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# **DEMUTUALISATION IN THE AUSTRALIAN LIFE INSURANCE INDUSTRY**

A Thesis submitted for the Degree of Doctor of Philosophy

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## **DECLARATION**

I hereby declare that this thesis contains no material that has been accepted for the award of any other degree or diploma in any university or equivalent institution, and that to the best of my knowledge and belief, this thesis contains no material previously published or written by another person, except where due reference is made in the text of this thesis.



**ANNETTE WEIER**

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## **ABSTRACT**

Over the past decade, the mutual company share of life insurance industry assets has dropped from over 60 per cent to virtually zero. This dramatic change in ownership structure reflects the conversion of almost all the Australian mutual companies to stock company ownership. This thesis highlights the role of capital access as a major, and comparatively neglected, element of the explanation both for prolonged mutual dominance of the industry and for the recent wave of demutualisations. The model developed in the thesis contrasts capital access by mutual and stock companies under different industry demand and supply conditions. Until the 1970s, the life insurance industry was characterised by a dominance of traditional 'permanent' life insurance products and weak product market competition. Under these industry conditions, the incumbent mutuals' positions were supported by their substantial accumulated reserves. Since the 1970s, product innovation by banks and increasing government encouragement of superannuation saving has shifted life insurance sales away from the mutuals' traditional product lines. At the same time, financial market deregulation has lowered entry barriers. The mutuals' inherent capital constraint began to damage their capacity to innovate and expand, making listing on the stockmarket imperative for their long-term survival.

## **CHAPTER 1: OWNERSHIP CHANGE IN THE AUSTRALIAN LIFE INSURANCE INDUSTRY**

For over a century, mutual companies – that is, companies owned by their customers, the policyholders – dominated Australia's life insurance industry. The mutual share of industry assets averaged over 80 per cent for much of the 19<sup>th</sup> century. A decline over the 1970s and 1980s still left the mutual share above 60 per cent in 1990. Then during the 1990s, all of the large Australian mutual life insurance companies demutualised. Mutual ownership has now virtually disappeared with the remaining mutual companies holding less than 1 per cent of total industry assets in 1999.

### **1.1 The Research Issue**

This major change in ownership structure raises two important questions. First, how were mutual life insurance companies able to dominate the industry in competition with stock companies – that is, companies owned through tradeable shares – for such a prolonged period? This question is even more interesting in view of the conclusion from theoretical and empirical comparisons of life insurance company ownership that mutual companies are, on balance, less efficient than stock companies. Second, what factors prompted the demutualisation of almost every Australian mutual life insurance company within the space of a decade?

Most of the existing literature on mutual versus stock ownership focuses on comparing their relative efficiency in terms of contracting costs, monitoring incentives, and managerial performance incentives. Differences in capital access are generally omitted from the comparisons despite mutual companies' substantially lower access to external capital relative to stock companies. Two divergent research areas relate capital access differences to firms' relative growth capacities. One line of research, associated with Myers and Majluf (1984) and Fazzari, Hubbard and Petersen (1988; 1996), posits that constraints on some firms' access to external capital limits these firms' investment capacity. An implication from this research is that restrictions on particular companies' investment capacities will damage their ability to compete with firms not limited by inadequate capital supply and, over time, lead to a diminution in their market share. Although analyses of external capital constraints have not extended to mutual ownership, they are clearly relevant given mutual companies' constitutional inability to raise equity capital.

Hansmann (1996), in his study of company ownership, identifies the opposite condition to the 'under-capitalisation' problem. He argues that 'over-capitalisation' – conferred by the availability of a large pool of internal capital – can underpin mutual (and non-profit) firms' continued existence in the face of competition from more efficient stock companies. Mutual inefficiencies in terms of weak performance monitoring and distorted management incentives allow mutual managements to retain excessive amounts of internal funds and invest them in expansion beyond the size that maximises returns to policyholders. If capital market pressures limit stock company investments to those providing positive net returns, mutual companies will be able to maintain market share despite lower efficiency.

The dominant Australian mutual companies' holdings of substantial accumulated reserves, usually well above those required to satisfy solvency standards, correspond with Hansmann's 'over-capitalisation' hypothesis. 'Over-capitalisation' consequently offers an explanation for sustained mutual dominance of the industry prior to the 1990s. Conversely, 'under-capitalisation' is widely suggested as the motivation for demutualisation during the past decade (eg.

Covick and Lewis 1997, pp246-7; Reserve Bank of Australia 1999, p3). However no theory has been developed to explain how a situation of 'over-capitalisation' is transformed into a situation of 'under-capitalisation'. Without an understanding of this process, the underlying forces prompting widespread demutualisation cannot be fully identified.

In order to explain the process, it is necessary to determine the specific industry supply and demand conditions that, on the one hand, generate mutual 'over-capitalisation' and, on the other, produce mutual 'under-capitalisation'. In this thesis, mutual access to capital is modelled as the result of two key endogenous variables, industry product mix and the level of product market competition. Values of these two variables are in turn determined by a number of exogenous factors. The major exogenous variables are:

- regulation of the life insurance and broader finance industries,
- relative taxation of life insurance products,
- provision of employer-funded superannuation benefits,
- product innovation by competing financial institutions,
- the level of inflation, and
- consumer preferences.

The capital access model developed in this thesis explains how a combination of weak product market competition and dominance of the product mix by traditional life insurance products permits mutual companies to accumulate large excess reserves, generating a situation of mutual 'over-capitalisation'.<sup>1</sup> Because mutuals cannot raise equity capital, large accumulated reserves perform a valuable function for mutual managements by creating a buffer against future prudential or product demand shocks that increase their companies' need for capital. However, the availability of a large supply of internal funds has a number of costs for policyholders, not least of which stem from the incentives created for mutual

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<sup>1</sup> Life insurance companies' retained earnings are their excess reserves, which are total reserves less reserves required to meet solvency requirements.

managers to finance unprofitable over-expansion of policy sales. Under these conditions, mutual companies can dominate the industry.

In contrast, the model shows that a more competitive industry environment and a product mix geared towards investment-linked saving products and term life insurance policies give mutual companies no advantage from having large accumulated capital reserves. Relative efficiency is the driving force in determining relative success under these industry conditions. Mutual companies' lower operating efficiency puts them at a disadvantage to stock companies, leading to a decline over time in their market share. Strong product competition curbs mutuals' capacity to accumulate excess reserves, creating a situation of 'under-capitalisation'. Mutual companies' growth capacities will be constrained relative to stock companies if profitable investment opportunities require substantial amounts of capital. Demutualisation will become essential to maintain mutual companies' market shares and to ensure their long-term survival.

The model relates the prevailing product mix and strength of product market competition to the exogenous variables listed above. Regulation-imposed entry barriers and product innovation by competing financial institutions are major influences on the level of competition. These factors and the other exogenous variables are important determinants of the product mix.

Regulatory and tax changes are found to play a substantial role in prompting demutualisation in the Australian life insurance industry. Previous empirical studies of life insurance ownership identified the regulatory environment as an important determinant of ownership structure. However the cross-sectional nature of most studies prevented an investigation of the impact of regulatory change over time. Furthermore the way in which different regulations influence ownership structure was not examined in any depth. This study is the first to correlate the impact of regulatory change to change in industry ownership structure in the life insurance industry. It suggests that the total costs of the previous regime of inefficient finance industry regulation must include not only the economic distortions generally incorporated into such assessments but also the regulation-induced costs from unintentionally supporting an inefficient ownership form.

The model developed in this thesis also contributes an explanation for the prolonged coexistence of mutual and stock companies in the life insurance industry. For much of its history, the Australian industry consisted of two main segments, one being the market for traditional life insurance products and the other being the market for term life insurance and saving products. The traditional market was characterised by low product competition while the market for term life insurance and saving products showed higher levels of competition. Mutual and stock companies coexisted by specialising in the segments where they each had a comparative advantage. Mutuals concentrated in the first market segment where they could benefit from 'over-capitalisation'. Stock companies specialised in the second market segment where their greater efficiency advantaged them. This proposition rests on a quite different logic to alternative 'line-of-business' arguments based either on limiting management discretion as proposed by Mayers and Smith (1986) or on risk considerations as proposed by Hansmann (1985). In fact, the argument reverses Mayers and Smith's hypothesis since it supposes that mutual managers will specialise in those product lines where their discretion to amass and expend excess internal reserves is greatest.

## **1.2 Hypotheses**

Australian life insurance industry trends are tested against three propositions developed from the model:

- (i) A large proportion of permanent life protection policies, that is life insurance companies' traditional products, in the product mix and weak competitive pressures allow mutual companies with substantial accumulated reserves to dominate the industry.
- (ii) A large share of investment-linked saving products and temporary life protection (mainly term insurance) policies in the product mix and stronger product market competition cause the mutual share of the industry to decline over time.
- (iii) A combination of the industry conditions in (ii) with an increase in growth opportunities and industry rationalisation will prompt mutual companies to demutualise to improve their access to capital.



### **1.3 Significance of the Australian Life Insurance Industry**

The argument developed in this thesis contends that advantageous access to capital by mutual companies allowed them to dominate the Australian life insurance industry despite lower operating efficiency than competing stock companies. The efficiency of Australia's life insurance companies has considerable economic and social significance. As shown in the following table, the life insurance and superannuation industry represented over a quarter of total financial assets in 1999.

Significant tax concessions for superannuation saving, government promotion of employer-provided superannuation benefits, and the importance of life insurance and superannuation for most Australians' income security and level of retirement incomes increase the desirability of maximizing the efficiency of the institutions providing life insurance and superannuation saving services. Life insurance companies managed 33 per cent of total superannuation assets as at December 1999 (Australian Prudential Regulation Authority, *Life Office Market Report*, December 1999).

**Table 1.1: Assets of Financial Institutions in Australia, 1901-1999**

(% of total and total in \$ billion)

	1901	1929	1939	1948	1960	1980	1990	1995	1999
Central bank	-	5.7	7.5	24.0	13.8	7.8	3.3	3.8	3.2
Banks	74.3	66.3	57.6	57.4	46.7	38.6	44.3	45.4	43.9
<b>Life offices and Pension funds</b>	<b>12.4</b>	<b>16.5</b>	<b>21.7</b>	<b>11.0</b>	<b>20.2</b>	<b>17.1</b>	<b>19.9</b>	<b>24.1</b>	<b>26.1</b>
General insurance	2.5	3.7	4.0	2.0	3.1	5.8	4.5	6.0	4.2
Building societies	2.0	1.4	1.7	1.2	3.1	8.0	3.5	1.4	0.8
Friendly societies	1.4	1.4	1.5	0.8	0.7	0.2	1.0	0.9	0.4
Unit trusts	-	0.1	0.2	0.1	1.3	0.7	4.4	4.1	8.4
Other	7.4	4.9	5.8	3.5	11.1	21.8	20.6	13.3	13.0
Total	100	100	100	100	100	100	100	100	100
<i>\$billion</i>	<i>0.4</i>	<i>1.9</i>	<i>2.6</i>	<i>5.8</i>	<i>15.5</i>	<i>154.0</i>	<i>736.0</i>	<i>963.9</i>	<i>1586.2</i>

Source: Lewis and Wallace (1997, p4); Reserve Bank of Australia, *Historical Table of Financial Institution Assets*, March 2000.

The capital access model developed here and the conclusions from the empirical comparisons may have wider applicability than to the Australian industry alone. Similar trends can be seen in overseas life insurance industries, specifically moves towards demutualisation of large mutual life insurance companies, broad finance industry deregulation, and life insurance and superannuation industry rationalisation. Capital needs have been identified as a key factor in prompting demutualisation and stockmarket listing among US, Canadian and UK life insurance companies.<sup>2</sup>

<sup>2</sup> For the US, see Garber (1993), Gart (1994), Kopke and Randall (1991b), and contributors to Cummins and Lamm-Tennant (1993) and Kopke and Randall (1991a). Pargeans et al. (1999) review the Canadian demutualisation experience. Needleman and Westall (1991) summarise recent developments in the UK life insurance industry.

#### **1.4 Plan of the Thesis**

Chapter 2 reviews the existing theoretical and empirical literature on the relative efficiency of mutual and stock-owned life insurance companies. Conventional transaction cost, principal-agent, and property rights theories suggest that the inherent characteristics of mutual companies reduce their efficiency relative to stock companies. Despite some contracting and incentive advantages from mutual ownership, the conclusion derived from the theoretical comparison is that net efficiency is lower in mutual companies. Empirical tests of the hypotheses confirm the conclusion of lower mutual efficiency relative to stock companies.

Chapter 3 reviews the major theories explaining persistent economic inefficiencies, including inefficient regulations, inertia resulting from inefficient performance feedback and satisficing behaviour, and first mover advantages. The role of capital access inefficiencies is highlighted and deficiencies in the existing theories are identified. Chapter 4 redresses these theoretical weaknesses by developing a model of capital access, focussing on differences under mutual and stock ownership. Three testable hypotheses, listed in section 1.2 above, are derived from the model. These hypotheses are examined against historical trends in the Australian industry, mainly since 1970, in Chapter 5. The Australian trends confirm the predictions of the model. A very brief examination of the early history of the Australian life insurance industry suggests some reasons why mutual companies obtained an early competitive advantage that allowed them to start accumulating substantial excess reserves. Finally Chapter 6 summarises the findings of the thesis, their implications, and opportunities for further research.

## **CHAPTER 2: AN EFFICIENCY COMPARISON OF MUTUAL AND STOCK OWNERSHIP**

Three main theories are conventionally applied to explain choice of ownership structure. Transaction cost economics predicts that optimal ownership structure will minimise transaction costs. Principal-agent theory states that efficient ownership forms seek to avoid incentive conflicts and to minimise managerial opportunism at owners' expense. The property rights approach emphasises an optimal allocation of residual control rights that maximises incentives to use resources most efficiently and discourages unproductive bargaining.

Part One of this chapter summarises the predictions of the conventional theories. These predictions are then used to compare the relative efficiency of mutual ownership, that is, ownership by the customers of the company, and stock ownership, defined as ownership through tradeable shares. Three essential characteristics distinguish mutual ownership from stock ownership:

- (i) non-transferability of mutual ownership rights;
- (ii) non-separability of the customer and ownership roles within mutual companies; and
- (iii) mutual companies' intrinsic inability to raise equity capital.

The conventional theories suggest that, on balance, these inherent mutual characteristics lower the efficiency of mutual companies relative to that of stock companies. This theoretical conclusion, however, stands in apparent contradiction to the long history of mutual and stock company coexistence in both Australian and overseas life insurance industries.

Part Two considers two extensions to the conventional models, which potentially improve the predicted efficiency of mutual ownership relative to stock ownership. However their applicability to the life insurance industry is not convincing. In Part Three the balance of overseas empirical evidence is shown to support the conclusion that mutual companies are less efficient than stock companies. The challenge then is to explain first, the long history of successful mutual company operations in the life insurance industry despite their apparent inefficiency and second, the rapid transformation of the industry's ownership structure to one of stock company dominance. Subsequent chapters highlight the role of capital access differences and changes in mutual companies' access to and demand for capital in explaining both prolonged mutual company success and the recent wave of demutualisations.

## **Part One      Theoretical Determinants of Efficient Ownership Structure**

### **2.1 Models of Efficient Ownership Structure**

#### *2.1.1 Williamson's Transaction Cost Model*

Transaction cost economics relates efficient governance structure to the particular characteristics of the transaction. Governance arrangements will be chosen, or will evolve, to minimise transaction costs.<sup>1</sup>

Coase (1937) first drew attention to the importance of transaction costs in influencing the nature and organisation of economic activity. Until then, analyses of industrial organisation had failed to recognise that use of the price mechanism was not costless. Coase's description of transaction costs encompassed the costs

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<sup>1</sup> The major researchers in this area include Coase (1937), Demsetz (1988), Jensen and Meckling (1976), Fama and Jensen (1983a; 1983b), Williamson and Winter (1993), and especially Williamson (1975; 1979; 1988; 1996b). Other researchers include Jones (1983), Rubin (1990), Milgrom and Roberts (1992), Dietrich (1994), Groenewegen (1995), Shelanski and Klein (1996; 1995), and those included in Furubotn (1991).

of undertaking market transactions, according to Dahlman's definition, "search and information costs, bargaining and decision costs, policing and enforcement costs" (C. J. Dahlman (1979) quoted in Coase 1988, p6). Coase used transaction costs to explain the choice between internal production and market purchase (the 'make or buy' or 'market vs hierarchy' decision). Production and exchange will be internalised within the firm when the costs of market contracting exceed the costs of internal organisation.

Williamson extended Coase's analysis to develop a model of the determinants of efficient governance structure. Williamson's model (1975; 1979; 1988; 1996b) makes two key behavioural assumptions – bounded rationality and opportunism.

Bounded rationality refers to the constrained rationality consequent upon people's limited capacity to process information and replaces the common assumption of perfect information. Rational individuals limit the amount of information they obtain for two reasons: one is the non-trivial cost of acquiring information and the other is the sometimes-substantial cost of processing information. Williamson's use of the bounded rationality concept implies notions of 'information overload': even if information were costless to obtain, the finite nature of human mental capacities would still place a limit on individuals' ability to understand and make use of available information. In reality, information is costly to obtain, process and use in conditions of environmental uncertainty and complexity. The extent to which the actions of boundedly rational individuals reflect available information will depend on information acquisition and processing costs, decision making costs, and the costs of implementing those decisions. Because these costs are themselves unquantifiable except under conditions of perfect information, satisficing behaviour such as reliance on rules-of-thumb, habits, and business norms will guide boundedly rational individuals' decision making on the amount of information to acquire.

The concept of bounded rationality has been widely accepted by economists. Conlisk (1996), in a comprehensive survey, supports the incorporation of bounded rationality into economic models. In short, he argues that the importance of bounded rationality has been proven in "abundant" empirical and theoretical

work; justifications for the alternative assumption are "unconvincing"; and significant costs of economic activity should be recognised (Conlisk 1996, p669).

The crucial implication of bounded rationality is that contracts between parties in an on-going exchange must, of necessity, be incomplete since it is impossible to anticipate and provide for all contingencies that might affect the future terms of the contract. Not only will the full range of possible contingencies be unknown but the probabilities attached to various possibilities will also be indeterminate. Because the costs of getting and understanding information differ across individuals, information will be asymmetrically distributed (also described by Williamson as information impactedness).<sup>2</sup> Information asymmetries and contract limitations consequent on bounded rationality create the potential for opportunistic behaviour.

Opportunism is "self-interest seeking with guile" (Williamson 1975, p6). Individuals may opportunistically seek to maximise their own returns from exchange at the expense of other parties to the exchange. The opportunism assumption has generated some controversy. Some researchers interpret the opportunism assumption as an excessively negative view of human motivation.<sup>3</sup>

Dietrich questions the necessity for the assumption. He sees as necessary only the assumption of bounded rationality and its two pre-conditions, informational complexity and informational uncertainty about all possible contingencies (Dietrich 1994, p19). Uncertainty can include "behavioural uncertainty", which covers the possibility or risk of opportunistic behaviour (Dietrich 1994, pp25-26). Williamson's model does not require opportunistic behaviour to actually occur, but rather efforts by one or both parties to an exchange to reduce their perceived *risk* of falling subject to opportunistic behaviour. Such efforts are necessary due to the impossibility of determining in advance of a transaction which individuals will act opportunistically given the chance. Furthermore, as Alchian and Woodward observe, costly disputes can arise not just from opportunism as generally defined,

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<sup>2</sup> Recent research is extending the concept of bounded rationality to investigate the impact of differences in individuals' abilities to use available information in economic decision making. Due to differences in ability, individuals are characterised by unequally bounded rationality. See for example, Pelikan (1999).

<sup>3</sup> See for example, Dietrich (1994, p19), Ghoshal and Moran (1996), and Moschandreas (1997).

but also from "different but honest perceptions ... about what event transpired and what adjustment would have been agreed to initially had the event been anticipated" (Alchian and Woodward 1988, p66).<sup>4</sup> Adopting Dietrich's alternative formulation of the assumptions does not change the analysis. Uncertainty about individual's future behaviour, and the risk of opportunistic action, are common to both statements of the assumptions. Williamson's opportunism assumption, however, identifies more precisely than Dietrich's broader statement the exact nature of the risk against which individuals will attempt to safeguard themselves. A more fundamental objection to Williamson's focus on opportunism to the exclusion of other *positive* behavioural motivations is considered in section 2.6.

Three types of asymmetric information create scope for opportunistic behaviour (see, for example, Picot and Wolff 1994):

1. Hidden characteristics of the potential transaction partner, where the potential partner misrepresents the quality of the offer, can result in the problem of *adverse selection* prior to contracting for the transaction.
2. After the contract has been agreed, hidden actions by one partner, ie. behaviour which cannot be effectively or economically monitored or assessed by the other partner, generate the risk of *moral hazard*. This problem increases the greater the 'plasticity', or range of possible uses, of the resources involved, since they can be used in ways other than those contractually agreed (Alchian and Woodward 1988, p69).
3. Hidden intentions refer to the scope for one partner to try to 'hold up' the other partner once the second partner has been 'locked in' to the transaction by an investment in a specific asset. Like moral hazard, 'hold up' is a form of ex post contractual opportunism.

