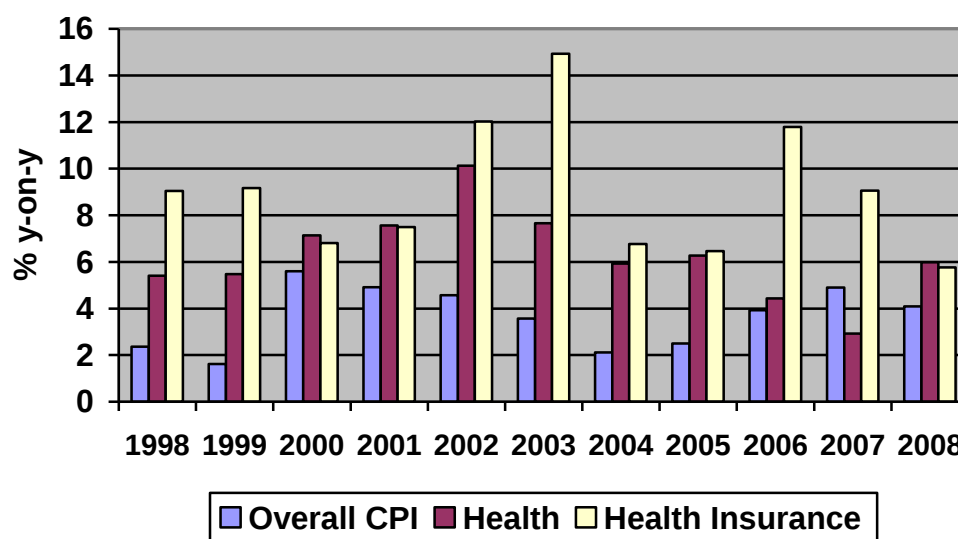
intergenerational solidarity on which they were relying. The Advisory Group termed the cost of continuing the single rate for these consumers as the ‘unfunded liability’, and estimated that, assuming that premiums and claims were to rise in line with overall inflation, this stood at IR£3.3bn (€4.2bn) in 1998. They also noted that, if their assumption in relation to inflation were not met, this figure could be significantly higher. Specifically, if medical inflation were to exceed general price inflation by three percentage points per annum, the figure would rise to IR£8bn (€10.2bn), while if it were to exceed general price inflation by six percentage points per annum, it would rise to IR£23.6bn (€30bn). In general, the Advisory Group noted that medical inflation represents a significant threat to the stability of community rating and they stressed the need to keep medical inflation under control.⁹¹

In this context, it is worth noting that, according to CSO figures, between 1998 and 2008, inflation in the Health category of the consumer price index exceeded the overall rate of inflation by nearly three percentage points per annum, while inflation in the Health Insurance sub-category exceeded the overall rate of inflation by over five percentage points per annum (see Figure 5.1 and Table 5.1). It should also be noted that the number of insured persons in the market has increased significantly

⁹¹ The Advisory Group also argued that, due to its inherent instability, compulsory community rating should not be extended any further than it already had been. It also recommended that the existing requirement to apply community rating to ancillary (non-hospital) benefits should be removed.

since 1998, which would also mean that the unfunded liability would be significantly higher now than when the Advisory Group estimated it.⁹²

Figure 5.1 Overall and Health Inflation in Ireland, 1998-2008



Source: Central Statistics Office

Table 5.1 Overall and Health Inflation in Ireland (%), 1998-2008

Year	All Items CPI	Health	Health Insurance
(1998)	(2.4)	(5.4)	(9.0)
1999	1.6	5.5	9.2
2000	5.6	7.1	6.8
2001	4.9	7.6	7.5
2002	4.6	10.1	12.0
2003	3.6	7.7	14.9
2004	2.1	5.9	6.8
2005	2.5	6.3	6.5
2006	3.9	4.4	11.8
2007	4.9	2.9	9.1
2008	4.1	6.0	5.8
Avg. 1998-2008 pa	3.8	6.3	9.0

Source: Central Statistics Office

⁹² According to Department of Health and Children (1999), the insured population at the end of February 1998 was just under 1.5 million, while HIA (2009) puts the insured population at almost 2.3 million in December 2008.

The Health Insurance Authority (HIA), the independent statutory regulatory body for the private health insurance industry in Ireland, conducted a consultation process on lifetime community rating in 2002. It published a consultation paper (HIA, 2002b), and sought views from stakeholders and interested parties. Resulting from this consultation process, it made a submission to the Department of Health and Children later that year (HIA, 2002d). In this submission, the Authority also advocated the introduction of lifetime community rating.⁹³ The HIA believed that such a move would reduce the risk of adverse selection and contribute to greater stability in the market.

Lifetime community rating was introduced in Australia in 2000, to replace its system of single rate community rating, and this introduction provides an interesting indicator for the Irish case. In keeping with the Advisory Group's assertion that lifetime community rating would be more stable than single rate community rating, the Institute of Actuaries in Australia, in a discussion paper on the move to unfunded lifetime community rating (Institute of Actuaries of Australia, 1997), suggested that such a change would reduce adverse selection by deterring 'hit-and-run' activity (where consumers would wait until they needed medical treatment before taking out private health insurance, and would then discontinue cover once treatment had been covered) and late entry to the market by consumers (also sometimes known as 'hit-and-stay' activity). The Institute also suggested that, as lifetime community rating

⁹³ Light (1998) also suggests that lifetime community rating would help to bolster the community rated system in Ireland.

would encourage greater numbers of insured persons into the market, it would provide a larger insured pool, which would provide the opportunity to reduce systemic increases in premiums.

The central feature of lifetime community rating is late entry loadings. This is a system whereby the premium paid for a given level of insurance rises with age at entry, but remains stable in real terms thereafter. This system was introduced to replace single rate community rating in Australia in 2000 and involved anyone entering the market above the threshold age of 30 paying an additional 2% of the base premium for every year above this age at which they joined, up to a maximum loading of 70% for anyone aged 65 or over taking out private health insurance for the first time.⁹⁴

During the transition phase from single rate community rating to lifetime community rating in Australia, a 12-month grace period was introduced (although this was further extended by two weeks). During this grace period, anyone who did not already have health insurance but wished to take it out could do so and be treated as if they had joined at or before age 30, in other words without being subject to late entry loadings. Anyone aged 65 or over at the commencement of the grace period is exempt from late entry loadings, irrespective of when they take out private health

⁹⁴ The Institute of Actuaries of Australia (1997) referred to the approach that was adopted as a prescribed scale approach, but examined another alternative method of lifetime community rating, which they referred to as a market approach. Under the market approach, premium relativities between those who joined at different ages would not have been set; instead, the reinsurance (risk equalisation) system would have been modified to ensure that contribution rates, net of reinsurance, would rise with age at entry in a roughly linear manner.

insurance. Credit is also given for those who have previously had health insurance but allowed it to lapse. Late entry loadings payable in the Australian market cease if the person paying them has had hospital cover for a continuous period of 10 years (see PHIAC, 2008a, 2008b).

The introduction of lifetime community rating significantly increased the penetration rate of hospital-based private health insurance in Australia,⁹⁵ and reduced the average age of the insured population. However, both of these effects have begun to unwind.⁹⁶ This is discussed in more detail in Section 5.4.1.

Following on from the Advisory Group report (Advisory Group to the Minister for Health on the Risk Equalisation Scheme, 1998) and the wider consultation on the operation of the private health insurance market in Ireland, the then Government outlined its own proposals for a lifetime community rating scheme in the White Paper (Department of Health and Children, 1999).

The government recognised the risk to intergenerational solidarity from single rate community rating. In particular, the White Paper acknowledges that community rating inherently requires a constant flow of younger consumers into the market in order to keep premiums affordable for older consumers. It also notes that if this flow were to be reduced then it would lead to increases in premiums, which in turn

⁹⁵ Ancillary cover is also available in Australia, separately from hospital cover.

⁹⁶ Connelly & Brown III (2006) argue that, although the introduction of lifetime community rating in Australia increased membership and improved the risk profile of the insured population, it has not solved the adverse selection problem that faced the market.

could lead to a further reduction in the flow of young people into the market, thereby effectively leading to an adverse selection death spiral. However, it recognised that the age-related waiting periods act as some protection against this type of activity on the part of consumers.

The White Paper went on to state that “the Government wish to provide an environment that promotes joining health insurance early” (Department of Health and Children, 1999: 33) and acknowledged the work of the Advisory Group and submissions on the subject from various interested parties.

The White Paper proposed a move to a system of unfunded lifetime community rating. Based on actuarial advice, the White Paper proposed a threshold age for initial take-up of private health insurance of 35 (compared with 30 in Australia), below which no late entry loadings would be applicable. After that, late entry loadings would be applied in age bands, as outlined in Table 5.2. The White Paper also proposed that these loadings would be reviewed at regular intervals (around every five years) to ensure that they are still appropriate.

Table 5.2 Proposed Late Entry Premium Loadings in Ireland

Age at Joining	Under-35	35-44	45-54	55-64	65+
Maximum Premium Loading	0%	10%	25%	45%	80%

Source: Department of Health and Children (1999), Table 5

It was also proposed in the White Paper that, when late entry loadings were being calculated, credit would be given to people who had previously held private health

insurance for the duration of their previous contract(s). In other words, if a person had health insurance, then discontinued cover, but decided to take it out again at a later date, their age at entry would be calculated as their current age less the number of years for which they previously had private health insurance. This measure was introduced in Australia as part of its move to lifetime community rating.

The White Paper also included a proposal to give insurers discretion on whether or not to apply late entry loadings. It also specified that late entry loadings would not be subject to risk equalisation, thereby allowing insurers to retain any loadings they impose. It was felt that, to include such loadings in the risk equalisation calculations would reduce the incentive for insurers to apply the loadings.

However, the HIA argued that a banded system such as that proposed in the White Paper could lead to inconsistencies around the boundaries of the bands (HIA, 2002d). For example, a 45-year old could wait until age 54 before taking out health insurance and not face any additional late entry loading, while a 54-year old would face an additional loading of 20% of the base premium if they were to wait for another year before taking out insurance. The HIA expressed a preference for a percentage loading for each year above the threshold age that a person waits before taking out private health insurance. This would be similar to the arrangements put in place in Australia. Given the fact that a number of alternative loading systems had been proposed as part of the consultation process, the HIA recommended that an

actuarial review be undertaken to determine the appropriate threshold age, level of loadings and maximum loading to apply.⁹⁷

The Society of Actuaries in Ireland also strongly recommended to the Department of Health and Children that 10-year age bands should not be used as part of a move to lifetime community rating. Instead it recommended that late entry loadings be set on a per annum basis, subject to a maximum loading (see Society of Actuaries in Ireland, 2002 for further details).

The HIA (2002d) agreed with the government's proposals to give credit for prior cover however, and made recommendations regarding the maintenance of records to enable consumers to prove their prior periods of cover. It also proposed that, as consumers may experience periods of absence from insurance due to circumstances beyond their control (for example losing their jobs), consumers should not be subject to late entry loadings if they re-enter the market within a specified period of time (similar to the 13-week break in cover permitted before waiting lists must be reserved), and it recommended that consideration be given to doubling this period.

The HIA also noted the government's proposal to give insurers the freedom to waive late entry loadings. It broadly welcomed this proposal but cautioned that such waiving of loadings would need to be applied consistently. It made a similar recommendation regarding the application of late entry loadings to upgrades in

⁹⁷ The Health Insurance (Miscellaneous Provisions) Act, 2009 makes provision for the threshold age to be set at 30.

cover. The HIA also acknowledged the difficulties involved in dealing with consumers who move to Ireland from overseas, who may have previously had health insurance in another jurisdiction. It proposed a grace period of six months from the time that these people move to Ireland, in order to match the grace period applied to Irish residents (it proposed that this should be of six months duration also).

However, lifetime community rating has not yet, at the time of writing, been introduced, although the Department of Health and Children (2008b) noted that legislation would be forthcoming in the near future, which would “contain measures to incentivise people to take out health insurance earlier in life and not to leave that decision until they are older.” The Health Insurance (Miscellaneous Provisions) Act, 2009 contains provisions to introduce such measures.

5.3 Review of Literature on Community Rating and Health Insurance

One issue with community rating in the Irish context is that the setting aside of the Risk Equalisation Scheme, 2003 by the Supreme Court in 2008 means that the practice of community rating in this country is community rating by plan. Therefore, while each plan may be community rated, that does not necessarily mean that health insurance consumers across the market are paying a community rate, as discussed in Chapter 3.

Consumers may also be paying different premium rates reflecting different levels of cover. Even those with similar levels of cover may be paying different premium rates if they are with different insurers. This may be due to differences in cost base, which might result from one insurer being more efficient than another or from one insurer having a more favourable risk profile than another, and thereby being able to charge a lower premium rate for a similar level of cover. The analysis in Chapter 4 suggests some evidence of risk selection between insurers, which would suggest that this latter effect is possible in practice.

This situation is exacerbated by the fact that there is no standardised plan in the Irish health insurance market. The idea of a standardised plan with a community rate is examined by Kifmann (2002), who develops a model of a competitive health insurance market. He concludes:

“Overall, the analysis has shown that the regulation of benefit packages is of crucial importance in a community rated health insurance system. On the one hand, defining a basic benefit package may not be sufficient to reach the desired redistribution between high risk and low risk types since additional benefits can be used as a risk-selection device. On the other hand, additional benefits can be used to make high risk types better off if contracts which offer additional benefits valuable for high risks are subsidized while contracts which only offer the basic benefit package are taxed.” (Kifmann, 2002: 735).

In this context, it is worth remembering that the Minimum Benefit Regulations in Ireland specify a minimum set of benefits that must be covered, but there are no restrictions on benefits offered above this level. Van de Ven & Ellis (2000) argue that disadvantages of a minimum benefit package, compared with a standardised benefit package, include that the benefit package can be used to cream-skim, that it reduces the transparency of the plans available and that it reduces price competition because of market segmentation.

Although all three insurers in the Irish market offer a variety of plans with differing levels of comprehensiveness of cover, this idea might still be of relevance, as it suggests that benefit levels can be used to target certain segments of the market. In this regard, it is worth noting that Vhi Healthcare has, in the past, offered a wider range of more comprehensive plans than its competitors, although this situation has been addressed in recent years with Vhi Healthcare closing some of its more comprehensive plans to new subscribers⁹⁸ and greater numbers of more comprehensive plans being offered by its competitors.

Maynard & Dixon (2002) and Thomson & Mossialos (2007) also note that, in the absence of a standardised benefits package, consumers may be confused about their options, thus limiting the benefits of competition. This is echoed by Mossialos & Thomson (2002b), who argue that the deregulation of the market for complementary

⁹⁸ For example, Vhi Healthcare closed its plans D Option and E Option to new subscribers on 1 September 2007.

and supplementary voluntary health insurance in the EU has not yielded the expected benefits of increased competition, in the form of greater efficiency and consumer choice, but has in fact exacerbated a number of problems, particularly in relation to information failures. In this context, it is worth noting that the number of plans available in the Irish private health insurance market has increased significantly since the market was deregulated in the mid-1990s, as mentioned in Section 2.3.

Light (1998) also questioned whether the European legislation requiring the opening of the non-life insurance market to competition was an efficiency-improving solution, suggesting that perhaps provider competition, rather than insurer competition, was what policymakers were really seeking, despite the fact that provider competition may increase costs and inequities. He also notes that “health care does not meet many of the requirements for neoclassical competition, so that high transaction costs, fragmentation, privatization, profiteering, and discrimination can result.” (Light, 1998: 748)

In this context, it is worth noting that one of the arguments used against risk equalisation in the Irish private health insurance market is that it would reduce competition in the market. Both BUPA Ireland/Quinn Healthcare and VIVAS Health/Hibernian AVIVA Health have argued this on various occasions in recent years. However, YHEC (2003) found that, while fewer competitors would enter the

Irish market if risk equalisation were in place than if it were not, the market would remain attractive to new entrants even if risk equalisation were in place.

The lack of a standardised plan is not the only potential design flaw in the Irish private health insurance market, however. Gollier (1992) notes the development of thought in the area of the optimal design of insurance contracts, and in particular the suggestion that the optimal insurance contract consists of full coverage above a deductible, and further developments to that idea, which suggest coinsurance (whereby an insured person pays a certain percentage of claim costs) above a deductible. Manning et al (1987) also found that first-dollar health insurance leads to a welfare loss to society, while Cheah & Doessel (1994) argue that an optimal coinsurance rate can be found to minimise the welfare cost of health insurance.

In this regard, it is interesting to note that, while outpatient or ancillary coverage is often subject to an excess (as a deductible is more widely known in Ireland), the hospital cover element of the majority of health insurance contracts purchased in Ireland does not involve an excess.⁹⁹ Furthermore, coinsurance is not common in health insurance in this country, with insurers instead covering the full cost of treatment in most cases. This would suggest that, based on the theoretical thinking in this area, most private health insurance contracts in Ireland are not efficient and

⁹⁹ An obvious exception to this is the Essential Plus plan offered by BUPA Ireland/Quinn Healthcare, the more popular variant of which includes an excess. However, the majority of plans offered in the Irish market do not involve such an excess, although more plans are being introduced with this option. By comparison, PHIAC (2008b) notes that, as at 30 June 2008, 73.7% of insured persons in Australia had policies that required an excess or co-payment.

that a greater use of excesses and coinsurance might be preferable from a welfare economics point of view.

However, Robinson (2002) notes that deductibles and coinsurance are forms of user charges for health care. He goes on to show that user charges in general reduce utilisation, for appropriate as well as inappropriate services. From an equity point of view, he notes that cost sharing tends to have a greater impact on those with lower incomes, suggesting that it may not be the most equitable method of healthcare financing.

One issue that arises repeatedly in the literature on health insurance is how community rating can be circumvented. If insurers are not permitted to vary premiums on the basis of the risk a consumer represents to them, then they have stronger incentives to attract low-risk lives and deter high-risk insured persons from joining them, a phenomenon known as risk selection or cream skimming. Even with open enrolment, insurers have opportunities to engage in subtle forms of risk selection, such as marketing or plan design, as discussed in Section 4.2.1. For example, additional benefits designed around sports injuries or maternity benefits would, *ceteris paribus*, appeal more to younger consumers, while benefits for heart conditions or cancer would, *ceteris paribus*, appeal more to older consumers.

These possibilities for the circumvention of community rating have led a number of authors to the conclusion that some form of risk adjustment is necessary to support

community rating. One such author is Light (1998), who examined the Irish case in particular and concluded that community rating in Ireland could still leave room for competitors who practice community rating to discriminate, using subtle forms of risk selection.

Also in the context of the Irish market, Mossialos & Thomson (2002b) suggest that an article by Payne (2000) indicates one subtle form of risk selection being practiced. This latter article (Payne, 2000) notes criticism of BUPA Ireland for requiring detailed diagnostic information on psychiatric admissions before patients were admitted, despite this not being required for any other type of hospital admission and despite Vhi Healthcare not requiring such detailed information. BUPA Ireland replied to the criticism by saying that it wanted the information for financial planning reasons, as admissions could often involve long stays in hospital.

Light (1998) also warns that the entire community rating system could collapse unless young people are encouraged to enter the market and older people are given a disincentive to delay taking out insurance for the first time. He notes that lifetime community rating is an equitable way of achieving this goal.

Critics of community rating in health insurance (such as, for example, Pauly, Kunreuther & Hirth, 1995; Pauly & Herring, 1999; Patel & Pauly, 2002) suggest that it leads to adverse selection in the market, with younger, lower-risk consumers opting out of the market, leaving older, higher-risk consumers accounting for a

higher proportion of the market. This leads to higher premiums on average, which in turn leads to further adverse selection, with the risk that this behaviour could eventually cause a death spiral.¹⁰⁰ Simon (2005) notes

“Inability to price and issue policies in accordance with risk could worsen informational asymmetry and resulting adverse selection relative to the unregulated market. Adverse selection is thought to generally reduce the insurance consumption of the low-risk groups, to transfer resources from the low-risk group to the high-risk group in cases where subsidized equilibria are sustained, or to result in a market failing to exist altogether.” (Simon, 2005: 1866).

Van de Ven et al (2000) argue that a requirement for community rating in a competitive health insurance market creates incentives for both adverse selection and cream skimming (risk selection), both of which can be welfare reducing. They conclude that “premium rate restrictions, which are intended to increase access to coverage for the high-risk individuals, induce selection, which may have unintended, counterproductive effects...So, premium rate restrictions involve a tradeoff between access to coverage and (the adverse effects of) selection.” They go on to state that, “Although an open enrolment requirement reduces the insurers’ ability to select, it does not reduce their *incentive* for selection.” (Van de Ven et al, 2000: 320,

¹⁰⁰ Newhouse (1984) referred to this phenomenon being caused by community rating as “regulation-induced adverse selection.” (Newhouse, 1984: 99).

emphasis in original). They also suggest that insurers might use adverse selection as a tool to engage in cream skimming.

As discussed in Section 4.2.2, one market that is often examined to test for the manifestation of an adverse selection death spiral is the New York health insurance market after reforms were introduced there in 1993, mandating community rating, open enrolment, lifetime cover and a risk adjustment mechanism.

Buchmueller & DiNardo (2002) suggest that, based on the results of Rothschild & Stiglitz's (1976) model, the introduction of community rating could have two possible effects. One is that a market-wide adverse selection death spiral begins; the other is that the penetration of coverage does not fall, but that the average quantity of insurance purchased falls (with low-risk individuals purchasing less coverage, while high-risk individuals opt for more comprehensive coverage).

Their results show that there was no adverse selection death spiral in New York after community rating was introduced. However, there was a shift in the structure of the market, with a relatively greater move to health maintenance organizations (HMOs) in New York after the reforms than in either Connecticut or Pennsylvania at the time.¹⁰¹ Thus, the authors show that, while a death spiral did not materialise, the average quantity of insurance purchased did indeed fall.

¹⁰¹ HMO (health maintenance organization) coverage is less comprehensive than traditional indemnity coverage.

Hall (1998) also finds that, while prices in the market for individual health insurance in New York rose post-reform due to adverse selection, these price rises did not trigger a death spiral. He also suggests that, although controversial, the risk adjustment mechanism introduced in tandem with community rating appears to have served a purpose, as many more insurers might have left the market under community rating in the absence of this mechanism

However, Adams (2007) shows, using a difference-in-difference-in-difference approach, that the reforms increased the relative wages of older workers in small firms in New York, compared with those of large firms. His findings also suggest that there was a health insurance-wage trade-off undertaken by small group employers in New York after the reforms were implemented. He suggests that his results, combined with the findings of Buchmueller & DiNardo (2002) could explain why there was no major impact on coverage rates in New York following the reforms.

However, other studies, such as Altman et al (1998), Buchmueller (2006), Cutler & Zeckhauser (1997) and Cutler & Reber (1998) find evidence to suggest that community rating contributed to adverse selection death spirals, which resulted in plans being withdrawn in a number of markets.

Other empirical work by Simon (2005) examines the effects of state health insurance reforms in the US, in particular the imposition of restrictions on rating and the

introduction of guaranteed issue (another term for open enrolment), on small-group health insurance markets. He notes that most states introduced reforms during the 1990s and rates states as ‘full reform’, ‘partial reform’ or ‘no reform’. Using a difference-in-difference-in-difference approach, he finds that full reforms caused a 5% reduction in the rate of employer-provided health insurance coverage, with coverage rates falling more sharply for low-risk employees but remaining broadly stable for high-risk employees. Partial reforms had an insignificant effect in most cases.

He also finds that average premiums increased post-reform, as did average employee contributions, but that coverage rates fell. He concludes that, although the introduction of reforms spread the costs associated with health risks more evenly across the market, they may also have unintentionally reduced insurance coverage through increased premiums and employee contributions. He goes on to note that “Economic theories of insurance markets warn us that preventing insurers from distinguishing between different risk groups may worsen the availability of insurance for healthier individuals but not for those who are considered medically expensive.” (Simon, 2005: 1875-76). However, he poses the question that if forcing insurers to treat all customers equally does not produce optimal results, then what measures will.

An alternative to community rating that has been suggested is guaranteed renewability, which was first proposed by Pauly et al (1995). This is a system

whereby insurers would charge consumers a sequence of premiums, which allow insurers to break even and are attractive to both high-risk and low-risk consumers. Premiums would decline over time as insurers gather more information on consumers, allowing them to identify low-risk consumers. These higher premiums in earlier periods insure low-risk consumers against the risk of becoming high-risk, which is an advantage shared with community rating. (By contrast, risk rating would not insure low-risk consumers against the risk of becoming high-risk at some point in the future.)

Later work by Patel & Pauly (2002) suggests that guaranteed renewability is an alternative to community rating in dealing with problems of risk segmentation. They note that risk variation among insured persons leads to three potential problems – adverse selection, risk rating (which is often regarded as unfair, and which the authors show can expose people to risks against which they would like to be protected) and cream skimming. They note that guaranteed renewability can help to reduce the problem of risk rating by protecting low-risk insured persons against the risk of becoming high-risk, since this will not affect their premium (although it does not protect against premiums rising with age). It protects against adverse selection by encouraging low-risk consumers to take out guaranteed renewability policies before they become high-risk. They note that cream skimming is more difficult to deal with, as it can be more subtle, but that “those who become higher risks have a legal right to stick with the policy, and those who remain average risks face a premium they should be willing to pay.” (Patel & Pauly, 2002: 282). They

argue that guaranteed renewability, though not perfect, provides a more market-based mechanism for protecting against some risk segmentation than community rating, but conclude that some form of regulation is probably needed to deal with the problem of risk segmentation.

Pauly & Herring (2007) examine the individual health insurance market in the US and suggest that the Health Insurance Portability and Accountability Act (HIPAA) requires all states to enforce some guaranteed renewability provisions, although the degree to which they do varies by state. They show that premiums vary considerably less than expected expenses or actual expenses and thus conclude that risk pooling is evident in the market, even in the absence of rating regulation. They estimate that guaranteed renewability or some other mechanism pooled 84.5-88.5% of the risk as a result of the random effect of chronic conditions. They also find that high-risk lives are less likely (though only slightly) to have cover than low-risk lives in unregulated states, whereas there is no significant difference in coverage levels in regulated states. However, regulation slightly reduced the overall rate of insurance take-up. The authors suggest that the reason regulation has little effect is that the high degree of risk pooling in the unregulated markets means that there is little more that regulation can add. They also suggest that, because the overall proportion of low-income people of all risk classes who were willing to get individual cover was so low, very few people were helped by regulation.

Guaranteed renewability is not the only alternative to community rating that has been suggested, however. Van de Ven et al (2000) suggest that introducing restrictions on how insurers set their premium rates – community rating being one such restriction – is one way of addressing the apparent incompatibility between the equivalence principle (insurers need to break even on each insurance contract) and the solidarity principle (high-risk individuals receive a subsidy from low-risk individuals to increase their access to cover).

However, as an alternative to premium rate restrictions, they suggest that risk-adjusted premium subsidies might increase access for high-risk consumers without inducing the type of selection effects associated with premium rate restrictions. These represent explicit cross-subsidies, compared with the implicit cross-subsidies inherent in premium rate restrictions. However, they note that under a system of such subsidies, access to coverage for high-risk individuals may be insufficient, for a number of reasons – insurers might not have sufficient information to accurately risk rate, or the subsidies may not be sufficient to reduce the costs of access for high-risk individuals.

They then simulate three alternatives – premium rate restrictions, risk-adjusted subsidies and a combination of the two. They conclude that “a sponsor in a competitive individual health insurance market is confronted with a tradeoff between *access, efficiency and selection*, [which] differs from the conclusion of Newhouse (1996) that widespread health insurance creates a tradeoff between *efficiency and*

selection.” (Van de Ven et al, 2000: 336, emphasis in original). They further suggest that the subsidy system also provides insurance against the risk of becoming a bad risk. This is also a feature of community rating and guaranteed renewability.

Two private health insurance markets that operate on the basis of community rating, and which are examined in detail in this study, are Ireland and Australia. These markets are similar in many respects, a finding that will be examined in more detail in Chapter 6. A number of studies have examined the effectiveness of community rating in Australia, although fewer such studies are available for the Irish market.

Hall, De Abreu Lourenco & Viney (1999), in discussing the Australian market, note “The co-existence of universal public cover and community rating of private health insurance premiums exacerbates the adverse selection problem and makes private insurance unsustainable.” (Hall et al, 1999: 659). The idea that universal access to public health services reduces the incentive for low risk consumers to purchase health insurance under community rating, as their premiums would be higher than actuarially fair, was also noted in the Australian context by Industry Commission (1997). Doiron, Jones & Savage (2008) also suggest that adverse selection effects would be stronger in the presence of a universal public healthcare system. This has relevance for the Irish market, as it too operates on the basis of community rating alongside a universal public healthcare system.

Somerville (1998) argues that the take-up of health insurance in Ireland by younger people in a community rated market suggests some degree of altruism. If this argument is correct then it could lend itself to further instability in the market, as such altruism might be seriously tested by the current economic recession. This could further strengthen the case for some mechanism to encourage consumers to enter the market at younger ages.

As discussed earlier, it has been argued that community rating induces or exacerbates adverse selection in the market for private health insurance. However, as discussed in Section 5.2, proponents of lifetime community rating, including the Advisory Group to the Minister for Health on the Risk Equalisation Scheme (1998), the Department of Health and Children (1999) and the HIA (2002d), have argued that a move to lifetime community rating would reduce the adverse selection problem posed by community rating. In this context, the Australian experience of introducing lifetime community rating is instructive, and has been the subject of some analysis.