In the 'ownership transaction', owners implicitly contract with managers to run the company in such a way as to maximise the owners' returns from their asset.<sup>5</sup>

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<sup>4</sup> Alchian and Woodward assert that opportunism "includes honest disagreements" (Alchian and Woodward 1988, p66), but this seems to be stretching the definition a little too far.

<sup>5</sup> Obviously, the case of the entrepreneur-owner, who owns and runs the company, is not included in this context. The 'ownership transaction' applies only where ownership and control/management are separated.



However managers may have their own, conflicting goals (see the following section for a more detailed discussion). Boundedly rational company owners can reasonably be assumed to suffer an information disadvantage to managers regarding the detailed operations of their company. Owners will therefore be open to the risk of exploitation by opportunistic managers (moral hazard).

The scope for opportunistic behaviour is broadened by the high plasticity of managerial labour. Managers have significant discretion in determining how to use their time and the amount of effort to devote to any particular task. Plasticity of the managerial labour input is further enhanced by the impossibility of fully isolating the impact of managerial actions on company performance, after separating out the impact of exogenous influences, such as changes in general economic or specific industry conditions. Environmental uncertainty also permits candidates for managerial positions to overstate their own competence and track records (adverse selection). 'Hold-up' in life insurance companies is described in section 2.3.2.<sup>6</sup>

Williamson (1975) identifies three features of transactions that will determine the transaction cost-minimising governance structure for each transaction:

- (i) the level of asset specificity, ie., the degree of investment in assets specific to a particular exchange relationship, where returns to those assets are substantially lower in any alternative use;
- (ii) frequency of interaction; and
- (iii) degree of uncertainty associated with each transaction.

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<sup>6</sup> Opportunistic behaviour, resulting from the asymmetric distribution of information between the insurance provider and the client, is a well-recognised feature of the insurance market. Moral hazard refers to actions taken by insured individuals, after the purchase of insurance, which increase the risks to the insurer. Moral hazard derives from the impossibility of obtaining complete information regarding the actions of the insureds. Adverse selection, where particular insurance policies are chosen by higher-risk customers, results from the inability of insurers, prior to the transaction, to obtain complete information regarding the insureds' characteristics that affect risk levels. See for example the references in Cawley and Philipson (1999). Cawley and Philipson dispute the significance of adverse selection as a contemporary practical problem, arguing that reductions in the costs of obtaining accurate information on individual risk profiles permits insurers to limit coverage to high-risk individuals.

Asset specificity increases the scope for, and costs of, opportunism by one's exchange partner. Transaction-specific assets can be human capital and specialised processes, as well as specialised physical capital (Williamson 1979, p240). Once a specific investment has been made, the non-investing partner to the exchange has an incentive to appropriate the quasi-rents from the investment by paying only the marginal costs of the investing partner – to 'hold up' the investing partner. As long as marginal costs (plus any potential net returns above marginal costs from the best alternative use of the investment) are covered, the investing partner will be 'locked-in' to the relationship.<sup>7</sup>

More frequent interaction can reduce the costs of monitoring for opportunistic behaviour since information about performance is often acquired automatically during the course of each transaction. Monitoring costs will generally fall with an increase in the size, frequency and duration of transactions. A greater quantity of transactions also allows fixed information costs and the establishment costs of an appropriate governance system to be spread more thinly, reducing average costs.

A higher degree of uncertainty will intensify the impact of bounded rationality, the incompleteness of contracts, and therefore the scope for opportunism. Renegotiation, or adjustment of the terms of the contract, may be necessary after the contract has been agreed and specific investments made. Potential negative consequences of incomplete contracting increase further with the degree of asset specificity. Internal hierarchical relationships – through vertical or horizontal integration – promise easier resolution of disputes and avoidance of the 'hold-up' problem, compared to market contracting, since one party has formal control over both sides of the transaction.

### 2.1.2 *The Principal-Agent Model*

A principal-agent relationship exists when the owner(s) of property assigns some of the rights to use that property on his/her behalf to a delegate(s).<sup>8</sup> Large Western corporations are a classic (Berle and Means 1932), and well-studied, case of a

<sup>7</sup> The risk of this type of opportunistic behaviour is a common rationale for vertical integration of the production process (Klein, et al. 1979). Other applications include public company voting provisions to protect human capital investments by managers (Cheung and Gaa 1989).

<sup>8</sup> Agency costs also arise in cooperative endeavours, such as team production (see Jensen and Meckling 1976, p309; Ouchi 1980).

principal-agent relationship. Such corporations are characterised by the so-called 'separation of ownership and control', where the owners of the company are the principals and the managers are their agents. As agents, managers are delegated responsibility for pursuing the best interests of the company owners, which is usually interpreted as maximisation of the value of the firm. However, less-than-full monitoring of company performance by owners will provide scope for opportunistic behaviour by managers to pursue their own objectives at the owners' expense. Managers' goals may include high salaries, over-consumption of perquisites, power (such as through empire building), employment security (achieved through maximisation of firm sales or growth beyond profit-maximising levels), and shirking or pursuit of a 'quiet life' (see, among others, Jensen 1986; Jensen and Meckling 1976, p312-313; May 1995; Williamson 1967, pp32-36). Pursuit of these goals reflects managerial opportunism and parallels the assumption of opportunism (moral hazard) in the transaction cost model. Potential firm profit is reduced to the detriment of owners' returns.

Managers' opportunity to capture rents derives from imperfect observability by owners of three factors – the managers' actions, the inputs to decision-making, and the factors affecting the outcomes of these decisions (eg. unpredictable environmental influences).<sup>9</sup> Consequently, contracts between managers and owners specifying the extent of managerial responsibility and the obligations of both parties will, of necessity, be incomplete.

Firm owners have incentives to incur monitoring and policing costs, and to impose incentives and penalties on managers, to ensure that the managers pursue their objectives (Jensen and Meckling 1976; Williamson 1988, p572). Managers also have some incentive to incur bonding costs to convince their principals that they intend to comply with their goals (Jensen and Meckling 1976; Williamson 1988). Without such bonding, managerial compensation will be reduced to the extent that owners anticipate successful managerial opportunism. Bonding costs comprise the costs of collecting and transmitting monitoring data to owners (eg. audits, reports) and the costs, including risk, incurred by managers from tying

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<sup>9</sup> These factors correspond to information impactedness and bounded rationality in the transaction cost model.

their compensation to company performance.<sup>10</sup> The remaining divergence from principals' goals – which cannot be avoided without excessive expenditure on monitoring/policing and/or bonding – is the residual agency loss (a deadweight loss). The sum of these monitoring/policing, bonding and residual costs is the agency cost. Principal-agent theory predicts that contracting between principals and agents, including choice of ownership structure, will be designed to minimise total agency costs by aligning principal and agent incentives.

### 2.1.3 Property Rights Theory

Common to most definitions of ownership is that owners of firms share two formal property rights:

- (i) control rights over the firm's decision making, particularly the use of inputs and assets, and
- (ii) residual rights, being the entitlement to the firm's residual earnings (ie. profits remaining after all contractual costs have been paid) (see, for example, Alchian and Demsetz 1972, p783).

Contractual rights can be specific or residual. One of the effects of environmental uncertainty and bounded rationality is that the outcomes of long-term or ongoing economic activities cannot be known at the time of contracting between parties to the activity. Incomplete contracts require allocation of the residual rights to make decisions about contingencies that were not covered in the initial contract. Otherwise, costly renegotiation of the terms of the contract must occur. In addition, contracts specifying the allocation of returns to the various parties will be incomplete. A residual, being the amount remaining after all specified contractual returns (usually, for example, wages, salaries, payments for materials, and interest payments) have been extracted, will not be known until the end of the period. The residual will accrue to the residual claimants, who will bear the risk of

<sup>10</sup> There exists a substantial body of literature on the design of managerial contracts, incentive schemes, and other bonding arrangements (eg. salary sacrifice in return for profit sharing) by managers. Some examples are Agrawal and Knoeber (1996), Baker, Jensen and Murphy (1988), Brander and Poitevin (1992), Bushman and Indjeckian (1993), Chung and Pruitt (1996), Harris and Raviv (1991), Jensen and Murphy (1990), Kole (1997), Mueller and Yun (1997), Reitman (1993), and Rosen (1995). Roomkin and Weisbrod (1999) find significant differences in managerial compensation associated with ownership form in their comparison of profit and non-profit hospitals.

the uncertainty associated with the payment. In a stock company, the shareholders are the residual claimants, while the customers/policyholders perform this role in a mutual company.

Fama and Jensen (1983b) state that assigning one group of stakeholders to be the residual claimants minimises transaction costs by simplifying contracting arrangements. Non-residual claimants contract solely with the residual claimants rather than with all other parties.

*Having most uncertainty borne by one group of agents, residual claimants, has survival value because it reduces the costs incurred to monitor contracts with other groups of agents and to adjust contracts for the changing risks borne by other agents. (Fama and Jensen 1983b, p303)*

Furthermore, residual rights to net firm earnings motivate owners to monitor effectively since higher returns from greater efficiency accrue to them. Allocation of residual rights to shareholders or to mutual company members, rather than to management or another group of claimants, reflects the higher transaction costs of pricing the contribution of shareholders and mutual members (Yang and Ng 1993, p231).

The property rights approach emphasises the impact of these residual rights on incentives and the control over resources and bargaining power conferred by ownership. Grossman and Hart (1986) and Hart and Moore (1990) argue that under an efficient allocation of property rights, the investing party will own the asset. Ownership by investors minimises under-investment by maximising investing parties' returns. Owners receive the residual returns to the asset's use. In addition, owners' negotiating power, conferred by their residual control rights and their ability to deny access to the asset, alleviates the risk of hold-up by other parties to the transaction.

North's verdict that "the more easily a party can affect the mean income an asset can generate, the greater is the share of the residual that party assumes" (North 1990b, p188) bears some similarity to the conclusions of Grossman, Hart, and Moore. North's recommendation however implies frequent instances of joint ownership, with several parties sharing the residual rights to the asset. Joint ownership amplifies the risks of unproductive bargaining and of hold-up among

the various owners since no single party has the final right to deny others access to the asset – a key element of Hart and Moore's analysis.

#### 2.1.4 *A Comparison of the Three Models*

Some attention has been devoted to reconciling the transaction cost and agency approaches (see Allen 1991, pp9-10; Hart 1995, pp678-680; Miller 1996, p101; and Williamson 1988 among others). Both models incorporate similar behavioural assumptions. Absent agency problems deriving from opportunism, corporate governance does not matter – with no conflicts of interest, incentive structures are irrelevant. Likewise, without transaction costs, agency conflicts would be avoided through complete contracting: "Agency costs are a form of transaction cost, in that they arise because it is impossible, in practice, to devise complete contracts that can perfectly and costlessly control the agent's behaviour." (Miller 1996, p101)

While the transaction cost model has broader application than the principal-agent model, both target the same problem where an agency relationship exists. Their perspectives differ somewhat. The principal-agent model attempts to find incentive structures that cause the principal's and agent's goals to coincide, thus removing the underlying *motivation* for opportunistic behaviour. In contrast, the transaction cost model seeks to create governance arrangements that remove the *scope* for opportunistic behaviour.

Property rights theory has important similarities to the transaction cost and principal-agent models. Each approach sees ownership structure as a mechanism to control conflicts of interest. However the property rights approach diverges in two principal ways. First is the criticism by property rights proponents that the transaction cost perspective is too narrowly focussed on the costs of market contracting and devotes too little attention to bureaucratic costs. As such, it tends to underplay the implications of opportunism *within* a firm as opposed to inter-firm opportunism (Grossman and Hart 1986, p692). Grossman and Hart stress that "integration shifts the incentives for opportunistic and distortionary behaviour, but it does not remove those incentives" (Grossman and Hart 1986, p716). The possibility that changes in governance arrangements simply alter the locus of

opportunism problems needs to be recognised. Principal-agent theory focuses more on intra-firm incentive structures than does the transaction cost model.

Milgrom and Roberts (1990) take the criticism further and challenge the foundation of the transaction cost model, that is, its focus on the characteristics of individual transactions. In their view, the nature of transaction costs differs markedly depending on whether they are undertaken in markets or within firms. Using markets incurs costs of bargaining over short-term arrangements between agents; within firms, significant costs derive from political activity to win power (Milgrom and Roberts' 'influence costs'). Thus the transaction cost argument that internal hierarchical relationships avoid unproductive bargaining by trading partners, by giving one party formal control over both sides of the transaction, ignores the costs of internal politicking. Furthermore, the identification of bureaucratic costs for individual transactions is problematic since "these costs quite clearly relate not to one single transaction, but to the whole collection of transactions that the hierarchy covers" (Milgrom and Roberts 1990, p33).

To a large extent, bureaucratic and internal politicking costs are not correlated significantly with the 'ownership transaction'. Owners contract with 'the firm' as represented by its managers. Bureaucratic and 'influence' costs are more likely to arise in relations between managers and the board of directors, who act as the owners' voice within the firm.<sup>11</sup>

A difficulty with applying the models of Grossman and Hart (1986) and Hart and Moore (1990) to ownership of large Western corporations is that their models assume ownership equals control. The common case where ownership and control are separated is not addressed. Corporation owners typically delegate decision management – comprising initiation and implementation of decisions, according to Fama and Jensen's (1983b) schema – and retain responsibility for decision control, being ratification and monitoring of decisions. Retention of decision control by owners is intended to ensure that application of delegated property

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<sup>11</sup> The role of the board of directors is mentioned in much of the literature on governance but there is little formal modelling of its significance or structure. See John and Senbet (1998) for a survey of the empirical and theoretical literature, Li (1994) for a cross-country study, and Warther (1998) for a model of the board as a distinct entity. The board's role and its relationship with managers will not be pursued in this thesis.

rights is directed to maximising the owners' returns from use of their property. However formal control rights do not necessarily translate into effective control rights (Aghion and Tirole 1997). The transaction costs of exercising control rights, in terms of acquiring, processing and acting upon performance information, may exceed the anticipated returns, particularly where significant uncertainty and high plasticity of resources confers on agents broad scope to assume decision making powers.

The property rights approach does explain a practical contradiction to principal-agent predictions – the use of debt rather than the more direct means of managerial compensation to discipline managers (Bolton and Scharfstein 1998). Creditors have greater legal powers to replace management if the firm does not meet some minimum performance criterion, in this case the ability to make scheduled debt repayments. Default causes control rights to shift to the creditors. Shareholders must rely on the more expensive means of a proxy fight or takeover to remove unsatisfactory managers (McCormick and Mitchell 1993, p191).

Another crucial difference between the three models is that transaction cost economics and principal-agent theory endogenise organisational structure but treat the institutional structure as exogenous. Institutions can be informal, such as sanctions, customs, traditions, and norms, and formal, like constitutions, laws, and property rights.<sup>12</sup> These institutions determine transaction and production costs and provide the incentive structure of an economy.

*The costs of establishing, monitoring and enforcing alternative systems of property rights help to determine the evolution and adoption of specific contractual and institutional arrangements, and the system of property rights affects the structure of transaction costs. (De Alessi 1991, p47)*

The essence of the property rights approach is analysis of the role of institutions in determining incentives and the transaction costs of different organisational structures. Transaction costs are costs generated by efforts to establish and maintain property rights. For zero transaction costs, property rights would have to be "fully defined, fully allocated, and fully enforced" (De Alessi 1983, p66). Positive transaction costs result when rights are not fully assigned, enforced or

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<sup>12</sup> See North (1991). Williamson defines the institutional environment as "property rights, customs, norms, conventions and the like" (Williamson 1993, p112).



priced. Allen's definition of transaction costs links their nature and magnitude to the existing system of property rights:

*Shirking, moral hazard, adverse selection, rent seeking, sorting, signalling, and the like describe methods of exploiting poorly defined property rights; they are not transaction costs. Although the resources used to engage in and prevent shirking, moral hazard, adverse selection, rent seeking, etc., are transaction costs. Measurement costs, enforcement costs, bonding costs, agency costs, monitoring costs, policing costs, and the like are different forms of establishing property rights, and are, therefore, all transaction costs. (Allen 1991, pp9-10)*

Thus the transaction cost model identifies the most efficient governance structures available within the existing institutional environment. But it cannot incorporate attempts by individuals to change existing institutions to enhance their property rights. Individuals have incentives to alter social, legal and economic structures to their own benefit (see, eg. Pratten 1997, p796; Rosen 1996, p276). To regard the institutional structure as fixed fails to acknowledge the potential for opportunistic activity through political and social mechanisms. An important way in which individuals attempt to shape the economic environment to serve their own interests is through efforts to influence the design and implementation of legislation, regulation, and relative taxation. Lobbying for institutional change corresponds to internal politicking to increase bargaining power as expressions of opportunism. In neglecting these activities, the transaction cost approach can therefore provide only a partial examination of the inferences of one of its key assumptions.

Each of the three models emphasises a different aspect of the same basic problem, ie. the risk of opportunistic behaviour where incomplete contracting affords discretion to contracting parties. Comparison of their shortcomings leads to the conclusion that a complete treatment of the 'ownership transaction' requires the insights of all three approaches. The remainder of Part One applies their predictions to compare the efficiency of mutual and stock ownership, based on their three distinguishing characteristics. Specifically, the optimal ownership structure possible within the existing institutional system must offer the most efficient combination of:

- (i) allocation of property rights;

- (ii) minimisation of incentive conflicts; and
- (iii) restriction of the scope for opportunism.

## 2.2 Transferability of Ownership Rights

Ownership of a mutual company derives from purchase of the company's products or services. The customers – in a life insurance company, the policyholders – own the company. Since ownership rights are tied to the customer relationship, mutual ownership rights are not transferable. In contrast, the ownership rights of shareholders are freely tradeable. Shareholders can buy and sell shares in a stock company on the stockmarket. Transferability of ownership rights, or lack thereof, has several implications for the efficiency of ownership form.

### 2.2.1 Monitoring Costs

As the residual claimants of life insurance companies, the shareholders of stock companies and the policyholders of mutual companies are motivated to monitor the overall performance of the company, particularly managerial performance. The amount of monitoring that actually occurs is determined by expected monitoring costs and the anticipated returns from monitoring.

Effective monitoring requires access to sufficient information to assess management performance. The information must be unbiased and comprehensive enough to avoid misleading, but without causing information overload. Many researchers have questioned whether these conditions are met in stock companies (see, for example, Barnea, et al. 1985, p142; Harris and Raviv 1991, p306). Many, perhaps a majority of, shareholders, lack sufficient understanding of financial concepts to confidently and accurately assess the implications of much financial data (see Lee and Tweedie 1977; 1981; 1990 for the UK; and SRI-International 1987 for the US). Furthermore, despite the existence of both formal rules and widely accepted reporting practices, corporate managers have some discretion to determine both the types of information reported and the ways in which information will be interpreted and presented in company reports and statements (Lamm-Tennant and Rollins 1994, p476). Managers have disincentives to provide full information to owners and may even be motivated to send false information

(Abrahamson and Park 1994; Indjeikian 1991; Lewellen, et al. 1996; Verrecchia 1983). They have incentives to withhold, or at least put a favourable gloss on, information that could be interpreted negatively for company performance. The scope for significant manipulation of a company's financial statements, withholding of pertinent information, and management fraud is expected to be relatively limited.<sup>13</sup> However, lack of uniformity and consistency in reporting practices both within and between companies increases the complexity and costs of monitoring by owners.

Tradeability of ownership rights in stock companies reduces monitoring costs and promotes greater monitoring of company performance through two means: the share price and the market in investment advice. The share price performs a useful role as a conveyer, in very condensed form, of publicly available information about a company. It has the added advantage for uninformed shareholders of incorporating the impact of analyses and interpretations implied from the actions of informed investors. Accounting and other evidence regarding the performance of and prospects for a company will be reflected in share price movements, providing a source of (virtually) free information to uninformed investors (Bushman 1991, p264; Cooper and Ross 1984, p197; Fama and Jensen 1983b, p313; Putterman and Kroszner 1996, p30; Radner 1979). Holmstrom and Roberts assert that, although noisy, stock prices "have a great deal more integrity than accounting-based measures of long-term value" (1998, p89). The ability of shareholders to obtain, at low cost, information already analysed for its implications by better-informed investors reduces their information acquisition and decision costs.

Mutual company owners, in contrast, lack access to information in this form. No simple, summary indicator of the company's performance and prospects is available. Growth in new business inflows, relative to the industry average, may provide some information about company performance and prospects as assessed

<sup>13</sup> Lamm-Tennant and Rollins' study of the US insurance industry did not support the contention that managers can significantly manipulate performance information. They concluded that the evidence supported either of two explanations for accounting choices: (1) managers intend only to smooth earnings, not to maximise or minimise them, eg. through "the timing and recognition of realised gains and losses"; and/or (2) the scope for altering earnings is fairly limited, although policyholder reserve levels may be manipulated by the treatment of investment gains and losses (Lamm-Tennant and Rollins 1994, p488).

by marginal consumers (Covick and Lewis 1997, p227). But the information content of such statistics depends on the competitiveness of the product market, how informed new policyholders actually are, and whether their decisions are based on overall company performance or merely the particular characteristics of specific policies. A US survey of life insurance consumers found that the complex, technical nature of the life insurance product results in widespread consumer ignorance and confusion, and a heavy reliance by consumers on the service provider for advice (Johnston-O'Connor, et al. 1984).