Brown III & Connelly (2005b) and Connelly & Brown III (2006) suggest that, although the introduction of lifetime community rating in Australia increased membership and improved the overall risk profile of the insured population, it has not solved the adverse selection problem facing the market. They suggest that an adverse selection death spiral has already recommenced after the introduction of lifetime community rating. They argue that the reason lifetime community rating

has not dealt adequately with the adverse selection issue is that the penalties are purely age-related and do not take into account risk differences among people of the same age. They suggest that the loading scheme in Australia does not exclude sufficient numbers of high risks to make community rated insurance attractive for low risks of any age. However, they note that lifetime community rating does lead to high risks taking out less than full cover, which mitigates the effects of high risks joining the risk pool. They also find that the late entry loading is not a deciding factor in the decisions on purchasing insurance for the first time among older low-risk consumers. They conclude that, while the subsidisation of private insurance is supported by some, in order for an effective lifetime cover plan to be put in place community rating would need to be sacrificed, although they acknowledge that this might be politically difficult.

The deterioration in risk profile since the introduction of lifetime community rating is also alluded to by Palangkaraya & Yong (2007), although they argue that it is not certain yet whether this is due to lifetime cover losing its effectiveness, adverse selection, a response to recent premium increases, a perception of a lack of value for money, or a combination thereof.

Brown III & Connelly (2005a, 2005b) and Connelly & Brown III (2006) propose an alternative system, involving an age-based subsidy profile, drawing on the guaranteed renewability work proposed by authors such as Pauly et al (1995). They suggest that this subsidy would stabilise the adverse selection problem that still faces

the Australian market. They argue that this would give younger, healthier consumers a greater incentive to take out health insurance and would protect them against the risk of developing a medical condition, which would otherwise increase the lifetime premiums they would have to pay.

In the White Paper in Ireland in 1999 (Department of Health and Children, 1999), the then government noted that the continued attraction of younger consumers into the market in order to ensure the affordability of health insurance for older consumers was an important reason for its support for the introduction of lifetime community rating in Ireland. It noted

“The future viability of community rating in a voluntary environment is dependent on people joining the private health insurance system at a young age. The surpluses that young healthy people contribute to the system facilitate the insurance of older, sicker people at premium rates that would not otherwise be affordable. If the flow of young healthy lives into the system were to taper off, then the community rate that insurers charge would be forced up, as it would be based on a worsening risk profile. This could have a compounding effect, as high premium inflation could possibly cause young healthy people to question the value of their insurance and terminate their cover, thereby causing the community rate to increase further.”
(Department of Health and Children, 1999:33).

The latter part of this statement indicates the then government's concern over the possibility of an adverse selection death spiral if sufficient measures were not taken to ensure a continued stream of younger consumers into the market. In this context, the suggestion of Brown III & Connelly (2005b) and Connelly & Brown III (2006) in relation to the inadequate efficacy of lifetime community rating in dealing with such behaviour in the Australian market is potentially of concern for the Irish market.

This section has reviewed the literature on community rating. It is clear from this review that the system in Ireland contains some flaws in its design, one of which is the lack of a standard plan, or a set of standard plans. It is also clear that there is scope for insurers to circumvent community rating, without breaching the legislation governing the market. A recurring theme in the literature is the possibility for adverse selection to occur under mandated community rating or for community rating to exacerbate adverse selection. Other alternatives to community rating are suggested in the literature, including guaranteed renewability and risk-adjusted premium subsidies. Analysis of both the Irish and Australian private health insurance markets, which have a number of similarities, highlights potential instability arising from the voluntary nature of private health insurance operating alongside public healthcare system to which the population has universal entitlements, and the fact that community rating relies to some extent on altruism by low-risk consumers. Lifetime community rating, which was implemented in Australia in 2000 and is proposed in Ireland, has the potential to reduce the risk of

adverse selection. However, it is also found in the literature to have flaws, and it is suggested that it might not be entirely successful in addressing the adverse selection issues posed by community rating in general.

5.4 Single Rate Community Rating versus Lifetime Community Rating

As discussed in Chapter 2, take-up of private health insurance in Ireland is highest in the middle age groups, but lower among young adults and older people (aged 65 and over). Given the proposals to introduce lifetime community rating in Ireland to replace the existing system of single rate community rating, it would be instructive to examine the likely impact, if any, such a move might have on the age profile of the market. In particular, it would be appropriate to examine whether such a move would encourage a greater number of younger consumers to enter the market, which would reduce the impact of adverse selection and thus increase the stability of the market.

5.4.1 Single Rate versus Lifetime Community Rating in Australia

As mentioned in Section 5.2, lifetime community rating was introduced in Australia in 2000, replacing the system of single rate community rating that had been operating there previously. Under the lifetime community rating system in Australia, anyone who takes out hospital-based private health insurance for the first time before 1 July after their 31st birthday pays the base premium. If they do not

have health insurance by this date, then for every year after age 30 that a person delays taking out health insurance for the first time, they pay a late entry loading of 2% of the base premium. Therefore, someone who takes out health insurance for the first time at age 31 pays 102% of the base premium, someone who takes it out at age 32 pays 104% of the base premium, and so on.

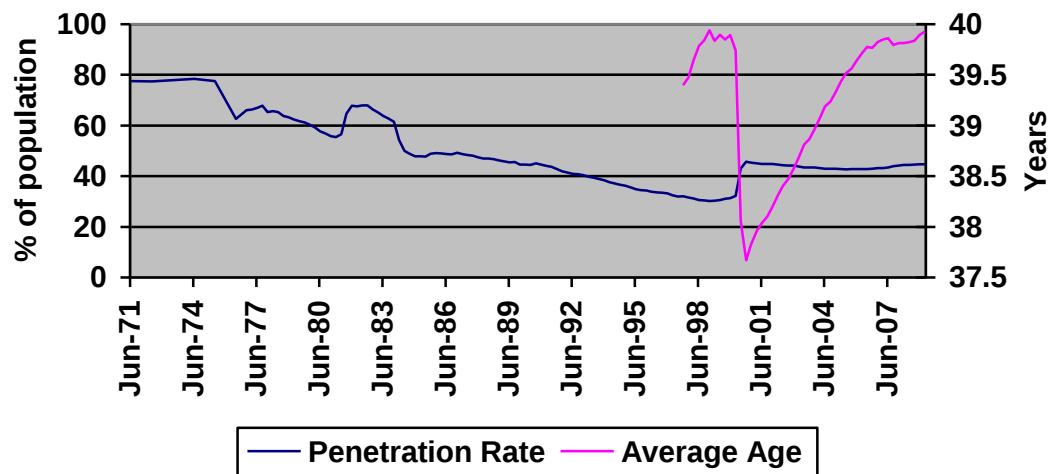
A maximum late entry loading of 70% of the base premium is charged to anyone who takes out health insurance for the first time at age 65 or over. However, anyone aged 65 or over on 1 July 1999 (i.e. on the date of commencement of the grace period) was exempted from late entry loadings, whether they take out private health insurance for the first time during the grace period or at any time thereafter. Furthermore, any late entry loading that a person must pay will cease if the person has had hospital cover for a continuous period of 10 years.¹⁰²

This still represents community rating, as the same rate is charged to anyone taking out health insurance for the first time at a particular age, irrespective of gender, state of health or other risk factors. Hence, risk is not taken into account in determining premiums; rather the loading is designed to reflect the fact that the insured person has not contributed to the community rate for as long as someone who took out insurance at or before the threshold age.

¹⁰² See PHIAC (2008a) for further details on lifetime community rating – or Lifetime Health Cover, as it is sometimes called – in Australia.

During the transition to lifetime community rating in Australia, a grace period was implemented, during which anyone who took out private health insurance for the first time, irrespective of age, could do so without paying any late entry loadings. This grace period initially ran from 1 July 1999 to 30 June 2000, but it was later extended by two weeks. This was to cater for the strong demand for private health insurance before the end of the grace period (Wilcox, 2001), which might have resulted from the majority of the promotional activities related to the policy being concentrated in the first and second quarters of 2000 (Frech III & Hopkins, 2004).

Figure 5.2 Penetration Rate and Average Age of Insured Persons with Hospital Treatment Membership, Australia



Source: PHIAC

The Private Health Insurance Administration Council publishes quarterly statistics on membership and benefits for the Australian private health insurance market. The effect of the introduction of lifetime community rating, and the grace period therewith, can be clearly seen from these statistics. Figure 5.2 shows the overall

penetration rate of hospital cover in Australia and the average age of the insured population with hospital cover. Between June 1999 (the last data point before the commencement of the grace period) and September 2000 (the first data point after the expiry of the grace period), the overall penetration rate rose from 30.6% to 45.8%, while the average age of insured persons with hospital cover fell from 39.9 to 37.7. However, both of these effects have begun to unwind, and in March 2009 the penetration rate stood at 44.6% (this represents a slight rise from the post-lifetime community rating low of 42.7% seen in June 2005), while the average age of the insured population had risen to 39.9.

It can be seen from Figure 5.2 that, prior to the late 1990s, the proportion of the Australian population with private health insurance had been on a long-term downward trend. This trend began in the 1970s when Medibank – a programme of universal, non-contributory health insurance was introduced. In 1984, this was replaced by Medicare, which is the current system of tax-financed universal health insurance. By the late 1990s, the decline in the proportion of the Australian population with private health insurance became a concern for policy-makers there, and a series of three market reforms were introduced in an attempt to address this decline.

The first reform, introduced in July 1997, was a tax levy on high earners who did not take out private health insurance, combined with a means-tested partial refund on health insurance premiums for low-income households. The second reform, introduced in 1999, involved an amendment to the first reform, with the means-

tested subsidy component being replaced by a 30% premium rebate irrespective of income, for both new and existing policies.¹⁰³ The third reform was the introduction of lifetime community rating.

Although the majority of commentators accept that lifetime community rating was the most effective of the three reforms in addressing the decline in private health insurance coverage, Palangkaraya & Yong (2007) suggest that the short time-frame within which the three reforms were introduced means that some of the overall increase in take-up could perhaps have been due to the earlier reforms or a combination of all of the reforms. They suggest that the effect of the introduction of lifetime community rating has been overestimated, and using regression discontinuity they isolate the effect of this measure. Their results suggest that the introduction of lifetime community rating accounted for between 22% and 32% of the combined effect of the three reforms.

Their results also suggest that the introduction of lifetime community rating had a bigger impact on take-up rates among those in higher income groups and very little effect on low income groups, and that it had a higher impact on take-up rates among high-risk individuals and very little effect on low-risk individuals.

Wilcox (2001) also suggests that the 30% rebate benefitted the higher-income groups more than the lower income groups, due to the higher take-up rates of private

¹⁰³ According to PHIAC (2008b) this increases to 35% for people aged 65-69 and to 40% for people aged 70 and over. The higher rebates for older people were introduced from 1 April 2005.

health insurance among the former than the latter. However, in contrast to Palangkaraya & Yong (2007), she suggests that it was lifetime community rating rather than the rebate which had the greatest impact on take-up rates. Although the debate about the relative impact of lifetime community rating compared with the other policy reforms is ongoing however, it is clear that the introduction of lifetime community rating had a significant effect on take-up rates of private health insurance in Australia.

The increase in the average age of the insured population since the introduction of lifetime community rating should be taken in the context of the overall ageing of the population in Australia. Figures from the Australian Bureau of Statistics (ABS, 2008) show that the mean age of the population in June 1999 was 36.3 years. This mean age rose to 36.6 by June 2000 and the estimate for June 2008 was 37.9. By contrast, the average age of insured persons in June 1999, just before the commencement of the grace period for lifetime community rating, was 39.9 years. This fell to 38.1 by June 2000, and fell further to a low point of 37.7 in September 2000, but rose since then to reach 39.8 in June 2008, and further to 39.9 by March 2009 according to the membership statistics from PHIAC.

It can therefore be seen that, between June 2000, just before the end of the grace period, and June 2008, the average age of the insured population rose by 1.7 years, compared to a rise in the overall age of the population of 1.3 years. The increase in the average age of the insured population can therefore not be entirely explained by

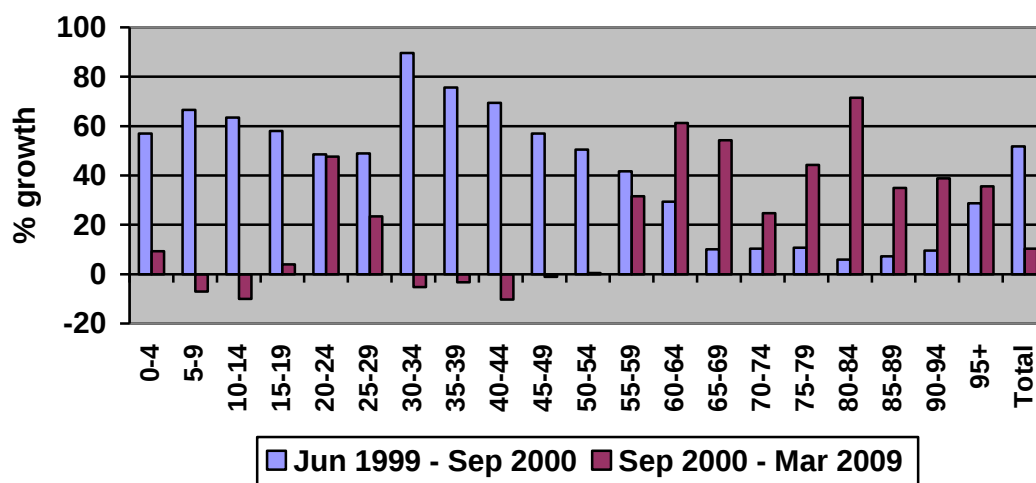
the ageing of the overall population in Australia. This is further reinforced if the additional reduction in the average age of the insured population between June 2000 and September 2000 is taken into account. The average age of the insured population increased by 2.1 years between September 2000 and June 2008, which is considerably in excess of the ageing of the overall population. This would appear to support the suggestion by Brown III & Connelly (2005b) that, after an initial effect whereby younger Australians took out health insurance after the introduction of lifetime community rating, these younger Australians have since begun to drop insurance. They suggest that this is evidence that adverse selection was not halted by lifetime community rating.

If the trend in take-up around the time of the introduction of lifetime community rating is examined by age, it is clear why the average age was reduced so dramatically. It also indicates that, rather than encouraging large numbers of older people to enter the market and thus avoid paying late entry loadings, the grace period actually encouraged a significantly sharper increase in take-up among younger age groups.

Figure 5.3 shows the percentage growth in membership in different age categories between June 1999 and September 2000, in other words from just before the start of, until just after the end of, the grace period. As can be seen from this figure, the largest impact in terms of membership numbers was in the 30-34 age bracket, with an increase of almost 90% in the number of people in that age group with hospital

cover. In contrast, there was a relatively smaller increase in membership numbers in older age groups. Growth in membership numbers was particularly low among those aged 65 and over, although as mentioned earlier, those who were aged 65 and over on the date of commencement of the grace period were exempt from late entry loadings. The one exception was the 95+ age group, which saw an increase of 28.8%, although this was from a relatively low base (in June 1999 there were only 4,974 people aged 95 and over with hospital cover, out of an overall market size of just under 5.8 million), but even this growth rate was well below the overall growth rate of just under 52% in membership numbers over the period.¹⁰⁴

Figure 5.3 Growth in Numbers with Hospital Cover in Australia



Source: PHIAC

However, since lifetime community rating was introduced, the pattern of membership growth has been quite different. Between September 2000 (the first

¹⁰⁴ Wilcox (2001) suggests that the significant increase in take-up among those aged 30 and under, who would have been unaffected by the change to lifetime community rating, might have been partly due to the purchase of family coverage by adults aged over-30, which might have included cover for children aged under-30.

data point incorporating lifetime community rating and therefore the application of late entry loadings) and March 2009, the highest rates of growth have tended to be seen in older age groups, particularly from age 55 upwards. The notable exceptions to this rule are the 20-24 and 25-29 age groups, which would be consistent with people taking out private health insurance before age 30, at which time they would be subject to late entry loadings. It can be seen from Figure 5.3 that membership numbers have fallen in a number of age groups, particularly in the 5-9, 10-14 and 40-44 age groups. The overall growth in membership numbers since September 2000 has been significantly more modest than that witnessed during the grace period however, as would be expected as the market stabilises to what might be considered a more normal level of growth.

These patterns are confirmed by examining the share of the overall insured population by age group, as can be seen in Table 5.3. These figures show that every age group from 50-54 upwards reduced its share of the overall insured population between June 1999 and September 2000, as did the 20-24 and 25-29 age groups (albeit marginally). The 30-34 age group increased its share of the insured population by 1.5 percentage points over the period, from 6.0% to 7.5%. However, this was largely reversed between September 2000 and March 2009. Over this period, every age group from 55-59 upwards increased its share of the market, as did the 20-24 and 25-29 age groups. The only age group to show a similar pattern between June 1999 and September 2000 and between September 2000 and March

2009 was the 50-54 age group, the share of which in the overall market fell in both periods.

Table 5.3 Proportion of Total Insured Population in Australia by Age

Age Group	Jun. 1999	Sep. 2000	Mar. 2009	Difference Jun 99 – Sep 00	Difference Sep 00 – Mar 09
0-4	5.6	5.8	5.8	0.2	-0.1
5-9	6.3	6.9	5.8	0.6	-1.1
10-14	7.0	7.5	6.1	0.5	-1.4
15-19	6.7	7.0	6.6	0.3	-0.4
20-24	4.1	4.0	5.3	-0.1	1.3
25-29	4.5	4.4	5.0	-0.1	0.5
30-34	6.0	7.5	6.4	1.5	-1.1
35-39	7.4	8.6	7.5	1.2	-1.1
40-44	8.1	9.0	7.3	0.9	-1.7
45-49	8.7	9.0	8.0	0.3	-0.9
50-54	8.8	8.7	7.9	-0.1	-0.8
55-59	6.8	6.4	7.6	-0.5	1.2
60-64	5.4	4.6	6.7	-0.8	2.1
65-69	4.6	3.3	4.7	-1.3	1.3
70-74	4.1	3.0	3.4	-1.1	0.4
75-79	2.7	2.0	2.6	-0.7	0.6
80-84	1.7	1.2	1.8	-0.5	0.7
85-89	1.0	0.7	0.9	-0.3	0.2
90-94	0.4	0.3	0.3	-0.1	0.1
95+	0.09	0.07	0.09	-0.01	0.02

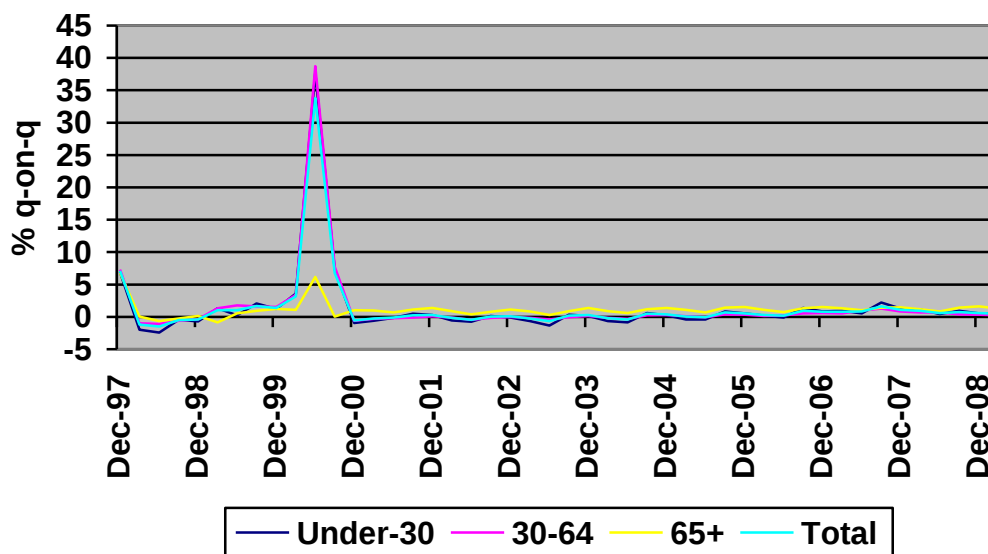
Source: PHIAC

Figures 5.4 and 5.5 confirm this trend, showing the quarter-on-quarter and year-on-year change in membership in three broad age categories. The first broad age category incorporates the under-30 age groups, which would have been unaffected by the introduction of late entry loadings.¹⁰⁵ The second is the 30-64 age groups,

¹⁰⁵ In this context, being unaffected means that they would not have been liable to pay any late entry loading. It is possible that they were affected insofar as they would have had a greater incentive to take out private health insurance before their 31st birthday.

which would have been partially affected.¹⁰⁶ It should be noted that the partial effect would have varied from 2% for those aged 31 to 68% for those aged 69 when first taking out health insurance, and it is therefore a very heterogeneous group. The third broad category is the 65+ age groups. This group is quite heterogeneous, in that, anyone aged 65 or over on the date of commencement of the grace period (i.e. 1 July 1999) is exempt from late entry loadings irrespective of when they take out private health insurance, while those who only turned 65 since that date would be most affected by the change from single rate to lifetime community rating, as they would have to pay a 70% late entry loading.

Figure 5.4 Quarterly Growth Rates in Hospital Membership by Age, Australia

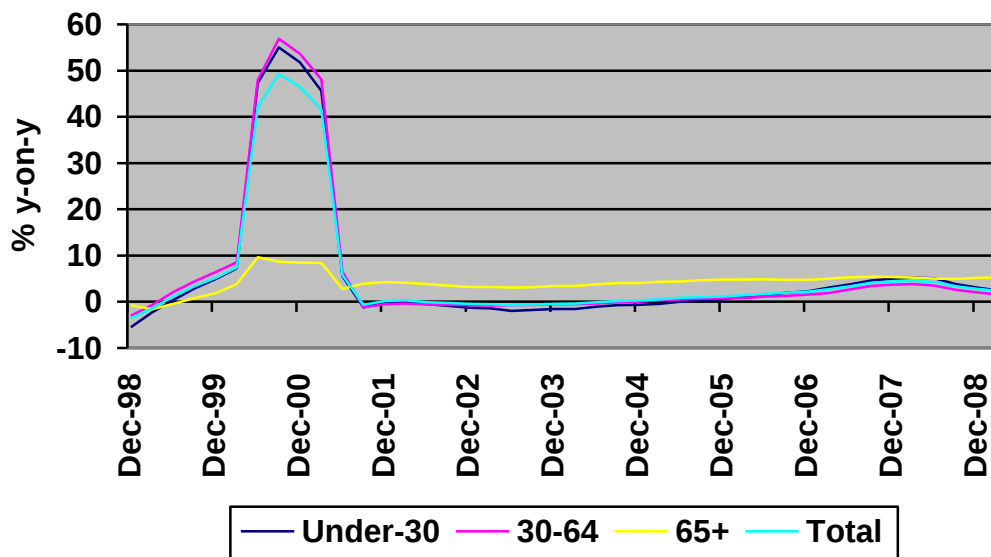


Source: PHIAC

¹⁰⁶ Although those aged 30 would have been unaffected by late entry loadings, the age banding of the information published by PHIAC included 30-year olds with those aged 31-34. It was therefore decided to include these in the category of those partially affected by late entry loadings.

The trends in growth for the under-30 and 30-64 age categories are broadly similar, while the trend for the 65+ age category is significantly different, displaying much more subdued growth around the time of the introduction of late entry loadings, although growth was recorded, suggesting that the introduction of lifetime community rating encouraged some increased take-up among older consumers.

Figure 5.5 Annual Growth Rates in Hospital Membership by Age, Australia

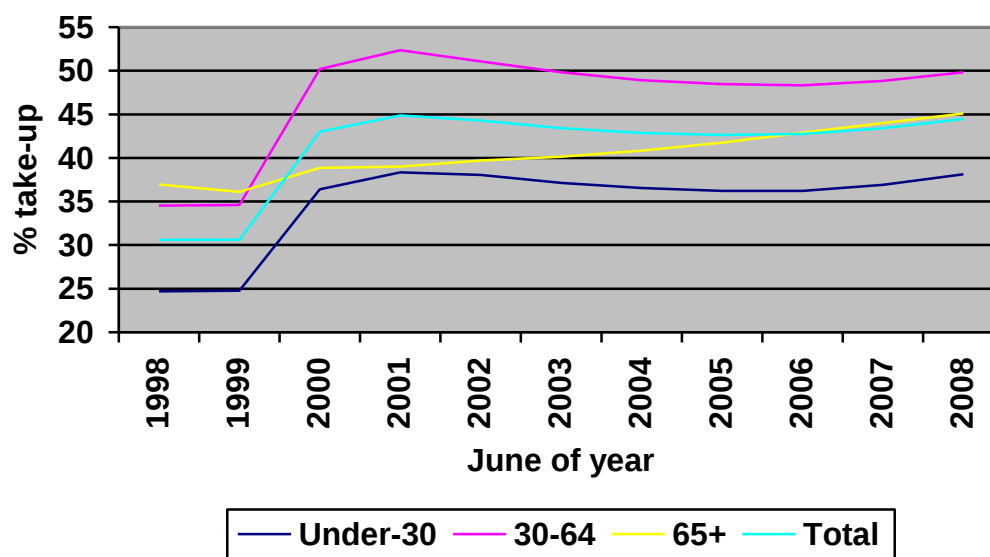


Source: PHIAC

Further evidence of the differential effect of the introduction of lifetime community rating in Australia can be seen from the take-up rates of hospital-based health insurance since before the change-over from single rate community rating. Figure 5.6 shows these take-up rates calculated based on membership figures from the

Private Health Insurance Administration Council and the Australian Bureau of Statistics.¹⁰⁷

Figure 5.6 Take-up Rates of Hospital-based Health Insurance by Age, Australia



Source: Figures calculated based on data from PHIAC, ABS

It can be seen from these figures that, between June 1999 and June 2000, the penetration rate of hospital-based health insurance among the under-30 age group rose from 24.8% to 36.4%, an increase of 11.7 percentage points, before peaking in June 2001 at 38.4%. The penetration rate among the 30-64 age group rose from 34.6% in June 1999 to 50.2% in June 2000, an increase of 15.6 percentage points, before peaking in June 2001 at 52.4%. However, the penetration rate among the 65+ age group rose more modestly, from 36.1% in June 1999 to 38.8% in June 2000, an

¹⁰⁷ These figures tally with the overall take-up rates published by PHIAC for the most part, with three minor exceptions. The figures contained in the analysis in this study differ from the published PHIAC figures by 0.1 percentage points in June 2003, June 2005 and June 2007. The reason for the divergence is not clear, but it is unlikely that this would make any significant difference to the analysis, and is reported here for the sake of completeness.

increase of just 2.7 percentage points, but has continued to rise, reaching 45.1% in June 2008.

Figures for March 2009 (PHIAC, 2009) show that 89.5% of adults with hospital cover have a certified age at entry of 30 and are therefore not paying any late entry loading. The certified age at entry is the age at entry for the purposes of late entry loadings. Anyone who had private health insurance before the changeover from single rate community rating to lifetime community rating, or who joined during the grace period, or who were aged 65 or over on 1 July 1999 and who took out private health insurance since then, would have a certified age at entry of 30, provided they have not dropped their cover for more than 1,094 days since receiving this certified age at entry. Provisions were also made for specific categories of persons, including Australians who were living abroad on their 31st birthday or during the grace period, members of the Australian Defence Forces on 1 July 2000, and army veterans (see PHIAC, 2008a for further details).

However, PHIAC (2009) also notes that the proportion of adults paying a late entry loading has increased every quarter since the introduction of lifetime community rating. This proportion increased from 0.2% in the quarter ending 30 September 2000 (the first quarter during which entry loadings would have applied to new entrants over the age of 30) to 10.5% in March 2009. This is not surprising, as new entrants over the age of 30 (with the exception of those categories mentioned above) would be liable to pay late entry loadings.

Of those paying late entry loadings in March 2009, 21,666 had a certified age at entry of 65. This represents almost 3% of those paying late entry loadings. Indeed, the percentage of those paying late entry loadings accounted for by those with a certified age at entry of 65 has increased faster than the percentage accounted for by any other certified age at entry, from just 0.8% in September 2000 (the first quarter during which late entry loadings would have been payable) to 3.0% in March 2009.

One factor that might have had an impact on the 65+ age category is that, under the legislation governing lifetime community rating, anyone born on or before 1 July 1934 (i.e. anyone who would have been 65 or over when the grace period began), is exempt from lifetime community rating and is therefore entitled to take out private health insurance at any time and pay the same premium as someone taking out private health insurance for the first time at or before the age of 30, in other words without being subject to late entry loadings (see PHIAC, 2008a).

Thus, in effect, these people would have been unaffected by the change. While those aged 30 and under would also have been unaffected, they would be affected at a later stage (i.e. from their 31st birthday onwards), unlike those who were aged 65 and over at the beginning of the grace period.

Despite the nuances of legislative provisions and the debates surrounding the effectiveness of lifetime community rating versus the other market reforms

introduced in the late 1990s, it is clear that the introduction of lifetime community rating had a significant impact on the Australian private health insurance market. It led to an increase in the overall take-up rates of private health insurance and it encouraged younger consumers into the market in greater numbers. Although there have been suggestions that its introduction has not halted adverse selection, it is clear that it had a significant impact in slowing its effects. It is perhaps too early to determine definitively whether this was merely a short-term effect or whether it will have a longer-term impact.

5.4.2 Lifetime Community Rating in the Irish Context

As discussed in Section 5.2, lifetime community rating in Ireland has been discussed for a number of years. The Advisory Group on the Risk Equalisation Scheme (Advisory Group to the Minister for Health on the Risk Equalisation Scheme, 1998) noted that the current system of single rate community rating may risk instability in the market, particularly if large numbers of people opt not to take out private health insurance at younger ages, preferring to wait until they are older before taking it out. This would undermine the inter-generational solidarity on which community rating is based.