An additional benefit for shareholders is that the share price of a stock company will reflect improvements in the company's long-term valuation, providing an immediate gain from monitoring. Non-tradeability of mutual ownership rights prevents the capitalisation of efficiency gains and precludes the quick recovery of monitoring expenses (Alchian and Demsetz 1972, p789; De Alessi 1983, p68).

The potential for share trading encourages a market in investment advice from skilled financial advisers who earn their incomes from monitoring, and advising on, company performance and prospects. An SRI-International study reported that most individual shareholders consider interpretations of information, particularly opinions and advice from respected financial advisers, to be crucial inputs to their decision processes (SRI-International 1987, pp3-4). The non-transferability of mutual ownership shares reduces the returns to analysts and other financial advisers from assessing overall mutual company performance and prospects (as distinct from providing advice on suitable products, eg. insurance policies, for particular individuals). Karpoff and Rice note that "security analysts have no incentive to monitor a firm in which they cannot trade shares" (1989, p74).

The presence of informed investors, including professional and institutional investors, brokers and other investment advisers skilled in financial analysis, reduces managers' scope to mislead through choice of accounting standard. Such analysts are well able to adjust financial data to reflect more appropriate accounting treatment and many are paid to advise investors accordingly. Listing requirements for financial reporting standards and public disclosure reduce the costs of information access for shareholders. Despite the paucity of research into these issues for mutual companies, problems with information provision appear

more severe in mutual companies.<sup>14</sup> Due to less stringent formal reporting requirements for non-listed companies, mutual managers have greater discretion in what and how they choose to report than have managers of stock companies.

Monitoring may be discouraged by the free rider problem where ownership is diffuse. Individuals with small ownership shares lack incentives to devote much effort to obtaining and understanding detailed information regarding management's activities, and then to organising other owners to press for changes. The individual would bear the full cost of such efforts but gain only a small share of the benefits, related to his/her small ownership share. The ease of exit, as compared to voice (Hirschman 1970), for small shareholders reduces the returns to monitoring. Individual shareholders who disagree with management policies can sell their shares. Easy tradeability thus intensifies the impact of the free-rider problem:

*Rather than try to control the decisions of the management, which is harder to do with many shareholders than with only a few, unrestricted saleability provides a more acceptable escape to each stockholder from continued policies with which he disagrees. (Alchian and Demsetz 1972, p788)*

Blockholdings, ie. concentrated shareholdings, can overcome the free rider problem inherent when shareholdings are widely dispersed (eg. Barclay and Holderness 1989; 1991; Bathala, et al. 1994; Prowse 1994, pp13, 33; Roe 1994, pp235-241). Large shareholders have a greater incentive to bear the costs of monitoring management since they gain a greater share of the benefits and may have access to economies of scale in information acquisition and analysis.<sup>15</sup> Mutual ownership rights are usually allocated on the basis of one vote per member, rather than on amount of patronage, preventing the development of blockholdings. Furthermore, the difficulty and costs involved in organising policyholders is boosted by the commercial-in-confidence nature of most

<sup>14</sup> Lamont-Tennant and Starks' (1994) study purports to compare the treatment of financial data by managers of stock and mutual insurance companies. They concluded that ownership structure had no impact on choice of accounting rules. However, the sample consisted only of stock insurers, with closely-held stock insurers used as a proxy for mutuals. The use of such a proxy is questionable. Closely-held stock ownership should reduce managerial discretion: blockholders have greater incentives to incur monitoring costs, while mutual owners have lower incentives to monitor managers.

<sup>15</sup> Hart (1995, pp683-4) questions the effectiveness of blockholdings in improving monitoring when the block is held by an institution with its own principal-agent problem. Barclay and Holderness's empirical studies (1989; 1991) suggest, however, that the specific skills and expertise of blockholders do improve firm value.

policyholder lists, compared to the publicly available share registers of listed companies.

### *2.2.2 Transfer of Corporate Control*

Easy tradeability of shares allows dissatisfied shareholders to sell their shares if returns fall below risk-adjusted returns available on other shares (Fields and Tirtiroglu 1991, p43; Jensen and Meckling 1976, p329). A much lower share price will lead to pressure on management, either by large shareholders (blockholders) or by the general body of shareholders at an annual general meeting, to improve performance or face replacement by a new management team. Takeover or the threat of takeover, and implied replacement of management, can create an effective deterrent to managerial opportunism (see Dodd and Officer 1986; Fama and Jensen 1983b; Fields and Tirtiroglu 1991, p43; Hart 1995; Mayers and Smith 1986, p 76; Nickell 1995, pp48-49; Pejovich 1995, p195; and Roe 1994, p7 among others).

Individual shareholder disincentives to monitor, and concomitant incentives to simply sell shares when dissatisfied with management performance, increase the importance of the takeover market in disciplining managers. However, takeovers have shortcomings of their own. The premium for control usually paid to existing shareholders makes takeovers expensive; consequently, they may be useful in preventing only "the worst of managerial excesses" (Nickell 1995, p48; Prowse 1994, pp14, 63-65; Roe 1994, p7).

Moschandreas rejects the effectiveness of takeovers in controlling top management. She contends that efficiency in the takeover market requires an "absence of opportunism in the capital market", but satisfaction of this requirement would entail the unreasonable assumption that opportunism occurs in only some areas of economic interaction (Moschandreas 1997, p51). Moerland, too, questions whether takeovers are driven more by empire building and market power considerations, than by potential efficiency gains (Moerland 1995, p30). These claims deserve closer analysis.

If shareholders are able to obtain sufficient information (assisted by the research of investment advisers and analysts) to compare company performance and

prospective returns from share investments, then companies pursuing inefficient, cost-increasing acquisitions will suffer a drop in their share price.<sup>16</sup> Managers of these companies would then find their own risk of falling subject to unfriendly takeover, and losing their management positions as a result, had increased. Thus symmetric treatment of target and acquiring companies imposes a limit on the degree to which acquiring company managers can pursue acquisitions merely to satisfy their own interests at the expense of shareholders. Assuming an absence of opportunism in the capital market is unnecessary. Net efficiency gains can result even from opportunistic takeovers. Removal of inefficiencies and improvement of profitability in the target company might finance greater perks and other gains for management of the acquirer; in other words, the takeover could benefit acquiring managers at the expense of the target company's management. Total company profitability, and returns to shareholders across the two companies, would improve if opportunistic gains to the acquirer's management are lower than the opportunistic returns procured by the previous management of the target company. The acquirer's management can protect its own position, in a less than perfect takeover market, by limiting opportunistic behaviour so that the potential gains from takeover (derived in part from replacement of management with a new, more efficient management) fall short of takeover costs.

Opportunism in capital markets does not therefore invalidate the role for takeovers in disciplining management. Rather it reinforces the conclusion that takeovers only place a limit on managerial opportunism; they cannot prevent it.

Transferring management control is generally more costly for mutual companies than for stock companies. Takeovers are precluded by the non-tradeability of mutual ownership rights. Thorapson (1996) investigated the possibility that mergers involving mutual companies perform a similar function to takeovers of stock companies. He studied 137 intra-sector acquisitions by UK building societies during 1981-90. He found no support for the contention that the mutual sector's merger process is analogous to the market for corporate control. The

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<sup>16</sup> Acquisitions that enhance monopoly power, though inefficient from an economic and consumers' point of view, are 'efficient' for company profitability and should boost the company's share price. (The impact on the share price could be negative if such acquisitions expose the company to trade practice investigation and potential adverse regulation. However company management should anticipate this risk and avoid such acquisitions.)

merger premium paid "reflects voting rights and likely bargaining power within the mutual", with no evidence that "the process rewards good performance – other than size itself – or punishes poor performance" (Thompson 1996, p344). The other means of replacing management – a proxy fight at an annual general meeting (or specially convened meeting) – is more expensive because of the greater costs of organising policyholders (Mayers and Smith 1986, p76). The absence of a market for corporate control is widely believed to increase the discretion available to mutual managers and their ability to pursue their own goals (see Boose 1988, pp27-30, 66-71; and Mayers and Smith 1986, p76 in the context of life insurance companies).

Competitive product markets will cause managerial inefficiency to reduce a company's earning capacity and therefore its share price, leading to pressure on management in the capital markets (Baumol, et al. 1990, pp105-107; Roe 1994, p7).<sup>17</sup> Imperfect competition in product markets may allow firms to prosper despite inefficiencies and cost padding (Prowse 1994, p14). This shortcoming applies equally to stock and mutual companies. The role of government regulation in reducing competitive pressures will be considered briefly in Chapter 4 and in more detail in Chapter 5.

### 2.2.3 Redeemability of Claims

Fama and Jensen (1983a; 1983b) dispute the necessity of share tradeability in creating an effective market for corporate control in the financial services industry. They assert that redemption of a claim by a member of a financial mutual is analogous to a partial takeover equal to that member's share of the company's assets. The low cost of liquidating financial assets makes such 'partial takeovers' cost-efficient, in contrast to the high costs that would be incurred by industrial companies in selling organisation-specific fixed capital assets (Fama and Jensen 1983b, p338).<sup>18</sup> This redeemability of claims on financial mutuals

<sup>17</sup> See Jensen and Meckling (1976, p329-330) for a contrary view.

<sup>18</sup> Smith and Stutzer (1990, p495) question whether Fama and Jensen's assumptions of redeemability on demand and sufficient asset liquidity hold for all financial mutuals. Changes in financial markets over the 1980s and 1990s have increased the validity of these assumptions. Securitisation of many assets of a long-term contractual nature, eg. residential mortgages, has improved the liquidity position of companies holding a large proportion of long-maturity financial assets.



substitutes, as a management discipline mechanism, for the market for corporate control. Consequently, Fama and Jensen consider mutual and stock companies to be equally efficient in the finance industry, explaining the persistent coexistence of both ownership forms in the industry.

However, Fama and Jensen's argument concentrates on the transaction costs of the company in repaying claims, and fails to include the transaction costs of customers in redeeming their claims. While transaction costs may be quite low for bank customers in closing an account, life insurance companies often impose significant entry and/or exit fees to discourage redemptions. Heavy front-end loading creates a significant deterrent to policy termination (Boose 1988, p76; 1990, p500). Such fees, which may reflect heavy company investment in new business costs (Adams and Hossain 1996, p23; Johnston-O'Connor, et al. 1984, p217), tend to "lock-in" policyholders, particularly to long-term life insurance policies.<sup>19</sup>

Policy "lock-in" is increased by the practice of charging flat premium rates over the contract period of long-term policies, such as whole-of-life policies. Higher premiums than warranted in the early years by the mortality tables, which define increasing premiums with increasing age, are offset by lower-than-warranted premiums in later years. Changing to a new policy often results in loss of much of the benefits of the early years' overpayment since surrender values do not give full repayment, particularly in the initial years of the policy.<sup>20</sup> The insured person must also consider whether s/he is still an insurable risk (Parsegian 1985, p44). Furthermore, due to the complex and technical nature of many life insurance policies, and the high differentiation of policies and conditions among companies (Johnston-O'Connor, et al. 1984), the search costs in transferring policies are often substantial. Switching and monitoring costs are both higher for traditional, long-term life insurance policies, such as whole-of-life policies, than for less

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<sup>19</sup> Entry and exit fees create an asset-specific investment by policyholders to offset the asset-specific investment by the insurance company in new business costs.

<sup>20</sup> Hansmann notes that surrender values have never permitted full redeemability of claims (1985, p127, fn.4).

complex, shorter-term products like term life and insurance bonds (Blair 1991, pp36 & 45).<sup>21</sup>

Full redeemability of claims does not therefore apply to life insurance companies. Consequently, its disciplinary effect on the management of life insurance companies will be weaker than for other types of financial mutuals.

#### *2.2.4 Conflict Among Owners/Policyholders*

Non-transferability of mutual ownership shares attenuates mutual owners' property rights and increases the potential for conflict among policyholders (Alchian and Woodward 1988, p71; Hansmann 1996, p40; Jensen and Meckling 1976, pp48-53; Karpoff and Rice 1989). Shareholders own firm-specific assets in predetermined shares to avoid opportunistic conflict among shareholders about the division of returns. Transferability of these shares allows shareholders in disagreement with the majority of shareholders over strategy, dividend policy, or riskiness of investments to resolve any dispute by selling their shares (Alchian and Woodward 1988, p71; Karpoff and Rice 1989, p75). In a mutual company, by contrast, policyholders cannot sell their ownership shares if they disagree with company policies or fear opportunistic behaviour by some policyholders. Karpoff and Rice contend that, where ownership shares are not tradeable, company owners may not agree on value-maximising policies for the firm because "it is not clear what 'value' means when stock is not traded" (Karpoff and Rice 1989, p76). A contrary view, however, is that the asset specificity of long-term life insurance policies supports mutual ownership as a mechanism to avoid hold-up (see section 2.3.2).

#### *2.2.5 Managerial Incentive Schemes*

Competition among managers for positions, and managerial incentive schemes to link managers' remuneration to firm performance, should align managers' interests with those of shareholders (Jensen and Meckling 1976, p328; Pejovich 1995, p195). This mechanism is more difficult to apply to mutual company managers. Managerial incentive devices such as stock options and stock bonuses

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<sup>21</sup> The features of the different types of life insurance products are explained in some detail in Chapter 4, section 4.1.3.

are not available under a mutual ownership structure. In the absence of a share price to summarise the financial performance and prospects of the company as assessed by the stockmarket, partial measures of performance must be used instead. Such measures (eg. asset growth, policies in-force, lapses and redemptions, new policies) can distort managerial incentives or provide scope for manipulation because of their focus on only one aspect of the company's performance (see, for example, Gibbons 1998).

Some researchers have questioned the efficacy of managerial incentive schemes. Where managers require firm-specific skills, pressures from the general market for managerial talent may be weak (Boose 1988). More seriously, Hansmann suggests that incentive pay schemes may in fact be devices designed by management to appropriate owners' profits in circumstances where owners' effective level of control is low (1996, p304, endnote 5). Such managerial opportunism may be more severe in mutual companies, given the absence of an effective takeover market and reliance on partial measures of performance.

## **2.3 Separability of Customer and Ownership Roles**

### *2.3.1 Complexity of Decision Making*

Separation of the ownership and customer decisions in stock companies allows for more efficient, simpler and lower cost decision making. Shareholders who are also customers can choose to sell their shares if they are dissatisfied with overall management performance or the direction of the company. However, they can at the same time remain customers if they are satisfied with the price and quality of the products or services offered. Moreover, the size of shareholders' investment in the company is not tied to their patronage of the firm.

Non-separability of the customer and owner roles in a mutual company increases the complexity of decision making by requiring simultaneous assessment of the net benefits of ownership and of the policies being purchased. In reality, policyholders' awareness of, or interest in, their ownership of the company, as distinct from the customer relationship, is open to question. The bundling of the customer and ownership roles may in effect cause the ownership rights of policyholders to be overshadowed in the normal course of events. This potentially

serious problem of the mutual ownership form requires further research to ascertain its significance.

Stock companies have the additional advantage of a single, well-defined objective, ie. maximisation of the net present value of the firm. Mutual companies, in contrast, may face a diversity of objectives, depending on the degree of homogeneity of their owners. This will reflect each company's customer base (eg. open to all, or restricted to a certain community such as employees of a particular industry) and the homogeneity or complexity of its product range (see, for example, Hansmann 1996, p40). A diversity of objectives not only makes performance assessment more complicated since there are likely to be trade-offs between specific objectives, but increases the probability of conflict among owners with differing priorities. Such conflict may lead to opportunistic behaviour.

Some mutual companies, eg. credit unions, are, or were originally, organised on the basis of a 'common bond', usually employment in a particular industry or workplace, or local residency (Bonus 1991; Hansmann 1996, pp258-259). Such a bond reduced transaction costs by facilitating communication among owners and by promoting homogeneity of interests.<sup>22</sup> However many mutual or previously-mutual companies – such as the large, Australian life insurance companies – were not organised on the basis of any 'common bond', instead having a large and widespread customer/owner base.

### 2.3.2 *Incentive Conflicts Between Policyholders and Shareholders*

Long-term insurance policies involve considerable uncertainty. Purchasers of insurance policies anticipate insurance benefits

*based on representations about future risks, probabilities, and prospects. These 'futures transactions' ... demand that commitment be conferred far in advance of payoff without any necessary confirmation during the interim that the return on investment will eventually be honoured. (Shapiro 1987, p628)*

Policyholders with long-term policies are therefore at considerable risk of opportunistic behaviour that substantially reduces, or – in the case of the company becoming insolvent – voids, the eventual payouts to policyholders. Alchian notes

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<sup>22</sup> Monitoring and policing costs were also reduced.

that: "A consumer who buys a product, the future performance of which depends on the firm's continued activity, will have become an owner of a firm-specific resource" (Alchian and Woodward 1988, p73).

The asset specificity of long-term insurance policies, and considerable uncertainty afflicting expected returns, places the policyholders of stock life insurance companies at risk of hold-up by the shareholders.

*Policyholders pay premiums in return for a promise to receive a contractually agreed amount from the assets of the insurance firm on the occurrence of a specified event (eg. death or disability). ... Stockholders of an insurance company have incentives to increase the value of the stock at the policyholders' expense after the policies are issued. For example, if insurance policies are priced assuming the firm will maintain its past dividend policy, their value is reduced by unexpected dividend increases financed by reductions in assets.*

*The incentive conflict between policyholders and stockholders is more severe with long-term than with short-term policies. Thus firms which issue whole-life policies or long-term (eg. 20-year term) policies have more opportunities over the life of the contract to change dividend, investment, or financing policy to the detriment of the existing policyholders. The stockholders' actions are limited by the policyholders' option to cancel the policy or, in the case of whole-life policies, to take out a policy loan. But these are imperfect disciplining mechanisms because of the 'lock-in' effect of long-term life insurance policies. (Mayers and Smith 1986, p75)*

Mutual companies eliminate this potential for hold-up by making the policyholders the owners. Mayers and Smith consider this to be "the major benefit of the mutual form of ownership" (1986, p76).

However, problems identified by McNamara (1988, pp48-53) associated with the allocation of surpluses and payment of dividends by mutual life insurance companies appear to reduce the force of Mayers and Smith's argument. McNamara notes that increases in the size of the company's surplus, which are motivated by management's desire "to guarantee the financial health of the company and increase the valuation of their managerial human capital" (1988, p51), do not accrue to policyholder owners. Residual payments to policyholders who surrender their policies are thereby lower, although the loss may be partly offset by any surrender dividend paid. In a stock company an increase in the

surplus would be capitalised into a higher share price, the gains from which would accrue proportionately to all owners.<sup>23</sup>

Use of reserves some time after they were built up, either to keep premiums lower or to boost payouts, creates an 'intergenerational transfer' between different cohorts of policyholders. The contemporary group of policyholders has an incentive to profit opportunistically from excess reserves built up by previous groups of policyholders. Much of the value of shares and cash payments received by policyholders of demutualising companies, described as compensation for loss of decision control, may have been transfers of reserves contributed by past policyholders.<sup>24</sup> The non-transferability of ownership inherent in the mutual structure exacerbates the potential for conflicts among policyholders since the potential for 'exit' is diminished. Thus avoidance of conflicts of interest between shareholders and policyholders is offset, at least in part, by a worsening of conflict among policyholders and increased scope for managerial opportunism.

An alternative way to control the shareholder-policyholder conflict is to issue participating policies (Mayers and Smith 1981, p426). Participating policies give policyholders of stock life insurance companies a share of the residual rights to the company's earnings. Only part of the returns from opportunistic behaviour by shareholders will therefore accrue to them, reducing their incentives to engage in such activities. Shareholders also have the option of imposing contractual limitations on dividend and investment policies to bond themselves not to behave opportunistically (Mayers and Smith 1981, p426). Choice of the mutual ownership form is not necessarily the most efficient way to avoid an incentive conflict between owners and policyholders.

<sup>23</sup> Davis (2000) also highlights the potential for intergenerational conflict created by the accumulation of surpluses under the cooperative ownership form. He argues that the typical one member-one vote rule reduces the capacity for expropriation of accumulated surpluses by one group of members at the expense of remaining members and thus contributes to the survival of mutual and cooperative firms. He develops a simple overlapping generations model to identify the conditions under which the majority of members will vote to convert to stock ownership and distribute the cooperative's accumulated surpluses.

<sup>24</sup> "The major advantage [of demutualisation] for current members is that they typically realise the value of the mutual's accumulated surpluses ... Former members do not share in this distribution of reserves, although the bulk of these reserves might have been generated during the period of their membership. In many cases, the result is a 'windfall gain' to current members". (Reserve Bank of Australia 1999, p2) Newspaper reports highlighted the intergenerational transfer involved in the AMP demutualisation (eg. Maiden 1998; Renton 1998). Davis (1997b) also identifies expropriation of accumulated reserves as a motivation for demutualisation.