However, it should be noted that this does not occur to a great extent currently. According to the surveys of consumers carried out on behalf of the HIA, the majority of consumers take out health insurance before the age of 30, with relatively

low numbers taking it out for the first time at age 50 or over (see Table 5.4). The mean age at which consumers took out health insurance for the first time was 30 in both surveys (2003 and 2005). It could be argued that this indicates that the introduction of lifetime community rating in Ireland might be less effective than in Australia. Nevertheless, as long as single rate community rating is in operation, the risk to inter-generational solidarity remains and, while a move to lifetime community rating would not entirely eliminate this risk, it would reduce it. In this context, it is interesting to note that HIA (2008c) finds that a growing proportion of those without private health insurance appear to be delaying taking it up until they are older and more likely to need it.

Table 5.4 Age At Which Policyholders Took Out First Policy, Ireland

Age	<30	30-39	40-49	50+
2003 Survey	59%	25%	9%	7%
2005 Survey	54%	29%	12%	5%

Source: Calculated from raw data from HIA (2003a, 2005a)

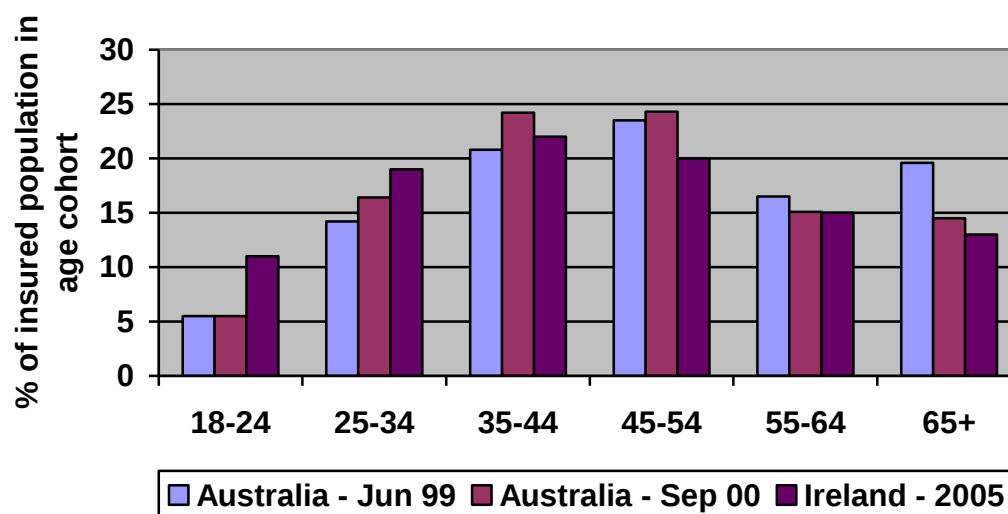
Note: The survey questionnaire for HIA (2008c) did not ask what age people were when they first took out health insurance.

Figure 5.7 shows the proportion of the adult insured population in various age categories in Australia before and after the changeover, and in Ireland in 2005, according to the HIA survey (HIA, 2005a).¹⁰⁸ It should be noted that the Australian figures do not refer to 18-24-year olds, but rather 20-24. All other age bands are comparable between the two countries.

¹⁰⁸ The 2005 figures (HIA, 2005a) are presented here instead of the 2008 figures (HIA, 2008c) to ensure consistency with the analysis carried out in section 5.5.

It can be seen from these figures that younger age groups accounted for a higher proportion of the insured population in Ireland in 2005 than they did in Australia in 1999, even discounting the 18-24-year old category. In particular, the 25-34 age group accounted for a significantly higher proportion of the insured population in Ireland in 2005 than it did in Australia before the change from single rate community rating to lifetime community rating (19% versus just over 14%). At the same time, the 65+ age group accounted for a significantly lower proportion of the insured population in Ireland in 2005 than it did in Australia before the changeover (13% versus almost 20%).

Figure 5.7 Age Breakdown of Insured Population, Australia and Ireland



Note: Irish data refer to 18-24, Australian data refer to 20-24; All other age bands are comparable

Source: PHIAC; HIA (2005a)

The move to lifetime community rating did shift the age balance in Australia however, with a greater proportion of 25-34-year olds in the insured population after the changeover, and a lower proportion of people aged 65 and over. However, it

should be noted that, since September 2000, the proportion of the insured population in the 25-34 age group has fallen and the proportion in the 65+ age group has risen, to just under 15% and 18% respectively.

The above figures would suggest that Ireland's insured population is, on average, younger than that in Australia before the transition to lifetime community rating. The Australian experience would suggest that, if the introduction of lifetime community rating in Ireland were to induce a similar response to that in Australia, the average age would fall and younger age groups would account for a higher proportion of the insured population, thus strengthening further the intergenerational solidarity on which community rating is based. This strengthening would, to some extent, balance the likely future ageing of the insured population resulting from the expected overall ageing of the Irish population (as projected in CSO, 2008a).

It should also be noted that, when asked whether the introduction of late entry loadings would encourage them to take out private health insurance sooner rather than later, only 16% of those without private health insurance replied that it would, while 48% said it would not and 36% said they did not know (HIA, 2008c). The fact that only 16% of those replied that they would take out private health insurance sooner rather than later compares with 29% giving that reply in 2005 (HIA, 2005a) and 16% in 2003 (HIA, 2003a). This result should be seen in the context that 27% of those without private health insurance said that they are likely to take it out at some stage in the future, while 56% said that they would never take it out or are

unlikely to do so (HIA, 2008c). These findings suggest that the introduction of lifetime community rating could have at least a modest impact on those who do not have private health insurance but are considering taking it out.

5.5 What Does the Australian Experience Tell Us for the Irish System?

The experience of the changeover from single rate community rating to lifetime community rating in Australia may give some indication as to the likely impact of the proposed change in Ireland. It would therefore be useful to examine the effects of the change in Australia and try to predict what would happen in the Irish market if similar effects were to be seen here.

5.5.1 Effect of Lifetime Community Rating on Take-up

The Private Health Insurance Administration Council (PHIAC) in Australia produces quarterly statistics on membership of hospital plans by age group. This series began in September 1997. The Australian Bureau of Statistics (ABS) produces annual statistics on population by age, with the figures relating to June of each year. The ABS also produces quarterly statistics on various economic indicators.

The first step in the analysis was to calculate take-up rates of hospital plans by age group. This was done by calculating the number of people in each age group with

hospital cover as a percentage of the overall population in that age group. Since the population figures are only annual, figures for the intervening quarters were calculated by interpolation using a geometric growth rate.

These take-up rates by age group were used as the dependent variable in a regression, with explanatory variables consisting of a mixture of quantitative economic indicators and dummy variables. The regressions run were of the form

$$Y = A + XB + U \quad (\text{Equation 5.1})$$

Where

Y is a vector of the dependent variable, i.e. take-up rates by age

A is a vector of constant terms

X is a matrix of explanatory variables

B is a vector of coefficients

U is a vector of error terms

The dependent variable was the take-up rate by age in each quarter. The data were broken down into 20 age groups, most of five-year width (see Table 5.5 for a list of the age groups. For each age group, data were quarterly from September 1997 to June 2007 (40 time periods). The PHIAC data on membership by age begin in September 1997, while the most recent ABS figures for population by age were for June 2007. The quarterly economic variables, from the Australian Bureau of

Statistics, were available up to the third quarter of 2007. The 20 age groups and 40 quarters of data provided 800 data observations for use in the regressions.

Table 5.5 Age Groups Used in the Analysis

Unaffected	0-4	5-9	10-14	15-19	20-24	25-29	
Partially Affected	30-34	35-39	40-44	45-49	50-54	55-59	60-64
Most Affected	65-69	70-74	75-79	80-84	85-89	90-94	95+

The dummy variables used were a dummy for the introduction of lifetime community rating (DUMLTCCR – set to 1 from Q3 2000 onwards and 0 before that), a dummy for the grace period allowed before the introduction of lifetime community rating (DUMGRACEPERIOD – set to 1 from Q3 1999 to Q2 2000 inclusive and 0 for all other periods).

Subgroups of the sample were also distinguished, based on the degree to which the changeover from single rate community rating to lifetime community rating affected the group. As discussed in Section 5.4.1, those aged under-30 were unaffected by the changeover, those aged 30-64 were partially affected (although this group contains a wide variety of effects, with those aged 31 being subject to a 2% late entry loading, while those aged 64 were subject to a 68% late entry loading)¹⁰⁹ and those aged 65 and over were the most affected by the changeover, with all first-time health insurance applicants in this age group being subject to a 70% late entry

¹⁰⁹ As mentioned in an earlier footnote, although those aged 30 would have been unaffected by late entry loadings, the age banding of the information published by PHIAC included 30-year olds with those aged 31-34. For that reason, 30-year olds were included in the category of those partially affected by late entry loadings.

loading (except for those who were aged 65 or over at the commencement of the grace period). Dummy variables were created to indicate these categories, with those aged 0-29 indicated by a dummy variable called DUMUNAFFECTED, those aged 30-64 indicated by a dummy variable called DUMPARTIALAFFECT and those aged 65 and over indicated by a dummy variable called DUMMOSTAFFECT.

The category of insured persons who were most affected by the changeover to lifetime community rating was used as the control group, since from the analysis in Section 5.4.1 it appeared that this category was affected substantially differently from the other two categories.

Interaction variables were also created, to differentiate the effects of the introduction of lifetime community rating on the different categories of insured persons. These were LTCRUNAFFECTED (the product of DUMLTCR and DUMUNAFFECTED), LTCRPARTIALAFFECT (the product of DUMLTCR and DUMPARTIALAFFECT) and LTCRMOSTAFFECT (the product of DUMLTCR and DUMMOSTAFFECT). While DUMLTCR is a time dummy, DUMUNAFFECTED, DUMPARTIALAFFECT and DUMMOSTAFFECT are cross-section dummies. Therefore, the interaction variables measure whether the effect of lifetime community rating differed between the three age-related categories of those unaffected, partially affected and most affected by the change in the community rating system.

The regression used was Pooled Least Squares.¹¹⁰ The results of the regression are presented in Table 5.6.¹¹¹

Table 5.6 Results from Pooled Regression Using Take-up Rates by Age 1997-2007 as Dependent Variable

Variable	Coefficient	Standard Error
Constant	34.80307*	1.214106
GDP Growth (y-on-y)	-0.030691	0.201566
DUMLTCR	3.149748*	0.909656
DUMGRACEPERIOD	2.632607*	0.851039
DUMUNAFFECTED?	-9.417260*	0.977436
DUMPARTIALAFFECT?	1.480548	0.939090
LTCRUNAFFECTED?	8.927932*	1.168259
LTCRPARTIALAFFECT?	11.15047*	1.122427
Total Pool Observations: 800		R ² : 0.577213

* = Significant at 5% level; Variables followed by a ? indicate pooled variables

The first thing to note about these results is that the economic variable, the year-on-year GDP growth rate, is insignificant. The same was true when alternative economic variables were included (such as the level of GDP, quarterly GDP growth, gross national income, or GDP per capita). This suggests that economic factors do not have a significant impact on the level of take-up from one quarter to another. This could be accounted for by the fact that contracts run for longer than one quarter and therefore short-term changes in economic conditions are unlikely to significantly

¹¹⁰ For a discussion on this type of model, see Baltagi (2005), Johnston (1984) or Wooldridge (2002).

¹¹¹ It should be noted that the nature of the dependent variable – take-up rates over time – leads to problems of serial correlation in the error terms. The Durbin-Watson statistic for this regression is 0.107991, which indicates the presence of first-order serial correlation. Furthermore, when the AR(1) term was added to the regression, the coefficient was statistically significant at the 1% level, also indicating the presence of first-order serial correlation. When higher-order AR terms were added to the regression, these were also statistically significant, indicating the presence of higher-order serial correlation. The model as indicated in Table 5.6 was re-run using Period SUR Panel Corrected Standard Errors (PCSE), which showed that the coefficients on GDP growth and the dummy for being partially affected remained insignificant, while all other coefficients remained significant. Thus there was no substantive difference in the results.

affect the numbers with health insurance on a quarter by quarter basis. The dummy variables are the variables driving this regression,¹¹² and the interpretations are interesting in a number of ways.

Firstly, the positive and significant coefficients on DUMGRACEPERIOD and DUMLTR confirm that take-up rates generally rose during the grace period in the run-up to the introduction of lifetime community rating, and rose even further after the introduction of lifetime community rating in July 2000.

The second set of dummy variables show that there were differential take-up rates across difference age categories over the period in question. The negative and significant coefficient on DUMUNAFFECTED shows that those aged under-30, when taken together, had lower take-up rates over the period than those in the 65+ age category. This can be confirmed by reference to Figure 5.6 above. The positive but insignificant coefficient on DUMPARTIALAFFECT reflects the fact that, although take-up rates were generally higher among those aged 30-64 than those aged 65+, this was not the case throughout the sample period. Again, from Figure 5.6 above, it can be seen that the take-up rate for the 30-64 age category was below that of the 65+ category in 1998 and 1999, but higher for the remainder of the period, although the two rates have shown some convergence in recent years.

¹¹² Indeed, if the economic variables are omitted entirely from the regression and just the six dummy variables and interaction dummy variables are left in, the R^2 is .5772 and the regression remains significant, as do the dummy variables, with the exception of DUMPARTIALAFFECT?.

The two interaction variables are perhaps the most interesting, however. Both `LTCRUNAFFECTED` and `LTCRPARTIALAFFECT` have large positive and significant coefficients. This suggests that the introduction of lifetime community rating had a significantly greater impact on the take-up rates among both the under-30 category and the 30-64 category than on the take-up rate among the 65+ category. This can be confirmed by referring to Figure 5.6 above.

These results confirm what was highlighted in the analysis in Section 5.4.1. The introduction of lifetime community rating had a generally positive impact on the take-up rates of private health insurance in Australia. However, it had more of an effect on the take-up rates of private health insurance among those unaffected by the change (under-30) and those partially affected (aged 30-64) than it did on those who were most affected by the change (those aged 65 and over), i.e. the ones who faced the highest late entry loadings. This could, at least in part, be due to the fact that those aged 65 and over at the commencement of the grace period are exempt from paying late entry loadings irrespective of when they take out private health insurance for the first time. An alternative interpretation would be that very high late entry loadings (such as the 70% loading faced by those aged 65 and over) deter the take-up of private health insurance.

It should be noted that this analysis differs from that of Palangkaraya & Yong (2007) in a number of ways. Firstly, their paper examined a sample, whereas this analysis uses population coverage. Secondly, their sample included only single people and

excluded those aged under-18 and 65 or over, whereas this analysis includes all those with hospital based private health insurance. Thirdly, their study sets a discontinuity at age 30 only and focuses on those aged just below or just above this cut-off, whereas this study examines three broad age categories. Finally, Palangkaraya & Yong (2007) examine two discrete time periods – 1995 and 2001 – whereas this study includes a continuous time series capturing the pre- and post-reform periods.

The next point to examine is what impact the anticipated introduction of lifetime community rating, to replace single rate community rating, would have on the Irish private health insurance market if the trends here were to mirror those seen in Australia after the changeover there.

5.5.2 Effect of Lifetime Community Rating on Market Profile

In order to examine the possible effect of the introduction of lifetime community rating on the market risk profile in Ireland, the above analysis was adapted to data on the risk profile of the market in Ireland. The Irish data used was from HIA (2005a). In order to apply the regression results to the Irish data however, a number of minor modifications needed to be made. The first related to the fact that the Irish data only covered adults, aged 18 and over, whereas the Australian data used in the regression detailed in Table 5.6 included children covered in the Australian market. The second resulted from the fact that nobody was found in the sample used in HIA

(2005a) aged 90 or over.¹¹³ Therefore, the regression used for the Australian data was re-run excluding the 0-4, 5-9, 10-14, 15-19, 90-94 and 95+ age bands. The results of this regression are presented in Table 5.7¹¹⁴.

Table 5.7 Results from Pooled Regression Using Take-up Rates by Age 1997-2007 as Dependent Variable, Excluding Respondents Aged 0-19 and 90+

Variable	Coefficient	Standard Error
Constant	35.29221*	1.319710
GDP Growth (y-on-y)	-0.017112	0.219757
DUMLTCR	4.172804*	0.984172
DUMGRACEPERIOD	2.734654*	0.927842
DUMUNAFFECTED?	-17.04388*	1.340801
DUMPARTIALAFFECT?	0.895402	0.938365
LTCRUNAFFECTED?	5.855656*	1.602564
LTCRPARTIALAFFECT?	10.18092*	1.121561
Total Pool Observations: 560		R ² : 0.709809

** = Significant at 5% level; Variables followed by a ? indicate pooled variables*

The results of this regression are similar to those obtained using the full range of age-bands, as presented in Table 5.6. All of the variables are significant at the 5% level apart from GDP growth and DUMPARTIALAFFECT? and the regression is significant. The explanatory power of the regression has increased however, from 0.58 to 0.71.

¹¹³ It should be noted that the oldest age band used in HIA (2005a) was 65+ and this was not further disaggregated. However, respondents were also asked for their exact age in years and most gave this information and it was therefore possible to disaggregate this band of respondents into five-year age-bands akin to the Australian ones. However, 10 respondents in the 65+ age band did not give an exact age, so a narrower age-bracket could not be established for the purposes of this regression. Therefore these 10 respondents were excluded from this analysis.

¹¹⁴ As with the regression results presented in Table 5.6, the regression that produced the results in Table 5.7 suffered from serial correlation, as suggested by a Durbin-Watson statistic of 0.131142 and the significance of the AR(1) term and higher-order AR terms when added to the regression. The model as indicated in Table 5.7 was re-run using Period SUR Panel Corrected Standard Errors (PCSE), which showed that the coefficients on GDP growth and the dummy for being partially affected remained insignificant, while all other coefficients remained significant. Again, there was no substantive difference in the results using the robust standard errors.

One possible reason for the higher R^2 might be that the exclusion of those aged under-19 would mean that children were excluded from the regression detailed in Table 5.7. As children would, in most cases, not be in a position to make a decision on whether to take out private health insurance as a result of the introduction of lifetime community rating (as they would likely be named on someone else's policy, who would have made the decision on their behalf) it is possible that the regression detailed in Table 5.7 better captures the decision process. Another possible explanation is that children would have had more time left to be covered without being subject to a late entry loading and they – or the person making the decision on whether to insure them – would therefore have been less likely to react immediately to the introduction of such a loading by taking out private health insurance.

The coefficients from this regression were then applied to the Irish data to simulate the effect that the introduction of lifetime community rating might have had. It was decided for the simulation to use the results of HIA (2005a) in relation to take-up rates by age as the starting point, or in other words the last observation under single rate community rating. The fieldwork for HIA (2005a) was carried out between 7th March and 15th April 2005. It was therefore decided, for the purpose of the simulation, to assign these results to Q1 2005.

Table 5.8 Actual and Predicted Take-up Rates by Age in Ireland in Q1 2005 and Predicted Take-up Rates in Q2 2006 under Simulated Lifetime Community Rating

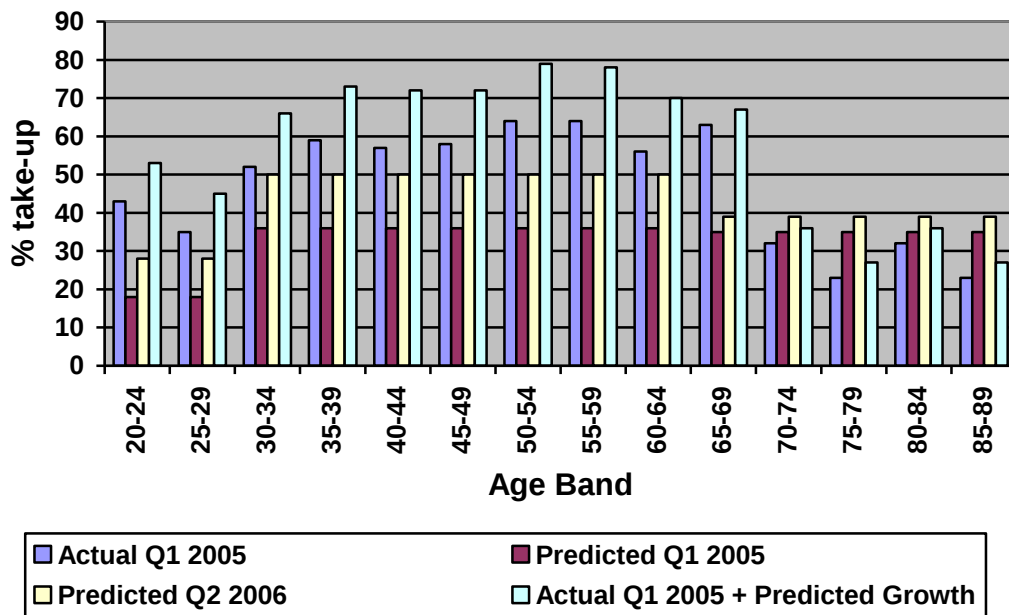
Age Band	Actual Q1 2005	Predicted Q1 2005	Predicted Q2 2006	Predicted Growth	Actual Q1 2005 + Predicted Growth
	Y_{05}	y_{05}	y_{06}	$G = y_{06} - y_{05}$	$Y_{05} + G$
20-24	43	18	28	10	53
25-29	35	18	28	10	45
30-34	52	36	50	14	66
35-39	59	36	50	14	73
40-44	57	36	50	14	72
45-49	58	36	50	14	72
50-54	64	36	50	14	79
55-59	64	36	50	14	78
60-64	56	36	50	14	70
65-69	63	35	39	4	67
70-74	32	35	39	4	36
75-79	23	35	39	4	27
80-84	32	35	39	4	36
85-89	23	35	39	4	27

It was then assumed that a 12-month grace period would be implemented (similar to that in Australia), covering Q2 2005 to Q1 2006 inclusive. Therefore, in the simulation, Q2 2006 was the first quarter in which lifetime community rating was assumed to apply. It should also be noted that for the Irish figures, GNP growth was used rather than GDP growth, as it is felt by many that the former is a more accurate measure of economic activity in Ireland than the latter (see, for example, Kennedy, 2001).¹¹⁵ Table 5.8 gives details of the actual and predicted take-up rates by age in Q1 2005 (i.e. the last period under single rate community rating in the simulation)

¹¹⁵ The results using GDP growth were almost identical, due to the small magnitude of the coefficient on this variable. Specifically, the predicted take-up rates using GDP were less than 0.2 percentage points different from those using GNP in all cases.

and the predicted rates in Q2 2006 (the first period under lifetime community rating in the simulation). These figures, based on the simulation results, are also plotted in Figure 5.8.

Figure 5.8 Actual and Predicted Take-up Rates in Ireland Before and After a Simulated Shift to Lifetime Community Rating



Taking the 25-29 age group as an example, what these figures show is that the actual take-up rate among people in this age group in Ireland in Q1 2005 was 35%. The model presented in Table 5.7 predicts that the take-up rate in that age group using data for Q1 2005 would have been 18%. The model further predicts that, if a 12-month grace period had then been introduced, followed by the introduction of lifetime community rating, then the predicted take-up rate in Q2 2006 would have been 28%, an increase of 10 percentage points compared with the predicted take-up rate in Q1 2005. Applying this increase of 10 percentage points to the actual take-up

rate in Q1 2005 (which was 35%) would have given a take-up rate of 45% in Q2 2006 in this age group.

This simulation suggests that the proportion of younger consumers in the Irish private health insurance market would increase in the aftermath of the introduction of lifetime community rating. This would be in keeping with the justification for such a move, which is to stabilise the market by encouraging greater numbers of consumers to take out private health insurance at a younger age.

One issue of note however, is that, if the introduction of lifetime community rating in Ireland were to attract more young people into the market, then this could reinforce the difference in age profile between Vhi Healthcare and its competitors, Quinn Healthcare and Hibernian AVIVA Health. It is likely that some of these younger first-time insurance buyers would be attracted to each of the three insurers, and competition for these purchasers would likely be seen from the insurers. However, the latter two insurers already have a younger age profile than Vhi Healthcare and, while the entry of larger numbers of young consumers into the market would likely improve the average age profile of all three insurers, it is likely that the impact on the age profiles of Quinn Healthcare and Hibernian AVIVA Health would be greater, due to the younger average age of their members and their smaller size.

In this context, it is interesting to note that YHEC (2003) argue that any move to impose penalties on those who wait to take out private health insurance, such as the

introduction of lifetime community rating, would reinforce the inherent tendency for newer insurers to attract lower risk, younger members. If this were the case then it could have an impact on the need for risk equalisation, which is also examined in the next section.

However, a number of issues should be taken into account when interpreting the findings of this simulation. In the first instance, it is unlikely that the behaviour of Irish consumers would exactly replicate the behaviour of Australian consumers. The Irish and Australian health systems, while similar in many ways, also have differences between them, such as the subsidisation of primary care and shorter waiting lists for hospital treatment in Australia. These issues are explored further in Chapter 6.

The Irish private health insurance market in 2005 also differed from the Australian market before the introduction of lifetime community rating. In particular, the overall take-up rate in Ireland had exceeded 50% by 2005, compared with an overall take-up rate of just over 30% in Australia in June 1999, before the introduction of lifetime community there. The increase in the overall take-up rate in Australia following the introduction of lifetime community rating – over 15 percentage points – is unlikely to be replicated in Ireland, as there would be less scope for such an increase in Ireland.

In this context, it should be noted that, according to HIA (2008c), only 27% of those without private health insurance said that they were likely to get private health insurance, while another 18% said they did not know. On the basis that those who do not currently have private health insurance make up approximately half the Irish population, this would suggest that 13-14% of the population are likely to take it out, with a further 9% uncertain. As affordability issues have come into more focus in recent times, owing to significant price increases for private health insurance combined with an economic recession, it is unlikely that the introduction of lifetime community rating in Ireland would lead to an increase in take-up of the magnitude witnessed in Australia. It is also worth noting in this context that the predicted take-up rates for Q1 2005 are significantly lower than the actual take-up rates in all age bands up to age 69.

As mentioned in Section 5.4.1, the introduction of lifetime community rating in Australia followed closely two other market reforms designed to address declining take-up rates of private health insurance. In the absence of the introduction of similar policies in Ireland, it is possible that the introduction of lifetime community rating in this country might have less of an impact than it did in Australia. In this context, it is worth recalling the discussion in Section 5.4.1 regarding the debate surrounding the relative impacts of lifetime community rating versus the other policy reforms in Australia.

Another issue that needs to be borne in mind when interpreting the results of this analysis is the nature of the regression. The regression is driven by dummy variables, some of which are homogenous across a number of age bands. Therefore, as can be seen from Table 5.8, the predicted increases in take-up are the same for the age bands in the broad categories of unaffected, partially affected and most affected. This effect, which is seen in the simulation, would be unrealistic in a ‘live’ situation, as the change in take-up rates would likely differ across age bands.

In order to address this issue, the regression as presented in Table 5.7 was re-run including dummy variables for most of the individual five-year age bands and interaction dummies, consisting of the product of the dummy variables for the age bands and the dummy variable for the introduction of lifetime community rating (DUMLTCR). The dummy variables for age bands 20-24, 60-64 and 85-89 introduced multicollinearity of sufficient magnitude to prohibit the regression from being run using EViews. The explanatory power of the model was increased by doing this, and the predicted change in take-up rates differed across age bands. However, when the results were applied to the Irish market, the difference between the actual and predicted figures for Q1 2005 (Y_{05} and y_{05} respectively) was still notable. This is likely due to the fact that take-up rates by age are highly influenced by their previous values, and the lagged dependent variable was excluded from the model due to its deterministic nature. The results for the model re-run including dummy variables for the different age bands, and the actual and predicted take-up rates by age are presented in Appendix B.

Furthermore, the details of the Irish system of lifetime community rating – specifically the level of late entry loadings and the ages at which the rates will apply – have not yet been finalised, although as mentioned in Section 5.2, the Health Insurance (Miscellaneous Provisions) Act, 2009 makes provision for the threshold age to be set at 30. The above analysis assumes that the format of lifetime community rating in Ireland would be the same as that introduced in Australia, which may not be the case.

In particular, an exemption from late entry loadings for those aged 65 and over at the commencement of the grace period, as was granted in Australia, has not been proposed in the Irish case. If such an exemption were not granted, then it could result in a greater proportionate increase in take-up among those aged 65 and over than was witnessed in Australia. This could mitigate any reduction in average age resulting from the changeover from single rate community rating to lifetime community rating in Ireland.

5.5.3 Effect of Lifetime Community Rating on Risk Equalisation

If lifetime community rating were to attract greater numbers of people into the market for private health insurance in Ireland, and in particular greater numbers of younger people, as was the case in Australia, then this could have implications for the Irish market in terms of the need for risk equalisation.

Firstly, if the overall size of the market were to expand, then this would increase the level of claims in the market, assuming that at least some of the newly insured persons were to claim. However, given that most newly insured persons would be subject to initial waiting periods, it is likely that this would have a lagged effect on the level of claims in the market. Under the Risk Equalisation Scheme, 2003, the claims of all insured persons on qualifying plans, up to a specified maximum of benefits, would have been equalised. Therefore, if the overall level of claims in the market were to increase then the level of claims to be equalised under a risk equalisation scheme like the Risk Equalisation Scheme, 2003 would also increase. Thus the value of risk equalisation payments to (from) insurers with higher (lower) risk profiles would be of greater absolute magnitude.

The second effect that might be seen if a move to lifetime community rating were to attract additional numbers into the insured pool, particularly younger people, is that the market average risk profile would likely fall. In the Irish case, deviations from the market average risk profile might also widen, since, as mentioned in Section 5.5.2, the entry of new consumers could have a relatively greater effect on the average risk profile of the smaller, low-risk insurers than the larger, high-risk insurer. Since payments under risk equalisation would be based on the deviations from the market average risk profile, any increase in such deviations would result in an increase in risk equalisation payments.

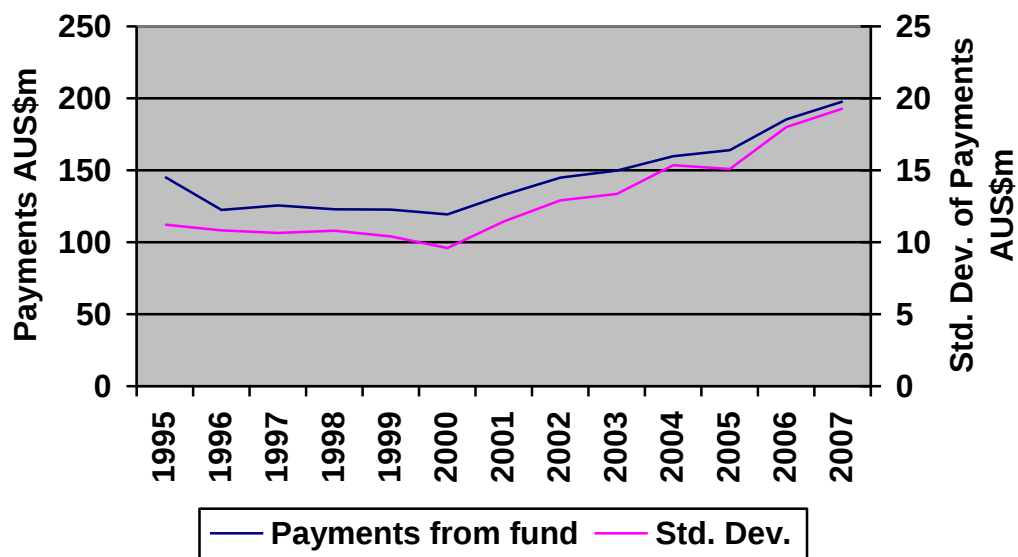
In this regard, the Australian experience provides an interesting indication of what might be expected. The Private Health Insurance Administration Council (PHIAC) in Australia produces statistics for the industry in its Operations of the Health Benefits Undertakings Annual Reports. Included in these statistics are figures relating to the reinsurance fund. This is the fund into which insurers with relatively low risk profiles made payments under the reinsurance scheme, and from which insurers with relatively high risk profiles received money under the scheme. It would be similar to the risk equalisation fund that was envisaged in Ireland under the Risk Equalisation Scheme, 2003 but which was never established as a result of the setting aside of the scheme by the Supreme Court.

Figure 5.9 shows the amount of money paid from the reinsurance fund in Australia from 1995 to 2007, the last year before the reinsurance arrangements were amended to yield the risk equalisation system that is now in place.¹¹⁶ It also shows the standard deviations of the payments into and out of the fund for the same years. These standard deviations relate to all of the contributions, with the net contributions to the fund being counted as negative figures and the net payments from the fund counting as positive figures. It should be noted that the figures for each year relate to the four quarters ending June of that year. Therefore, the 2000 figures relate to the four quarters to June 2000, so the 2001 figures, which relate to the four quarters ending June 2001, represent the first year during which lifetime community rating

¹¹⁶ The money paid into the fund and paid from the fund did not always match in the time period covered by this analysis, although it did match in some years.

was in force, while the 2000 figures correspond to the grace period that was in force before the introduction of lifetime community rating.

Figure 5.9 Payments from and Standard Deviation of Payments to/from the Reinsurance Fund in Australia, 1995-2007



Source: Calculated based on figures from *Financial and Statistical Tables from Operations of the Health Benefits Undertakings Annual Reports (Various Years)*. Available at http://www.phiac.gov.au/publications/ar_previous/index.htm. Accessed on 07 May 2009.

It can clearly be seen from Figure 5.9 that both the level of payments from the fund and the variability of contributions to/from the fund have increased significantly since the introduction of lifetime community rating. The level of payments from the fund increased from just over AUS\$119m in 2000 to nearly AUS\$198m in 2007 (an increase of 66%), while the standard deviation of the payments to/from the fund increased from just under AUS\$9.6m in 2000 to almost AUS\$19.3m in 2007 (an increase of just over 100%).

This suggests that the introduction of lifetime community rating in Australia, and the consequent increase in private health insurance take-up, increased the level of reinsurance payments. As mentioned earlier, if the overall size of the market increases, then this could cause an increase in the absolute level of reinsurance payments. However, the greater proportionate increase in the standard deviation of payments suggests that differences in risk profiles were accentuated or maintained (the stabilisation of payments as a percentage of premiums, which is discussed below, would suggest perhaps the latter effect). If the introduction of lifetime community rating had re-balanced risk profiles then the standard deviation would have been expected to fall, or at least not rise by as much as the level of payments from the fund.

Two common methods of testing for changes in patterns in data series are a dummy variable approach and a Chow test, details of both of which can be found in Gujarati (1988). In order to test whether there was a change in the patterns of payments from the fund and the standard deviation of contributions to/from the fund, the dummy variable approach was used, as the low number of observations would have made it difficult to run a Chow test.

The dummy variable approach entails running a regression covering two periods which are believed to display different patterns, including a dummy variable to indicate one of the two periods and an interaction variable comprising the product of the dummy variable and an explanatory variable. The coefficient on the dummy

variable is the differential intercept (i.e. the difference between the intercept of a regression run for the first period and the intercept of the same regression run for the second period), while the coefficient on the interaction variable is the differential slope coefficient (i.e. the difference between the slope of a regression run for the first period and the slope of the same regression run for the second period). If the coefficient on the dummy variable is significant then it would indicate that the intercept would differ between the two periods, while if the coefficient on the interaction variable is significant then it would indicate that the slope of the regressions in the two periods would be different.

Ordinary Least Squares regressions were run using payments made from the reinsurance fund and the standard deviations of payments to/from the fund as the dependent variables. In both cases, the explanatory variables were the year (to indicate a time trend), a dummy variable – DUMLTRGRACE – for the introduction of lifetime community rating and the grace period before it (set to 1 for 2000 onwards and 0 from 1995 to 1999 inclusive) and an interaction variable consisting of the product of the year and the dummy variable.¹¹⁷ The two periods being compared are the period before the introduction of the grace period and the period after the introduction of the grace period. The regressions were therefore of the form

¹¹⁷ When these regressions were run with two separate dummy variables – one for the grace period (set to 1 in 2000 and 0 in all other years) and another for lifetime community rating (set to 1 from 2001 onwards and 0 from 1995-2000 inclusive), both dummy variables were significant and the coefficients were almost identical. A single dummy variable was therefore used, incorporating the grace period and the introduction of lifetime community rating, given the already low number of degrees of freedom.

$$Y = \alpha + \beta_1 Year + \beta_2 Dumltcrgrace + \beta_3 (Year \times Dumltcrgrace) + u \quad (\text{Equation 5.2})$$

Where

Y is the dependent variable, i.e. payments from the reinsurance fund or standard deviation of payments to/from the reinsurance fund,

α is a constant,

β_1 , β_2 and β_3 are coefficients, and

u is the error term

The results of these regressions are presented in Tables 5.9 and 5.10.

It can be seen from these results that, in the case of both payments from the fund and the standard deviation of payments to/from the fund, both the dummy variable and the interaction of the dummy variable and time trend are significant (indeed, in both regressions both of these variables are also significant at the 1% level). This suggests that there was in fact a different pattern seen in both payments and standard deviations from the introduction of the grace period onwards, compared with that observed before the introduction of the grace period. In particular, given the negative sign on the dummy variable and the positive sign on the interaction variable, the intercept would have been lower and the slope higher during and after the grace period compared with before the grace period if separate regressions had been run for the two periods. In both cases the regressions were significant,

although the low number of observations (13) would suggest that some caution should be taken in interpreting the results.

Table 5.9 Results from Regression Using Payments from the Reinsurance Fund as Dependent Variable

Variable	Coefficient	Standard Error
Constant	9060988*	3719383
Year	-4473.328*	1862.485
DUMLTCRGRACE	-29880775*	4141142
Year x DUMLTCRGRACE	14943.25*	2072.382
Included observations: 13		R ² : 0.959429

* = Significant at 5% level

Table 5.10 Results from Regression Using Standard Deviation of Payments to/from the Reinsurance Fund as Dependent Variable

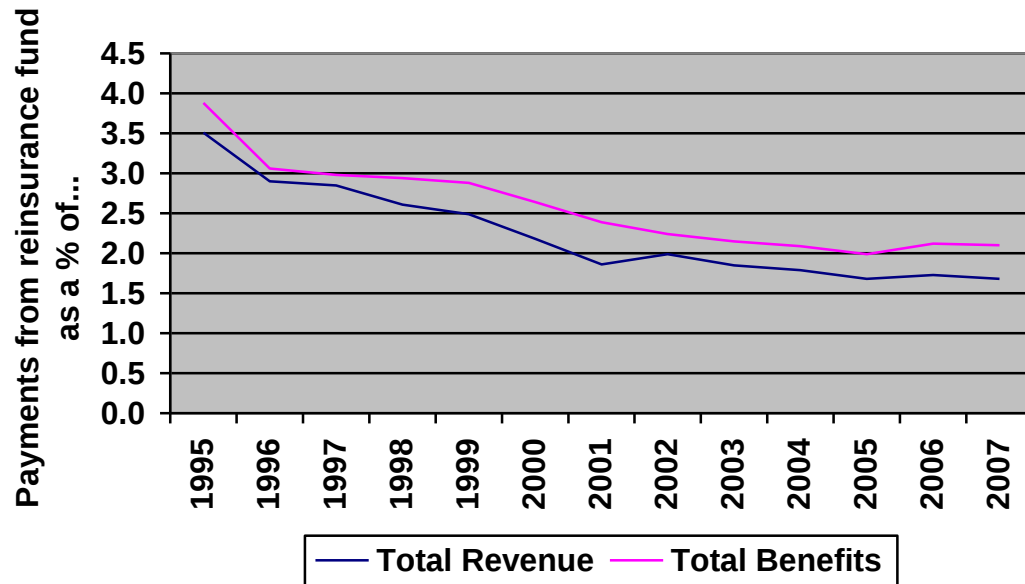
Variable	Coefficient	Standard Error
Constant	339490.2	335168.8
Year	-164.6045	167.8361
DUMLTCRGRACE	-2928425*	373175.2
Year x DUMLTCRGRACE	1463.989*	186.7508
Included observations: 13		R ² : 0.977711

* = Significant at 5% level

However, although the level of reinsurance payments rose in absolute terms after the introduction of lifetime community rating, these payments as a proportion of total revenue and as a proportion of total benefits paid in the market have declined since the introduction of lifetime community rating. This continued a decline that was already established before its introduction, as can be seen in Figure 5.10. However, the rate of decline appears to have slowed. Between 1995 and 2000, the level of payments from the reinsurance fund as a percentage of total revenue fell from 3.51% to 2.18%. Between 2000 and 2001 it fell further to 1.86%, but it has been more

stable since then, albeit on a slight downward trend, standing at 1.68% in the four quarters ending June 2007.¹¹⁸

Figure 5.10 Payments from the Reinsurance Fund as a % of Total Premiums and Total Benefits in Australia, 1995-2007



Source: Calculated based on figures from *Financial and Statistical Tables from Operations of the Health Benefits Undertakings Annual Reports (Various Years)*. Available at http://www.phiac.gov.au/publications/ar_previous/index.htm. Accessed on 07 May 2009.

Similar analysis was undertaken of the figures contained in Figure 5.10 to that undertaken for the payments received from the fund and the standard deviations of contributions to/from the fund. These results are presented in Tables 5.11 and 5.12.

¹¹⁸ Interestingly, by comparison, according to HIA (2008a), the amount of payments from the risk equalisation fund under the Risk Equalisation Scheme, 2003 (had it not been set aside by the Supreme Court) would have been €20.14m in the full year 2006, compared with a premium in that year of €1.2362bn, according to HIA (2009). This would therefore have represented 1.63% of revenue, very similar to the proportion in Australia in the year ended June 2007. In fact, the proportion in Ireland in 2006 would likely have been slightly higher for two reasons. Firstly, the premium income of the restricted membership undertakings (all bar one of which were not participating in the Scheme) is included in the denominator. Secondly, at that stage, VIVAS Health was still subject to a three-year exemption from making payments under the Scheme and therefore, while the denominator includes its premium income, the numerator does not include the contributions it would have been required to pay had it not been subject to the three-year exemption.

Again the low number of observations and the consequent low numbers of degrees of freedom should be borne in mind when interpreting the results.

In the regression using payments from the fund as a percentage of premium received, all variables were also significant at the 1% level. In the regression using payments from the fund as a percentage of benefits paid, both the constant and the year were significant at the 1% level. However, both the dummy variable and the interaction variable were significant at the 10% rather than the 5% level in the latter regression.¹¹⁹ The negative sign on the dummy variable and the positive sign on the interaction variable suggest that, had separate regressions been run before and after the introduction of the grace period, the intercept would have been lower and the slope higher after the introduction of the grace period than before it. The regressions were significant in both cases.

Table 5.11 Results from Regression Using Payments from the Reinsurance Fund as a Percentage of Premium Received as Dependent Variable

Variable	Coefficient	Standard Error
Constant	468.1730*	74.99631
Year	-0.233000*	0.037554
DUMLTCRGRACE	-343.7329*	83.50049
Year x DUMLTCRGRACE	0.171810*	0.041787
Included observations: 13		R ² : 0.968832

* = *Significant at 5% level*

¹¹⁹ For this regression (using payments as a percentage of benefits paid as the dependent variable), using separate dummy variables for the grace period and the period covered by lifetime community rating led to both dummy variables and the single interaction variable (between the year and the combined dummy) being significant at the 5% level, with the coefficients on the separate dummy variables being similar to each other. The R² also increased slightly, to 0.924247.

Table 5.12 Results from Regression Using Payments from the Reinsurance Fund as a Percentage of Benefits Paid as Dependent Variable

Variable	Coefficient	Standard Error
Constant	426.5120*	121.2937
Year	-0.212000*	0.060738
DUMLTCRGRACE	-282.6209**	135.0477
Year x DUMLTCRGRACE	0.141286**	0.067583
Included observations: 13		R ² : 0.909529

** = Significant at 5% level; ** = Significant at 10% level*

The above analysis suggests that, after the introduction of lifetime community rating in Australia, the absolute level of reinsurance payments rose, as did the variability of the payments across insurers. Furthermore, the results suggest that the level of reinsurance payments relative to premiums and relative to benefits paid stabilised, having been on a downward trend prior to the introduction of lifetime community rating.

This therefore would suggest that risk equalisation payments could account for a greater proportion of insurers' premium income under lifetime community rating than under a single rate community rating system. This is something that the Department of Health and Children might wish to consider in relation to its policies regarding the introduction of lifetime community rating in Ireland and its work on a new risk equalisation scheme for the Irish private health insurance market.

5.6 Concluding Remarks

Community rating is one of the three ‘pillars’ on which the Irish private health insurance market is based, the others being open enrolment and lifetime cover. Community rating initially developed in the Irish private health insurance market in the absence of any legislative requirement. However, by the time the market was deregulated in the mid-1990s, it had become an integral feature of the market and the then government enshrined the principle of community rating in legislation in order to ensure that it was maintained even after the onset of competition in the market.

Community rating can take a number of forms. The form currently practiced in the Irish private health insurance market is single rate community rating. In this form, premiums do not vary depending on the age at which a consumer first takes out insurance. However, this system suffers from an inherent instability, as there is an incentive for consumers to engage in hit-and-run or hit-and-stay activity (adverse selection), only taking out insurance when they become ill or are more likely to become ill. The age-related waiting periods permitted under the Open Enrolment Regulations provide some protection against this type of behaviour.

Another variant of community rating is lifetime community rating, whereby age at entry has an impact on premiums but risk is still not taken into account when setting the premium and therefore consumers who take out insurance at the same age pay

the same premium, irrespective of risk factors such as age, gender or health status. A central feature of lifetime community rating is the imposition of late entry loadings, whereby people who take out health insurance for the first time at an older age pay an age-related loading, usually with reference to the premium charged to a person who takes out insurance before a specified threshold age. Such a system has been proposed in Ireland and is anticipated in the near future.

A similar change from single rate community rating to lifetime community rating was implemented in Australia in 2000, following a grace period of just over 12 months, during which anyone who took out private health insurance was not subject to late entry loadings. The Australian experience is therefore instructive for Irish policy-makers in this regard.

The introduction of lifetime community rating in Australia led to a significant increase in the numbers taking out private health insurance, although some commentators have suggested that the effect of this particular policy has been overestimated, as it came shortly after two other policy changes also designed to increase take-up. The first of these was a combination of a levy on high-earners who do not take out private health insurance and a subsidy to assist those on low incomes to purchase it, while the second involved the replacement of the subsidy from the first policy change by a rebate for all those who purchase private health insurance.

The Australian market also experienced a sharp fall in the average age of insured persons during the grace period. This resulted from the fact that during the grace period, while there was a modest increase in the number of older consumers taking out private health insurance, there was a significantly sharper increase in take-up among younger consumers. However, the reduction in average age and the increase in overall take-up appear to have been unwinding since the introduction of lifetime community rating, leading some commentators to suggest that its introduction has not been entirely effective in combating the problem of adverse selection in the market. It is too early to tell whether this is a readjustment of the market to a more stable level or the re-emergence of a longer-term adverse selection-induced market decline. In any event, it is possible that an alteration of the late entry loadings might address this problem.

The experience of the Australian market suggests that, if lifetime community rating is introduced to replace single rate community rating in Ireland, the average age of the insured population is likely to fall, and take-up is likely to increase. However, a number of features of the Irish market suggest that these effects might be more muted here than in Australia. In this regard, the introduction of lifetime community rating in Ireland might not be as effective in reducing adverse selection as it was in Australia. Nevertheless, a reduction in the average age of the insured population would benefit the market overall in the form of a lower overall risk profile. While this is unlikely to be sufficient to cause a reduction in premiums (as other factors such as rising treatment costs and improvements in technology would likely

outweigh the reduction in average age), it might lead to premiums not being raised by as much as they otherwise would be.

Another result of the change from single rate community rating to lifetime community rating in Australia was an increase in the turnover of the reinsurance fund in absolute terms. In relative terms, the turnover of the fund as a proportion of premiums/benefits, which had been on a downward trend, appears to have stabilised. This has implications for Ireland in the context of the Supreme Court decision in 2008 to set aside the Risk Equalisation Scheme, 2003. In particular, the Australian experience suggests that a change from single rate community rating to lifetime community rating would mean that some form of risk adjustment mechanism would likely involve a greater absolute level of monetary transfers under the new rating system, which would therefore have implications for insurers' balance sheets.

Overall, a change from single rate to lifetime community rating in the Irish private health insurance market might reduce the potential for adverse selection, at least in the short-run, although perhaps not in the long-run. However, it would not reduce the need for a risk equalisation scheme. Indeed, the evidence suggests the opposite – that it would actually increase the need for a risk adjustment mechanism. This is something that policy-makers in Ireland should consider in advance of changing the community rating regime.

Another issue worthy of consideration by policy-makers is the alternative to community rating that has been proposed by a number of commentators – that of guaranteed renewability. Its proponents argue that such a system would be superior to community rating, although the model of guaranteed renewability proposed by Pauly et al (1995) has not been fully implemented elsewhere. Furthermore, given the significant difference between this system and the current community rating mechanism operating in Ireland, it should be noted that moving to guaranteed renewability would involve considerable effort and would need careful consideration.

CHAPTER 6

THE EFFECT ON THE MARKET OF HAVING COMMUNITY RATING RATHER THAN RISK RATING

6.1 Introduction

Community rating – whereby insurers are not permitted to vary premiums by reference to age, gender, current or prospective state of health or any other factor that might affect the risk which an insured person represents to an insurer – is one of the three ‘pillars’ on which the Irish private health insurance market is based. Combined with open enrolment – whereby insurers may not refuse an applicant except in very limited circumstances – and lifetime cover – whereby insurers may not refuse to renew cover except in very limited circumstances – community rating ensures that health insurance remains affordable for those who need it most, i.e. the sick and elderly.

However, community rating is not universally popular, despite having widespread political support in Ireland. Some commentators believe that it is an unreasonable restriction on the conduct of insurance business and represents a market distortion. It has also been suggested that community rating increases incentives for insurers to engage in risk selection and for consumers to engage in adverse selection, both of which can have adverse implications for the market, as discussed in Chapter 4.

If adverse selection and/or risk selection were to de-stabilise the market then community rating could break down. If this were to happen then an alternative

would be risk rating, whereby a person's premium would be determined with reference to the risk they represent to an insurer. This would lead to higher premiums for high-risk (older and sicker) consumers, which might lead significant numbers of these consumers to discontinue coverage. If risk segmentation were to be taken to the extreme under community rating, similar results would be seen. If this were to happen then those people who discontinue cover would fall back on the public healthcare system, which is already under severe pressure. It is worth remembering from Chapter 2 that dissatisfaction with the public system is one of the reasons behind the high take-up rate of private health insurance in Ireland.

This Chapter reviews the literature regarding community rating versus risk rating. It then compares the Irish private health insurance market with the Australian market (which also operates community rating, albeit a different form of community rating, as was discussed in Chapter 5) and the UK market (which operates risk rating), with a view to determining the effect on the market of having community rating rather than risk rating, particularly in terms of the age profile of the insured population. All three systems have the common link that they are voluntary private health insurance systems operating alongside universal free (or almost free) publicly provided hospital systems. The characteristics of the three markets are compared, particularly with respect to the age profile of the insured population. This analysis shows that community rating attracts a higher proportion of older, sicker consumers than risk rating.

The effect of community rating attracting a higher proportion of older consumers into the insured market than risk rating is then examined, particularly with regard to the utilisation of the public hospital system by public and private patients across age bands in Ireland. Analysis is undertaken on data relating to discharges from public hospitals in Ireland. In particular, the differences between younger and older patients and between public and private patients, in terms of average lengths of stay and treatment complexity, are examined. Implications of the results are then drawn in order to assess the impact on the public hospital system of having community rating in the market for private health insurance and the impact that a breakdown of community rating would have on the public system.

6.2 Community Rating versus Risk Rating

As mentioned in Chapters 2 and 5, community rating developed as a feature of the Irish market during Vhi Healthcare's monopoly era. When the Health Insurance Act, 1994 was passed, it gave legislative status to the principle of community rating in preparation for the onset of a competitive market for health insurance. Community rating is the only one of the three 'pillars' of the market (the others being open enrolment and lifetime cover) which is set out in primary legislation (i.e. the 1994 Act, as amended) rather than secondary legislation (i.e. regulations made pursuant to the Act).

Successive governments have reiterated support for community rating as a feature of the Irish private health insurance market, as can be seen in, for example, Department of Health and Children (1999, 2008c).

In a Dáil (lower house of the Irish parliament) debate on 30 September 2008, the Spokesperson on Health of Fine Gael, the main opposition party, asked the Minister for Health and Children about her views on the Supreme Court decision to set aside the Risk Equalisation Scheme, 2003 (see Section 2.4) and what action she intended to take in order to stabilise the health insurance market. In the course of her response, the Minister noted “A primary objective of Government policy in health insurance is that it should be affordable for the broadest possible cross section of the community including older people and those who suffer ill health.” She went on to state “I have yet to hear any argument made against the continuing need for community rating. It is a fundamental principle of the health insurance market in Ireland. Following the liberalisation of the market in 1994 every political party and successive Governments have supported the maintenance of community rating.” The Fine Gael Spokesperson on Health added “I fully support the Minister in the community rating principle.”^{120, 121}

¹²⁰ Parliamentary Debates: Dáil Éireann (Official Report – Unrevised), Vol. 662 No. 1, para. 116.

¹²¹ It should be noted that, in this exchange, the Minister appears to be referring to community rating as an objective of government policy. However, it could be argued that the objective is that older and sicker consumers are not disadvantaged by having to pay higher premiums, and that community rating is one possible tool by which this objective can be achieved (another possible tool being risk-adjusted premium subsidies, as put forward by Van de Ven et al (2000) – see Sections 4.2.2 and 5.3). In this regard, it is interesting to note that the Health Insurance (Miscellaneous Provisions) Act, 2009 states “The principal objective of the Minister and the Authority in performing their respective functions under this Act is to ensure, in the interests of the common good, that access to health insurance cover is available to consumers of health services with no differentiation made between them...in particular as regards the costs of health services, based in whole or in part on the respective

However, some see community rating as a market distortion. Certainly, in a competitive market, if left to their own devices, it is likely that most, if not all, insurers would prefer risk rating, as this system allows insurers to set premiums with reference to the risk that an individual would represent to them. This type of rating system is used for other forms of insurance in Ireland, such as motor or home insurance. However, many commentators have argued that a competitive market in health insurance would lead to risk selection on the part of insurers. This was discussed in more detail in Chapter 4.

Harrington & Niehaus (2003) note that, in a competitive insurance market, insurers will engage in cost-based pricing – whereby premiums will differ across consumers based on their expected claim costs – if three conditions hold: insurers do not want to lose money, consumers prefer lower premiums for any given level of cover, and one or more insurers can predict differences in expected claim costs across consumers at low cost.

Notwithstanding the non-profit nature of Vhi Healthcare, it would be reasonable to assume that the first two of these conditions would hold for the Irish private health insurance market. The third could be at least partially fulfilled on the basis that age

age range and general health status of the members of any particular generation (or part thereof)...” and that this Act amends the Health Insurance Act, 1994 by entering a new definition of community rating in the latter, as well as defining a community rated health insurance contract as being one which complies with Section 7(1) of the 1994 Act. The definition of community rating in the 2009 Act is “measures which, whether in whole or in part, apply towards the achievement of the principal objective...[as outlined above]...” This definition of community rating could encompass risk-adjusted premium subsidies, which would be an alternative tool to community rating in achieving the principal objective.

and gender, while not perfect predictors of health status, do give some broad indication of variations therein and are readily available to insurers.

However, one factor that could lead to this principle not being fulfilled is if legal or regulatory provisions prohibit insurers from charging different premiums to different consumers. This is the case in the Irish private health insurance market, as legislation dictates that community rating is mandatory. If legislation is required to mandate community rating, and if community rating is a market distortion, then it is possible that further regulation would be needed to counter-balance the distortion arising from community rating.

In this regard, Evans (2002) notes, “Since community rating is fundamentally inconsistent with maximizing profits, however, further regulation and various forms of subsidy or inter-insurer transfers are required to sustain it.” (Evans, 2002: 49) In an Irish context, Nolan (2005) argues that a risk equalisation scheme must be introduced in order to ensure the continued stability of the community rating system.

Hartedny (1994) is one author who argues against the concept of community rating on the basis that it distorts the market for insurers. He suggests that, by imposing social policy on insurance products, in the form of mandated community rating, the government adds significant costs to the market. He argues that community rating and guaranteed issue (open enrolment) are often presented as solutions but that they

actually cause problems in practice, such as younger people paying more than they actuarially would for insurance.

This last phenomenon is also highlighted by Curtis, Lewis, Haugh & Forland (1999), who note that age rating better correlates price with both ability to pay – since older workers generally earn more than younger ones – and with perceived and actual value. In the context of insurance market reforms in a number of US states, including the introduction of rating restrictions in some states, they point out that there is a fear that a prohibition on age rating would lead significant numbers of young people to drop coverage, thus making insurance for those remaining in the market more expensive. This would be consistent with the arguments relating to adverse selection caused by community rating, which are discussed in Chapters 4 and 5. Curtis et al (1999) suggest that this effect was partly behind the overall drop in health insurance coverage in the US in the 1990s.

Community rating and risk equalisation are sometimes cited as factors which make entry by insurers to insurance markets less attractive. For example, PHIAC (2008b) suggest that one reason for a low number of new entrants in the Australian private health insurance market might be “inability to charge premiums to individuals that are actuarially justified for risk, due to community rating principles and risk equalisation arrangements, portability of membership provisions [and] price regulation.” (PHIAC, 2008b: 18). YHEC (2003) also note that community rating,

as well as risk equalisation, has had an impact on the level of existing and future competition in the Irish private health insurance market.

The notion that community rating is inconsistent with profit maximisation may explain why Private Patients Plan, which unsuccessfully applied to enter the Irish private health insurance market in 1988, said in 1990 that it would not enter the market if it were community rated (see O'Morain, 2007 for further details on this).

Community rating leads to redistributive effects in insurance markets, as noted by Harrington & Niehaus (2003). They point out that moving from flat rate pricing to cost-based pricing – of which risk rating would be a form – can lead to redistributive effects, behavioural changes and classification costs. The redistributive effects redistribute wealth from high-risk consumers to low-risk consumers. Under a flat rate pricing system such as community rating, low-risk consumers subsidise high-risk consumers.

If high-risk consumers are charged higher rates than low-risk consumers, then some high-risk consumers may alter their behaviour to reduce their risk and thereby reduce their premiums. By reducing their individual risk, this helps to lower the overall level of risk in society and thus its cost.

However, there can also be costs involved in classifying consumers according to their risk, and, in extreme cases, these costs can outweigh the benefits of behavioural changes, with the overall effect being to add to the cost of risk in society.