### 2.3.3 *Residual Risk Bearing*

Residual claimants bear the residual risks of the firm, ie. the risks associated with the firm's residual earnings. Hansmann (1996, pp35-43) states that an efficient allocation of residual risk will be to those stakeholders in the best position to bear the risk. Risk-bearing capacity is increased by the ability to diversify or pass on the risk, or by the risk in question forming a small proportion of the risk-bearer's budget. Shareholders may be wealthier and therefore less risk-averse at the margin than other patrons of the firm. More importantly, they can diversify to lower firm-specific risk. Mutual policyholders may not all have the same ability or willingness to accept the residual risks of ownership.

Hansmann asserts that mutual ownership may be most efficient for firms offering long-term service contracts that specify future returns, even though actual future earnings are uncertain. Where the customer is also the owner, errors in the forecasts of future variables no longer pose a risk of opportunism: an underestimate of future returns to the customer will be offset by higher profits accruing to the customer as owner, and vice versa (Hansmann 1985; Hansmann 1996, p270). Hansmann notes that the crudeness of actuarial tables during the life insurance industry's early years increased the residual risks of owners (Hansmann 1985, p141; Hansmann 1996, p267). Substantial improvements in actuarial science since the 1800s and shifts in the mix of products sold by life insurance companies (see Chapter 5) have reduced the residual risks of life insurance company ownership. Furthermore Hansmann's argument bears a significant resemblance to the contention that mutual ownership averts incentive conflicts between owners and policyholders, discussed in the previous section. As such, it suffers from the same reservations.

Doherty and Dionne (1993) discuss alternatives to ownership to obtain an appropriate distribution of risk. Where mutual policyholders are unable or unwilling to bear residual risk, reinsurance allows mutual companies to transfer residual risk to external investors. Alternatively, where the nature of the risk makes risk-sharing most efficient, contracting mechanisms such as participating policies can substitute for mutual ownership. Whether the appropriate distribution

of risks "is accomplished by contractual or organisational devices rests largely on ... agency issues." (Doherty and Dionne 1993, p199)

## **2.4 Internal versus External Sources of Corporate Financing**

The Modigliani-Miller theorem (1958) that the firm's financial structure does not influence real firm decisions has been challenged on transaction cost, agency and liquidity grounds. With asymmetric information, and thus imperfect capital markets, differential access to internal and external sources of finance will have real effects on firms' behaviour. Thus, by restricting access to external finance, mutual ownership will also have real effects on mutual performance.

### **2.4.1 Monitoring and Agency Costs**

A substantial literature applies transaction cost and agency analyses to different aspects of the corporate financing decision, specifically the choice between internal and external financing, debt versus equity and the appropriate debt-equity ratio, and dividend payout policies. Miller draws a direct parallel between sourcing of finance and sourcing of production (the 'make or buy' decision): "Different strategies for raising capital represent different degrees of 'internalisation' of the finance decision" (Miller 1996, p89). Internal finance through retained earnings, external finance via intermediaries, and external finance through the direct placement of securities on capital markets correspond respectively to internal production, hybrid ownership, and market transacting in the transaction cost literature.

Internal financing has transaction cost advantages where managers are better informed about the firm's prospects than prospective external investors. This information asymmetry, resulting from high transaction costs of communicating the relevant information about the firm's performance and prospects, increases external investors' exposure to opportunistic action by the firm seeking finance, from both adverse selection (possibly leading to the 'lemons' problem described by Akerlof 1970) and moral hazard. Consequently, investors and creditors will demand a risk premium for external funding. Information asymmetries can also lead to credit rationing in equilibrium (Fazzari, et al. 1988; Myers and Majluf 1984). Firms suffering an information disadvantage on the capital market are



forced into greater reliance on retained earnings. Lower information costs permit firms greater access to intermediated finance, ie. from large lenders who specialise in monitoring borrowers, and finally to direct finance. Empirical studies support the existence of such a "financing hierarchy" (eg. Bond and Meghir 1994; Fazzari, et al. 1988 for UK and US manufacturing firms respectively). These studies find that firms with a heavy reliance on internal finance appear to be far more constrained in their investment behaviour than firms that make use of both internal and external funding to finance investment.<sup>25</sup> Chapter 4 investigates the implications of liquidity constraints deriving from mutual ownership of life insurance companies.

External capital raisings can, however, reduce the information asymmetry between managers and outside investors. New equity raisings or rights issues to existing shareholders require issue of a prospectus detailing company prospects and planned use of the funds raised. Likewise, sales of corporate bonds and commercial paper require a prospectus, while loans are governed by contractual reporting requirements and the sanction of receivership if loan repayments are not made as scheduled.

Several researchers have suggested ways that external financing improves the quantity and quality of financial information that is publicly available about the company. First, competitive capital markets give managers an incentive to improve information disclosure. Better disclosure reduces investor uncertainty and perceived risk, lowers their transaction costs in acquiring information, and consequently reduces the required rate of return on such securities (eg. Kim and Ismail 1990). Cost-of-capital benefits from disclosure offset the costs of financial reporting, which might otherwise make managers reluctant to release publicly, at no charge, more than a minimum of information (Xiao, et al. 1996).

Second, equity underwriters and large lenders put their own money and reputations "on the line" in backing the firm's financial health (Easterbrook 1984,

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<sup>25</sup> Fazzari, et al. (1988) and Bond and Meghir (1994) found that greater fluctuations in investment by "liquidity constrained" firms (ie. firms retaining a large proportion of internal funds) were related to variations in internal funding as measured by cash flows. Firms with higher dividend payout ratios were not as constrained by internal finance availability, instead issuing new debt or equity to smooth out investment levels.

p654). Their participation in providing capital to the firm signals to investors information about the firm's financial health.

Third, Easterbrook (1984) argues that *simultaneous* payment of dividends and external capital raisings might also provide a convincing signal of financial health.<sup>26</sup> The firm's prospects must be good enough for it to obtain, and make the required payments on, external financing while forgoing the cheaper, internal source of funds.<sup>27</sup> The underlying implication is that the firm's prospects and managerial performance are good enough, and agency costs are low enough, to satisfy the scrutiny of external capital markets. Retained earnings, being subject to less monitoring to prevent opportunistic uses by management, pose greater moral hazard risks to firm owners than external sources of funds. A similar argument pertains to the choice between debt and equity financing. Jensen's 'free cash flow' hypothesis (1986) suggests that debt is a bonding mechanism by management, which exposes management to detailed scrutiny by external debt-holders.<sup>28</sup> The commitment to meet specified debt repayments reduces management discretion. Therefore firms should use free cash flows to increase dividend payouts and finance some investment through debt to the extent necessary to optimise external scrutiny.

Fourth, a corollary is that shareholders can use the willingness of debt-holders to lend, and any interest rate premium or discount, as signalling devices for management performance. Shugart (1990, p63) suggests that credit providers to business have greater expertise in assessing firms' financial position than ordinary shareholders. However it is important to note that creditors may be interested simply in the company's ability to meet repayments and its risk of bankruptcy, rather than whether profitability is being maximised (Harris and Raviv 1991; Leland and Pyle 1977).

<sup>26</sup> Easterbrook (1984) disputes the effectiveness of dividend payments *alone* as signals of corporate financial well-being. Alternative signals like reporting and disclosure of profitability and prospects, supported by external auditing, are both more effective and cheaper means to provide the relevant information to investors. More importantly, dividends are not unambiguous signals since well-performing firms may choose to retain profits to finance investment more cheaply, while firms with poor prospects might disinvest or liquidate the company's assets via dividend payouts.

<sup>27</sup> Dividend reinvestment schemes obtain a similar result.

<sup>28</sup> Grossman and Hart (1982) make a similar argument but with the emphasis on the threat of bankruptcy as a management discipline.

Debt is itself subject to opportunistic behaviour. Shareholders have an incentive to increase the riskiness of their investments since they reap all the gains from successful investments but share with creditors the losses from unsuccessful ventures that drive the firm into insolvency. Creditors attempt to deter such behaviour through conditions written into debt contracts. Shareholders are vulnerable to opportunistic exploitation by creditors, and risk-averse managers, through reductions in the debt-equity ratio. Financing a greater proportion of future investment from retained earnings would reduce the debt-equity ratio. A lower ratio would provide creditors with the contracted-for interest payments at a lower than contracted-for risk of bankruptcy (Easterbrook 1984, p653). Regular external capital raisings reduce the scope for both types of opportunism. Simultaneous dividend payouts and borrowing permit adjustment of the debt-equity ratio to maintain it at a constant level.<sup>29</sup> Opportunistic shifts towards riskier investments would be discouraged by the resultant increase in interest rates charged on future borrowings.<sup>30</sup>

Novaes and Zingales (1995) challenge the efficiency of debt in constraining managerial opportunism, arguing that capital structure is chosen *by the managers* to protect their own tenure. Theories emphasising the efficiency of debt as a constraint on managerial opportunism implicitly assume either: (i) that the debt-equity ratio is set by the firms' owners at a level that reduces the scope for managerial discretion, or (ii) that firm owners have sufficient information to penalise managers who do not bond themselves effectively via the debt-equity ratio. Novaes and Zingales reject both of these assumptions and argue that managers have discretion to determine the debt-equity ratio to meet their own goals. Thus the capital structure choice is itself subject to opportunistic behaviour. However, as noted in section 2.2, monitoring by investment advisers skilled in financial analysis and the threat of takeover curtail the scope for managerial opportunism in stock companies.

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<sup>29</sup> Shah (1994) studied the significance of information conveyed to firm investors by changes in the debt-equity ratio. He finds a "surprising" asymmetry in the information signalled by increases and decreases in leverage. However his results might reflect, in part, the significant differences between the leverage-increasing and leverage-decreasing firms included in his study both in the nature of the leverage change and in the firm's financial health.

<sup>30</sup> See McCormick and Mitchell (1993), Mann and Sicherman (1991, p217), and Kursten (1995).

The benefits of external funding in improving information disclosure and monitoring, and reducing agency costs, are far more limited in mutual companies than in stock companies. First, mutual companies lack the option of raising equity. Second, mutual ownership may restrict the availability of debt finance:

- (i) creditors are likely to want to restrict total borrowings to maintain a reasonable level of 'leverage', which, with no capacity to raise additional equity, places a limit on total borrowing;
- (ii) without the disclosure requirements mandated by stockmarket listing and the information embodied in a share price, the lower quantity and quality of information publicly available about a mutual company should expand the risk premium demanded on external borrowing.

Difficulties in transferring corporate control, and the absence of pressures from a takeover market, may allow mutual company managers to manipulate capital structure to meet their own objectives, eg. to protect their own tenure and their investments in human capital. Regulatory constraints on life office borrowing are discussed in Chapter 4.

#### *2.4.2 Growth and Investment Capacity*

Another aspect of differential capital access has received scant attention in the economic literature on ownership structure. Capital access can play a key role in determining the growth capacity of companies operating under different ownership structures.<sup>31</sup> Hansmann (1996) has noted that mutual insurance companies that have built up large reserves over time can draw on these retained earnings to fund continued expansion. Conversely, when reserves are low and capital needs have increased, mutual companies' inability to raise equity capital may prompt moves towards demutualisation, as noted by industry commentators in Australia and overseas (see Covick and Lewis 1997, pp246-247 for Australia;

<sup>31</sup> Cummins and Danzon (1997), Gron (1994), and Winter (1994) posit that total industry capacity and insurance premiums in property liability insurance are related to insurer capitalisation. The empirical evidence seems broadly supportive of the significance of capitalisation. However none of the studies focussed on the impact of mutual and stock companies' different capital access although Cummins and Danzon noted that mutual companies could differ from stock companies for a number of reasons including access to capital (1997, p25).

Cummins and Lamm-Tennant 1993; Garber 1993; and Kopke and Randall 1991a; 1991b for the US; and Needleman and Westall 1991 for the UK).

Most of the theoretical literature however omits capital access as an essential determinant of ownership structure. I argue in the following chapters that the differential access to capital of stock and mutual companies contributes a significant part of the explanation for both the long history of mutual company success in the Australian life insurance industry and the subsequent rapid shift away from the mutual ownership form.

## **Part Two    Two Extensions to the Conventional Models**

### **2.5    Credible Commitments and Bonding**

Williamson's opportunism assumption does not presuppose that all individuals *will* behave opportunistically, given the chance. Rather the *ex ante* determination of which individuals will do so is impossible. Consequently, economic actors must recognise the threats posed by opportunism and "give and receive credible commitments" to limit the risk (Williamson 1996a, p50). Credible commitments are means to ensure contractual performance, in other words, to reduce the risk of opportunistic behaviour by one party to the contract. Such commitments work to better align the incentives of transaction partners so that compliance with the terms of the contract maximises the returns of both partners.<sup>32</sup> In the context of the 'ownership transaction', transaction-specific capital investments undertaken to generate credible commitments include the collection and transmission of monitoring data to owners (eg. audits, reports) and performance-based compensation schemes.

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<sup>32</sup> The key feature of a credible commitment is an investment in transaction-specific assets. Investments in such assets must produce a flow of expected future rental income with a net present value greater than the short-term wealth increase expected from contract violation. Opportunistic exploitation of the trading partner must lead to termination of the contract and loss of the expected future income stream. The investments must be largely non-salvageable, ie. not transferable to other uses in the event of contract termination (Klein and Leffler 1981). Williamson (1983) has characterised credible commitments as 'hostages' posted as an assurance against 'hold-up'. Credible commitments provide an often-cheaper alternative to institutional enforcement of contract performance. Institutional enforcement mechanisms include the legal system, formal arbitration or mediation processes, government regulations, sanctions like deregistration (eg. from professional bodies) or loss of membership of private markets (eg. the stockmarket), and explicit, legally enforceable guarantees of quality (eg. warranties). See Jensen and Meckling (1976), Klein and Leffler (1981), Williamson (1983), Jensen (1986), and Wills and Harris (1994).

Mayers and Smith (1986) argue that restrictions on the range of business activities undertaken by a firm can constitute a credible commitment, or bonding mechanism, by management. They suggest that mutual companies will be most efficient if their operations are limited to business activities offering low scope for discretion. The implication is that restricting company operations to "low discretion" activities provides a credible commitment to mutual owners that managerial scope for opportunistic exploitation of their discretionary powers has been minimised. As noted in Part One of this chapter, managerial opportunism is a potentially more serious problem in mutual than in stock companies due to the lower level of external monitoring and greater difficulty in transferring corporate control.

However, Mayers and Smith fail to elucidate the process or impetus for discretion-reducing decisions. Novaes and Zingales' (1995) argument that managers have discretion to choose the firm's capital structure in pursuit of their own objectives applies with equal force to management choice of business activities, particularly when external pressures aligning such choices with owner preferences are low, as in a mutual company. Management-implemented restrictions on activities may simply reflect opportunism; low discretion operations allow for lower management effort and safeguard management tenure by decreasing business risk. Alternative explanations are financing constraints deriving from limited access to external capital and regulatory restrictions on activities. These options are considered further in section 2.8 and in Chapters 3 and 4.

## **2.6 Trust and Cooperation in Mutual Companies**

Transaction cost economics' key behavioural assumption of opportunism has been widely criticised, particularly in the management literature, as too negative a view of human motivation. Exclusion of positive motivations such as honesty and altruism may lead to "dangerous" errors in organisational design, according to Ghoshal and Moran (1996). They argue that transaction cost economics, by ignoring the capability of organisations to foster cooperation among employees (Moran and Ghoshal 1996, p69), fails to recognise the "unique advantages [of organisations] for governing certain kinds of economic activities" (Ghoshal and

Moran 1996, p13). Furthermore, the monitoring, hierarchical controls and sanctions recommended by a transaction cost approach create an atmosphere of distrust, damaging motivation and encouraging opportunistic behaviour (Ghoshal and Moran 1996, p24; also Moschandreas 1997, pp42-43). The standard transaction cost approach, from this point of view, overstates the bureaucratic costs of internal coordination by ignoring the offsetting gains from cooperation. Thus, a Coasian comparison of the costs of market transacting, against the bureaucratic costs of coordination within a firm, would overstate the number and type of transactions efficiently placed within the sphere of market transacting.

Standard theory emphasises the costs of team production within a firm that derive from the potential created for shirking by opportunistic team members. The main benefits from teamwork are seen to come from specialisation and coordination. Ouchi (1980) considers an alternative type of team, which he terms a "clan". Clans are defined by goal congruence, solidarity, and trust, and their "[c]ommon values and beliefs provide the harmony of interests that erase the possibility of opportunistic behaviour" (Ouchi 1980, p138). Goal congruity overcomes the problem of shirking and other opportunistic behaviours permitted by "performance ambiguity", where individual contributions to production cannot be clearly separated out from the contributions of other team members. The cooperative teams of employees envisaged by Ghoshal and Moran and others bear similarities to Ouchi's clans. Some degree of goal congruity appears to be a precondition for cooperation.

Rose-Ackerman (1996) and Hansmann (1996) hold that a combination of altruism, monitoring difficulties, and information asymmetries advantage non-profit organisations over other organisational forms in the provision of some types of services. These organisations' lack of a profit motive protects clients and patrons where there are severe informational asymmetries that prevent them from measuring and assessing performance. While non-profits are not barred from earning profits, they cannot distribute profits to anyone exercising control over the firm. Profits must be retained for financing the organisation's services, reducing incentives for opportunistic use of excess earnings and for increases in the surplus at patrons' expense. Rose-Ackerman asserts that absence of a profit motive

signals a commitment to service quality (1996, p720-21) – a form of credible commitment inherent to the non-profit organisation. However she also recognises greater scope for managerial opportunism in these organisations, and even considers their consequent inefficiency and unresponsiveness to be a potential advantage in resisting conflicting political demands (Rose-Ackerman 1996, p717). The apparent contradiction in these two assertions suggests that the benefits from lack of a profit motive may well be dissipated by opportunistically attained managerial benefits and shirking. In answer to this risk, she claims that the ideological basis of many non-profit organisations can enhance motivation and commitment from employees (Rose-Ackerman 1996, p719). Ideology, including altruistic concerns, provides the congruence in goals demanded by Ouchi's model. An important caution, however, is that:

*although entrepreneurs may choose the non-profit form to make their altruistic motives credible, the sector's 'aura' may be misleading. The non-profit form can sometimes mask private profit-seeking activities. ... The risk of such opportunistic behaviour will be more important the greater the public subsidy provided to nonprofits and the more regulatory constraints favour nonprofits. (Rose-Ackerman 1996, p721)*

Presumably the profits earned must be taken through opportunistic behaviour since the organisational form prevents their direct payment to any stakeholders. The importance of government interventions in shaping choice of ownership structure is discussed in Chapter 3.

Williams (1986) suggests, referring to Australian credit unions, that altruistic behaviour within mutual organisations minimises agency costs. By removing or reducing the risk of opportunistic behaviour, altruism generates trust among mutual members, and between members and management. Control mechanisms in mutuals are expected to benefit in a number of ways (Williams 1986), although only the last of these relates in any way to altruism:

1. Monitoring of performance may be facilitated because the policyholders' own use of the mutual's products is a key factor in its performance (using



Williamson's terminology, this would reduce environmental uncertainty and increase transaction frequency).<sup>33</sup>

2. Owners can withdraw their assets, which are redeemable claims (citing Fama and Jensen 1983a; 1983b).
3. Bonding among the mutual's owners will facilitate joint action to monitor and control management, reducing the costs of such collective action.

Each of these 'control mechanisms' is problematic. For medium to large financial mutuals, each member's share of total business would be so small as to constitute an unreliable guide to overall company performance. The limitations on redeemability of claims in mutual life insurance companies were highlighted in section 2.2.3. Rather than altruism, Williams' bonding of members implies the existence of Ouchi's definition of a "clan", characterised by common values, solidarity, and "a harmony of interests". The extent of such bonding between members is questionable for mutuals of any substantial size, since heterogeneity of interests could be expected to increase and degree of personal contact diminish with an increasing number of members. Even if group members shared substantial common interests, the free rider problem would generally deter any significant collective action. In the words of Olson,

*unless the number of individuals in a group is quite small, or unless there is coercion or some other special device to make individuals act in their common interest, rational, self-interested individuals will not act to achieve their common or group interests.*" (Olson 1965, p2, original emphasis)

The cooperation and coordination among individuals emphasised by Moran and Ghoshal are more likely *within* organisations, where personal relationships are established through close contact in a (small) team, than in Williams' context of a large group of unrelated owners without personal contact.

Bonus (1991) studies the historical record of rural credit cooperatives and concludes that cooperation can reduce transaction costs by improving access to local, or specific, information. Knowledge of the required information (on

<sup>33</sup> Hansmann makes a similar point that "patrons are likely to accumulate information about the firm simply as a by-product of transacting with it", and that their monitoring costs "will generally be inversely proportional to the importance, frequency, and duration of the patron's transactions with the firm" (Hansmann 1996, p36).

creditworthiness), and the trust needed to share the information with other members, were both based on personal relationships among the members. Again, extensive personal relationships among the members of large twentieth century financial mutuals are highly improbable.

### **Part Three Empirical Evidence on the Relative Efficiency of Mutual and Stock Ownership**

Diversity of ownership structure among insurance companies has been widely researched, particularly in the US life insurance industry, since it apparently contradicts the prediction that minimisation of transaction costs will determine the most efficient ownership structure for a particular business activity. Empirical comparisons of overseas mutual and stock insurance company efficiency can be classified into three main approaches – efficiency comparisons, investigations of restrictions on managerial discretion, and analyses of the motives for ownership structure changes.

#### **2.7 Efficiency Comparisons**

Spiller (1972) compared the performance, as measured by growth in assets and in net premium income, of 19 stock and 27 mutual life insurance companies operating under the same US regulatory environment over 15 years (1952-66). Better performance was found to be associated with stock companies than mutuals. In particular, stock companies had faster growth rates and a different product mix: "the policies emphasised by the stock companies offer the possibility of faster growth with greater risk" than mutuals (Spiller 1972, p22). Spiller concluded that "[m]utualisation provides a refuge for companies with decreased vigour" (1972, p23).

In a more recent study, Boose (1988; 1990) pooled cross-sectional US data through 19 years (1966-1984) for 41 large diversified life insurance companies to test a model of general insurance expenses as a function of output, form of organisation (stock or mutual), and regulator. The study found expenses were significantly higher (around 12 percent more) for mutual companies than for stock companies. The difference could not be conclusively attributed to higher agency costs in mutuals because higher mutual expenses were partly offset by lower

commissions paid to sales agents compared to stock companies. This finding suggested either that stock companies are more growth-oriented than mutuals and paid higher commissions to encourage new business growth, or that mutuals' remuneration packages for their sales agents included lower commissions but higher benefits than stock companies. Higher benefits would have boosted mutual expenses.

Average expenses were lower for mutual companies under the more competition-oriented New York regulatory jurisdiction. This finding supported Boose's hypothesis that effective regulation partly substitutes for shareholder monitoring.

## 2.8 Managerial Discretion

Several studies test the hypothesis that mutual companies concentrate in activities offering less scope for managerial discretion or restrict their discretion through other bonding mechanisms. Findings did not clearly support this theory.

Mayers and Smith (1994) test the managerial discretion hypothesis for closely held, widely held and mutual-owned stock companies in the US property liability insurance industry.<sup>34</sup> Using 1981 data for over 1,000 companies by 26 lines of business, they performed pair-wise tests of companies' allocations of business across lines of insurance, and regression analysis for the different classes of stock company, to test whether provision of particular business lines is correlated with ownership form. Both tests found that type of ownership structure is significantly associated with differences in product mix. Mutual-owned stock companies' average product mix was found to exhibit the least potential for discretion, with the greatest offered by the Lloyd's associations and closely held stock companies.<sup>35</sup> They also concluded that variations in taxes and regulation have a major impact on industry ownership structure (Mayers and Smith 1994, p653).

Lamm-Tennant and Starks (1993) also test the managerial discretion hypothesis, using riskiness of business income to measure discretion.<sup>36</sup> The study examined

<sup>34</sup> Ownership was classified according to concentration of ownership and whether ultimate ownership was by other insurance companies.

<sup>35</sup> Loss-to-premium ratios were used as a proxy for discretion, with higher ratios suggesting lower discretion.

<sup>36</sup> Riskiness of business activities is proxied by the variance of the loss-to-premium ratio.

1980-87 data for 79 stock and 91 mutual property liability insurers, both on an aggregate firm basis and by 26 lines of business and over 50 geographic areas in the US. The comparisons indicate that stock companies have, on average, riskier business operations than mutual firms and greater concentration in lines of business and in states with greatest total risk. There is some evidence that stock ownership is more common in states with less interventionist regulatory environments that permit more competition between insurers. Lamm-Tennant and Starks concluded that the evidence is consistent with the hypothesis that mutuals concentrate in activities that limit managerial discretion.

Pottier and Sommer (1997) apply similar tests of the managerial discretion hypothesis to the US life insurance industry, using a 1991 sample of 829 stock insurers and 160 mutual companies, including mutual-owned stock companies. Their results were mixed, offering only limited support for the contention that stock companies operate in riskier business lines. No statistically significant relationship was found between ownership form and (i) the share of permanent life insurance business,<sup>37</sup> (ii) the share of annuity business, (iii) line-of-business concentration, or (iv) geographic concentration, contrary to theoretical predictions. However strong positive correlations were found between mutual ownership and both insurer age and stringency of the regulatory environment.<sup>38</sup> Pottier and Sommer concluded that "managerial discretion is clearly not the sole factor in explaining ownership structures in the life insurance industry" (1997, p541).

A finding that mutual companies tend to operate in lower risk activities does not necessarily indicate bonding behaviour. Alternative explanations, such as management pursuit of the 'quiet life' or constraints placed on mutuals' expansion into more risky activities by lack of access to external capital, were not considered in the three US studies.

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<sup>37</sup> My hypotheses, discussed further in Chapters 4 and 5, relate mutual ownership structure to the share of permanent life insurance business. By 1991, the industry share of permanent life insurance policies had become too small in Australia to support mutual specialisation in these policies. If the US experience was similar, this could explain the absence of any significant correlation based on 1991 data.

<sup>38</sup> Mutual insurers' age may be correlated with the size of their capital reserves since reserves are accumulated slowly over time.

Blair (1991) tests the managerial discretion, or 'line-of-business', hypothesis for the Australian life insurance industry. He predicts that mutuals will specialise in, and dominate the market for, traditional permanent policies (ie. whole of life and endowment assurances) while stock companies will dominate the market for term life insurance policies. Neither ownership form is expected to have a relative advantage in offering insurance bonds. An historical analysis of the early development of life insurance firms reveals that mutual companies tended to be *relatively* more successful than stock companies in selling traditional policies and less successful in selling term life insurance and industrial life insurance policies.<sup>39</sup>

Blair also compared the average product mix and product market shares of mutual and stock companies using cross-sectional data for 1970 and 1989. The 1970 data do not support Blair's hypotheses. While there was weak evidence that mutual companies' business was more concentrated in traditional life insurance policies, mutuals dominated *all* business lines for both in-force and new sums insured.<sup>40</sup> Findings from the 1989 sample are more supportive of the 'line-of business' hypothesis. With a two-thirds share of the market, mutuals dominated sales of traditional policies while stock companies held over half of the market for term life insurance policies. Their product mixes showed a consistent pattern with mutuals holding, on average, twice as much in-force business in traditional policies than stock companies held. No significant differences were evident in sales of insurance bonds between mutual and stock companies (although bonds sold by mutual companies tended to be higher in value). Blair concludes:

*The findings suggest that even in today's regulated environment there is an association between product line and ownership structure in the way hypothesised, ie. mutuals specialise in, and dominate the market for, traditional permanent life business. ... There is weaker evidence that [stock] companies specialise in, and dominate the market for, term life policies. (Blair 1991, p160)*

However, a major difference between the 1970 and 1989 findings, which is not accounted for in Blair's study, is the overall decline in mutual dominance of the life insurance industry. Until the 1970s, mutual companies dominated most

<sup>39</sup> Blair examined two periods – the 1830s-1886 when the industry was unregulated and untaxed and the 1870s-1920 when industrial life insurance policies were introduced.

<sup>40</sup> Mutuals held around 70 per cent of total market share (Blair 1991, p149).

business lines in the industry. Stock companies' early dominance of the industrial life insurance market, highlighted by Blair as supportive of his hypothesis, was in fact short-lived – by 1920, mutuals held 64 per cent of industrial policies in-force. Mutual companies similarly overtook stock companies in the term life insurance market; their share of the market exceeded that of the stock companies shown in Blair's 1970 data. By 1989 the mutual share of the term life insurance market had declined below that of the stock companies. Blair fails to consider changes in the industry environment during the 1970s and 1980s that would account for the mutuals' relative decline. Chapter 5 identifies the main causes of the decline in mutual companies' share of the industry since 1970.

Blair touches on a potential explanation in terms of mutual companies' poorer access to capital relative to stock companies. He suggests that "the financing disadvantages of the mutual form" might explain mutuals' early lack of success in the industrial life insurance market where large new business expenses must be incurred to enter the market (Blair 1991, p130).<sup>41</sup> He alludes to, but discounts, the possibility that differential capital access could influence companies' product mixes:

*larger firms may write more long-term business as they have greater reserves in place. Because Australian mutuals are, on average, considerably older and larger than [stock] companies, this could result in their policy structure being as predicted [according to the 'line-of-business' hypothesis] .... Consequently, these size and age correlations could potentially confound the results. (Blair 1991, p141)*

Blair's attempts to neutralise age and size differences do not effectively remove the impact of capital availability on companies' specialisation in different product lines. The product mix of new business will reflect the magnitude of accumulated reserves if companies with low reserves cannot finance the new business expenses of policies with large establishment costs. Alternatively, companies with substantial reserves might specialise in products necessitating heavy new business

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<sup>41</sup> Industrial life insurance policies were typically whole-of-life policies with very low sums insured. Insurance agents collected premiums door-to-door generally on a weekly basis, incurring significant sales and administration costs (Blair 1991, p113-114; Gray 1977, p98). Early in their development mutuals lacked large accumulated reserves to finance these expenses. According to Gray, "[t]he pioneering of Industrial business, therefore, fell largely to proprietary [ie. stock] companies which had capital with which to meet the considerable expenses of the formative years. When the big established mutual companies entered the field, they borrowed heavily from their Ordinary branches." (Gray 1977, p98)

expenditures since more advantageous access to capital imparts a relative advantage. Constraints on capital availability and flexibility could further influence product mix by slowing companies' responsiveness to changed market conditions. Mutual companies' reliance on internal sources of finance, rather than limitation of managerial discretion, could explain their slowness both to enter the industrial life insurance market and to shift away from traditional policies during the 1970s and 1980s. Consequently Blair's finding that mutual companies were more concentrated in traditional life policies than were stock companies cannot be taken as unambiguous proof of managerial bonding since capital availability may be biasing companies' choice of product mix.

Adams and Hossain (1996) used cross-sectional 1991-1993 data from New Zealand's relatively unregulated life insurance industry to test whether mutual company managers bond themselves to restrict opportunities for managerial discretion. Possible bonding measures tested in their (preliminary) study are:

1. investments in specific assets (as credible commitments or 'hostages');
2. reinsurance contracts (which subject the company to external monitoring);
3. employment of "surrogate monitors of policyholders' interests" like actuaries and non-executive directors (Adams and Hossain 1996, p25); and
4. limits on firm size to facilitate monitoring.

While mutuals, as hypothesised, had higher asset specificity than stock companies (though the variable was only marginally significant), stock companies were more reinsured, had higher governance expenses, and were smaller than mutuals in contradiction to predictions. Several comments can be made about these findings. First, investments in property and fixed assets may relate more to investment strategy or empire-building by managers than generation of credible commitments. The firm-specificity of such assets is questionable given their highly marketable nature.<sup>42</sup> Second, stock companies' greater use of reinsurance may reflect a different product mix, in particular provision of more risky products.

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<sup>42</sup> For particular asset investments to form credible commitments, they must provide a stream of future benefits as long as the transaction relationship continues, and have much less, or no, value if the contract is terminated.

Alternatively, mutual companies with large accumulated reserves and little pressure to maximise earnings on reserves may prefer to provide prudential backing for their policies from internal reserves than to buy reinsurance, even when the opportunity cost of holding larger reserves exceeds the reinsurance premiums. Chapter 4 discusses reasons why mutual managements may wish to hold large reserves. Third, higher governance expenditures by stock companies may reflect greater control expenses due either to the riskier nature of the product mix or to greater efforts to satisfy the governance demands of shareholders (Adams and Hossain 1996, p28).

## **2.9 Motives for Mutualisation and Demutualisation**

Mayers and Smith (1986) and McNamara and Rhee (1992) investigate the motives for mutualisation and demutualisation respectively, with contradictory conclusions. However the results of both studies provide some support, although not conclusive, for the contention that managerial turnover and premium and asset growth are all lower in mutual companies.

Mayers and Smith (1986) consider two competing hypotheses – efficiency versus expropriation (ie. opportunism) – in their study of 30 stock life insurance companies that mutualised between 1879-1968 in the US. While some of the mutualisations were either involuntary (due to company reorganisation) or motivated by tax and/or regulatory considerations, the authors did not believe that the results would be distorted to any great degree. However regulation has been found in other studies to be a significant factor in determining choice of ownership form (eg. Boose 1988; Lamm-Tennant and Starks 1993; Mayers and Smith 1994).

The study compared changes in stock prices, premium income, types of policies in force, lapse ratios, and management turnover in the 5 years prior to and (except for stock prices) the 5 years following mutualisation. Mayers and Smith found that “the rate of growth of premium income from policyholders remains unchanged, stockholders receive a premium for their stock, and management turnover declines” (1986, p73). They concluded that since “no group of claimholders systematically loses” (1986, p73), and stockholders and policyholders must vote in favour of the change in structure for it to occur, then



mutualisation must be efficiency-enhancing. This conclusion assumes that: (i) management and most policyholders are equally well-informed about the implications of the change; (ii) most policyholders actually used their vote (despite the potential free-rider problem); and (iii) voting rules did not allow a small majority, or even a minority, of policyholders benefiting from the change to outvote losing policyholders. Public choice theories of voting and decision making have questioned whether these conditions always hold.<sup>43</sup>

Mayers and Smith point out several other problems with the interpretation of their findings. First, they admit that there is evidence that

*mutualisation hurts old policyholders while benefiting new policyholders. ... [furthermore] if the 'lock-in' effect imposes a large penalty, as it may have especially during the early period of our analysis, lapse ratios could be relatively insensitive to policyholder dissatisfaction. (1986, p85)*

Second, if firms with low shareholder concentration prior to mutualisation are separated from those stock companies with concentrated ownership, companies with dispersed share ownership show a significant decline in the growth of premium income relative to the industry average after the mutualisation process is started (Mayers and Smith 1986, p94). This evidence supports the contention that the threat of takeover is effective in boosting performance for companies with dispersed share ownership. When this threat is removed by mutualisation, performance is seen to deteriorate compared to other firms in the industry, suggesting opportunistic behaviour by managers. Third,

*the turnover evidence is consistent with the existence of benefits for the management team at the time of mutualisation approval. It is also, and perhaps more strongly, consistent with the hypothesis that the market for corporate control is a less effective disciplining mechanism subsequent to approval. (Mayers and Smith 1986, p90)*

In summary, Mayers and Smith's conclusion that mutualisation was efficiency-enhancing is unconvincing. Their evidence seems to suggest more strongly that efficiency declined following mutualisation, with a major benefit of mutualisation being improved employment security for management. Former shareholders

<sup>43</sup> See, for example, Cheung (1989); Farber and Frickley (1991); Easterbrook and Fischel (1983); and Peltzman (1990).

received a premium for the transfer of control rights. These benefits for managers and former shareholders were apparently obtained at the expense of policyholders.

This conclusion is compatible with the results obtained by McNamara and Rhee (1992) from their US study of the pre- and post-demutualisation performance of 33 legal reserve life insurers that demutualised between 1902-1986. The study employed similar comparisons to those used by Mayers and Smith – changes in premium income, product mix, lapse rates, and management turnover – as well as changes in capital and surplus, admitted assets, and operating expenses, in the 5 years prior to and following demutualisation.

The study found that demutualisation improved efficiency. Premium income growth and lapse rates showed no significant deterioration following demutualisation. Capital and surplus increased significantly in the three years after demutualisation, while average growth in admitted assets improved (though not significantly). The operating expense ratio declined (though again not significantly). Management turnover increased significantly after demutualisation was approved. McNamara and Rhee concluded that the main benefits from demutualisation derive from improved monitoring of management and access to equity capital.

### **2.10 Summary of Empirical Evidence**

Several of the overseas studies find evidence of lower efficiency in mutual insurance companies (Boose 1988; 1990; Mayers and Smith 1986; McNamara and Rhee 1992). Three studies indicate that mutual companies are less concentrated in the faster-growing, higher-risk business lines (Boose 1988; 1990; Lamm-Tennant and Starks 1993; Spiller 1972). The contention that mutual managers bond themselves to limit their scope for discretion is not unambiguously supported by Mayers and Smith's (1994), Lamm-Tennant and Starks' (1993), Pottier and Sommer's (1997) or Blair's (1991) results and is contradicted by Adams and Hossain (1996). A clear conclusion from the studies is that regulation has a significant impact on choice of ownership structure (Boose 1988; 1990; Lamm-Tennant and Starks 1993; Mayers and Smith 1994; Pottier and Sommer 1997).

Mutual companies' lower growth-orientation and concentration in less risky business lines than stock companies can be interpreted as support for two alternatives to bonding activities. First, mutual managers may be using their discretion to pursue the 'quiet life' (ie. shirking). The evidence of lower management turnover in mutual companies (Mayers and Smith 1986; McNamara and Rhee 1992) gives some weight to this proposition. Second, mutual company expansion and provision of higher-risk products may be constrained by lack of access to external capital, as implied by McNamara and Rhee's (1992) conclusions and suggested in passing by Blair (1991). The impact on relative performance of the differential capital access of mutual and stock companies was not specifically considered by any of the studies.

### 2.11 Summary of Chapter 2

The balance of both theoretical and empirical comparisons of mutual and stock ownership suggests that mutual ownership is less efficient than stock ownership. Mutual ownership both raises the costs of monitoring by owners and reduces the incentives to do so. While mutual ownership solves one incentive conflict problem, that between policyholders and shareholders, it worsens two other incentive conflicts, those between policyholders and managers and between different groups of policyholders. Suggestions that bonding among mutual members reduces transaction costs and incentive conflicts by promoting cooperation, trust, or altruistic behaviour are unconvincing for large financial mutuals. Hypothesised restrictions on managers' own scope for discretion in mutual companies have theoretical problems and lack clear empirical support.

The conclusion from the literature that mutual companies are less efficient than stock companies derives largely from the application of the conventional theories to the first two distinguishing characteristics of the mutual ownership form, ie. non-transferability of ownership rights and non-separability of the customer and owner roles. The third characteristic of mutual companies – their inherent inability to raise equity capital – has received much less attention in studies of ownership form. This relative lack of attention is somewhat surprising given the extensive analysis of the impact on real firm performance of different internal and external sources of finance. I argue that the effect of differential capital access on

companies' capacity to grow and compete helps to resolve the apparent contradiction between the literature's finding of mutual inefficiency and the long history of mutual and stock company coexistence in Australian and overseas life insurance industries.

Chapter 3 examines the main explanations proposed for the persistence of economic inefficiencies, including inefficient government regulations, inertia in adjustment processes, inefficient feedback mechanisms, and first mover advantages. Inefficiencies in access to capital are highlighted and deficiencies in the main theories relating capital access to ownership structure are identified. Chapter 4 subsequently models capital access as a function of ownership structure and a number of exogenous variables, addressing the deficiencies of existing capital access theories.

### **CHAPTER 3: ALTERNATIVE EXPLANATIONS FOR THE LONG HISTORY OF MUTUAL OWNERSHIP**

The theoretical and empirical findings presented in Chapter 2 make a strong case that mutual companies are significantly less efficient than stock companies in the provision of life insurance services. This chapter reviews several theories that may explain how mutual companies were able to dominate the Australian industry for a prolonged period of time despite competition from stock companies.

The institutional framework of the economy determines the environment in which firms operate. Particular institutions may be inefficient or sub-optimal in the sense that the incentive structures they create lead to higher costs, less consumer choice, or less responsiveness to changes in supply and demand conditions – in other words, technical, allocative and dynamic inefficiencies – than would be generated under an alternative institutional framework. North (1991) defines the institutional environment as comprising informal institutions such as sanctions, customs, traditions, and norms, and formal institutions like constitutions, laws, and property rights.<sup>1</sup> The structure of transaction costs created by sub-optimal institutions makes socially inefficient behaviours 'optimal' for individual firms. Such inefficient behaviours may include operating under an inefficient ownership form.

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<sup>1</sup> The institutional environment is discussed briefly in Chapter 2, section 2.1.4. For a more detailed treatment, see for example Eggertsson (1990), North (1990a; 1990b; 1991), Pratten (1997) and Williamson (1993).

Another source of institutional sub-optimality is path dependency. The development of new ownership forms and other institutions is constrained by current arrangements (Hallpike 1996, pp687-688; Hodgson 1991; Magnusson and Ottosson 1996; Nelson and Winter 1982; Setterfield 1993): "Past institutions are instrumental in creating a subsequent economic environment from which new institutions originate" (Setterfield 1993, p766). Path dependencies tend to introduce inertia into adjustment processes. Features of the economic environment that generate path dependencies include vested interests, entrenched power relationships, first mover advantages, and long-lived reputational assets (Bennett 1996). Bounded rationality and risk aversion also cause existing institutions to shape choice of future governance structure. Capital market inefficiencies are another source of path dependency, which have received comparatively little attention. Path dependencies may sustain an existing ownership form for some time after a decline in its relative efficiency.

### **3.1 The Legal and Regulatory Environment**

Laws and government regulations are important components of the institutional framework of an economy. Regulation was found to be a key determinant of ownership form in the empirical studies discussed in Chapter 2, Part Three.