In this regard, Harrington & Niehaus note: “Any attempt to prevent classification by regulating insurance company classification processes will involve some cost. Regulation also will be less than completely effective, and it could have unexpected and unintended effects.” (Harrington & Niehaus, 2003: 140). Broadly speaking, price regulation can take the form of regulation of rate changes or regulation of rating factors (into which category community rating would fall).

However, the extent to which behavioural changes are possible in the health insurance arena is a matter for debate. For example, while ill-health may be related to lifestyle factors such as smoking, diet and exercise, it may also be affected by such issues as genetics and environmental factors, which are beyond the scope of behavioural changes.

It is unlikely that the costs of classifying health insurance consumers would be significant either, certainly if age and gender were used. It might be more expensive to incorporate some type of prior utilisation measure, but this would also increase the predictability of future medical expenses, and the benefits might thus outweigh the costs.

The cross-subsidisation of some groups by other groups under a system of community rating can in some cases produce perverse effects however. In some cases, cross-subsidisation as a result of community rating might benefit not only those who might be needy (the elderly or chronically ill) but also those who lead unhealthy lifestyles (smokers, drinkers, obese people, etc.), as argued by Pupp (1981). In other cases, the cross-subsidies might benefit higher-income consumers at the expense of lower-income ones. For example, Hall (1998) suggests that community rating involves implicit subsidies from younger to older consumers who, *ceteris paribus*, would have higher incomes, but that this effect is not the intended purpose of community rating.

The idea that community rating can benefit those on higher incomes has also been given weight by a number of empirical studies. For example, Maynard & Dixon (2002) point out that, despite community rating of premiums, the purchasing of private health insurance in Australia was concentrated in the wealthiest households. Palangkaraya et al (2009) also find that policy reforms introduced in Australia in the late 1990s (discussed in Section 5.4.1) benefited those on higher incomes more than those on lower incomes. They note that income, education and occupation have positive and statistically significant effects on the decision to purchase private health insurance. Their results also suggest that more households in high-income groups would have purchased private health insurance even without the policy reforms, so they suggest that those high-income households benefited disproportionately from the windfall gains under the 30% rebate.

Australia is not the only country where the purchase of private health insurance is positively correlated with income. As was seen in Section 2.1.4, the take-up rates of private health insurance in Ireland are significantly higher among those in higher social classes (who would likely have higher incomes) than lower social classes.

Income and employment status have been significant variables in a number of models of demand for private health insurance in the UK (Propper, 1989; Wallis, 2004 and Foubister, Thomson, Mossialos & McGuire, 2006). Wallis (2004) also notes that those reporting better self-assessed health status have a higher propensity to have private health insurance, which he considers counter-intuitive, although as shown in Table 6.9, this is also the case in the Irish market.¹²²

As mentioned earlier in this section, community rating involves a redistribution of wealth from low-risk insured lives to high-risk insured lives, but it is unclear whether this is of benefit to society as a whole. In a related theme, Pauly (1970) examines the welfare economics of community rating. He defines and compares community rating and experience rating. He develops a model to show that an insured person has similar expected net income whether he has insurance with a deductible or full insurance with a lump-sum tax of the same magnitude as the deductible, but that the expected utility is higher with the latter as the expected

¹²² Doiron et al (2008) find the same effect in Australia. However, they argue that this is due to the correlated effects of other factors such as risk preferences, income and other socio-economic variables. Using other measures of risk they find a more conventional adverse selection effect.

income is had with certainty. He then shows that with community rating, the insured person suffers a loss of utility.

Overall, Pauly (1970) argues that the cross-subsidisation of high-risk lives by low-risk lives is inefficient as low-risk lives under-insure and high-risk lives over-insure. This argument was also put forward by Feldman (1987). Pauly & Herring (1999) also argue that community rating does not lead to a monetary gain relative to risk rating, but rather it leads to a transfer from lower-risk insured persons to higher-risk insured persons.

Pauly (1970) notes a number of arguments that are put forward in favour of community rating: that it provides insurance against longer-term changes in the probability of medical expenses¹²³; that it permits lower administrative expenses; and that it helps to make comprehensive coverage available affordably to all segments of a community. He also introduces moral hazard and examines whether community rating or experience rating produces optimal consumption of medical services. He notes that community rating encourages more consumption by some individuals and less by others.

This theme is continued by Feldman (1987), who suggests that community rating accentuates the potential for moral hazard. Indeed, he suggests that the absence of risk rating leads to three sources of market failure: moral hazard, the cross-subsidisation of high-risk lives by low-risk lives (with low-risk lives under-insuring

¹²³ This is also a feature of guaranteed renewability, which was discussed in Section 5.3.

and high-risk lives over-insuring), and a reduction in the optimal level of spending on health promotion to zero. He notes that community rating can be a sales-maximising strategy for insurers and that it is often suggested as a solution to the problem of adverse selection, although he questions whether an adverse selection disequilibrium actually exists in practice. He goes on to suggest that the existing subsidy system (between low-risk and high-risk lives) in the group insurance market in the US is inefficient, and that a Pareto-superior alternative might be to use risk rating and subsidise sick workers via higher wages.

However, Light (1998) notes that community rating, as practiced in Ireland “is far superior to risk-rated private insurance and the upgrades that are found in many countries such as Great Britain, because it does not allow insurers to select procedures, disorders, or subscribers from the national service or system.” (Light, 1998: 746)

The idea that community rating is beneficial as it helps to pool risks more widely than risk rating is one that has been put forward on a number of occasions. However, Pauly & Herring (1999) argue that risk rating also entails risk pooling. In particular, they note that, in a risk rated health insurance market in the US, actual expenses varied considerably more than expected expenses, which in turn varied considerably more than premiums. This, they suggest, is evidence of risk pooling even in a risk rated environment.

They suggest two ways in which community rating could be avoided, with similar outcomes. The first is to have risk-rated insurance with (ideally lump sum) transfers to those high risks deemed worthy of a subsidy. The second, following Arrow (1963), is to take a longer-term view of insurance, but to limit premium variation based on some but not all characteristics. In general, they argue that community rating “is not a uniquely acceptable benchmark.” (Pauly & Herring, 1999: 8) As discussed in Section 5.3, the same authors have proposed a system of guaranteed renewability as an alternative to community rating.

Another alternative to community rating was proposed by Hartedny (1994), who suggests a system of high-deductible, low-premium insurance products, with people putting the money they save on premiums into medical savings accounts, from which they could pay routine medical costs. This would have the additional benefit of reducing administrative expenses due to fewer claims to be processed by insurers. Other insurance reforms suggested by Hartedny, in the context of the US, include portability of coverage and tax-funded state risk pools for the small number of high-risk, uninsurable customers.

As mentioned in Section 2.1.3, voluntary private health insurance can be classified as substitutive (substituting for the statutory health care system), complementary (providing cover for services excluded or not fully covered by the state) and supplementary (providing faster access and greater consumer choice). Ireland’s private health insurance system is primarily supplementary, with elements of

complementary insurance also. Mossialos & Thomson (2002b) note that most voluntary complementary or supplementary systems in the European Union operate on the basis of risk rated individual premiums, but that Ireland is a notable exception to this.

Nolan (2005) argues that, since private health insurance in Ireland essentially provides cover for services already available under the universal entitlements to access the public hospital system (i.e. it would be primarily supplementary under the categorisation of Mossialos & Thomson), the rationale for community rating in particular and, to a lesser extent, open enrolment and lifetime cover, has been questioned.

Article 54 of the European Third Non-Life Insurance Directive permits national governments of Member States to introduce measures designed to protect the common good in situations where national systems provide a partial or complete alternative to the publicly-provided system. Community rating, open enrolment, lifetime cover, minimum benefits and risk equalisation in Ireland were all introduced using Article 54 as a justification. However, as Thomson & Mossialos (2007) note, there is considerable uncertainty relating to applicability of Article 54. In particular, there is some confusion about the definition of the “common good” and also some debate about the degree to which national systems provide a partial or complete alternative to the publicly-provided system.

Maynard & Dixon (2002) examine the pros and cons of risk rating, community rating and group rating in private health insurance. They note that, while community rating is often introduced for reasons of equity or solidarity, introducing it in a voluntary market might lead to low risks exiting the market as premiums are seen by them as too expensive, leaving the market with a higher proportion of high risks. In the absence of a single pool (such as under a compulsory national scheme of health insurance), regulators must define rules for pooling. Without appropriate regulation, the authors argue, the market might suffer from market segmentation, cream skimming and exclusion of vulnerable groups, which would undermine solidarity objectives.

It is clear that community rating is a broadly supported policy in the Irish legislature. However, from a review of the literature, it can be seen that community rating is seen by some as a market distortion, which goes against the approach, favoured by insurers, of taking risk into account when pricing insurance. It is suggested by a number of authors that some form of further regulation (such as a risk adjustment scheme) is needed to counteract the distortion caused by community rating. It is also clear that community rating leads to a redistribution of wealth from low risks to high risks, as the former subsidise the latter under community rating, and there is some debate as to whether or not this is a good thing for society or the market as a whole. Other authors have questioned whether the potential benefits of community rating over other rating types really exist. There is also evidence to suggest that the purchase of private health insurance in Ireland, Australia and the UK (the three

countries examined in this Chapter) is concentrated in higher income groups, and therefore government policies to support the purchase of private health insurance will disproportionately benefit these groups. A number of alternatives to community rating have been proposed, including guaranteed renewability of insurance. It can also be seen that Ireland is unusual in European terms in having a high degree of regulation of supplementary/complementary voluntary private health insurance in the form of community rating, open enrolment, lifetime cover and minimum benefits, along with risk equalisation (albeit that this last policy is currently not in place).

6.3 A Comparison of Health Systems: Ireland, UK and Australia

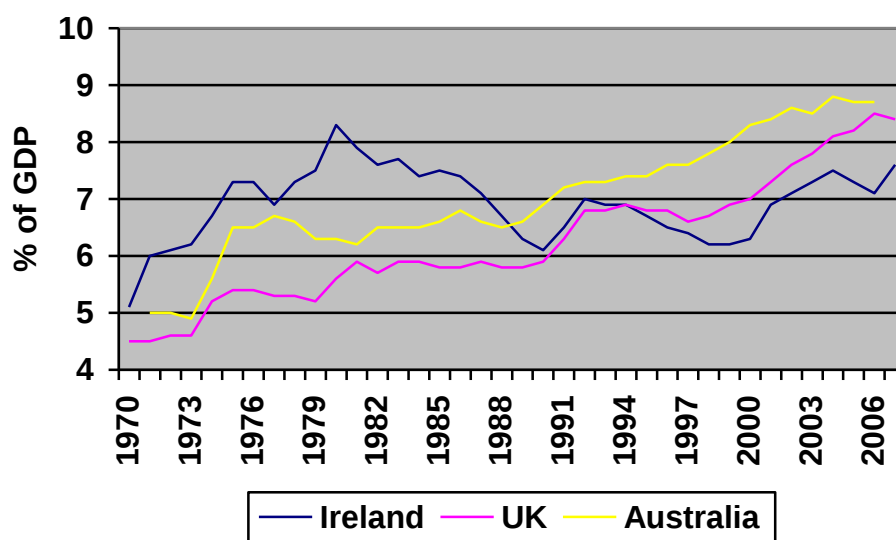
It would therefore be instructive to examine what impact community rating has on the characteristics of the market for private health insurance in Ireland, specifically with regard to the age profile of the insured community. To do this, the Irish health insurance market is compared with another community rated health insurance market (Australia) and a risk rated health insurance market (the UK) to try to determine the differences in characteristics of the market under community rating versus risk rating.

Australia and the UK provide a good basis for comparing and contrasting private health insurance markets with that of Ireland. From a historical perspective, Ireland's hospital system, as it is currently structured, has its roots in the workhouses

of the late 19th century – a time during which Ireland was governed by the British – as noted by O’Morain (2007). He also notes that Australia has had a considerable influence on the Irish healthcare system, citing as examples the private health insurance market and the introduction of a casemix system of hospital funding.

The health systems of all three countries also have a number of common features. In particular, all three systems feature voluntary private health insurance markets set against a background of universal access entitlements to the public hospital systems.

Figure 6.1 Total Expenditure on Health as a % of GDP, 1970-2007: Ireland, UK and Australia



Source: OECD (2009)

Note: The OECD indicates occasional breaks in the series so these figures should be used for indicative purposes

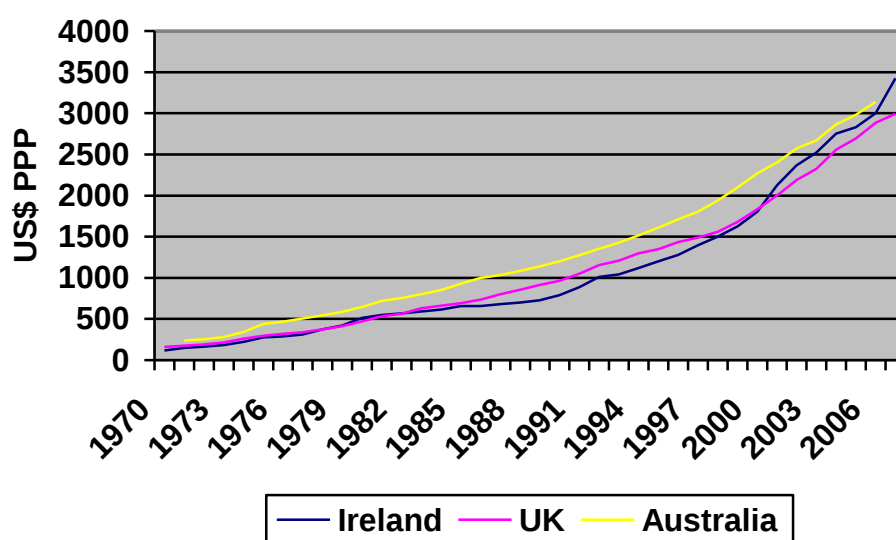
Figure 6.1 shows health spending as a proportion of GDP in the three countries.¹²⁴

This shows that all three countries have increased the proportion of GDP spent on

¹²⁴ As noted in Section 2.1.2 and Section 5.5.2, many feel that GNP is a more accurate indicator of economic activity in Ireland. If this measure were used for Ireland, health spending as a proportion of

health since the 1970s, as has been the case in most OECD countries. The effect of severe cutbacks in health spending in Ireland in the 1980s can be clearly seen from these figures (see Wren, 2003 for a discussion of these cutbacks). Since the late 1980s, Australia has consistently spent a higher proportion of GDP on health than either Ireland or the UK, while Ireland has also spent a lower proportion of GDP on health than the UK since the mid-1990s.

Figure 6.2 Total Expenditure on Health per Capita US\$ PPP, 1970-2007: Ireland, UK and Australia



Source: OECD (2009)

Note: The OECD indicates occasional breaks in the series so these figures should be used for indicative purposes

Figure 6.2 shows total expenditure on health per capita, allowing for exchange rate differentials by using purchasing power parity. It can be seen from this figure that Australia has consistently spent a higher amount per capita on health than the UK

GNP would be higher than health spending as a proportion of GDP. Specifically, as noted in Section 2.1.2, in 2007 health spending represented 7.7% of GDP but 9.1% of GNP in Ireland. However, the figures produced by the OECD use GDP rather than GNP and are therefore presented here for consistency.

and Ireland, although figures for Australia for 2007 are not available. Although Ireland's spending as a percentage of GDP has remained below that of Australia and the UK in the 1990s and 2000s, the strong growth in GDP in Ireland in the late 1990s and early years of this decade – the so-called “Celtic Tiger” era – has allowed spending per capita in Ireland to increase strongly and overtake the comparable figures in the UK and close the gap between Ireland and Australia.

Table 6.1 Selected Indicators of Health Expenditure, 2006: Ireland, UK and Australia

Indicator	Ireland	UK	Australia
General government expenditure on health as a % of total expenditure on health	78.3	87.4	67.2
Private expenditure on health as a % of total expenditure on health	21.7	12.6	32.8
Private prepaid plans as a % of private expenditure on health	38.6	7.8	22.0
Out-of-pocket payments as a % of private expenditure on health	57.2	92.2	55.7
Social security expenditure on health as a % of general government expenditure on health	0.9	0.0	0.0
General government expenditure on health as a % of total government expenditure	17.3	16.5	17.2

Source: WHO (2009b)

Table 6.1 shows that the health systems of all three countries are primarily financed by government expenditure. However, the degree to which private expenditure accounts for overall health spending is considerably lower in the UK than in either Ireland or Australia, as is the proportion of private expenditure on health accounted for by private insurance (private prepaid plans). This likely reflects the fact that the private health insurance markets in both Ireland and Australia cover significantly

higher proportions of the population than in the UK (see Section 6.3). Combining these two measures, it can be seen that private prepaid plans accounted for almost 8.4% of total expenditure on health in Ireland and 7.2% in Australia in 2006, compared with just less than 1.0% in the UK.

The low proportions of government expenditure on health accounted for by social security expenditure reflects the fact that all three systems are primarily tax-financed, compared with the social insurance financing of many continental European health systems. Table 6.1 also shows that health accounts for a greater share of overall government expenditure in Ireland and Australia than in the UK.

As can be seen in Table 6.2, the number of practicing physicians per capita in Ireland is higher than in either Australia or the UK, although the OECD notes that a different methodology is used for the Irish figures. However, Ireland has a significantly higher number of nurses and hospital beds per capita than either of the other two countries. Ireland's number of hospital discharges per 100,000 population is higher than that of the UK but significantly below that of Australia. Combining this figure with the number of beds per 1,000 population, it would appear that the other two systems have a higher number of discharges per bed than Ireland. Life expectancy figures for Ireland are broadly similar to those of the UK but lower than those of Australia. It should be noted however, that this is not necessarily an indication of the efficacy of the health system, as environmental and lifestyle factors would also make a difference to this measure.

Table 6.2 Selected Indicators of Health Performance, 2007: Ireland, UK and Australia

Indicator	Ireland	UK	Australia
Practicing physicians: density per 1,000 population (head counts)	3.03†	2.48	2.81*
Practicing nurses: density per 1,000 population (head counts) ¹²⁵	15.50	10.02	9.66**
Total hospital beds per 1,000 population	5.3*	3.4	3.9*
Hospital discharge rates per 100,000 population: all causes	13,796	12,554	16,238*
Life expectancy: males at birth (years)	77.3*	77.1**	79.0
Life expectancy: females at birth (years)	82.1*	81.1**	83.7

Source: OECD (2009)

Note: † indicates a different methodology, according to the OECD

*Note: * indicates 2006 data; ** indicates 2005 data*

6.3.1 Brief Overview of the Australian and UK Systems

A full examination of the Australian and UK health systems and their interaction with the private health insurance markets in those countries would be beyond the scope of this study. However, this section presents a brief outline of the health systems in the two countries and should therefore be treated as such.

The National Health Service (NHS) in the UK was founded in 1948. It is primarily a tax-financed system, in which residents are entitled to free access to NHS

¹²⁵ The figure for practicing nurses per 1,000 population for Ireland has been criticised as an inaccurate portrayal of the true situation. In particular, it has been pointed out that this figure makes no allowance for the breakdown between full-time and part-time nurses. For example, Spiers (2006) suggests that, as at December 2004, there were 40,700 nurses employed in the public health system, but that they were filling fewer than 34,300 whole-time equivalent posts. She also argues that certain categories of nurses included in the Irish figures are not included in the corresponding figures for other countries.

hospitals. Similarly to the Irish situation, the NHS suffered from under-funding for years, which led to long waiting lists, although not as long as those in the Irish public hospital system (see Wren, 2003). Hospital doctors are salaried in the NHS, similar to the public hospital consultants in Ireland. However, consultants in the NHS may only engage in limited private practice, compared with Irish consultants. There are a very small number of private beds in public hospitals in the UK, but the majority of private practice carried out by NHS consultants is performed in private hospitals. Wren (2003) notes that, in 1998 these private beds accounted for just 1% of all public beds, while in 2001 private patients accounted for just 1% of NHS admissions. Grosse-Tebbe & Figueras (2005) note that private hospitals account for less than 5% of total acute bed capacity.

This is also highlighted by Foubister et al (2006), who point out that public providers cannot receive private income, while private providers who deliver services to the NHS cannot combine private and public revenue in the same NHS-contracted service. However, they suggest that private provision of NHS-funded healthcare is likely to become a more significant feature in the coming years. They also note that NHS doctors are permitted to undertake some private practice, and that the overlap is self-regulated, which they note can create perverse incentives for doctors to carry out treatment privately rather than publicly (an issue that has been raised in Ireland, as discussed in Section 2.1.5). They also point out that the NHS consultant contract has recently been altered to provide greater incentives for doctors

to carry out NHS work only (also similar to the Irish case, as discussed in Section 2.1.5).

Another major difference between the UK and Irish systems is that the NHS provides for free access to GPs, whereas the majority of the Irish population (those without medical cards or GP visit cards) must pay for GP visits through out-of-pocket expenses.¹²⁶ Restrictions on free access to primary care in Ireland could accentuate demand for hospital care (if illnesses are left untreated for longer), leading to longer waiting times for hospital treatment, which in turn could lead to higher demand for private health insurance, particularly as it is perceived as providing faster access to treatment, as discussed in Section 2.1.4.

There is some cost-sharing for prescription medicines in the UK (as there is in Ireland), although fees charged to patients for such medicines are nominal (Boyle, 2008). In recent years, the NHS has undergone major reforms, moving towards NHS Trusts, rather than a single, large monopoly provider of hospital care. Waiting times for hospital treatment in the UK have been reduced in recent years, as a result of initiatives by the NHS. As noted by Grosse-Tebbe & Figueras (2005), from 2004

¹²⁶ O'Reilly et al (2007) find evidence that user charges for GP services act as a deterrent to those people who must pay them. In particular, they find that, while only 1.8% of those surveyed in Northern Ireland (which, as part of the UK, has free access to GP services) had an illness but had not consulted a GP due to cost concerns in the previous 12 months, the figures in the Republic of Ireland were 4.4% of patients with medical cards and 26.3% of those without. Their findings show that those most likely not to consult a GP due to cost concerns were young adults and those on lower incomes. Layte & Nolan (2009) also conclude that GP charges act as a deterrent to those who must pay them, and they note that Ireland is unusual among OECD countries in terms of the relatively low proportion of the population entitled to free primary care services. They also find that, of those without medical cards, the probability of visiting a GP is lower among those in lower income groups, and that the probability of visiting a GP even among the highest income group is lower than the probability of a medical card holder visiting a GP (controlling for health and other factors).

any patient waiting more than six months for surgery is entitled to obtain treatment from another hospital or provider, in the private sector or abroad if necessary. This is similar to the National Treatment Purchase Fund initiative in Ireland.

The private health insurance market in the UK also displays a significant difference compared with the Irish system, in that the majority of insured persons in the UK market have their private health insurance purchased by their employer. However, Foubister et al (2006) note that around one in eight company schemes require some contribution from employees.

A report from Laing & Buisson (2008) shows that, at the end of 2007, company-paid private health insurance accounted for approximately three-quarters of subscribers and persons covered, although it only accounted for just over half of subscription income earned. The report shows that subscriptions per subscriber for company-paid private health insurance were less than half the level of individual/employee-paid subscriptions per subscriber, at £709 and £1,475 respectively. The report argues that the difference is due to higher sales and administration costs and an older subscriber age profile for the individual market. It also finds that the numbers insured in the individual market have been trending downwards during the 1990s and the 2000s, while the numbers insured in the company-paid market have remained reasonably stable. It also shows that the individual market is more price inelastic than the company-paid market and that both price increases and cost increases have tended to be greater for the former than the latter. This is also

highlighted by Foubister et al (2006), who argue that higher prices and higher gross margins seen in the individual market are partly due to the fact that there is more competition in the company-paid market.

Australia has a largely publicly-funded healthcare system, although significant overlaps between the public and private systems exist, as they do in Ireland. However, according to PHIAC (2008b), private hospital treatment constituted the majority of benefits paid by insurers in 2007/08 (accounting for 60.1% of total hospital benefits), with public hospital treatment comprising only a small minority of benefits paid (6.9% of total hospital benefits paid).¹²⁷ The Commonwealth Government funds medical and hospital services, with significant provision and funding of health services by State governments.¹²⁸

Public hospital doctors are salaried, although many services delivered in public hospitals are provided by doctors under fee-for-service arrangements. According to the Department of Health and Aged Care (now called the Department of Health and Ageing), specialists in public hospitals often have rights to treat private patients in public hospitals, although they note that in such cases specialists often contribute a portion of their fee income to the hospital (Department of Health and Aged Care, 2000). Cheah & Doessel (1994) point out that 75% of medical practitioners in

¹²⁷ The other categories were day hospital facilities (3.0%), medical benefits (15.9%) and listed prostheses (14.0%).

¹²⁸ Madden (2006) notes that, since the States fund medical services in public hospitals and the Commonwealth is the main funder for medical services and drugs in all other settings, the States have an incentive for services to be shifted out of public hospitals, while the Commonwealth has the opposite incentive. However, he notes that the extent of cost shifting between the Commonwealth and the States is a matter for conjecture.

Australia engage in private practice. Australians are entitled to free hospital treatment as public patients, although even if they elect to be treated as private patients they are still heavily subsidised by the state.

They are also eligible for free or subsidised non-hospital treatment by health care professionals such as GPs. Prescription medicines are also subsidised by the Commonwealth government.

The Commonwealth Government in Australia is keen to promote the involvement of the private sector in healthcare provision in Australia. The government “considers that strong private sector involvement in health services provision and financing is essential to the viability of the Australian health system.” (Department of Health and Aged Care, 2000: 2). This is similar to the Irish government’s attitude towards private provision and financing, as set out in the White Paper on Private Health Insurance in 1999 (Department of Health and Children, 1999), which is discussed in more detail in Chapter 2.

Another difference between the Australian and Irish systems is the length of wait for public treatment.¹²⁹ Madden (2006) notes that the median wait for elective procedures was 28 days, with only 10% waiting longer than 193 days. Waiting times in Ireland tend to be higher (see Section 2.1.4). However, Madden (2006) also notes that health insurance accounts for 7% of resources, which is similar to the

¹²⁹ Doiron et al (2008) note that longer waiting times and lack of choice of provider are two of the main risks of being uninsured in Australia. In this regard, it is similar to the Irish system.

proportion of resources accounted for by private health insurance in Ireland (see Section 2.1.2). Private health insurance in Australia is primarily individual paid rather than company paid health insurance (Wilcox, 2001; Doiron et al, 2008). In this regard, it is quite similar to the Irish market, which is predominantly individual paid.¹³⁰

Although there is a long history of health insurance in Australia (which can be traced back to Federation time, according to Palangkaraya et al, 2009), the establishment of Medibank in 1975 (renamed to Medicare in 1984), to provide universal healthcare had a major impact on the market for private health insurance. Take-up rates for private health insurance declined steadily during the 1990s (see Figure 5.2), leading to concerns that the decline in private coverage would put undue strain on the public hospital system.

The then government reacted to these concerns by implementing a series of reforms designed to encourage take-up of private health insurance again (as mentioned in Section 5.4.1). The first of these was the Private Health Insurance Incentives Scheme, whereby those on high incomes who did not take out private health insurance were subject to a levy,¹³¹ while a means-tested subsidy was available for low-income earners to purchase private health insurance. The second was a 30% rebate for all those who took out private health insurance, to replace the means-

¹³⁰ Although many people in Ireland are members of employment-based group schemes, in many cases these merely facilitate employees in benefitting from the group scheme discount (mentioned in Section 2.2), while the individuals, rather than the employers, pay the premiums.

¹³¹ PHIAC (2008b) notes that from 1 July 2008 the threshold for this levy is AUS\$70,000 for an individual and AUS\$140,000 for a couple or family.

tested subsidy from the PHIIS.¹³² The third was the introduction of lifetime community rating (which was discussed in more detail in Chapter 5).

While the regulatory environment for private health insurance in Australia is very similar in many respects to that in Ireland, one significant difference is that in Australia, the Minister for Health and Ageing must approve applications by insurers to increase premiums. Prior to the passing of new legislation in 2007, the Minister had the discretion to disallow price increases, but the Private Health Insurance Act, 2007 made this subtle change.

6.3.2 *The Private Health Insurance Markets in Ireland, Australia and the UK*

Australia operates community rating, while the UK has a risk-rated private health insurance market, although as pointed out by Foubister et al (2006), there is an element of group rating in the corporate paid market in the UK. The system of community rating currently in operation in Australia is lifetime community rating. This was introduced in 2000 to replace the previous system of single rate community rating and was discussed in more detail in Chapter 5. Ireland still operates a single rate community rating system, although it is anticipated that Ireland will move to lifetime community rating in the near future.

¹³² According to PHIAC (2008b) this increases to 35% for people aged 65-69 and to 40% for people aged 70 and over.

A related issue to the rating system is how each market deals with pre-existing conditions. Pre-existing conditions are covered in Ireland, although as discussed in Section 2.2, insurers are permitted to apply age-related waiting periods before providing cover for such conditions. A similar system is in place in the Australian market, whereby pre-existing conditions are covered after a waiting period is served. According to PHIAC (2008a), the maximum waiting period that must be served before a pre-existing condition is covered is 12 months.¹³³ In the UK however, pre-existing conditions are usually not covered at all (see Foubister et al, 2006 for more details). This might reduce demand for private health insurance in the UK, relative to markets where pre-existing conditions are covered.¹³⁴ However, it could also reduce the likelihood of adverse selection on the part of consumers (a problem which was discussed further in Chapters 4 and 5).