Two theories of government regulation reject any suggestion that regulations might support inefficient ownership forms. The 'public interest' theory of regulation assumes that regulations are enacted solely to correct for market failure. As such, all regulations are efficiency-enhancing; they do not generate or support inefficient ownership forms. 'Private interest' theories reject the assumption that the public interest drives the supply of regulation and instead emphasise pressure groups' incentives to induce political actors to enact regulations favourable to them. The government's legal power to alter property rights creates the potential for regulation to form a more potent and durable method of wealth transfer than alternative private means. Despite the difference in the assumed goal of regulation, the 'Chicago school' perspective on 'private interest' theories agrees with the 'public interest' view that regulations are efficient.

The 'Chicago school' sees the regulatory process as an efficient mechanism for effecting wealth redistribution, that is, policymakers choose the optimal regulations to achieve wealth transfers that maximise both political support and economic efficiency (Becker 1983; 1985; Stigler 1971). Regulation-induced deadweight losses are minimised and any market failures are corrected at the same time. However, regulatory efficiency obtains because all groups affected by regulation are assumed to be fully aware of all regulatory costs and benefits and to act to maximise their own interests (Mitchell 1989; Peltzman 1990; Wittman 1989). In other words, the conclusion that inefficient ownership forms cannot result from sub-optimal regulatory measures rests on two critical assumptions – full information and an absence of free rider problems. The body of literature reviewed in Chapter 2 suggests that these assumptions do not generally hold.

The 'Virginia school' perspective, in contrast, emphasises inefficiencies in the political 'market' for regulation. Bounded rationality and information asymmetries, transaction and agency costs, collective action costs, and the free-rider problem all contribute to the presence of inefficiencies (Cheung 1974; Coate and Morris 1995; Crew and Rowley 1988; Olson 1965; Tullock 1990). Under these circumstances, individuals adversely affected by regulation may remain rationally unaware of their losses since the costs of ascertaining and then lobbying against the losses exceed the expected benefits. The extent of wealth transfers made through explicit direct subsidies is much easier to identify than those made indirectly through regulatory means. Opportunism leads pressure groups to seek wealth transfers through regulatory measures in order to hide the extent of the transfer from the losers and thus minimise their opposition. Numerous case studies support the 'Virginia school' view that regulation often results in large economic inefficiencies and deadweight losses.<sup>2</sup>

Under the 'Virginia school' view, sub-optimal laws and regulations can support the continued survival and success of inefficient ownership forms. Bestowing an advantage on a particular ownership form may be a goal of regulation or it may be

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<sup>2</sup> For example, Jakee and Allen (1998) for Irish road and rail transportation, Marcus (1990) for the US road, rail and air transport and energy industries, Merrett (1997) for the Australian finance industry, Pasour (1992) for the US sugar industry, and Vietor (1994) for the US air transport, gas, telecommunications, and finance industries.

an unintended side effect of regulations aimed to achieve other goals.<sup>3</sup> Regulation prompts changes in ownership structure, financing techniques, or product offerings for two reasons: (i) to take advantage of regulation-induced transfers; or (ii) to circumvent regulatory restrictions.

One of the main ways regulations achieve their wealth redistribution aims is by raising entry barriers to an industry. The resultant weakening in competition allows prices to be held at an artificially high level, ie. above the costs of production in a competitive environment. Production costs are also higher in many, if not most, regulated industries due to the use of inefficient production technologies or to rent-seeking expenditures (see eg. Tullock 1990). Tax concessions are another, more obvious, means of transferring wealth.

The regulatory and taxation environment within which Australian life insurance companies have operated offers one potential explanation for the long success of mutual companies. Chapters 4 and 5 analyse the impact of the regulatory and tax environment on ownership of Australian life insurance companies.<sup>4</sup>

### 3.2 Inertia and Inefficient Feedback

Recent evolutionary theories challenge the earlier view that economic 'natural selection' processes would permit only efficient firms to survive in an industry (eg. Alchian 1950).<sup>5</sup> Current theories emphasise that adjustment processes may be characterised by long lags. Substantial inertia may derive from attempts by vested interests to maintain existing power relationships (eg. Dietrich 1994; Dugger 1990; Hallpike 1996; Nelson and Winter 1982, pp110-111; Pratten 1997; Vanberg 1996). Furthermore, in sharp contrast to the randomness of genetic mutations in the natural environment, economic innovations may not occur unless prompted by external pressures (Hallpike 1996; Vanberg 1996; Witt 1996). Bounded rationality

<sup>3</sup> Karpoff and Rice (1989) directly examined the consequences of regulatory interference in ownership rights in their analysis of the impact of non-transferability of shares imposed by regulation on Alaska Native Claims Settlement Act (ANCSA) corporations to prevent the sale of shares to non-natives. They found these corporations "have poor financial performance, a high incidence of costly disputes over firm policy, and high turnover among directors and managers" ensuing directly from the share transferability restrictions (Karpoff and Rice 1989, p70).

<sup>4</sup> The aims and decision processes underlying the history of Australian life insurance regulation will not be investigated in this thesis.

<sup>5</sup> Fama and Jensen (1983a) draw on Alchian's evolutionary theory to argue that the long coexistence of mutual and stock companies in the finance industry attests to their equal efficiency.



leads to choice of organisation structure being driven by satisficing behaviour (Masten 1993; Nelson and Winter 1982, p42; Roberts and Greenwood 1997; Weise 1996). Competitive pressures in the product market will determine both the degree to which the 'satisfactory' structure fails to match best-known practice and the speed of adjustment to changes in the institutional environment. Inefficient structures can persist for extended periods with chronic dissatisfaction permitted by less than perfect competition in product and capital markets. A sufficient build-up of dissatisfaction, or a sudden crisis, may be needed to precipitate the search for a more efficient structure (Nelson and Winter 1982, p122; Roberts and Greenwood 1997; Thompson and Wright 1995; Witt 1996). This process explains "why economic evolution is not steady, but is characterised instead by alternating phases of stasis and of rapid change" (Witt 1996, p711).

Awareness of the potential benefits from a change in ownership form depends on the information received by those monitoring the organisation's performance. Inefficient feedback about organisational performance can support perceptions that performance under existing institutional arrangements is satisfactory and facilitate the persistent survival of inefficient institutions (North 1990a; Weise 1996; Williamson 1993, pp112-113). Less than perfect competition in product and capital markets can obscure the full consequences of some economic actions, leading to inefficient feedback to individuals and to firms on their true performance (North 1990a, p8; Roberts and Greenwood 1997; Thompson and Wright 1995; Witt 1996). Non-separability of the owner and customer roles creates a particular feedback inefficiency intrinsic to the mutual ownership form. While purchases and redemptions of policies provide information to management on the competitiveness of specific products, feedback to management on policyholders' satisfaction with the *overall* direction and performance of the company may be extremely limited. In contrast, management of a stock company receives ongoing, albeit noisy, feedback on the stockmarket's assessment of the company's overall strategy and prospects through movements in the share price.

Poor performance feedback and inertia in adjustment processes can create path dependencies that maintain existing institutions, including established ownership forms. Changes in institutions are often incremental rather than sharply

discontinuous with old institutional arrangements (North 1990a, p10). Substantial organisational change such as conversion to a new ownership form might thus require both a sustained period of poor performance and the exhaustion of smaller 'at the margin' changes within the existing structure.

Successful completion of a large change by one organisation may reduce the uncertainty associated with comparable change by other organisations – a kind of 'demonstration effect' for similar change by other firms in the industry.<sup>6</sup> Observation of the initial change reduces information costs for the managers of firms considering change, for company owners voting on the change, and for stockmarket participants making judgements on the valuation of those companies. Thus by reducing the impact of bounded rationality, a 'demonstration effect' can weaken the constraint imposed by path dependency. Successful change by one firm thus improves the strategic position of those favouring similar change in other firms compared to those opposing such change.

An examination of inefficient feedback caused by the mutual non-separability characteristic is beyond the scope of this thesis. Investigation of the decision processes of the managers of mutual companies leading to demutualisation is also outside the limits of this thesis. Further research into these aspects of the Australian demutualisation experience may yield useful insights.

### 3.3 First Mover Advantages

First mover advantages create another type of path dependency (Mueller 1997). First mover advantages are entry barriers that raise the costs for subsequent entrants above those of the firm(s) first to provide the good or service (applying Stigler's (1971) definition of an entry barrier). A number of entry barriers have been identified as generating first mover advantages, such as scale and scope economies (Rao and Rutenberg 1979), investments in excess capacity (Barham and Ware 1993; Kim 1996), lower information costs resulting from experience of the market (Conrad 1983; Smiley and Ravid 1983), established reputation (Bain 1956), advertising cost advantages (Comanor and Wilson 1979), switching costs (Boose 1988, p76; 1990, p500; and Parsegian 1985, p44 discuss switching costs

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<sup>6</sup> Some examples of broader research into the 'demonstration effect' are Afxentiou (1979), Dekimpe, Parker and Sarvary (1997), James (1987), Kottis (1971), and McCormick (1983).

for life insurance policies), absolutely large capital requirements and product differentiation by incumbents (both noted by Shugart 1990, pp117-123).<sup>7</sup>

The broader literature on entry barriers and contestability of markets evinces a marked lack of agreement on what constitutes a barrier to entry (see Demsetz 1982, pp47-48; and Shugart 1990, ch.6, for comparisons of the alternative approaches).<sup>8</sup> Shugart rejects most of the factors put forward as entry barriers on the grounds that existing and new firms all face the same input costs and production technology. Five entry barriers of particular relevance to the life insurance industry will be considered here in turn:

- scale and scope economies,
- switching costs,
- product differentiation,
- investments in specific assets associated with entry, and
- large capital requirements.

Several empirical studies support the existence of significant scale, though not scope, economies in life insurance service provision. Grace and Timme (1992) find evidence of increasing overall scale economies in the US life insurance industry for all but the largest firms (which showed constant returns). Scale economies were most significant in accident and health insurance, saving products, and life protection policies for companies selling via insurance agents. McIntosh (1998) similarly found significant scale economies in the Canadian life insurance industry, estimating a scale factor of 1.45. Finsinger, Hammond and Tapp (1985, p96) found evidence of limited economies of scale for UK life insurance firms. Other studies mentioned by Grace and Timme (1992) and McIntosh (1998) give varying results, reflecting their differing methodologies. Estimates of scale and scope economies in life insurance are complicated by the

<sup>7</sup> Mueller (1997) and, in the marketing literature, Kerin, Varadarajan and Peterson (1992) summarise a number of economic and behavioural explanations for first mover advantage.

<sup>8</sup> An explanation for the lack of consensus in the categorisation of entry barriers is contained in Demsetz's (1982) paper. Demsetz asserts that any system of property rights creates entry barriers and imposes costs on others' rights to act as they choose.

problem of choosing an appropriate output measure. No recent estimates have been made of scale economies in the Australian industry. Praetz (1980) and Rutledge and Tuckwell (1974) disagree on whether or not significant economies of scale exist.

Switching costs were discussed in Chapter 2, section 2.2.3. Several features of traditional, long-term life insurance policies – their complexity, policy “lock-in” created by flat premium schedules and high entry and exit fees, and high search costs – generate large switching costs for these types of policies. Large switching costs deter policyholder monitoring and the transfer of business to cheaper insurance providers. Mueller suggests that first mover advantages confer greatest protection from competitive pressures when high switching costs create buyer inertia (1997).<sup>9</sup>

Product differentiation can either improve consumer choice or be undertaken to generate, or enhance, information asymmetries about product quality differentials. Baumol suggests that often product differentiation aims to create perceived product quality differences compared to potential entrants (Baumol 1982, p3). Thus, an empirical question is whether product differentiation by life insurance companies, particularly the bundling of saving and protection services,<sup>10</sup> aims to improve consumer choice or to create entry barriers by increasing consumer information and search costs.

Potential entrants may have to make large investments in specific assets in order to compete effectively with incumbents. Once made, these investments are sunk; that is, they cannot be recouped or transferred to alternative uses in the event of exit from the market. Baumol, Panzar and Willig identify sunk costs as a major deterrent to entry (1988, p xv). Shugart however rejects the notion that sunk costs form an entry barrier. His reasoning is that incumbents were once new entrants

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<sup>9</sup> Buyer inertia generates price-inelastic demand curves. Such inertia may result from consumers' specific investments associated with a particular firm's products, eg. time and effort expended in understanding a complex life insurance policy. A classic example is consumers' efforts in learning how to use the software supported by a particular computer manufacturer, which is not transferable to different software used by a competing computer manufacturer.

<sup>10</sup> The term ‘protection’ is used to describe insurance against certain contingencies (mainly death or disability) to distinguish these pure insurance elements of policies from the range of products offered by life insurance companies, many of which are purely vehicles for saving. See section 4.1 of Chapter 4 for details on types of life insurance policies.

and had to invest in specific assets; therefore all firms face the same cost curves (Shugart 1990, p124). Shugart's rejection of sunk costs' role as an entry barrier neglects two important factors. First, in contrast to potential entrants, incumbents' sunk costs are bygones and do not therefore enter into calculations of the costs of future activities (Baumol, et al. 1988, pp290-291).

Second, Shugart fails to consider the possible difference in industry conditions faced by current incumbents at their time of entry to the industry and those facing potential entrants now. Consider the case of an entrepreneur assessing entry prospects to a new or immature industry, where incumbents are small and possibly newly established, with low sunk costs. The entrepreneur must decide whether to enter the industry and make non-recoverable investments in specific assets despite uncertainty about consumers' response to a new product or new distribution method and about the success of a new production process. The risk of loss from unsuccessful entry is however limited by the relatively low investment in specific assets required to achieve the same operating costs as current incumbents or to attract consumer demand.

Next, consider a potential entrant calculating post-entry returns into an established industry dominated by large incumbents with *substantial* sunk costs that either lower their (variable) operating costs or promote buyer inertia. In this case, a potential entrant will have access to greater information about market and supply conditions although there may still be considerable uncertainty if it is introducing a markedly different product, distribution method or production process in order to compete with the incumbents. However the potential loss in the event of unsuccessful entry could well be much larger in this case. In order to achieve competitive operating costs or overcome buyer inertia, a later entrant might have to make a much larger investment in specific assets than the average initial investment made by each incumbent. Over time, the current incumbents may have added to their initial investment in specific assets through a series of relatively small investments. The lower magnitude of each discrete investment reduces the

risk of loss associated with each investment decision – in contrast to the much larger non-recoverable investment in specific assets facing a potential entrant.<sup>11</sup>

For large capital requirements to raise no impediment to entry, Shugart implicitly assumes that capital markets are essentially efficient and that prospects for new entrants are not afflicted by large information asymmetries. Shugart apparently excludes risk as a factor in determining entry. He rejects as a potential entry barrier advantages in capital access for established firms compared to new entrants on the grounds that the incumbents' cost advantage "disappears when capital costs are suitably adjusted for risk" (Shugart 1990, p119). However the greater the risks for potential entrants, the lower are their expected risk-adjusted returns from entry. When capital costs are higher to reflect higher risks, post-entry returns are further reduced.<sup>12</sup> Thus the opportunity to make a series of fairly small investments over time, to minimise both the risk of capital loss and the risk premium included in capital costs, could have conferred a first mover advantage on established incumbents that is no longer available to potential entrants.

Buyer inertia, rather than competitors' lower-cost production processes, is the major problem for potential life insurance companies since life insurance companies have relatively small fixed investments. Sunk costs result from expenditures designed to overcome buyer inertia, such as advertising and marketing. Where economies of scale are significant, new entrants may have to make substantial investments in specific assets directed at overcoming buyer inertia in order to reduce operating costs to a level comparable with incumbent firms.

### 3.4 "Capital Lock-In"

Hansmann identifies another aspect of capital access that may support mutual and non-profit firms' continued operation and expansion, despite lower efficiency than other ownership forms (1996, see pp240-241, 272-274, & 291-293). "Capital

<sup>11</sup> The greater the economies of scale in the industry and the larger the incumbent firms, the larger is the investment required by new entrants to achieve the same variable operating costs as incumbents.

<sup>12</sup> Inherent buyer inertia and cost advantages from 'learning by doing', described by Mueller (1997), could give incumbents an additional first mover advantage which further raises a potential entrant's risks.

lock-in", or over-capitalisation, refers to the situation where firms have accumulated large amounts of capital but they experience little pressure to use capital efficiently or to return excess capital to the firm's owners.<sup>13</sup> Capital is therefore available – at low cost in management's view – to finance continued growth despite negative net returns from such investment (comparing returns with the opportunity cost of capital). Hansmann attributes the motivation for excess capital accumulation to managerial opportunism designed to protect their employment tenure. The capacity to accumulate capital in this way results from lower monitoring of managers in mutual (and non-profit) companies and, most importantly, the absence of pressure from the takeover market to use capital more efficiently (Hansmann 1996, p293).

Low external monitoring and distorted management incentives encourage mutual managements to retain excessive amounts of internal funds and to invest them in expansion beyond the size that maximises returns to policyholders. Assuming capital market pressures limit investments by stock companies to those with positive net returns, mutual companies' "locked-in" capital supplies will allow them to grow larger than stock companies in the industry. Over-capitalisation underpins mutual ownership in two ways: (i) it reduces feedback to managers on performance and (ii) it creates a path dependency supporting established mutual companies with large accumulated reserves. In other words, the mutual company inefficiencies identified in Chapter 2 can actually advantage the mutual ownership form through greater access to capital.

While the converse problem of difficulty in obtaining sufficient access to capital has been discussed more widely in the literature (see section 2.4 in Chapter 2), Hansmann suggests that "capital lock-in" may be more significant, at least in its impact on ownership structure within an industry (1996, p291). However, while Hansmann nominates advantageous capital access as highly significant to the persistence of mutual (and non-profit) ownership forms, he devotes relatively little attention to it. Nor does he elaborate on his comment that the gradual decline of US mutual life insurance companies owes much to "problems involving

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<sup>13</sup> In non-profit firms, excess capital cannot be returned to the owners because there are no owners.

capital" (Hansmann 1996, p273), although these problems presumably result from under-capitalisation.

According to the under-capitalisation hypothesis associated with Myers and Majluf (1984) and Fazzari, Hubbard and Petersen (1988; 1996), constraints on some firms' access to external capital curb their investment capacity. A corollary of under-capitalisation is that under-capitalised firms will be unable to compete effectively with firms not restricted by inadequate capital supply and, over time, will experience a decline in their market share. Several researchers have pointed to the significance of greater capital needs in prompting demutualisation by mutual life insurance companies, for example Curiale (1993), Garber (1993), and Kopke and Randall (1991b) for the US and Needleman and Westall (1991, pp322, 326-327) for the UK. Covick and Lewis (1997) have argued that increasing needs for external capital have prompted Australian mutual life insurance companies to demutualise and list on the stockmarket:

*the capital structure of the mutual institutions does place limitations on their capacity for business expansion. Ownership by policyholders means that growth must come through policyholders' funds alone and cannot be augmented by capital raised through share issues. To get around this constraint, some mutuals are changing to shareholder companies (Covick and Lewis 1997, pp246-7).*

The Reserve Bank of Australia (1999) also attributes recent demutualisation in the life insurance industry to the constraint on mutuals' expansion potential imposed by limited access to capital. It states that the "prime reason for demutualisation was, in each case, to improve the institutions' access to capital markets" (Reserve Bank of Australia 1999, p3).

Although the literature has identified two different capital access inefficiencies, no clear account exists to explain how a situation of over-capitalisation can be transformed into the opposite situation of under-capitalisation. Without such an explanation, the process underlying demutualisation of mutual life insurance companies cannot be fully understood. A full understanding of the evolution of ownership structure in the life insurance industry requires answers to two key questions:



1. What type of industry conditions permits mutual companies to accumulate large amounts of retained earnings, ie. excess reserves?
2. What changes in industry conditions transform a situation of over-capitalisation to one of under-capitalisation, eventually causing mutual companies to demutualise?

To answer these questions, a model of capital access for mutual and stock life insurance companies is developed in the next chapter. The model identifies the industry supply and demand conditions that lead mutual companies to accumulate excess reserves. An alternative combination of demand and supply conditions is predicted to cause mutual companies' inherent capital-raising constraints to limit their growth capacity so much that demutualisation becomes inevitable.

### **3.5 Summary of Chapter 3**

This chapter canvasses a number of theories suggesting explanations for the sustained success of mutual life insurance companies despite the balance of evidence that mutual ownership is less efficient than stock company ownership. The factors evaluated in the chapter all operate by introducing inefficiencies into product and capital markets, consequently reducing competitive pressures on mutual companies. Inefficient regulations, first mover advantages and product characteristics like high switching costs all erect entry barriers to the industry, protecting incumbent firms from strong product market competition. Information asymmetries in capital markets may restrict capital supply to potential entrants, creating another entry barrier to the industry. Another type of capital market inefficiency, ie. over-capitalisation, reduces competitive pressures on mutual companies by reducing performance feedback to mutual managers and, crucially, incentives for managers to make best use of available capital.

The concept of over-capitalisation, and its connection with the opposite condition of under-capitalisation, has received little attention in the literature. A model linking industry demand and supply conditions to capital access is needed to explain how a situation of over-capitalisation can arise and how it can be transformed into a situation of under-capitalisation. Such an account would reconcile Hansmann's theory that over-capitalisation supported mutual

companies' prolonged success with the conflicting supposition that under-capitalisation prompted their demutualisation. Given this gap in the literature and widespread reference to improved capital access being the major reason for demutualisation, the remainder of this thesis focuses on developing and testing a model of capital access differences between mutual and stock life insurance companies.