With only three insurers competing in the unrestricted market for private health insurance in Ireland, the market is heavily concentrated. This has formed the basis for some of the criticism of risk equalisation in the Irish market, particularly given that the market leader, with the majority of the market share, is the former State monopoly. However, it would be instructive to examine whether, or to what extent, the other markets being reviewed here are concentrated. To do this, the markets are

¹³³ A 12-month maximum waiting period is permitted for obstetric cases. A maximum waiting period of two months may be imposed for psychiatric, rehabilitative and palliative care whether or not the condition was pre-existing. The maximum waiting period in all other circumstances is two months. Waiting periods for ancillary benefits are not regulated by the Government. (Source: PHIAC, 2008a).

¹³⁴ The coverage of pre-existing conditions can be a controversial area. Evidence from the US suggests that significant numbers of those who applied for private health insurance in the individual market were denied coverage, charged higher premiums or had their pre-existing conditions excluded from cover (Doty, Collins, Nicholson & Rustgi, 2009; US Department of Health and Human Services, 2009).

compared using the Hirschmann-Herfindal Index of market concentration.¹³⁵ The index value is calculated by summing the squares of the market shares of the individual competitors, i.e.

$$HHI = \sum_{i=1}^N (s_i)^2$$

If the value of the index is less than 0.1 then the market is unconcentrated. If it is greater than 0.18 then the market is considered to be concentrated. An index value of between 0.1 and 0.18 is inconclusive and further examination of the market is needed to determine whether or not it is concentrated.

Tables 6.3, 6.4 and 6.5 show the market shares and Hirschmann-Herfindal Index calculations for the Irish, Australian and UK markets respectively. The market shares of the insurers in each case are ranked from highest to lowest. The market share figures published for the Irish market include the restricted membership undertakings so the figures are rebased to exclude those undertakings and only examine the insurers operating in the open market.

It can be seen that the Irish market is highly concentrated, which is to be expected with only three insurers, the largest of which has over a 70% market share. However, the UK market is also concentrated, though not as heavily as the Irish market.¹³⁶ According to Laing & Buisson (2008), the largest insurer (BUPA) had a

¹³⁵ See, for example, Carlton & Perloff (2005) for a discussion of this measure of market concentration.

¹³⁶ Foubister et al (2006) note that market power of insurers is important in terms of relationships with medical providers. Specifically, they suggest that insurers negotiate discounts with providers,

market share of 42% in 2007, while the top three insurers between them accounted for over three-quarters of the market. Laing & Buisson (2008) also reports that, as at July 2008 there were 19 private health insurers operating in the UK market, of which eight were provident and 11 commercial. It should be noted that Laing & Buisson (2008) does not provide separate figures for the ‘other insurers’ category, although this would not alter the finding that the UK market is concentrated.

Table 6.3 Hirschmann-Herfindal Index Calculations for Ireland

Insurer	Market Share	Rebased for Unrestricted Market	Square of Market Share
Vhi Healthcare	0.7	0.729167	0.531684
Quinn Healthcare	0.2	0.208333	0.043403
Hibernian Health	0.06	0.0625	0.003906
Other	0.04		
Hirschmann-Herfindal Index			0.578993

Source: HIA, 2008c

The Hirschmann-Herfindal Index value for the Australian market lies in the inconclusive range, suggesting that the market may or may not be concentrated. It should be noted that 13 of the 38 health insurers listed in the Australian market in 2008 were restricted membership undertakings (these are marked with an asterisk in Table 6.4). Excluding these undertakings and recalculating the figures for only the open undertakings yields a Hirschmann-Herfindal Index value of 0.152826, which is still in the inconclusive range. However, it can be seen that the six largest insurers in the Australian market account for around three-quarters of the market, while 24

which are reflected in premiums. They also note that, while insurers usually reimburse medical facilities directly, specialists usually bill consumers directly and the consumers then apply to the insurers for reimbursement. They also note that insurers usually do not cover specialist fees above a fee schedule and that balance billing applies above this level. Balance billing is rare in the Irish market.

insurers each have less than 1% market share. PHIAC (2008b) notes however that a number of smaller insurers have combined when negotiating with providers, in order to benefit from economies of scale.

It should be noted that some private health insurers in Australia only operate in certain states and that not all of them compete at a national level.¹³⁷ PHIAC (2008b) gives details of the market shares by total policies for each state/territory as at 30 June 2008 (PHIAC, 2008b: 16), although it combines the figures for New South Wales and the Australian Capital Territory. Based on these figures, the markets in most states/territories are concentrated, with the exception being New South Wales/Australian Capital Territory, which falls into the inconclusive range. The combined market share of the top six insurers in each state ranges from 81.6% in Victoria to 93.8% in Tasmania, while the combined market share of the top three insurers ranges from 62.6% in New South Wales/Australian Capital Territory to 86.9% in Tasmania.

Table 6.4 Hirschmann-Herfindal Index Calculations for Australia

Insurer	Premium Revenue (\$000)	Market Share	Square of Market Share
MPL	3,347,245	0.274616	0.07541395
MBF	1,988,398	0.163133	0.02661234
BUPAAH	1,280,407	0.105048	0.01103501
HCF	1,081,383	0.088719	0.00787111
HBF	792,978	0.065058	0.00423252
NIB	758,238	0.062208	0.00386979
AUHL	386,541	0.031713	0.00100570
AHM	377,134	0.030941	0.00095734

¹³⁷ This is a decision on the part of insurers – there is no Government regulation specifying states in which insurers may or may not operate.

MBF Alli	265,455	0.021779	0.00047431
TFH*	242,452	0.019891	0.00039567
MU	225,130	0.018470	0.00034115
Defence*	179,894	0.014759	0.00021783
GMHBA	164,530	0.013498	0.00018221
CBHS*	161,610	0.013259	0.00017580
Westfund	83,149	0.006822	0.00004654
H'Partners	81,207	0.006662	0.00004439
QTUH*	70,728	0.005803	0.00003367
H'guard	68,806	0.005645	0.00003187
Latrobe	68,586	0.005627	0.00003166
GUC	67,878	0.005569	0.00003101
CUA	54,155	0.004443	0.00001974
HIF	53,434	0.004384	0.00001922
St. Luke's	52,769	0.004329	0.00001874
Lysaght	51,136	0.004195	0.00001760
RT*	43,678	0.003583	0.00001284
Police*	41,071	0.003370	0.00001135
QCH	38,813	0.003184	0.00001014
Navy*	36,096	0.002961	0.00000877
Mildura	25,235	0.002070	0.00000429
Phoenix*	18,613	0.001527	0.00000233
DHF*	15,805	0.001297	0.00000168
Druids	15,134	0.001242	0.00000154
ACA*	14,701	0.001206	0.00000145
HCI*	9,626	0.000790	0.00000062
Transport*	8,458	0.000694	0.00000048
RBHS*	6,478	0.000531	0.00000028
NHBA	6,425	0.000527	0.00000028
CDH	5,445	0.000447	0.00000020
Industry Total	12,188,820	1	
Hirschmann-Herfindal Index			0.1331354

Source: PHIAC (2008b)

Note: For a key to insurer names and acronyms, see PHIAC (2008b): 36-37

Note: Entries marked * are restricted membership undertakings

It should be noted that the market share figures for the Irish market are based on membership rather than premium, whereas the figures for the Australian (national) and UK markets are based on premium revenue. Comparable figures for premium revenue for Ireland are not readily available. However, it should be noted that

calculations were also carried out on the Australian data using number of insured persons and the Hirschmann-Herfindal Index measured on this basis was 0.1334861 (0.152201082 using only the open undertakings), which is very similar to that based on the premium revenue figures. It is likely that a calculation for the Irish market based on revenue figures would also show that the market is highly concentrated.

Table 6.5 Hirschmann-Herfindal Index Calculations for the UK

Insurer	Subscription Income (£m)	Market Share	Square of Market Share
BUPA	1,441	0.420	0.17619
Axa PPP Healthcare	835	0.243	0.05916
Norwich Union	348	0.101	0.010276
Standard Life Healthcare	264	0.077	0.005914
CIGNA	117	0.034	0.001162
WPA	104	0.030	0.000918
Simplyhealth Group	88	0.026	0.000657
PruHealth	64	0.019	0.000348
Exeter Friendly	37	0.011	0.000116
CS Healthcare	19	0.006	0.000031
Other Insurers	116	0.034	0.001142
All PMI Carriers	3,433	1.000	
Hirschmann-Herfindal Index			0.255911

Source: Laing & Buisson (2008)

As can be seen from the above, there are significant similarities between the health systems in Ireland, Australia and the UK, although differences also exist between them. This section has not been intended to provide a comprehensive comparison of the systems, but rather to highlight that there are grounds for comparison between the three countries' health systems.

6.4 Market Characteristics with Different Rating Systems

A distinct comparison can be made between the community rated markets of Ireland and Australia and the risk rated market in the UK, in terms of the take-up of private health insurance. While over 50% of the Irish population and over 40% of the Australian population is covered by private health insurance in Ireland, the comparable figure for the UK is just over 10%.

Considering the similarities between the three health systems, this is a significant difference in take-up rates. Although there are likely to be other factors at play, the fact that the UK market is risk rated is almost certainly a contributory factor.

In a risk rated market, those for whom private health insurance is relatively affordable are low-risk, younger, healthier consumers, while premiums are less affordable or unaffordable for those who need it most, i.e. high-risk, older, sicker consumers. Therefore, it is possible that those who can afford it do not purchase it because they do not need it – or at least do not perceive a need for it – while those who need it cannot afford to purchase it.

An analysis of take-up rates by age is instructive in this regard. Table 6.6 shows take-up rates of private health insurance by age for the three markets under review. In all three markets, take-up rates peak in middle age groups. In Ireland, the highest take-up rates are found in the 35-54 range, followed by the 55-64 age group. In

Australia, the highest rates are found in the 45-64 range, as is also the case in the UK.

Table 6.6 Take-up Rates of Private Health Insurance by Age: Ireland, Australia and UK

Ireland	Nov. 2007	Australia	Jun. 2007	UK	2004-05
Age Band	% with PHI	Age Band	% with PHI	Age Band	% with PHI
		0-19	41		
18-24	39	20-24	31		
25-34	45	25-34	34		
35-44	57	35-44	45		
45-54	57	45-54	52		
55-64	50	55-64	56		
65+	42	65+	44		
18-44	48	15-44	39	16-44	13
45-64	54	45-64	54	45-64	16
65+	42	65+	44	65+	7
Total	49	Total	44	Total	13

Source: HIA (2008c), Laing & Buisson (2008), Australian figures calculated based on data from ABS (2007) and PHIAC

However, one clear difference is evident between a community rated market and a risk rated one. In the two markets operating community rating – Ireland and Australia – take-up rates among those aged 65 and over are either slightly below, in the case of Ireland, or comparable with, in the case of Australia, the market average. Meanwhile, the take-up rate among the 65+ age group in the UK, where risk rating is practiced, is just over half of the market average. The take-up rate in the 65+ age group in Ireland is 86% of the overall take-up rate, it is the same as the overall take-up rate in Australia, but it is only 54% of the overall take-up rate in the UK.

The fact that community rating makes health insurance more affordable for high-risk consumers (who would generally be older and sicker consumers) clearly attracts a higher take-up rate among older age groups than a risk rated market, in which health insurance could be very expensive for such consumers.

This point is emphasised by examining the breakdown of spending on individual (i.e. non-company paid) private medical insurance in the UK, which is shown in Table 6.7. This table shows that, in 2006, those aged 65 and over accounted for 39% of total spending on individual private medical insurance. This is despite the fact that the take-up rate in this age-group is slightly over half that of the average. This clearly illustrates the extent to which older, high-risk consumers pay substantially higher premiums under a system of risk rating. Indeed, Laing & Buisson (2008) notes that the relatively high proportion of spending accounted for by the 65+ age category reflects the high premiums paid by older people.

Table 6.7 Spending on Individual PMI by Age, UK

Age Band	0-29	30-49	50-64	65-74	75+	All Ages
	% of total	% of total	% of total	% of total	% of total	% of total
1995/96	3	36	32	18	11	100
1999/00	4	27	34	22	13	100
2006	2	24	35	20	19	100

Source: Laing & Buisson (2008), Table 12.3

In this context, Wallis (2004) finds a higher propensity to hold private health insurance among those in middle age brackets than at younger ages or older ages.

He puts these trends down to younger people not needing insurance and older people facing higher premiums.

Further evidence for the effect of affordability (induced by community rating) attracting higher take-up among older age groups than risk rating comes from the most recent survey of consumers commissioned by The Health Insurance Authority (HIA, 2008c). Among the questions asked in this survey was why those who were covered by private health insurance in Ireland purchased it. One possible answer was 'I can afford it'. This was listed as one factor by 18% and as the main factor by 4% of those with private health insurance. However, when examined by age band, 22% of those aged 55-59 and 27% of those aged 60-64 listed this as one of the reasons they had private health insurance, with 8% and 13%, respectively, of insured persons in those age bands citing it as the main reason. However, the proportion of those in the 65+ age band giving this as a reason was below average, at 12%, although the proportion citing it as the main reason was in line with the average.

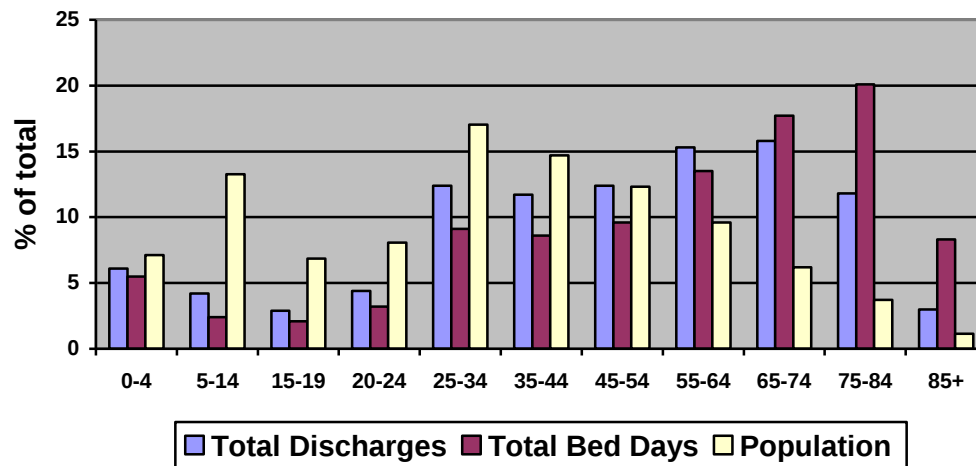
6.5 Impact of Community Rating on the Irish Health System

Thus, one significant impact of community rating in the private health insurance market in Ireland is to increase the relative take-up rate among older consumers significantly above that of a risk-rated market. As medical expenses for older consumers tend, on average, to be higher than those for younger consumers, this means that community rating, by attracting a relatively higher proportion of older

consumers, increases the average risk in the insured pool, with a consequent reduction in the average risk in the uninsured community.

Evidence for the higher medical expenses for older people can be seen in empirical studies. For example, Berk et al (1988) and Berk & Monheit (1992, 2001) show that the distribution of medical expenses is heavily skewed towards the very ill, and that a disproportionate amount of these people are aged 65 or over.

Figure 6.3 Hospital Utilisation and Population by Age, 2006



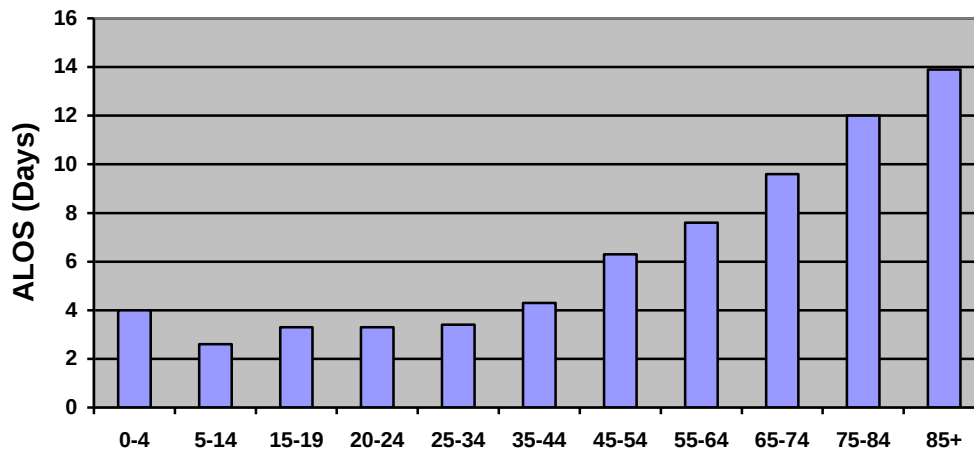
Source: CSO (2007a); ESRI (2008b) Table 3.3

In Ireland, figures from the Central Statistics Office (CSO) and the Economic and Social Research Institute (ESRI) show that the proportions of total (inpatient and day case) hospital discharges and total bed-days accounted for by those aged 55 and over are significantly higher than the proportion of the population in that age group, as can be clearly seen in Figure 6.3.¹³⁸

¹³⁸ The proportion of the population in the 45-54 age bracket is marginally less than the proportion of discharges accounted for by that age bracket (12.3% versus 12.4%) but it is higher than the proportion of bed-days accounted for by that age bracket.

It can be seen from Figure 6.4 that the average length of stay (ALOS) for inpatient discharges increases significantly after the age of 45, compared with other age brackets. It is therefore clear from Figures 6.3 and 6.4 that older people in Ireland have higher utilisation of hospital services than younger people. This is consistent with the findings of Layte et al (2009), who note that just 10% of patients accounted for almost half of inpatient bed days in 2006, and that these patients were older, poorer, sicker and more likely to be medical card holders than other users.¹³⁹

Figure 6.4 Inpatient Average Length of Stay by Age, 2006



Source: ESRI (2008b)

However, the presence of younger consumers in the market maintains the community rated premiums at an affordable level. This highlights the importance of maintaining the stability of community rating through intergenerational solidarity, and is relevant in the context of the discussion of single rate community rating versus lifetime community rating in Chapter 5.

¹³⁹ This is also consistent with the findings of Russo et al (2009) for the US, as discussed in Section 4.2.1.

By making private health insurance more affordable for older consumers, and thereby encouraging older consumers into the privately insured market, community rating also has an impact on the utilisation of private versus public healthcare services. This has implications for the public healthcare system. Indeed, as already mentioned in Section 2.1.5, one of the main arguments put forward in favour of the private health insurance market in Ireland is that it ensures that people do not rely entirely on the public hospital system. It would therefore be instructive to examine differences in utilisation between private and public patients in Irish hospitals.

As mentioned in Chapter 2, much of the hospital care provided to privately insured patients in Ireland is given in public hospitals. Indeed, 20% of beds in public hospitals in Ireland are designated as private beds, for use by privately insured patients, representing approximately half of the private bed stock in the country.

Data on activity in public hospitals in Ireland are collected and published using the Hospital In-Patient Enquiry Scheme (HIPE), which is managed by the Economic and Social Research Institute (ESRI) in association with the Department of Health and Children and the Health Service Executive. All acute public hospitals in Ireland participate in the HIPE scheme. Since 1999 the HIPE system has classified discharges by patient status, i.e. public or private. However, the categorisation refers to whether the patient discharged saw a consultant as a public or private patient and does not take account of whether he/she was accommodated in a public

or private bed. Furthermore, it does not distinguish how private discharges paid for their consultant care – i.e. whether this was through private health insurance or out-of-pocket payments. Nevertheless, intuitively it is likely that a significant majority of private discharges would have paid through private health insurance.

These data on discharges are published in annual reports on Activity in Acute Public Hospitals in Ireland. A request was made for additional data from the HIPE & NPRS¹⁴⁰ Unit of the ESRI in February 2008 and this request was granted, providing more detailed figures on discharges by patient status (i.e. public or private) and age for the years 1999 (which was the first year that the HIPE system recorded patients' status) to 2004 (the latest year for which data were available at the time the request was made) inclusive. A subsequent request was made for updated data from the HIPE system in June 2009 and this was also granted, providing more detailed figures for 2005, 2006 and 2007.

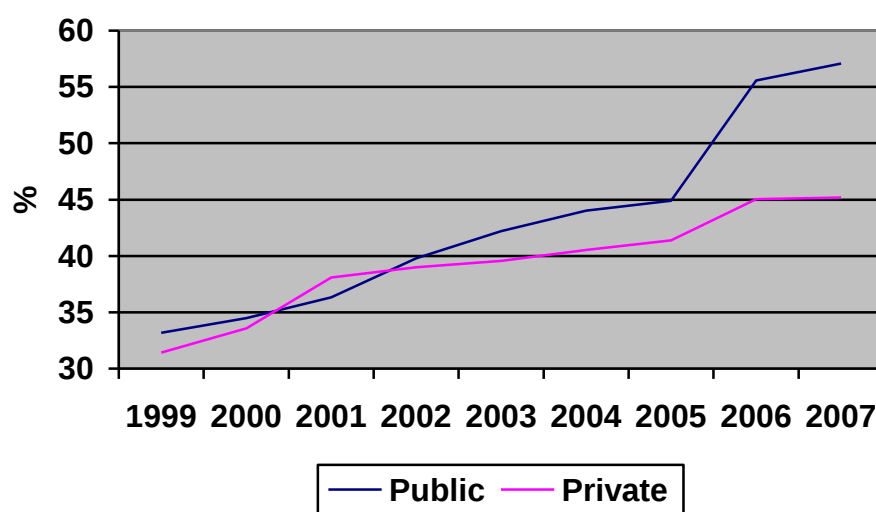
Analysis carried out using the published ESRI data and the more detailed data provided further to the specific requests reveals some interesting trends.

It can be seen from Figure 6.5 that, since 1999, day patients have tended to account for a lower proportion of private discharges (day patient and inpatient) from public hospitals than public discharges from public hospitals, with the exception of 2001. The proportion of patients being discharged as day patients rather than inpatients has risen consistently for both public and private patients, although the increase has been

¹⁴⁰ National Perinatal Reporting System

greater for public patients, resulting in a widening of the gap between the series in recent years. The sharp increase in the proportion of public patients being discharged as day patients from 2006 was partly due to an increase in activity but largely due to the inclusion of specific hospital activity, such as day-patient radiotherapy activity and day-patient dialysis activity, in the HIPE scheme from 2006 onwards (see ESRI, 2008b for a fuller description of the technical issues involved).

Figure 6.5 Day Patient Discharges as a % of Total Discharges by Patient Status, 1999-2007



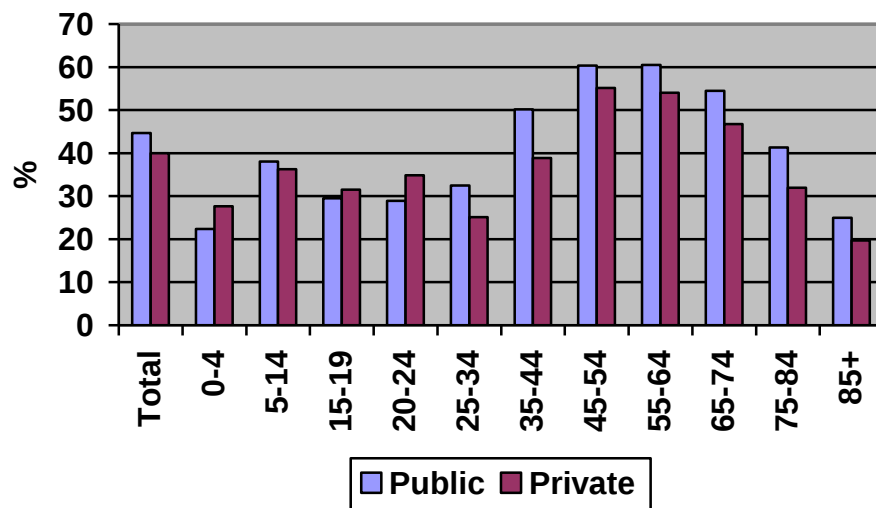
Source: HIPE & NPRS Unit, ESRI; ESRI (2008a, 2008b)

It is clear from Figure 6.5 that a higher proportion of private patients than public ones are treated on an inpatient basis rather than on a day patient basis. Further analysis of the ESRI figures by broad age category (under-15, 15-44, 45-64 and 65+) shows that the proportion of both private and public patients discharged as day patients is consistently above average in only the 45-64 age category. The proportion of day patients in the under-15 and 15-44 age categories are both below

average, while the corresponding proportion in the 65+ age category tended to be below average from 1999 to 2003, but has been above average since 2005. The figures show that, in recent years, the proportion of patients aged 65 and over treated as inpatients rather than day patients has not been significantly different from the average. Given the reduced costs associated with day patient treatment compared with inpatient treatment, this means that this age group as a whole appear to be benefiting from these savings as much as – and in recent years slightly more than – other age groups.

However, further analysis of the 65+ age group shows that those aged 65-74 were more likely than the average to be treated as day patients, while the proportion of those aged 75-84 treated as day patients was significantly lower than those aged 65-74, and this proportion was significantly lower again for the 85+ age-group. This suggests that the older patients get the more likely it is that their medical needs will be such that they are unable to be met in a day-case setting, thus requiring more expensive inpatient treatment. Figure 6.6 shows the proportion of discharges by age from public hospitals that were day patients between 1999 and 2007 inclusive, using the aggregate figures from those years.

Figure 6.6 Day Patient Discharges as a % of Total Discharges by Age, 1999-2007 (Aggregate)

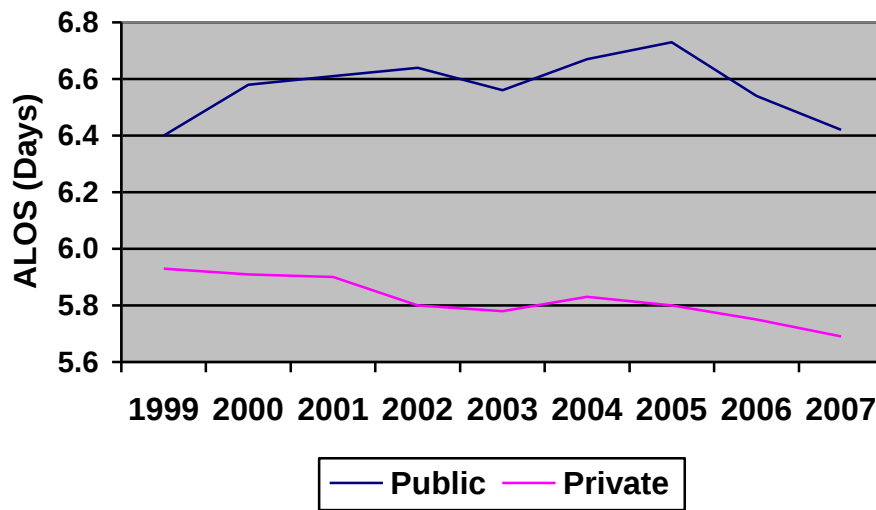


Source: HIPE & NPRS Unit, ESRI

Analysis of the figures from the ESRI also shows that private inpatients consistently have shorter average lengths of stay than public inpatients, as can be seen in Figure 6.7.¹⁴¹ The average inpatient stay in a public hospital by a private patient has been between 0.47 and 0.93 days shorter than that of a public patient between 1999 and 2007. It can also be seen from Figure 6.7 that the average length of stay for private patients has been on a downward trend since 1999, while there is less of a clear trend in average length of stay for public patients.

Figure 6.7 Average Length of Stay for Inpatients by Patient Status, 1999-2007

¹⁴¹ Doiron et al (2008) note similar trends in Australia, with patients having shorter lengths of stay for similar procedures in private hospitals compared with public hospitals. It should be noted however, that the Irish figures refer to public and private patients in public hospitals.



Source: HIPE & NPRS Unit, ESRI; ESRI (2008a, 2008b)

ESRI (2008b) points out however, that there is less of a difference between the average length of stay for public and private acute inpatients (those with a stay of up to, or including, 30 days), but that the public extended-stay patients (those with a stay of more than 30 days) were in hospital for an average of almost three days longer than their private counterparts (see Table 6.8).

Table 6.8 Inpatient Discharges and Average Length of Stay by Patient Type, 2006

Patient Type	Public		Private		Total	
	Discharges	ALOS	Discharges	ALOS	Discharges	ALOS
Acute (0-30 days)	415,045	4.8	151,335	4.6	566,380	4.8
Extended (>30 days)	13,177	60.5	3,237	57.6	16,414	60
Total Inpatient	428,222	6.5	154,572	5.8	582,794	6.3

Source: ESRI (2008b), Table 3.9

These figures show that extended stay inpatients account for a small proportion of discharges but a significant proportion of bed-days. Based on the average length of stay and the number of discharges, as reported in Table 6.8, extended stay patients in total accounted for just over 2.8% of inpatient discharges, but nearly 27% of bed-days in 2006. This is consistent with the findings of Berk et al (1988) and Berk & Monheit (1992, 2001) that medical expenditures are highly skewed towards those who are very ill.

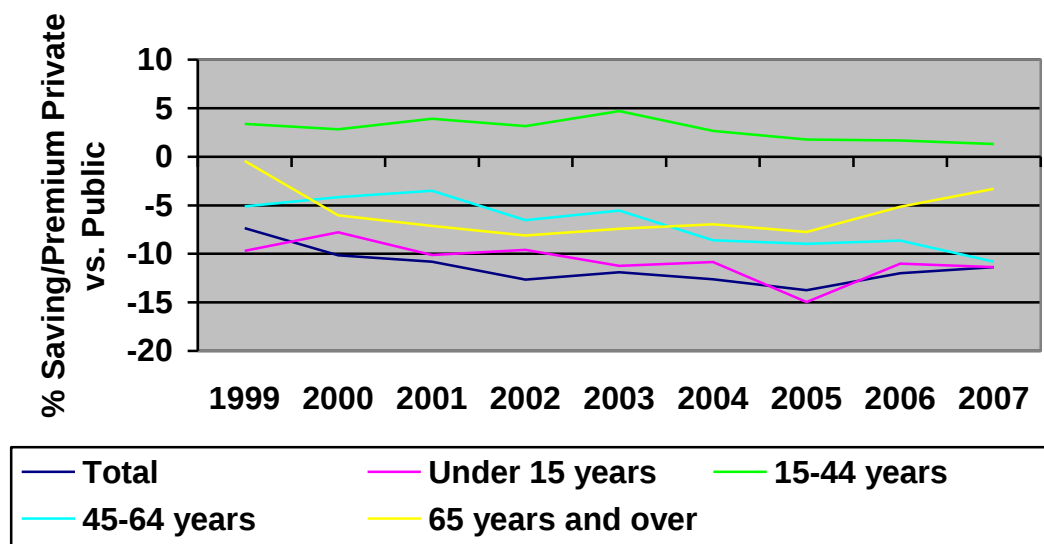
The figures in Table 6.8 also show that private patients are less likely to have extended stays in public hospitals than public patients. Extended stay patients account for 3.1% of public inpatient discharges and nearly 29% of public inpatient bed-days, compared with 2.1% of private inpatient discharges and nearly 21% of private inpatient bed-days.

In light of the figures in Table 6.8 it is interesting to recall that the reinsurance scheme in the Australian private health insurance market equalised the claim costs of those aged 65 and over and those who spent more than 35 days a year in hospital. As noted in Section 2.4, the Industry Commission (1997) pointed out that these two groups accounted for nearly half of total claim costs in Australia by the late 1990s. The risk equalisation system in Australia, which replaced the reinsurance system in 2007 (see PHIAC, 2008b), equalises the cost of hospital benefits paid for people aged 55 and over and high cost claims (those in excess of AUS\$50,000).

When analysed by broad age group, it can be seen that the average length of inpatient stay for private patients is lower than for public patients in all categories except for the 15-44 age group, as can be seen in Figure 6.8. The higher average length of stay in this age group is likely to be related to maternity stays. Evidence for this can be found by examining the figures by age and gender. The age/gender categories of patient for which private patients consistently (i.e. each year between 1999 and 2007 inclusive) have a longer average length of stay than public patients are females aged 15-34. Males aged 15-19 have longer average length of stay for private than public in each year except 2005. Males aged 20-24 also have a longer average length of stay as private patients than public patients in the years 2000 to 2003 inclusive, while the same is true of males aged 85+ from 2002 onwards and females aged 85+ from 2005 onwards.

Particularly interesting is the difference between the average length of stay for private patients and public patients aged 65 and over. As can be seen from Figure 6.8, between 2000 and 2005, private patients in this age group had average lengths of stay that were approximately 6-8% shorter than their public counterparts in that age group, although the gap narrowed in 2006 and 2007.

Figure 6.8 Percentage Difference in Average Length of Stay for Inpatients by Age Group, 1999-2007



Source: Calculated from data provided by HIPE & NPRS Unit, ESRI

It could be the case that privately insured persons aged 65 and over are more likely to be in higher social classes, who tend to be in better health than those in lower social classes, the latter of whom are more likely to be treated as public patients. Figures from the Central Statistics Office (CSO, 2008b) show that self-assessed health status tends to decrease with age and that it is better than average for those with private health insurance (see Table 6.9). Earlier figures from the Central Statistics Office (CSO, 2002) show similar patterns of responses regarding self-assessed health status.

Table 6.9 Self-assessed Health Status in Ireland, Q3 2007

% of adults perceiving own health as...	Very Good	Good	Fair	Poor
State	47	40	11	2
<i>Age Group</i>				
18-24	64	32	4	0
25-34	61	33	5	1
35-44	53	39	7	1
45-54	43	43	12	2
55-64	31	47	19	3
65-69	27	47	22	4
70+	19	50	26	5
<i>Medical Cover</i>				
Medical card	27	43	25	5
PHI	52	40	7	1
Neither	56	38	5	1

Source: CSO (2008b), Table 2

Table 6.10 shows the breakdown of medical cover by age from the same CSO survey. This shows that those aged 70 and over are less likely to have private health insurance and significantly more likely to have a medical card. This suggests that a higher proportion of these older people are likely to be treated in public hospitals as public patients rather than private patients. Given the findings of Table 6.9 that those with medical cards on average do not perceive their health status as being as good as those without medical cards, this could perhaps suggest that the older people treated in public hospitals as public patients rather than private patients, because they are more likely to be medical card holders, might be in poorer health than their private counterparts of similar age.

Table 6.10 Medical Cover by Age in Ireland, Q3 2007

	Medical card only	Private health insurance only	Both	Neither
State	24	44	5	27
18-24	19	34	2	44
25-34	16	44	1	38
35-44	15	58	1	25
45-54	18	55	2	25
55-64	27	52	3	19
65-69	38	41	10	11
70+	62	3	33	1

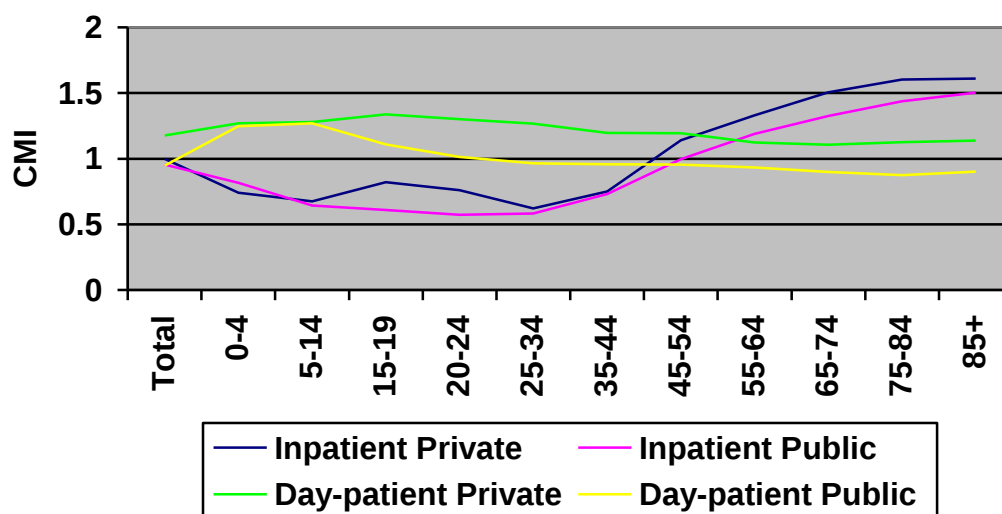
Source: CSO (2008b), Table 1

However, this does not take into account the complexity of treatment received by public and private patients. The shorter average length of stay for private patients compared with public patients begs the question whether private patients receive the same mix of treatment as public patients or whether they receive less complex care.

The HIPE & NPRS Unit of the ESRI also produces a Casemix index, in conjunction with the Department of Health and Children and the Health Service Executive. Casemix is a system that measures hospitals' activity in terms of the complexity of treatment undertaken. According to the official documentation on the system, casemix is "the comparison of activity & costs between hospitals, by categorising each hospital's 'mix' of cases into Diagnoses Related Groups (DRGs) which share common clinical attributes and similar patterns of resource use." (HSE, 2008: 2). The Casemix index (CMI), produced by the ESRI, is described as a measure of the relative complexity of the patients treated by a hospital, with the overall figure for all treatment in all hospitals in the Casemix scheme being 1 (see

<http://www.casemix.ie> for further details). A CMI above 1 indicates a more complex mix of treatment, while a CMI below 1 indicates a less complex mix of treatment than the average.

Figure 6.9 Casemix Index by Patient Status and Age, 2007



Source: HIPE & NPRS Unit, ESRI

Figures for the Casemix index by age for inpatient and day-patient discharges for 2005, 2006 and 2007 were provided pursuant to a further data request.¹⁴² The figures for 2007 are presented in Figure 6.9, but the patterns for 2005 and 2006 are broadly similar. It can be seen from these figures that the CMI for private patients in most age bands tends to be higher than for public patients in the same age bands. This applies to both day-patient and inpatient treatments. For the total of all age bands, the CMI was 0.999 for private inpatient discharges compared with 0.954 for

¹⁴² The Casemix system also covers emergency department and outpatient activity. However, as the earlier analysis of hospital discharges related to inpatient and day-patient activity, these were the categories for which CMI data were requested.

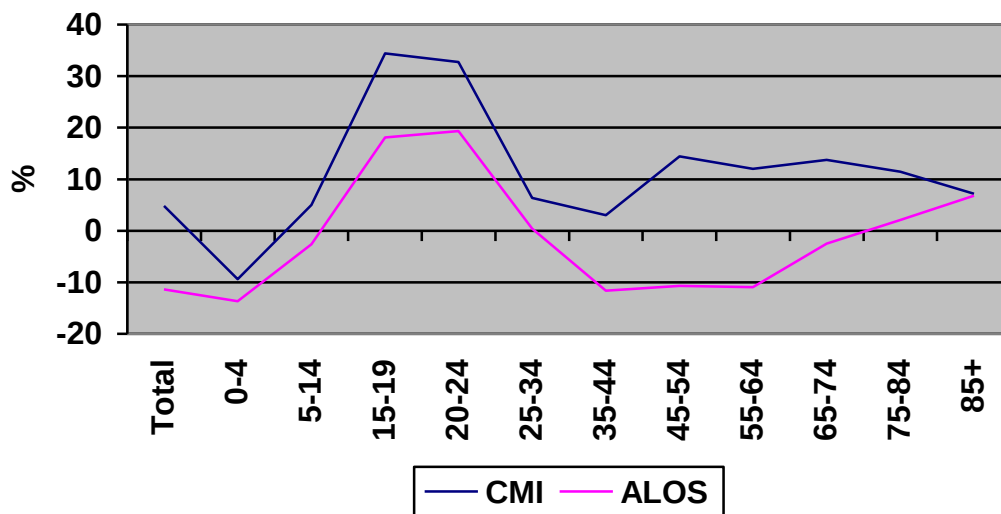
public inpatient discharges, while for day-patients the figures were 1.177 and 0.947 for private and public discharges, respectively.

A number of interesting patterns are evident from an analysis of these CMI figures. Firstly, there is a clear link between age and average complexity of treatment. For inpatient treatment, all age groups under-45 have below-average intensity, while all age groups from 45 upwards have above-average intensity, relative to the inpatient total. This applies to both public and private discharges. The patterns for day-patient treatment are almost the opposite however, with all age groups under-55 having above-average intensity, while all age groups from 55 upwards have below-average intensity, relative to the total of day-patient activity. Again this applies across both public and private discharges.

Furthermore, there is considerably more variation in the CMI for inpatient treatment than for day-patient treatment, although this makes intuitive sense as day-patient treatment would be relatively more homogenous than inpatient treatment. The highest CMI values for both private and public inpatients were in the 85+ age group, at 1.610 and 1.502 respectively. This compares with the lowest CMI for private inpatients of 0.620 in the 20-24 age group, while the lowest CMI for public inpatients was in the 25-34 age group, at 0.572. This gives rise to a spread of 0.991 and 0.930 in the CMI values for private and public inpatients, respectively. By comparison, the spreads of CMI values for private and public day-patients were 0.232 and 0.393, respectively, with the private figures varying from 1.105 to 1.337 and the public figures varying from 0.875 to 1.268.

It would appear therefore that private patients in most age groups have shorter average lengths of stay than their public counterparts, despite receiving a more complex mix of treatments in most cases. This can be seen in figure 6.10, which shows the percentage difference in CMI and average length of stay for private versus public inpatients by age. A positive difference indicates a more complex mix of treatment or a longer average length of stay for private patients.

Figure 6.10 Relative Treatment Complexity and Average Length of Stay of Private versus Public Inpatients by Age, 2007



Source: HIPE & NPRS Unit, ESRI

As can be seen from this figure, private patients had a more complex mix of treatments in 2007 across all age groups except 0-4 years. The difference peaked in the 15-19 age group, with private patients in this age group having a CMI that was 34.4% higher than their public counterparts. Meanwhile, private patients aged under-14 and 35-74 had shorter average lengths of stay in 2007 than their public counterparts. Even in the age groups where private patients had a longer average

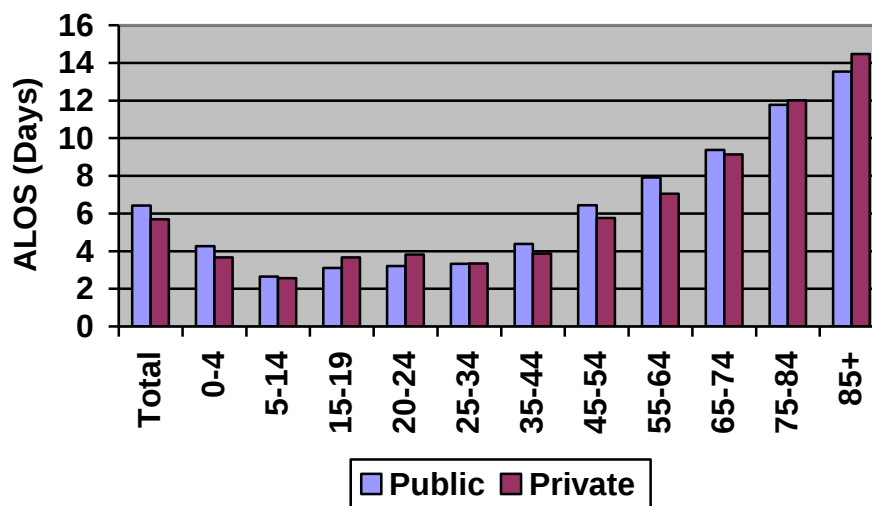
length of stay than public patients, the percentage difference in treatment complexity was greater than the percentage difference in average length of stay. The figures for 2005 and 2006 show similar patterns, with the relative ALOS being lower than the relative CMI in all age groups.

Although it cannot be distinguished from this data why this is the case, there are a number of possible explanations for this finding. The first relates to the widely held belief (despite a lack of definitive evidence) that hospital consultants tend to treat their private patients themselves, often leaving non-consultant hospital doctors (NCHDs) to treat their public patients. (This was discussed further in Chapter 2.) It has been suggested that this means treatment of public patients often is ““consultant led” – not “consultant provided”” (Wren, 2003: 153). It is possible that this might add to the average length of stay of public patients, compared with private patients, particularly if the NCHDs must liaise with the consultants regarding treatment or if the consultants must see the patients personally before they are discharged.

Another possible explanation relates to the way in which insurers reimburse providers for providing treatment to their insured members. In recent years, insurers have been moving away from per diem reimbursement of hospitals towards fee-for-service reimbursement. This might have increased the incentives for hospitals to treat and discharge private patients more quickly than under the previous reimbursement mechanism, although there is no evidence to suggest that this effect has materialised.

Whatever the reason for the more favourable average length relative to complexity private patients, it is clear that if significant numbers of older private patients in particular were to discontinue private health insurance coverage and rely on being treated as public patients, then this would add to the burden of treatment on the public system.

Figure 6.11 Average Length of Stay for Inpatients by Age and Patient Status, 2007



Source: HIPE & NPRS Unit, ESRI

An examination of average length of stay (ALOS) figures by age and patient status, provided by the ESRI, reveals that private patients aged 55 and over consistently have longer inpatient average length of stay than the overall average of public inpatients. Figures for 2007 can be seen in Figure 6.11 and Table 6.11, but a similar pattern is evident in each of the years from 1999 onwards.

Table 6.11 Average Length of Stay (Days) for Inpatients by Age and Patient Status, 2007

Age	Public	Private
Total	6.42	5.69
0-4	4.26	3.68
5-14	2.64	2.57
15-19	3.11	3.67
20-24	3.21	3.83
25-34	3.33	3.35
35-44	4.39	3.88
45-54	6.44	5.75
55-64	7.91	7.04
65-74	9.38	9.14
75-84	11.76	12.01
85+	13.54	14.46

Source: HIPE & NPRS Unit, ESRI

Furthermore, analysis of the Casemix index (CMI) figures, also provided by the ESRI, shows that private inpatients in all age categories from 45 upwards have a more complex mix of treatment than the average of all public inpatients, while private day-patients in all age bands have a more complex mix of treatment than the average of public day-patients, as can be seen in Figure 6.9 above.

Bearing this in mind, it is worth noting that, as was displayed in Figure 2.5, the take-up rate of private health insurance in Ireland in late 2007 (when the fieldwork for the 2008 consumer survey was undertaken) was 57% among those aged 45-54, 50% among those aged 55-64 and 42% in the 65+ age group.

It can therefore be seen that a relatively high proportion of older people in Ireland are privately insured, and from the comparisons of the Irish, Australian and UK

private health insurance markets in Section 6.4, it appears that at least some of this effect can be attributed to the application of community rating rather than risk rating in the market. The analysis in this section has examined the utilisation of the public hospital system by those treated privately versus publicly and across age groups.

This analysis shows that those aged 55 and over have average inpatient lengths of stay that are longer than the average for public patients, while those aged 45 and over have a more complex mix of treatment than the average for public patients. These findings have significant policy implications for the Irish hospital system.

It is clear that the widespread availability of private health insurance provides substantial savings to the public healthcare system as, in the absence of the wide availability of private health insurance, such patients would be forced to rely on the public system, which would increase the overall average length of inpatient stay and complexity of treatment among public patients, therefore increasing the utilisation of public inpatient beds. If these patients were to rely on the public healthcare system then either the public system would require additional resources or waiting lists for public treatment would be further lengthened.

This effect is likely to become even more important in the future, due to the ageing nature of the Irish population. According to projections from the Central Statistics Office (CSO, 2008a), those aged 65 and over are projected to account for between 20-25% of the Irish population in 2041 (depending on assumptions about migration

and fertility rates), compared with 11% in 2006. Meanwhile, those aged 55-64 are projected to account for between 14-15% of the population in 2041, compared with less than 10% in 2006. This suggests that encouraging take-up of private health insurance among older people in Ireland will become increasingly important in the context of the public health system budget.¹⁴³

Community rating, by attracting a relatively high proportion of older, sicker consumers to take out or maintain private health insurance, has a significant impact on the public healthcare system. In particular, it ensures that a higher proportion of higher-risk consumers (and therefore those who are likely to incur higher medical costs) are attracted out of the public healthcare system, than would be the case if the private health insurance market were to operate on the basis of risk rating. Given that, as demonstrated in this section, these older consumers who are treated privately have higher utilisation than the average of public patients, this in turn increases the savings to the public system arising from having a community rated private health insurance system operating alongside it, compared with a risk rated system.

6.6 Conclusions

The determination of successive Irish governments to maintain the principle of community rating in the private health insurance market, and the broad cross-party support for it in the Oireachtas (parliament) make community rating one of the

¹⁴³ Layte et al (2009) argue that the ageing population means that the current configuration of health services in Ireland is unsustainable and that resources should be focused on treating patients in primary, continuing and community care rather than in hospitals.

central features of the market, and this is unlikely to change in the foreseeable future, notwithstanding the anticipated move from single rate community rating to lifetime community rating.

However, if community rating were to fail, which could be an extreme (and perhaps unlikely) outcome in the absence of some form of risk adjustment mechanism, then an alternative rating system would be risk rating. Although a catastrophic failure of community rating is unlikely, particularly given the political will to ensure its continued application, a similar effect might be seen if risk segmentation were to be taken to the extreme.

Ireland's private health insurance market is akin to that of Australia, which also operates community rating (having switched from single rate community rating to lifetime community rating in 2000) alongside open enrolment and lifetime cover. These two markets can be compared with a risk rated private health insurance market, such as that which operates in the UK. All three countries operate voluntary private health insurance markets alongside universal entitlements to use the public hospital system.

Although there are undoubtedly differences between the health systems in the three jurisdictions, what can clearly be seen is the difference that community rating makes in terms of the take-up of private health insurance overall, and among older consumers in particular. Community rating, which is designed to ensure that

insurance remains affordable for high-risk (older and sicker) consumers is successful in attracting greater proportions of older consumers to take out and/or maintain private health insurance than would be the case under a system of risk rating. Thus, the public policy objective of having community rating is being achieved, and the broad political support for the measure is justified, given the stated objectives of having this type of rating system.

This has implications for the public healthcare system in Ireland. What can be seen from the data presented in this Chapter is that community rating means that significantly fewer older consumers rely on being treated as public patients – and therefore at the expense of the State – than would be the case were risk rating to be practiced in the market here.

The analysis in this Chapter suggests that the privately insured tend to perceive their own health as better than those without health insurance, and that private patients tend to have shorter average stays in public hospitals. However, private patients nonetheless receive a more complex mix of treatment than public patients. Furthermore, older private patients have longer average lengths of stay and receive a more complex mix of treatment than the average of public patients.

It is therefore clear that community rating reduces the burden on the publicly funded healthcare system by ensuring that these older patients are treated privately. If community rating were to fail, or if risk segmentation were to become prevalent,

then significant numbers of older, currently privately insured, patients would likely discontinue private insurance cover due to affordability issues and instead fall back on the public system for treatment. This would increase the average length of stay and the average complexity of treatment in the public system, thus placing additional strain on a public system that already does not enjoy widespread confidence among the Irish population.

It is true that many of these private patients are treated in public hospitals, and it would appear that the 80:20 split in favour of public patients in public hospitals is breached. Furthermore, the State subsidises the treatment of these private patients through charging less than the full economic cost for private beds in public hospitals, as well as through tax relief of private health insurance premiums and the subsidisation of education and training for medical professionals, who often work in both the public and private healthcare systems (as was discussed in Chapter 2).

However, whether the public subsidy of private health insurance in Ireland is cost-effective, in terms of the savings made by encouraging such numbers of patients, including older patients, to be treated privately, is beyond the scope of this study but is an area for future research. Whether or not the public subsidies of the private health insurance market in Ireland are cost-effective however, it is clear that such subsidies would be less likely to be cost-effective were risk rating to be practiced in the market.

It is also clear that the public policy objective of ensuring that private health insurance is affordable for those who most need it (the elderly and the sick) is only achievable by ensuring the continued stability of community rating. In this context, the importance of having risk equalisation is increased.

CHAPTER 7

SUMMARY OF FINDINGS, POLICY IMPLICATIONS AND CONCLUDING REMARKS

7.1 Introduction

Using Ireland as an example, this study has examined the question of whether risk equalisation is necessary in a regulated community rated health insurance market, particularly where there is staggered entry of insurers.

Proponents of risk adjustment mechanisms often argue that risk adjustment is necessary to maintain the stability of a community rated market. Without it, they suggest, community rating cannot operate, either adequately or at all.

Opponents of risk adjustment counter that community rating is a distortion of the market, and that, in a competitive market, insurers would choose to charge premiums based, at least in part, on the risk that consumers represent to them. It has also been argued that charging a single rate to all consumers irrespective of their expected losses is not efficient, and some commentators have questioned whether it is equitable. One thing is clear however, and that is that community rating involves a cross-subsidy from low-risk consumers to high-risk consumers. In the debate surrounding risk equalisation in Ireland, its opponents have also argued that it is anti-competitive and would deter the entry of new insurers.

This study has empirically examined a number of issues arising from the nature of the Irish private health insurance market. The degree to which community rating across a competitive market can be maintained in the absence of a risk adjustment mechanism was examined using a formulaic model. The Irish private health insurance market was then tested to evaluate whether any evidence exists of either adverse selection or risk selection, either of which would contribute to a difference in risk profiles between insurers, which in turn, according to the formulaic model, would lead to high-risk consumers paying higher premiums on average than low-risk consumers, which is in breach of the community rating principle.

The change from single rate community rating to lifetime community rating in the Australian private health insurance market was examined and implications drawn regarding the possible impact of a similar move in Ireland, which is imminent. If community rating were to break down, or if risk segmentation were to become widespread, then older consumers would end up paying higher premiums than younger consumers. The effect that community rating has on overall take-up and the age profile of the insured population was therefore examined. Following on from this, analysis was undertaken on the effect that a breakdown of community rating might have on the Irish public healthcare system. The results of this analysis have implications for the debate surrounding the need for risk equalisation in the Irish private health insurance market.

7.2 The Private Health Insurance Market in Ireland

Ireland has a community rated market for voluntary private health insurance, operating alongside a public hospital system that is accessible to all residents, either at no cost – for those with medical cards – or at nominal cost for those without. Despite this universal access entitlement however, over half of the population is covered by private health insurance. This largely reflects a lack of confidence in the public hospital system, in part due to long waiting times for public patients.

Ireland's health system is also unusual in the degree to which the public and private sectors overlap. Many private patients are treated in public hospitals, in beds that are designated private, for use by privately insured patients. Most hospital consultants work in both the public and private sectors, and there is much concern that the fact that public work is done on a salaried basis, while private work is carried out on a fee-for-service basis, incentivises many consultants to prioritise their private patients over their public patients.

When the market for private health insurance in Ireland was established in 1957, the Voluntary Health Insurance Board (now trading as Vhi Healthcare) was founded as a statutory body, charged with providing the option of voluntary insurance for those who were not at that time entitled to free access to the public hospital system on the grounds of high income. It was not mandated to make a profit, only to break even in any given year, and it was exempted from the provisions of the Insurance Acts.

Vhi Healthcare operated as a State-owned monopoly provider for 40 years before its first competitor, BUPA Ireland, began selling health insurance in the Irish market. The entry of a new insurer followed the deregulation of the non-life insurance markets in the European Union, stemming from the European Third Non-Life Insurance Directive, which was passed in 1992 and transposed into Irish legislation by the Health Insurance Act, 1994.

The 1994 Act gave legislative backing to the principles of community rating, open enrolment and lifetime cover, which Vhi Healthcare already operated on a *de facto* basis. Community rating means that all consumers are charged the same premium for the same plan, open enrolment means that insurers must accept all applicants, and lifetime cover means that insurers may not refuse to renew cover, although in all three cases there are minor exceptions permitted. A set of prescribed minimum benefits was also brought forward in regulations, to ensure a minimum level of cover for those opting to insure privately.

In order to support community rating, a risk equalisation scheme was also brought into Irish law. This scheme, promulgated in 1996, was withdrawn in 1999 without payments having been made under the scheme. After a consultation process, the then government released a White Paper in 1999 (Department of Health and Children, 1999), setting out its policies towards the market. One such policy was that risk equalisation was considered necessary to underpin community rating.

The Health Insurance (Amendment) Act, 2001 made provision for the Minister for Health and Children to bring forward another risk equalisation scheme, and for the establishment of a statutory body to regulate the industry. The Health Insurance Authority was established in February 2001, and among its statutory responsibilities was a significant role in the operation of the new risk equalisation scheme, which was brought forward in 2003.

As with the previous scheme however, the 2003 scheme proved controversial, with the newer entrants to the market – particularly BUPA Ireland – arguing that the scheme would force them to subsidise the former State monopoly, which remains the dominant player in the market.

After an unsuccessful legal challenge to the scheme in the Irish High Court in 2006, BUPA Ireland withdrew from the market and sold its book of business to Quinn Insurance, which now operates Quinn Healthcare. However, BUPA Ireland appealed the High Court judgment to the Supreme Court, which overturned the High Court judgment in 2008, setting aside the Risk Equalisation Scheme, 2003.

This left a hiatus in the market, and in late 2008 the Minister for Health and Children announced a series of interim measures – a community rating levy, payable by insurers for each person they insure, and increased tax relief at source for older consumers – designed to ameliorate the situation until a new risk equalisation

scheme can be brought forward. It is anticipated that these interim measures will be in place for three years.

The debate surrounding the introduction of risk equalisation in Ireland has been intense, but for the most part has relied on qualitative arguments, with those supporting it arguing that it is necessary to support community rating, and those against it countering that it is anti-competitive. However, very little quantitative evidence has been brought forward in support of either argument.

It is in this context that this study was carried out. A formulaic model of an insurance market under a monopoly and then a competitive situation is presented to examine whether community rating can be maintained in a competitive market. Data from a number of surveys of consumers carried out on behalf of The Health Insurance Authority (HIA) are used to test for the presence of adverse selection and risk selection in the Irish private health insurance market. Data from the Private Health Insurance Administration Council (PHIAC) in Australia are used to analyse the effect of introducing lifetime community rating had on the Australian market. A comparison is also carried out of the Irish, Australian and UK private health insurance markets, using data from the HIA, PHIAC and Laing & Buisson, an independent firm that monitors the market in the UK. Data on discharges from public hospitals in Ireland, provided by the Economic and Social Research Institute, are used to examine the impact that a collapse of community rating might have on the Irish public healthcare system.

7.3 Summary of Findings

In Chapter 3, a theoretical model is developed to examine whether community rating can operate in the absence of risk equalisation. The model shows that, in a monopoly market with the monopoly insurer operating community rating, all insured persons, whether high-risk or low-risk, pay the same premium. However, if multiple insurers are competing in the same market, each operating community rating within its own insured community, then high-risk insured lives end up paying more, on average, than low-risk insured lives unless each insurer has the same risk profile as the market average.

It is this principle which lay at the heart of risk equalisation in the Irish market. Under the 2003 scheme, each insurer would be left in a position where, once risk equalisation transfers had taken place, they would have effectively paid the claims that they would have paid had they had the market average risk profile.