The model developed in the next chapter proposes that the industry's levels of product and capital market competition determine mutual companies' capacity both to accumulate large capital reserves and to use them to finance unprofitable over-expansion. The industry product mix, which reflects demand conditions, the regulatory and taxation environment, and product innovation, will determine how much of an advantage over-capitalisation actually provides under differing industry conditions. The analysis, and particularly the test of the model in Chapter 5, highlights the role of regulation in creating the industry conditions underpinning mutual over-capitalisation and the impact of regulatory and tax changes in transforming these industry conditions.

## **CHAPTER 4: A MODEL OF CAPITAL ACCESS COMPARING MUTUAL AND STOCK COMPANIES**

This chapter models how capital access affects the relative success of mutual and stock companies in the life insurance industry. Two sets of industry demand and supply conditions are identified, the first giving rise to mutual over-capitalisation and the second leading to mutual under-capitalisation and demutualisation. The model also contributes an alternative explanation for mutual and stock company coexistence based on 'line-of-business' specialisation, the rationale for which differs significantly from the managerial discretion and contracting cost theories reviewed in Chapter 2.

Capital access by mutual companies is modelled as a result of two main endogenous variables – the product mix and the level of product market competition. The preceding chapter highlighted the role of competitive pressures in ensuring that an industry's ownership structure will be efficient. Impediments to competition in product and capital markets can permit inefficient and efficient ownership forms to operate successfully within the same industry. Weak product and capital market competition allows mutual companies to build up large amounts of retained earnings. A situation of over-capitalisation can result, despite the constraint imposed on mutual companies' external capital supply by their constitutional inability to raise equity. If, in contrast, strong product and capital

market competition prevents the accumulation of substantial internal capital funds, the limit on mutual companies' access to external capital can create a situation of under-capitalisation.

Existing analyses focus on the level of capital supply in generating over- or under-capitalisation. But the level of capital demand is just as important since it is the conjunction of capital demand and supply that determines whether a company's performance is damaged by insufficient access to capital. The industry product mix therefore forms the second endogenous variable included in the model. Since different types of products generate different capital demands, a company's product mix will determine its total demand for capital. Section 4.1 of this chapter describes the key characteristics of life insurance products and identifies the various contingencies inherent in the contractual obligations associated with four broad categories of product type. Section 4.2 compares the capital demands associated with different types of products and derives a total capital demand function.

Section 4.3 describes the sources of capital supply permitted to mutual and stock companies under their constitutions and government regulations and contrasts the supply functions of mutual and stock companies. Sections 4.4 and 4.5 identify two sets of industry conditions where capital access influences the relative prospects of mutual and stock companies, the first advantaging mutual companies and the second placing a constraint on mutuals' growth capacities. Under a third set of industry conditions, discussed in section 4.4, capital access does not play a major role in the relative success of mutual and stock companies; competitive success and survival of individual firms are determined by relative efficiency.

The discussion of capital demand and supply functions identifies a number of key exogenous variables, including government regulation and taxation and the level of consumer demand for life insurance products. Government policies have had a significant impact in determining which set of industry conditions has most closely matched actual conditions in the Australian life insurance industry. Regulation-imposed entry barriers, tax concessions provided to the industry, and encouragement of superannuation saving are three exogenous factors that have significantly influenced both the level of competition in the industry and the

industry's product mix. The chapter concludes with the formulation of three testable hypotheses, which are verified against trends in the Australian life insurance industry in Chapter 5.

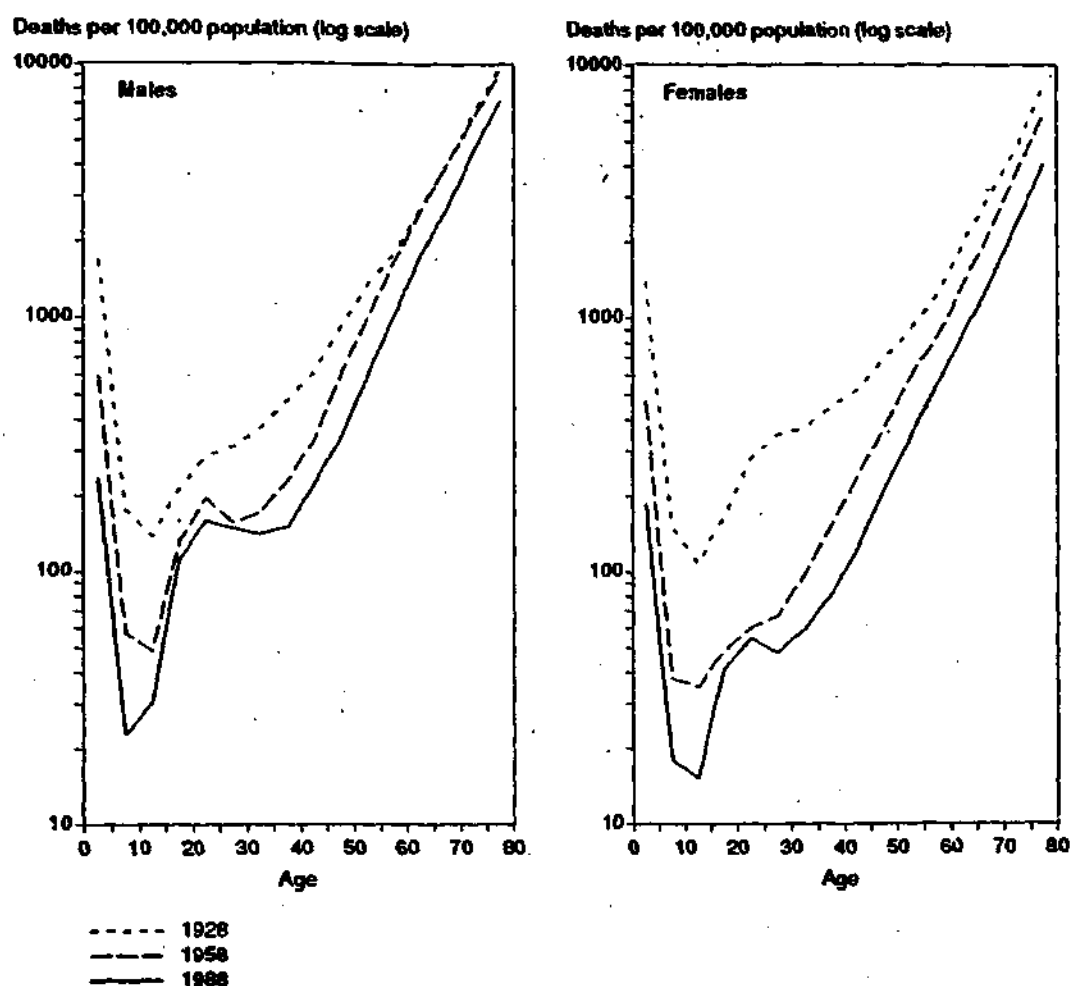
#### **4.1 Risk Characteristics of Life Insurance Products**

Life insurance products provide contractual promises to make specified payments in the future. The expected amount of these payments depends on the type of service purchased under different types of policies and the nature of the promises attached to them. Life insurance products offer two main services: (i) protection, ie. insurance against the occurrence of specified contingencies (generally death or disability), and (ii) long-term saving. Policies may offer just the protection service, just the saving service, or a combination of both.

Depending on the promises written into their contracts, policies may expose companies to one or both of two risks – mortality risk and investment risk. Each of these risks will be described in turn. A distinction will be drawn between risk and uncertainty in the context of life insurance contingencies.

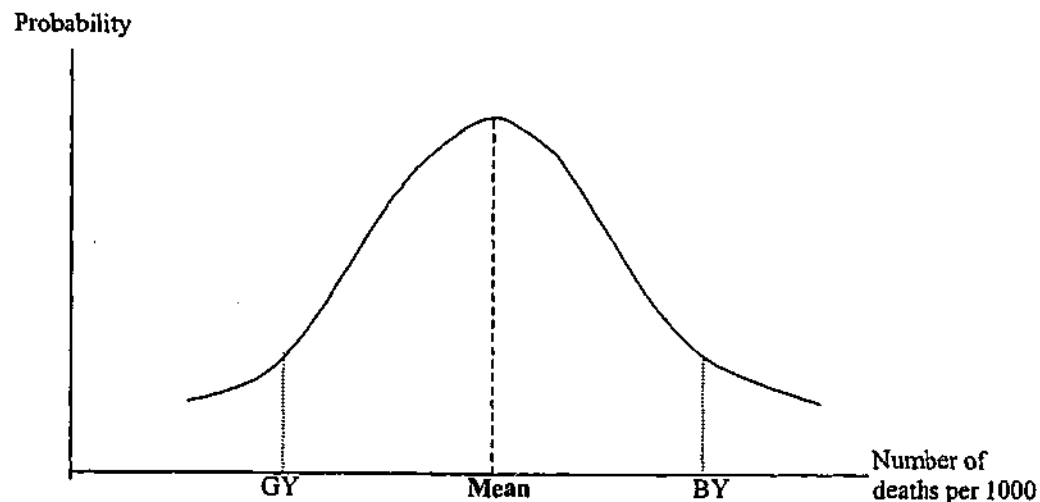
##### **4.1.1 Mortality Risk**

For each year of age (given certain characteristics like gender and whether a non-smoker or smoker), the statistically expected number of deaths per 1,000 persons can be read off the mortality tables. After infancy, the probability of death rises steadily with age, apart from a period of fairly constant death rates between approximately 20 and 35 years of age, as shown in Figure 4.1 below.

**Figure 4.1: Age Specific Death Rates for 1928, 1958 and 1988 – Australia**

Source: d'Espaignet et al. (1991), Figure 5 on p18.

The mortality tables generate an expected mortality profile for the population by age. Actual mortality will deviate over time from the statistically expected death rate. The variance around the mean can be calculated from historical experience. Thus, a mortality distribution curve can be constructed for each year of age; Figure 4.2 gives an example of a mortality distribution for 40 year old males (assuming a normal distribution).

**Figure 4.2: A Mortality Distribution for 40 Year Old Males**

*Note: In 1988 the mean death rate for males aged 40-44 years was 2.24 per 1,000 (d'Espaignet, et al. 1991, Table 2 on p6).*

Life insurance companies use the mortality tables to predict expected payouts under policies offering protection against death before the average life expectancy. However, as illustrated by the above mortality distribution, actual mortality experience for the population of 40 year old males will range from a 'good year' where the death rate is lower than the mean (shown by *GY* in Figure 4.2) and a 'bad year' where the death rate exceeds the mean (shown as *BY*). The combination of the mortality distributions for each age gives the aggregate mortality distribution for the population as a whole.

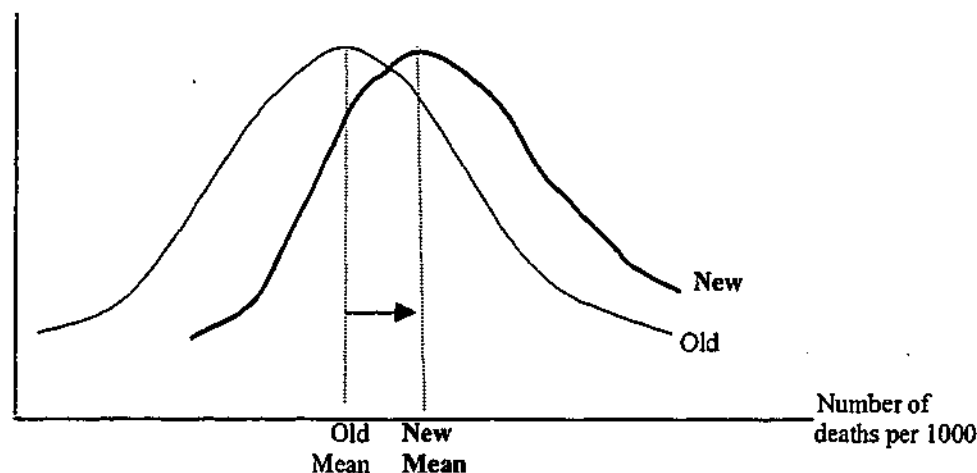
Mortality risk for a life insurance company derives from the higher policy payouts required in the 'bad years' compared to policy payouts in a year where the death rate conforms to the statistical mean. The probability of a 'bad year', or conversely of a 'good year' when policy payouts are lower than average, can be predicted from the aggregate mortality distribution. Life insurance companies make provision for mortality risk based on knowledge of mortality probabilities and average insured values.

However, making adequate provision for larger than average policy payouts in particular years is complicated by the presence of uncertainty about mortality risk. There are two sources of uncertainty. First, the actuarially calculated mortality distribution might not accurately represent the real mortality distribution for the

population. Errors in the mortality tables, from which the mortality distribution is constructed, were substantial in the early years of the industry, leading to severe uncertainty about the actual mortality risk to which the life insurance companies were exposed (Blainey 1999; Gray 1977, chap. 6; Hansmann 1996, p267 on the US).<sup>1</sup> While the actuarial information base for current mortality tables has improved greatly since the 19<sup>th</sup> century, some uncertainty still attaches to their accuracy. In particular, uncertainty is generated by the potential for shifts in the mortality distribution. The advent of AIDS for example caused an unexpected significant shift outwards in the mortality distribution of a segment of the population during the 1980s.<sup>2</sup> A shift of this sort is illustrated in Figure 4.3 below.

**Figure 4.3: A Shift in the Mortality Distribution for 40 Year Old Males**

Probability



Returning to Figure 4.1, we see that mean mortality rates have fallen over time for most ages, shifting the probability distribution inwards. These reductions in overall population mortality largely reflect improvements in immunisation,

<sup>1</sup> Crudeness of the early mortality tables provides an argument for mutual ownership or stock company provision of participating policies. If premiums and policy payouts are set conservatively in recognition of the high chance that actual mortality experience could differ substantially from that predicted by the actuarial tables, life insurance companies might over-price their policies. Mutual ownership and stock company sales of participating policies overcome this problem. Policyholders with participating policies effectively receive a refund of premium over-payments from policy bonuses while the surpluses on non-participating policies of mutual companies are retained in reserves for the benefit of mutual policyholders. See Hansmann (1996, pp267-270).

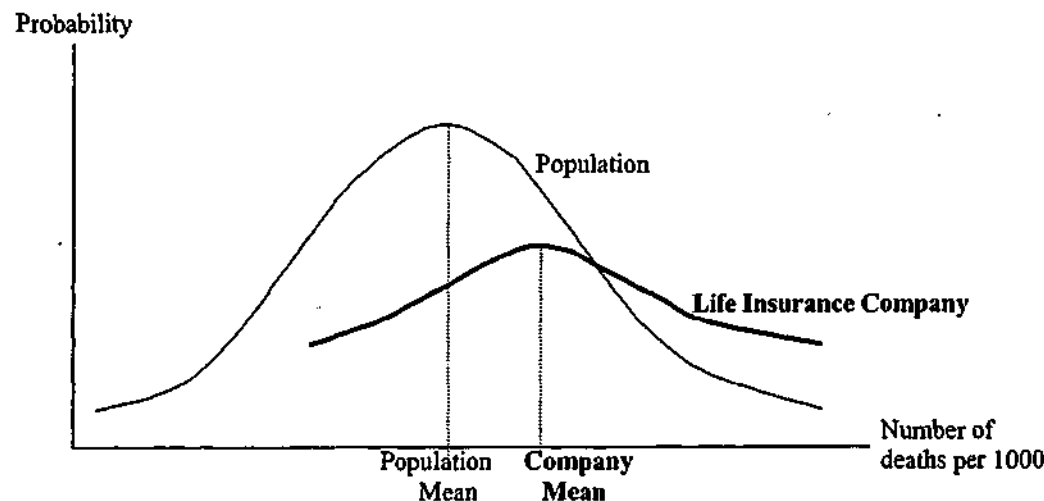
<sup>2</sup> Once the life insurance companies become aware of such changes in mortality risk factors, they can reduce the negative impact on profitability by placing higher loadings onto the premiums of exposed policyholders or by inserting new exclusions into policy contracts. However gaining awareness of the problem and making the necessary changes both take time, especially if existing policy contracts cannot be revised (as applies for 'permanent' policies like whole-of-life policies).



medical care and the general health of the population (see d'Espaignet, et al. 1991 for more details on the causes of lower death rates). While declines in population mortality rates may be anticipated on the basis of historical trends and community health advances, uncertainty still attaches to predictions of their exact magnitude and timing.

Second, and probably more significant, an individual life insurance company cannot be certain how closely the mortality distribution of its group of policyholders matches that of the entire population. While the mean and variance of the death rate for a company's policyholders should converge towards the population mean and variance as the number of policyholders increases, there may remain significant differences due to either chance or adverse selection.<sup>3</sup> The example illustrated in Figure 4.4 below shows the case where both the mean and variance of a company's death rate are significantly larger than the population mean and variance.

**Figure 4.4: Comparison of the Mortality Distributions for 40 Year Old Males for the Population and for an Individual Life Insurance Company**



Thus, in order to remain solvent and meet its contractual obligations, each life insurance company must make provision in a contingency fund for three contingencies related to mortality risk:

<sup>3</sup> Cummins discusses the applicability of the 'law of large numbers' to insurance risks (1991, pp262-266). Provided the means and variances of the random variables are finite, the sample mean will approach the population mean as the sample becomes larger although in reality distributions "approach normality so slowly that they remain significantly skewed even in large insurance pools" (1991, p265).

1. a 'bad year' where the death rate exceeds the actuarial mean but is within the range of 'expected' mortality experience, ie. it is to the right of the mean on the mortality distribution curve;
2. the overall expectation of mortality deteriorates due to an adverse shift in the mortality distribution, which cannot be predicted with any certainty; and
3. the mortality distribution of the company's group of policyholders is significantly worse than that of the total population, which also cannot be known in advance.

Of course, the reverse occurrences – that is, a 'good year' of mortality experience, declines in expected mean mortality rates for the population, and a more favourable policyholder mortality distribution than that for the whole population – will generate profits that add to a life insurance company's contingency fund. Life insurance companies can use such profits in several ways. They can be retained in the contingency fund to increase the provision made for future adverse contingencies. Or they can be retained in the contingency fund to allow future provisions to be reduced, thereby permitting a reduction in premium rates. Alternatively, they can be distributed to policyholders via bonuses or to shareholders of stock companies via dividend payments.

#### *4.1.2 Earnings Risk*

Earnings risk derives from the possibility that the actual rate of return earned on policy contributions will fall short of the rate of return promised in policy contracts. Conversely, the promised rate of return may have been too conservative, being exceeded by the actual rate of return. The promised rate of return may be explicit or may be implicit in the promised payouts contracted for through life insurance policies.

Average interest rates, dividend rates, stock prices, and property prices expected to prevail in a given state of the world can be estimated from historical experience. Jones (1995) calculates, for example, that the annual rate of return from investing in US shares has averaged ten per cent since 1926 with a standard deviation of around 20 per cent. Rates of return on particular assets are subject to

variability known as investment risk, ie. variation around the long-term mean return. The more variable the return, the more risky is the investment in the particular asset. Investors can reduce investment risk through diversification. Further, because of their generally long investment time frame, life insurance companies can smooth earnings over time by adding to an investment reserve when returns are higher than the expected mean and drawing from it when returns are lower than the mean.

The major component of earnings risk derives from changes in the macroeconomic conditions that determine mean rates of return on classes of assets. Unlike mortality risk where death rates are predictable with a high degree of certainty, there is no good probability distribution for the different 'states of the world' upon which expectations of future rates of return are contingent.<sup>4</sup> Consequently predictions of future rates of return and the volatility of those returns are subject to uncertainty, the significance of which increases as the forecast time horizon lengthens (as noted, eg. by Jones and Wilson 1995, p30). Earnings risk, from investment risk and uncertainty about future average rates of return, means that life insurance companies must provide for earnings contingencies in a similar way to the provisions required due to mortality risk.

#### *4.1.3 Risk by Category of Life Insurance Product*

Because the promises incorporated in life insurance contracts vary according to the type of product, the risks incurred as a result of these promises also vary for different products. To compare the incidence of mortality and earnings risk for different product types, the main product lines offered by life insurance companies will be grouped into four main categories. These categories are temporary life protection, permanent life protection, investment-linked saving, and capital-guaranteed saving. These four categories do not cover all the product

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<sup>4</sup> Considerable uncertainty surrounds both identification of all possible 'states of the world' (and associated rates of economic growth, inflation, commodity price changes, etc.) and estimation of the probabilities attached to them. Neither the advent of stagflation in the 1970s nor the large increase in interest rate volatility since the 1960s, for example, were widely anticipated by economists or investment market participants prior to their occurrence. Earnings risk therefore includes the risk that actual and expected investment market conditions diverge due to the occurrence of a different 'state of the world' than that anticipated.

types offered by life insurance companies.<sup>5</sup> The most notable omission is annuities, which combine a dis-saving service with long-term life protection and thus incur similar risks to permanent life protection policies. A brief comment on annuities is made in the concluding chapter.