This model is then applied to the situation in which the Irish market finds itself in the aftermath of the Supreme Court decision to set aside the Risk Equalisation Scheme, 2003. The Supreme Court ruled that the only valid definition of community rating in the Irish legislation is that which defines community rated plans, while the notion of community rating across the market, on the basis of which the risk equalisation scheme was to operate, was not defined in legislation and was therefore not valid.

This means that community rating need only operate at a plan level and not across the market for private health insurance in Ireland. In this context, the model shows that community rating will not operate across the market and plans with higher concentrations of high-risk consumers will end up costing more, with high-risk consumers therefore paying higher premiums on average than low-risk consumers, even for similar levels of cover. Therefore, in order for community rating to operate across the market, some form of risk adjustment mechanism is required. However, some deviation from, or modification to, community rating might be acceptable, as is the case in some other markets.

Two possible reasons for some plans having a higher concentration of high-risk consumers than others are adverse selection, where consumers select higher or lower levels of cover based on their level of risk, and risk selection, where insurers try to select low-risk lives and avoid high-risk lives. Even under a regime of community rating coupled with open enrolment and lifetime cover, as in the Irish market, risk selection is still possible in subtle ways, such as plan design and marketing. Indeed, not only is the opportunity for risk selection not entirely eliminated, but the incentive for risk selection is increased under such a regulatory regime.

A distinction may be drawn between ‘active’ and ‘passive’ risk selection. The former would involve insurers actively trying to target low-risk lives and avoid high-risk lives, either explicitly (which is not permitted in the Irish market but may be

permitted in other markets) or implicitly, through subtle measures such as plan design and marketing. The latter, ‘passive’ risk selection, could be used to describe a situation where a more recent entrant to a health insurance market would inherently tend to attract a relatively favourable risk profile, as first-time buyers of health insurance would tend to be younger than the average of existing members and switching between insurers is uncommon, with those switching tending to be younger than average consumers.

Data from consumer surveys carried out in Ireland on behalf of The Health Insurance Authority are used to test for adverse selection and risk selection in the Irish market. Market figures were requested from the insurers but given the commercially sensitive nature of the data these requests were denied.

The survey data suggest the evidence of a degree of both adverse selection and risk selection in the Irish private health insurance market. Plans with more generous levels of cover – as measured by the level of hospital accommodation covered, since the level of consultant cover would not vary between plans offered by the same insurer – tended to be selected by older consumers, while younger consumers were more likely to opt for more basic plans, suggesting some degree of adverse selection on the part of consumers. Meanwhile, plans with the standard (most common) level of cover for hospital accommodation offered by Vhi Healthcare tended to have a higher concentration of older consumers than plans with similar cover offered by

BUPA Ireland. This suggests some degree of risk selection, although it is unclear whether this is ‘active’ or ‘passive’.

A significant change to the rating system used in the Irish private health insurance market has been proposed and is anticipated in the near future. This is a change from the current system of single rate community rating to lifetime community rating. The main difference between these two systems is that the latter involves loadings payable by those consumers who leave it later in life to take out private health insurance for the first time, thereby avoiding paying the community rate at a younger age. It has been suggested that lifetime community rating would help to stabilise community rating as it would discourage hit-and-run or hit-and-stay activity by consumers and would help to encourage a constant stream of younger, low-risk consumers into the market, which is vital to the maintenance of the intergenerational solidarity on which community rating is based.

A similar change was effected in Australia in 2000, with some significant impacts on the market. In particular, the overall take-up rate of private health insurance rose sharply during the grace period – a one-year window during which anyone who did not already have health insurance could take it out without being subject to the late entry loadings – while the average age of the insured population dropped significantly. The latter effect was due to the fact that the change of rating system attracted younger consumers into the market in greater numbers than older consumers.

These patterns were examined econometrically to determine the extent to which the changeover affected different age groups. These findings were then used to draw conclusions regarding the effect that a similar change might have on the Irish market. Although such a change is likely to improve the overall risk profile in the market however, the Australian experience suggests that it would not entirely eliminate adverse selection. Hence, it would not negate the need for risk equalisation to ensure the operation of community rating across the market, rather than within plans. An examination of the risk adjustment mechanism in Australia also suggests that having risk equalisation in the Irish context would be more important after a change in the system of community rating.

If community rating were to fail – possibly as a result of a lack of risk equalisation or extreme risk segmentation – then an alternative would be risk rating, whereby high-risk consumers would be charged more for insurance than low-risk consumers. This is the type of rating operated in health insurance markets in some other jurisdictions, and also in other non-life insurance markets in Ireland, such as the market for motor insurance. The differences between community rating and risk rating were therefore examined in an attempt to assess the impact that community rating has on the market.

For the purpose of this comparison, the Irish market, which operates single rate community rating, was compared with the Australian market, which operates

lifetime community rating, and the UK market, which operates risk rating. All three countries operate systems of voluntary private health insurance, alongside universal access entitlements to public hospital systems.

Although there are differences between the health systems in the three countries, a broad comparison can be made, which shows that community rating encourages a higher overall take-up rate in the market. More pertinently however, community rating encourages substantially higher take-up rates among older, high-risk consumers, which makes intuitive sense, as they are not charged the actuarial premiums that they would pay under a system of risk rating, and therefore health insurance for such consumers is more affordable under community rating than under risk rating.

Given that older consumers have, on average, significantly higher medical utilisation and expenses than younger consumers, this has profound implications for the public healthcare system in Ireland. Since community rating attracts a higher proportion of high-risk consumers, these consumers therefore do not rely to the same extent on the public system, *ceteris paribus*. This clearly leads to savings for the public healthcare system, which in Ireland is funded through taxation.

Analysis of figures for public hospital discharges in Ireland reveals that, while private patients tend to have shorter average lengths of stay than their public counterparts in most age groups, their treatment is, on average, more complex than

their public counterparts. Furthermore, older private patients have longer average stays in public hospitals than the average of public patients. Therefore, if significant numbers of older privately insured consumers were to discontinue their private health insurance as a result of being charged more under risk rating – and thereby rely on being treated as public patients in public hospitals – then this would add to the average length of stay and average treatment complexity for public patients. Given limited resources in the public hospital system, this would almost certainly increase waiting times for public patients.

7.4 Is Risk Equalisation Necessary in a Community Rated Market with Staggered Entry of Insurers?

One theme that runs through the analysis in this research is that of adverse selection. This can take the form of consumers waiting until they are more likely to need health insurance before purchasing it, or it can take the form of higher-risk consumers choosing more comprehensive cover, while lower-risk consumers choose cheaper, less comprehensive cover. This, combined with risk selection – whereby insurers have an incentive to attract lower-risk consumers and avoid higher-risk consumers, despite, or even because of, the presence of community rating, open enrolment and lifetime cover – can cause or accentuate differences in risk profiles between insurers.

It would also appear that some degree of ‘passive’ risk selection by new insurers in a market is also inherent, as new insurers tend to attract a higher proportion of their members from the ranks of new consumers, who tend to be younger than the average of existing consumers, and consumers who switch from other insurers, who also tend to be younger than average. This is the flip-side of the coin from adverse retention, which is the phenomenon whereby higher-risk consumers tend to stay with their existing (often longer-established) insurers, thus accentuating differences in risk profiles between older and newer insurers. Therefore, staggered entry of insurers into a market would also appear to contribute to a divergence in risk profiles between newer insurers and older incumbent insurers. In the context of the Irish private health insurance market, where Vhi Healthcare was operating in the market for 40 years before its first competitor entered the market, this point is of particular significance.

As the model presented in Chapter 3 shows, if differences in risk profiles emerge between insurers, or indeed between plans, then it leads to higher-risk consumers paying more, on average, for cover than lower-risk consumers, even for the same or similar levels of cover. This breaches the principle of community rating. If community rating across the market is required, then it is clear that some form of adjustment mechanism would be needed to counter-balance any differences in risk profiles that might emerge. However, this is complicated somewhat in the Irish case by the fact that there is no standard plan in the market; rather there is a wide – and

increasing – variety of plans, some of which are very similar but offered by different insurers. This could lead to risk segmentation in the market.

Community rating represents a deviation from the normal insurance practice of charging premiums based on the risk that a consumer represents to an insurer – or more specifically taking into account expected claim costs. This leads to an inherent cross-subsidy from lower-risk consumers, who pay more than they actuarially would, to higher-risk consumers, who pay less than they actuarially would. In the case of health insurance, the distinction between lower-risk and higher-risk consumers can broadly – though not conclusively – be categorised by age, with younger consumers tending to be lower-risk, and older consumers tending to be higher-risk.

Since community rating makes private health insurance more attractive to older (higher-risk) consumers than risk rating would, it creates an inherent instability in the market, as it requires a constant stream of younger (lower-risk) consumers to enter the market in order to keep premiums affordable for older (higher-risk) consumers. This inherent instability is the primary reason for the recommendation of – and anticipated implementation of – lifetime community rating, which involves late entry loadings to encourage people to join the market at younger ages.

However, evidence from the Australian experience of changing from single rate community rating to lifetime community rating suggests that, although such a move

might reduce the adverse selection problem, at least temporarily, it does not entirely eliminate it. Hence, a move to lifetime community rating would not negate the need for some form of risk adjustment mechanism to ensure community rating across the market.

It would therefore appear that some form of risk adjustment, such as risk equalisation, is inherently necessary in a private health insurance market such as that of Ireland, in which community rating, open enrolment and lifetime cover are mandated, and in which there has been staggered entry of insurers (albeit exaggerated in the Irish case by Vhi Healthcare's legislative monopoly), in order to combat the threats of adverse selection and risk selection (the latter on either an 'active' or a 'passive' basis).

If community rating is allowed to break down, or if it is abandoned (which is unlikely given the level of political support for it), then risk rating, either explicitly or implicitly, would be the alternative. This would clearly have a major impact on the profile of the Irish private health insurance market, in terms of age/risk. It would also have a resultant impact on the public hospital sector, as large numbers of older (higher-risk, less healthy) consumers would be unlikely to be able to afford private health insurance and would therefore be forced to rely on the public system for hospital treatment. Since these consumers tend to require longer hospital stays and more complex treatment than the average among all public patients, this would lead

to an increase in the average length of stay and treatment complexity among public hospital patients.

Given the existing waiting times for treatment, which are the subject of a high level of dissatisfaction with the public system and lead many to take out private health insurance in the first place, any such transfer of older consumers to the public system would not only be politically unpalatable but, given the already stretched nature of the public system and possible cutbacks arising from the current deterioration of the public finances in Ireland, could lead to a further worsening of waiting times for public patients.

7.5 Implications for Irish Government Policy

The findings of this research have clear implications for Government policy towards the private health insurance market in Ireland. It is clear that Government policy is to maintain community rating in the market, and this has broad cross-party political support. This can therefore be taken as a given in the context of any policy discussion.

It is clear from the research in this study that community rating achieves the stated public policy objective of ensuring that older consumers can afford private health insurance. However, in light of the Supreme Court ruling on the Risk Equalisation Scheme, 2003, a re-evaluation of what exactly community rating means – or what

level of community rating is desired – in the Irish private health insurance market would appear timely and prudent.

If the Australian experience is replicated in Ireland, then the move to lifetime community rating, which is believed to be imminent, will likely improve the overall risk profile in the market, by attracting younger consumers in greater numbers. However, this effect has begun to unwind in Australia and may therefore be inherently only temporary.

The fact that Ireland is currently in its first recession in a quarter of a century will also muddy the waters somewhat in this regard. Since the opening of the Irish market to competition in the mid-1990s, the country has experienced an unprecedented period of economic growth and an associated increase in employment numbers, which has helped to swell the ranks of the insured population. The extent to which this will change to reflect leaner economic circumstances remains to be seen, although evidence is already emerging of a modest decline in the number of people insured in Ireland in 2009.

The findings of this research suggest that both adverse selection and risk selection are features of the Irish private health insurance market, and this may be of use to policy-makers, particularly in the context of the new risk equalisation scheme, which the Minister for Health and Children has indicated will be brought forward in approximately 2011. Adverse selection and risk selection lead to differential risk

profiles between insurers and between plans with the same insurer. Given the Supreme Court ruling that community rating within plans is the only valid definition, this means that community rating cannot operate across the market under the current conditions. Therefore, any risk equalisation scheme that is brought forward in the future will need to address these issues.

It is unlikely however, that any risk equalisation mechanism will entirely eliminate the incentives for insurers to select low-risk insured lives. The Risk Equalisation Scheme, 2003 would have operated on the basis of measuring risk by reference to age and gender only. While these factors give some indication of differential risk, they do not explain much of the risk differences between consumers. Utilisation, while a more accurate indicator of risk differences, is more difficult – and costly – to collect. A balance between accuracy and cost of indicators of risk differences therefore needs to be struck.

7.6 Future Research Agenda

This research has added a quantitative element to the debate over risk equalisation in the Irish private health insurance market. However, by its nature it is a contribution rather than a definitive work, and a number of other questions have been raised during the research for this study.

The first, perhaps very ambitious, area for future research is to examine the welfare implications of community rating. Clearly, community rating makes high-risk insured persons relatively better off at the expense of low-risk insured persons, compared with risk rating. The degree to which society benefits from this however, is unclear, at least in the Irish context. This would therefore be one area for future research, particularly in light of the suggestion by some commentators that community rating is a cause of market distortion.

A related, perhaps more achievable, goal would be to determine whether the subsidisation of private health insurance by the Irish Government – through tax relief on health insurance premiums, the charging of less than the full economic cost of private beds in public hospitals (although this policy is being unwound) and the subsidisation of training of medical personnel, many of whom work in the private sector, by the State – represents value for money for the Irish taxpayer. Studies in other countries (such as Emmerson et al, 2001 for the UK and Stabile, 2001 for Canada) suggest that the costs of such subsidisation outweigh the benefits in terms of lower utilisation of public healthcare services.

However, it should be borne in mind that the UK has a risk rated private health insurance market, which has been shown (in Chapter 6) to be less attractive to older consumers, and would therefore be more likely to attract lower risks out of the public system, compared with a community rated system, which has been shown to attract greater proportions of older consumers out of the public system. Canada's

private health insurance market, meanwhile, is very different from those operating in Ireland or the UK, in that private health insurance in Canada is prohibited from covering treatments that are available in the public health system, which would include most hospital treatment. It is possible therefore that the subsidisation of private health insurance in Ireland is more cost effective than in either the UK or Canada.

A related area for future research would be to further investigate why the average length of stay for private patients tends to be shorter than that for private patients in similar age groups, despite having a more complex mix of treatment. This could have implications for government policy regarding the public-private mix of treatment in public hospitals, particularly if efficiency savings can be harnessed for the public sector by replicating the behaviour in the private sector.

Further expansion of the theme of ‘active’ versus ‘passive’ risk selection might also be of benefit, and if possible an analysis will be undertaken of the degree to which the risk selection indicated by the results of this research represents ‘active’ or ‘passive’ risk selection.

In time, once the proposed change to lifetime community rating in Ireland is implemented, it would be instructive to examine the impact that this has on the Irish market, and to compare that with the Australian experience to determine whether the two markets react differently to the change, and if so why.

As a step on the road to building up a quantitative analysis of the Irish private health insurance market, this study has added to some threads of the debate relating to the market, and should contribute to that debate in a constructive and objective manner.

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APPENDIX A
TEXT OF SECTIONS 7 AND 12 OF THE HEALTH INSURANCE ACT, 1994
AS AMENDED BY THE HEALTH INSURANCE (AMENDMENT) ACT, 2001

Section 7

7.—(1) (a) Subject to subsection (4) and section 7A, the premium payable under any health insurance contract effected by a particular registered undertaking shall be the same as that payable under every other such contract (after due allowance has been made in respect of the payment of any premium by instalments) that—

(i) is effected by that undertaking,

(ii) is in respect of the same period as that to which the first-mentioned contract relates,

(iii) relates to the same health services as those to which the first-mentioned contract relates, and

(iv) provides for the same payments by the undertaking in respect of those services as those provided for by the first-mentioned contract.

(b) A registered undertaking shall not effect a health insurance contract that contravenes paragraph (a).

(c) A health insurance contract that complies with paragraph (a) (or which would comply with that paragraph but for its falling within subsection (4) or section 7A) shall be known as a community rated health insurance contract and ‘community rating’ shall be construed accordingly.

(2) Without prejudice to the generality of subsection (1), premiums payable under health insurance contracts shall not be varied by reference to—

(a) the age, sex or sexual orientation or the suffering or prospective suffering of a person from a chronic disease, illness or other medical condition or from a disease, illness or medical condition of a particular kind,

(b) the frequency of the provision of health services to a person, or

(c) the amounts of payments or the number of different payments to which a person becomes entitled under such a contract.

(3) The amounts of the payments provided by a health insurance contract in respect of the health services to which it relates shall not be varied by reference to the age, sex or sexual orientation of the person to whom those services are provided.

(4) Notwithstanding subsections (1) and (2), a premium payable under a health insurance contract effected by a registered undertaking—

(a) shall, in so far as it relates to a person under the age of 18 years, be—

(i) waived, or

(ii) reduced, such a premium being not more than 50 per cent of the premium in respect of a person other than the persons specified in this subsection under a health insurance contract effected by that undertaking,

and

(b) may be reduced in so far as it relates—

(i) to a person who is of or over the age of 18 years and under the age of 23 years, is receiving fulltime education and is dependent on the person with whom the contract is effected, such a premium being not more than 50 per cent of the premium in respect of a person other than the persons specified in this subsection under a health insurance contract effected by that undertaking,

(ii) to a person who is a member of a restricted membership undertaking and is in receipt of a pension recognised for the purposes of the undertaking, or

(iii) to a person who is a member, for the purposes of health insurance, of a group of persons, such a premium being, if it is reduced, not less than 90 per cent of the premium in respect of a person other than the persons specified in this subsection under a health insurance contract effected by that undertaking.

Section 12

12.—(1) The Minister may prescribe a scheme or schemes of risk equalisation (which or each of which shall be known as a risk equalisation scheme and is referred to in this Act as ‘a scheme’).

(2) (a) Subject to paragraphs (b) and (c), a scheme shall apply to each registered undertaking and each such undertaking shall comply with the terms and conditions of the scheme.

(b) A scheme may include a provision specifying that the scheme shall not, at any time on and from the service on the Minister of the notice hereafter referred to, apply to a restricted membership undertaking which—

(i) was carrying on business in the State before the commencement of section 9 of the *Health Insurance (Amendment) Act, 2001*, and

(ii) was, on 1 May 2000, a registered undertaking,

if, before a date specified for the purposes of this subsection by the Minister, the undertaking serves a notice on the Minister stating that it does not wish any scheme to apply to it.

(c) A scheme may include a provision specifying that the scheme shall not apply to so much of the activities of a registered undertaking as consist of effecting health insurance contracts that solely provide for the making of payments for the reimbursement or discharge in whole or in part of fees or charges in respect of the provision of relevant health services.

(3) (a) A scheme shall include a provision requiring each registered undertaking to make returns (each of which is referred to in this Act as a ‘return’) to the Authority in relation to such matters concerning its health insurance business as may be prescribed.

(b) The provision referred to in paragraph (a) shall require a return to be made—

(i) in the case of the first return, in respect of such period as may be prescribed,

(ii) in the case of the second or any subsequent return, in respect of each period of—

(I) 3 months, or

(II) such greater duration as may be prescribed,

and to be so made not later than such number of days after the end of the period to which it relates as may be prescribed.

(4) (a) A scheme shall include a provision requiring—

(i) the making of payments by registered undertakings to the Authority of such amounts as may be determined by the Authority in such manner and by reference to such matters as may be specified in the scheme (including the nature and distribution of insured risks amongst the undertakings),

(ii) the making of payments by the Authority of such amounts as may be determined by the Authority to such registered undertakings as may be so determined in such manner and by reference to such matters as may be specified in the scheme (including the nature and distribution of insured risks amongst the undertakings).

(b) The provision referred to in paragraph (a) shall provide that the requirements of the provision shall not have effect until such day as the Minister determines and appoints for that purpose in accordance with the provision of the scheme referred to in paragraph (c).

(c) A scheme shall include a provision—

(i) requiring the Authority to—

(I) evaluate and analyse each return made to it (and such an evaluation and analysis shall be made by reference to the matters that are specified in the scheme for the purposes of the provision referred to in paragraph (a)),

(II) prepare and furnish to the Minister, at such intervals as may be prescribed, a report in relation to—

(A) such an evaluation and analysis in so far as it relates to returns made to it in a prescribed period, and

(B) matters concerning the carrying on of health insurance business and developments in relation to health insurance generally that the Authority considers ought to be included in the report as a result of that evaluation and analysis,

(III) if it appears to the Authority from such an evaluation and analysis that conditions specified in the scheme related to the nature and distribution of insured risks amongst the registered undertakings are fulfilled, include in that report a recommendation by it that the Minister ought or ought not (as it considers appropriate having regard to the best overall interests of health insurance consumers) to exercise the power hereafter mentioned in this subsection,

(ii) providing that the Minister shall consider any such report made to him or her under the provision and—

(I) if the report includes a recommendation by the Authority that the Minister ought to exercise the power referred to in this subparagraph, may, or

(II) if it appears to the Minister that conditions specified in the scheme related to the nature and distribution of insured risks amongst the registered undertakings are fulfilled, shall (unless it appears to the Minister, having consulted with the Authority in relation to the best overall interests of health insurance consumers, that there are good reasons for not doing so), determine that the requirements of the provision referred to in paragraph (a) shall have effect on and from a specified day and appoint a day for that purpose accordingly.

(5) The provision of a scheme referred to in subsection (4)(c) shall require the Authority, if it appears to the Authority that a recommendation of the kind referred to in that provision is required to be included in a report under that provision, to—

(a) give notice to each registered undertaking of the fact that it proposes to include such a recommendation in the report, the nature of that proposed recommendation and the reasons therefor,

(b) invite, by means of that notice, the undertaking to make, within 21 days from the date of the service of the notice on the undertaking, representations to the Authority in relation to the nature of the recommendation that, in the undertaking's opinion, ought to be included in the report, and

(c) take into account any such representations made to it within that period before finally deciding what the nature of the said recommendation ought to be.

(6) The provision of a scheme referred to in subsection (4)(c) shall require the Minister, if he or she proposes to make a determination of the kind referred to in subparagraph (ii) of that subsection, to—

(a) give notice to each registered undertaking of the fact that he or she proposes to make such a determination (and the day proposed to be appointed under that provision accordingly) and the reasons for that proposed determination,

(b) invite, by means of that notice, the undertaking to make, within 21 days from the date of the service of the notice on the undertaking, representations to the Minister as to why, in the undertaking's opinion, the said determination ought not to be made, and

(c) shall take into account any such representations made to him or her within that period before finally deciding whether to make the said determination.

(7) A scheme may provide—

(a) that a registered undertaking which has made a return shall, on request being made of it to do so by the Authority, furnish to the Authority such information or documents in its possession or capable of being procured by it and forming the basis of that return as is or are specified in the request and that the undertaking shall comply with such a request not later than 7 days from the date the request is made,

(b) that a report referred to in subsection (4)(c)(i)(II) shall be in such form, and contain such particulars in relation to the evaluation and analysis concerned, as the Minister determines.

(8) A scheme may provide that a registered undertaking which has made representations under the provision of the scheme referred to in subparagraph (i) or (ii) of subsection (4)(c) to the Authority or, as the case may be, the Minister shall, on request being made of it to do so by the Authority or the Minister, as appropriate, furnish to the Authority or the Minister such information or documents in its possession or capable of being procured by it and forming the basis of those representations as is or are specified in the request and that the undertaking shall comply with such a request not later than 7 days from the date the request is made.

(9) A scheme may provide—

(a) for the establishment and maintenance by the Authority of a fund into which all moneys paid to the Authority under the scheme shall be paid and out of which all moneys paid by the Authority under the scheme shall be paid, and

(b) for the keeping by the Authority of specified accounts in relation to the scheme and the furnishing of copies of those accounts, as audited by the Comptroller and Auditor General, and copies of the reports of the Comptroller and Auditor General thereon to the Minister at specified times.

(10) (a) A reference in this section to—

(i) a health insurance consumer is a reference to a person, other than the registered undertaking, who is party to, or named in, a health insurance contract or likely to be interested in being such a party or being so named,

(ii) insured risks among registered undertakings is a reference to the risks that have been respectively insured by the undertakings under health insurance contracts, and

(iii) the best overall interests of health insurance consumers includes a reference to the need to maintain the application of community rating across the market for health insurance and to facilitate competition between undertakings.

(b) The conditions specified in a scheme for the purposes of the provision of the scheme referred to in subsection (4)(c)(i)(III) may be different from the conditions specified in the scheme for the purposes of the provision of the scheme referred to in subsection (4)(c)(ii)(II).

(c) The nature and distribution of insured risks amongst registered undertakings to which conditions as aforesaid relate may be expressed in the scheme concerned by reference to the amounts that would fall to be paid to or by a particular registered undertaking or undertakings under the provision of the scheme referred to in subsection (4)(a) if the requirements of that provision had effect at the time of the making of the evaluation and analysis to which the report concerned referred to in subsection (4)(c)(i)(II) relates.

12A.—(1) The contents of returns shall, in so far as they can be related to individual undertakings, be disclosed only where necessary for the functions of the Authority or the Minister.

(2) Subject to subsection (1), the Authority may, where it considers it appropriate to do so, disclose aggregate data derived from returns (other than returns made to the Authority during the period lastly referred to in section 12B(1) by an undertaking that has served a notice under and in accordance with that section).

(3) The Minister may engage a person whom he or she considers to be competent and qualified to do so to advise him or her and to consult with him or her in relation to the functions of the Minister under a scheme.

(4) A payment due by a registered undertaking to the Authority under a scheme may be recovered by the Authority from the undertaking as a simple contract debt in any court of competent jurisdiction.

APPENDIX B
SIMULATION OF THE INTRODUCTION OF LIFETIME COMMUNITY
RATING IN IRELAND INCORPORATING AGE-BAND DUMMY
VARIABLES AND INTERACTION VARIABLES

The regression as presented in Table 5.7 was re-run with the addition of dummy variables for most of the five-year age bands and interaction dummies, consisting of the product of the age band dummy variables and the dummy variable for the introduction of lifetime community rating (DUMLTCCR). This was done in order to overcome the situation in the simulation whereby the predicted growth rates resulting from the introduction of lifetime community rating were the same across the broad categories of those unaffected, partially affected and most affected by the change. The results are presented in Table B1.

It should be noted that, as with the previous model, as presented in Table 5.7, serial correlation was found to be present in the model as presented here. The standard errors presented in Table B1 are therefore the Period weights (PCSE) standard errors.

Table B1 Results from Pooled Regression Using Take-up Rates by Age 1997-2007 as Dependent Variable, Excluding Respondents Aged 0-19 and 90+ and Incorporating Age Band Dummy Variables

Variable	Coefficient	Standard Error
Constant	34.57966*	0.919993
GDP Growth (y-on-y)	-0.017112	0.078042
DUMLTCR	-0.805527	0.926183
DUMGRACEPERIOD	2.734654*	0.676385
DUMUNAFFECTED?	-16.20848*	1.219172
DUMPARTIALAFFECT?	5.911653*	1.219172
LTCRUNAFFECTED?	12.52492*	1.332385
LTCRPARTIALAFFECT?	13.09081*	1.332385
DUM25-29?	-0.245707	1.219172
DUM30-34?	-15.04334*	1.219172
DUM35-39?	-11.12867*	1.219172
DUM40-44?	-6.705476*	1.219172
DUM45-49?	-1.840696	1.219172
DUM50-54?	2.065307**	1.219172
DUM55-59?	2.526937*	1.219172
DUM65-69?	4.239522*	1.219172
DUM70-74?	2.751272*	1.219172
DUM75-79?	-2.171175**	1.219172
DUM80-84?	-1.256885	1.219172
LTCR25-29?	-3.381870*	1.332385
LTCR30-34?	2.481698**	1.332385
LTCR35-39?	3.559229*	1.332385
LTCR40-44?	2.526191**	1.332385
LTCR45-49?	2.264738**	1.332385
LTCR50-54?	1.732918	1.332385
LTCR55-59?	1.914354	1.332385
LTCR65-69?	8.747802*	1.332385
LTCR70-74?	6.786796*	1.332385
LTCR75-79?	8.067971*	1.332385
LTCR80-84?	1.289083	1.332385
Total Pool Observations: 560		R ² : 0.950217

* = Significant at 5% level; ** = Significant at 10% level; Variables followed by a ? indicate pooled variables

Table B2 presents the actual and predicted take-up rates of private health insurance in Ireland before and after a simulated change to lifetime community rating. This table is similar to Table 5.8, but using the results from the regression presented in Table B1.

Table B2 Actual and Predicted Take-up Rates by Age in Ireland in Q1 2005 and Predicted Take-up Rates in Q2 2006 under Simulated Lifetime Community Rating using Age Band Dummy Variables and Interaction Dummies

Age Band	Actual Q1 2005	Predicted Q1 2005	Predicted Q2 2006	Predicted Growth	Actual Q1 2005 + Predicted Growth
	Y_{05}	y_{05}	y_{06}	$G = y_{06} - y_{05}$	$Y_{05} + G$
20-24	43	19	31	12	54
25-29	35	19	27	8	43
30-34	52	26	41	15	66
35-39	59	30	46	16	75
40-44	57	35	50	15	72
45-49	58	40	54	15	72
50-54	64	43	57	14	79
55-59	64	44	58	14	78
60-64	56	41	54	12	68
65-69	63	40	48	8	71
70-74	32	38	44	6	38
75-79	23	33	41	7	30
80-84	32	34	35	0	32
85-89	23	35	35	-1	22