### 1. Temporary Life Protection

Temporary life protection offers short-term death coverage, usually through term life insurance.<sup>6</sup> Premiums on term life policies are matched each year to the amount needed to insure against death during the period of the term (such as one year). In other words, the company charges annual premiums equal to the policy's promised payout multiplied by the probability of death in that year. Consequently the premiums on term life policies rise over time to reflect the increasing probability of death with increasing age.

Most term life policy contracts are renewable by the policyholder. That is, the company cannot refuse to extend coverage for another term. However it can adjust premiums at the beginning of each new contract period to reflect not only increasing risk due to age but also to account for any marked difference in mortality experience from that anticipated. A substantial divergence from expected mortality experience could result from a run of 'bad years', an adverse shift in the mortality distribution, or a less favourable mortality distribution for the company's policyholders than the population distribution. Regular adjustments of premiums on term life policies limit the impact of both mortality risk and uncertainty about the mortality distribution. Under these policies, policyholders bear much of the risk of a deteriorating or worse-than-expected mortality experience.

Payments under term life and other temporary protection policies are made only if the specified contingency (death, accident or disability) occurs during the contract period. Otherwise the contract expires with no payout. Because these policies

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<sup>5</sup> Details of the various life insurance products offered by Australian life insurance companies are given in Blair (1991, chap. 3 and appendix 2), Covick and Lewis (1985, pp197-98), and Thomson (1994, appendix 1.3).

<sup>6</sup> Group life and accident/disability policies also provide short-term protection against early death and accident or disability respectively.

provide no savings component, they have no surrender values, include no promises about rates of return, and incur no earnings risk.

## **2. Permanent Life Protection**

Permanent life insurance policies, such as whole-of-life and endowment assurance policies, are the traditional policies offered by life insurance companies. These policies offer a mix of protection and saving services, the individual components of which are not separately identifiable. In other words, the protection and saving services are bundled together.<sup>7</sup>

Whole-of-life policies promise payment of a specified amount plus any accrued bonuses on the death of the insured person (or on death or maturity in the case of endowment assurance policies). Annual premiums are fixed for the life of the contract. In the early years of the policy when the probability of death is relatively low, the premium exceeds the amount required to provide death cover. These premium over-payments are invested to provide the savings element of the policy. In later years, these savings are run down when the constant premium fails to meet the amount needed to insure against death, the probability of which has increased with age. Positive surrender values under these policies reflect the accumulation of savings. The policyholder can borrow against the cash value of the policy (through a policy loan) or cancel the policy to receive its surrender value. Zero surrender values apply in the initial couple of years, and fall short of total premium payments for several more years, due to front-end loading of large commissions and administration expenses (Covick and Lewis 1985, p211).

Permanent life protection policies expose life insurance companies to substantial mortality risk since premiums cannot be adjusted to reflect a worse than expected mortality experience, nor can contractual payouts be downgraded. The lengthy contract periods of these policies increase the time horizon over which the

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<sup>7</sup> Products like insurance bonds offer unbundled mixes of protection and saving services. Insurance bonds allow policyholders to choose the required combination of protection units and saving units and to identify the returns from each. Premiums on protection units are set each year and can be adjusted if warranted by actual mortality experience, like term life policies. The applicable mortality risk is therefore low as for temporary protection policies. The savings component of the policy may either be investment-linked or capital-guaranteed and will incur the same earnings risks as corresponding investment-linked and capital-guaranteed savings products. These products are discussed later in this section.

negative profit impact of any underestimate of the average death rate of a company's policyholders will be felt. In addition, the long policy duration allows a large period during which adverse shifts in the mortality distribution can occur. Earnings risk is also considerable reflecting the promised rates of return implicit in the payouts specified under policy contracts. The long time horizon increases uncertainty surrounding forecast 'states of the world' and average rates of return anticipated over the period of the policy.<sup>8</sup>

### 3. Investment-Linked Saving

Accumulation superannuation funds provide an example of policies offering an investment-linked saving service. These policies promise only to return premiums paid plus accumulated investment earnings, net of taxes and management and administration expenses.<sup>9</sup> The policy contracts make no guarantees regarding a particular earnings rate or return of the policyholder's principal. If net investment earnings are negative over the period the policy is held, the policyholder will make a loss on his or her initial investment. Companies offering these policies do not therefore incur any exposure to earnings risk. The policyholders bear the investment and macroeconomic risks. Since investment-linked savings policies do not include protection services, the life insurance companies incur no mortality risk on them.

### 4. Capital-Guaranteed Saving

Capital-guaranteed saving products protect the policyholder's initial investment by guaranteeing to return the policyholder's principal. Even if net investment earnings are negative over the period during which the policy is held, the policyholder will receive back his or her initial investment and the company will bear the loss. Thus the company is exposed to earnings risk from negative rates of return. Volatility around a positive mean rate of return might result in a shortfall in accumulated earnings at the time of policy redemption by the policyholder.

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<sup>8</sup> Persson and Aase (1997) note that life insurance companies used to set the guaranteed rate of return implicit in traditional policies far below actual interest rates prevailing at the time of issue, which reduced the companies' anticipated exposure to earnings risk. But the much lower level of interest rates over the 1990s compared to the 1980s led to many guarantees coming into effect.

<sup>9</sup> Accumulation funds make payouts based on defined contributions plus net investment earnings. Defined benefit superannuation funds, which pay specified retirement benefits (usually equal to a stated multiple of salary at retirement), expose the supporting employer to earnings risk.

Forecasts of the mean rate of return and its variance are subject to considerable uncertainty due to uncertainty about future economic conditions ('states of the world').

Earnings risk from return-of-principal guarantees can be minimised by holding assets, such as government bonds, which promise return of the principal invested. However the life insurance company must trade off the lower risk for lower returns that could reduce product competitiveness. Since these savings policies do not include protection services, companies incur no mortality risk.

The risks applying to each of these four product categories are summarised in Table 4.1 below. The next section examines the impact of these different risk exposures on the prudential capital demands of life insurance companies and derives a total capital demand function.

**Table 4.1: Risks Applying to Four Categories of Life Insurance Product**

<b>Contingencies</b>	Temporary Life Protection	Permanent Life Protection	Investment-Linked Saving	Capital-Guaranteed Saving
Mortality risk	<i>Small</i>	<i>Large</i>	<i>None</i>	<i>None</i>
Uncertainty about mortality distribution	<i>Small</i>	<i>Large</i>	<i>None</i>	<i>None</i>
Earnings risk	<i>None</i>	<i>Large</i>	<i>None</i>	<i>Yes, may be large</i>
Uncertainty about earnings risk	<i>None</i>	<i>Large</i>	<i>None</i>	<i>Yes, may be large</i>

## 4.2 The Demand for Capital by Life Insurance Companies

Life insurance companies have two sources of demand for capital. Like non-financial companies, capital is needed to finance an expansion in policy sales or in other business activities. Life insurance companies also require capital for prudential reasons since life insurance products that include promises about future payouts expose companies to solvency risk from higher actual payouts than anticipated. Determinants of prudential capital needs and of expansion needs will

be considered in turn before an aggregate capital demand function is calculated. Since the underlying determinants of capital demand do not differ by ownership form, no distinction will be made between mutual and stock companies in this section.

#### 4.2.1 Prudential Demand for Capital

Section 4.1 highlighted the mortality and earnings risks inherent in the promises made in various life insurance policy contracts. These risks expose the life insurance companies selling these policies to the possibility that the actual value of contracted payouts in the future exceeds the payouts anticipated at the time the policies were sold. Should a life insurance company not have adequate capital to meet this contingency, it will become insolvent. The funds set aside to meet higher than predicted payouts are called prudential reserves.

The *Life Insurance Act 1995* (ss.69-73) prescribes capital adequacy standards to meet prudential needs (see Australian Insurance Institute 1998).<sup>10</sup> There is no uniform capital adequacy standard for the statutory funds of life insurance companies since prudential needs depend on the mortality and earnings risk exposures of each fund. Aside from the regulatory requirements, life insurance companies have incentives to maintain an adequate level of prudential reserves to support policyholder confidence in the company's ability to meet the promises purchased under their policies.

The prudential demand curve for capital exhibits a normal downward slope.<sup>11</sup> An increase in the price of capital will, other things being equal, increase the cost of holding prudential reserves, thereby raising the costs of maintaining policies incorporating future payout promises. Cost increases will, in a competitive life insurance market, lead to premium increases for policies specifying future payouts. Sales of these policies will fall, the magnitude of the falls depending on these products' price elasticities of demand. Babbel rejects assertions that demand for whole-of-life insurance is invariant with price; he estimates demand

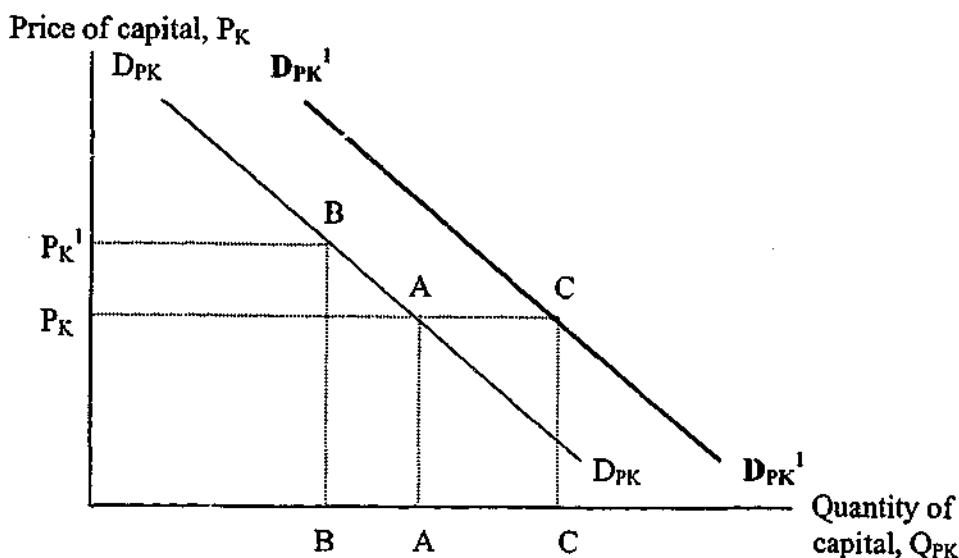
<sup>10</sup> Prudential oversight of the life insurance industry is undertaken by the Australian Prudential Regulation Authority, which from July 1998 took over the prudential functions of the Insurance and Superannuation Commission. The regulator is empowered to intervene in a company's operations to ensure adequate solvency and capital adequacy standards are maintained.

<sup>11</sup> For ease of exposition, demand and supply curves are assumed to be linear.



elasticities ranging from -0.7 to -0.9 for non-participating policies and -0.3 to -0.4 for participating policies depending on the price index used (1985, p233).<sup>12</sup>

**Figure 4.5: The Prudential Demand for Capital**



Thus an increase in the price of capital from  $P_K$  to  $P_K^1$  in Figure 4.5 will, in the absence of other changes, cause premiums for policies requiring prudential backing to rise, leading to a decrease in new sales of these policies. Consequently the quantity of capital required to meet the prudential needs of the now lower quantity of new policy sales will be less than before the rise in the price of capital. The reduction in the quantity of prudential capital demanded is shown by the movement along the prudential capital demand curve  $D_{PK}$  from  $A$  to  $B$ .

The position of each company's prudential capital demand curve will depend on the extent of the mortality and earnings risks to which it is exposed. An increase in a company's mortality and earnings risks exposure will enlarge its prudential capital needs at each price of capital and shift out the prudential capital demand curve as shown in Figure 4.5. At a constant price of capital  $P_K$ , a higher mortality or earnings risk exposure will boost the quantity of capital demanded to satisfy prudential requirements from  $A$  to  $C$  in the diagram. A company's exposure to mortality and earnings risks is determined by five factors:

<sup>12</sup> Babel suggests that the estimated price elasticity for participating policies is downward biased because of expected future dividend payments and the greater complexity of these policies (1985, pp233-34).

- (i) the underlying mortality distribution of its policyholders, which is related to the population mortality distribution;
- (ii) the underlying volatility in asset returns and uncertainty about future mean rates of return, which is related to uncertainty about future economic conditions;
- (iii) the company's product mix;
- (iv) the volume of life insurance product sales; and
- (v) the company's purchases of reinsurance.

These factors will be discussed in turn. A deterioration in the mortality distribution of the company's policyholders (ie. a rightward shift in the probability distribution) could result from either a change in the risk composition of the company's own policyholders or a shift in the mortality distribution for the population as a whole that is reflected in a similar shift for policyholders. (A shift in the population mortality distribution was illustrated in Figure 4.3.) The resultant increase in mortality risk *MRISK* shifts out the prudential demand for capital, ie.  $\partial D_{PK} / \partial MRISK > 0$ .

Similarly, an increase in earnings risk *ERISK* also shifts out the prudential demand for capital, ie.  $\partial D_{PK} / \partial ERISK > 0$ . The underlying earnings risk increases with an unanticipated fall in the mean rate of return on investment assets compared to historical experience, an increase in the volatility of asset rates of return, and greater volatility in macroeconomic conditions.

Given a constant mortality distribution and unchanged mean and variance for asset rates of return, changes in a company's mortality and earnings risks are determined by changes in the company's product mix. From Table 4.1, we can see that a product mix dominated by temporary life protection policies will expose the company to a relatively small mortality risk and little or no earnings risk, while a product mix consisting mostly of permanent life protection policies will generate large mortality and earnings risks. In sharp contrast, if investment-linked saving products were the only type of policy sold by the company, no mortality and

earnings risks would be incurred. Sales of capital-guaranteed saving products generate no mortality risk but earnings risk may be large.

A company's mortality risk is increased (reduced) by the following changes in the product mix:

- a move away from (towards) sales of saving products towards (away from) sales of policies incorporating protection services; and
- greater (fewer) sales of permanent life protection policies relative to the other product types.

Since  $\partial D_{PK} / \partial MRISK > 0$ , such changes in the product mix increase (reduce) the company's prudential capital demand. Likewise, a company's earnings risk is increased (reduced) by the following changes in the product mix and since  $\partial D_{PK} / \partial ERISK > 0$ , the company's prudential demand for capital consequently rises (falls):

- greater (fewer) sales of permanent life protection policies relative to temporary life protection and investment-linked saving products; and
- greater (fewer) sales of capital-guaranteed saving products relative to temporary life protection and investment-linked saving products.<sup>13</sup>

Thus an increase in the proportion of investment-linked saving products in the product mix always lowers the prudential demand for capital at any price of capital; that is, it causes a shift to the left in the demand curve. A fall in the relative importance of these products shifts the demand curve to the right, as illustrated in Figure 4.5. Unlike the other three product types, investment-linked saving products involve no exposure to either mortality or earnings risk. Therefore  $\partial D_{PK} / \partial INVL < 0$  where *INVL* is the share of investment-linked saving products in the product mix. In contrast, permanent life protection policies are the sole

<sup>13</sup> The effect on earnings risk of a relative shift away from permanent life protection policies towards capital-guaranteed saving policies is indeterminate without reference to the actual level of guarantees included in contracts. Since rate of return guarantees included in permanent life protection policies have traditionally been low, capital-guaranteed saving vehicles might be expected to expose a company to relatively more earnings risk. However the longer duration of permanent life protection policies could make guarantees that seemed low at the time of sale become more stringent. See Persson and Aase (1997).

product category to expose life insurance companies to both of these risks.<sup>14</sup> An increase in their relative importance in the product mix always shifts out the prudential capital demand curve while a decrease in their significance leads to an inward shift in the demand curve. That is,  $\partial D_{PK}/\partial PERM > 0$  where *PERM* is the share of permanent life protection policies in the product mix.<sup>15</sup>

Product mix changes can result from shifts in consumer demand or from actions by the company to alter the mix. Examples of factors causing consumer-driven product mix changes include:

- preference changes between life protection services and saving services;
- changes in the relative attractiveness of some life insurance products compared to others due, for example, to tax or regulation changes;
- legislated requirements to direct savings into superannuation, such as through mandated employer-provision of superannuation to employees;
- changes in family wealth and in the availability of social security support since improvements in both substitute for protection services, reducing demand for products offering such services (eg. Browne and Kim 1993; Campbell 1980), and
- changes in the level of inflation, high rates of which may erode the real value of promised future payouts (eg. Browne and Kim 1993) and lead to shifts towards products offering (higher) market-linked returns.

Company-driven changes in the product mix may be prompted by a higher price of capital that induces management to conserve on the use of the now more expensive prudential capital. An increase in underlying mortality or earnings risks, which shifts out the prudential capital demand curve, could also lead to product mix changes to shift the demand curve back in. Such actions might

<sup>14</sup> As noted in section 4.1.3, annuities are similar to permanent life protection policies in that they involve exposure to mortality and earnings risks.

<sup>15</sup> The signs of  $\partial D_{PK}/\partial TERM$  and  $\partial D_{PK}/\partial CAPG$ , where *TERM* and *CAPG* are the shares of temporary life protection and capital-guaranteed saving products respectively in the product mix, are indeterminate without knowledge of the relative proportions of the other product classes in the product mix.

include a reduction in the implicit crediting rate for traditional life insurance products, a move away from sales of capital-guaranteed saving products, or increased focus on sales of investment-linked saving products.

An increase (decrease) in the volume of life insurance product sales with a given product mix, due to a shift outwards (inwards) in the consumer demand curve for all life insurance products, will shift the prudential demand curve for capital to the right (left). Labelling the quantity of life insurance products sold as *VOL*,  $\partial D_{PK}/\partial VOL > 0$ . A shift in the consumer demand curve could be caused, for example, by the introduction (removal) of tax concessions for all products of life insurance companies which lower (raise) the relative price of these products.

Finally, life insurance companies can purchase reinsurance to reduce prudential capital needs based on mortality risks, shifting the prudential capital demand curve inwards. Thus,  $\partial D_{PK}/\partial REINS < 0$  where *REINS* is the amount of reinsurance purchased. Companies will compare the cost of reinsurance premiums against the cost of holding prudential reserves in their decisions about how much reinsurance to purchase.

#### 4.2.2 Demand for Capital to Finance Expansion

Capital may be required to finance new business growth in life insurance products and expansion into other business areas such as banking services. New business costs include salaries and sales agents' commissions, advertising and other marketing costs, and the administrative costs of establishing new policies. Additional one-off costs may be incurred prior to entry to a new market related to investigation of market conditions and potential prospects, establishment of a new production process or distribution network, and so on.

New business costs are substantial for permanent life protection policies like whole-of-life policies. Covick and Lewis (1985, p211) cite evidence from a 1982 report by the Australian Law Reform Commission that average commissions payable on new policy sales amounted to roughly all of the first year's annual premium. These commissions are usually paid in full either at the start of the policy or within its first year. Administrative costs involved in establishing the

policy equalled an additional 75 per cent of the first year's premium.<sup>16</sup> Thus up-front new business costs were almost double the first year's income from the policy, the shortfall having to be met from capital funds. In contrast, the three other product categories – temporary life protection policies and investment-linked and capital-guaranteed saving products – are self-financing in that the revenue received from these products covers their costs in each period. Self-financing is essential for products without the "lock-in" characteristic of permanent life protection policies that permits the recoupment of large up-front expenses over several years.<sup>17</sup> When policyholders can relatively easily and cheaply transfer their business to competing policies, expenses must be recouped in each period or the company stands a good chance of making losses on the policies.

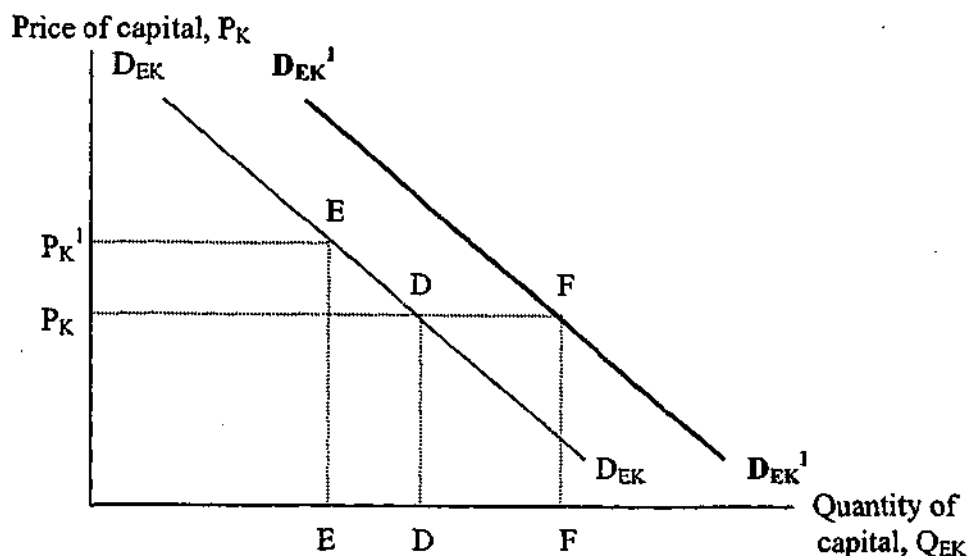
Thus, of a company's life insurance business, only permanent life protection policies will generate a demand for capital to finance expansion.<sup>18</sup> Expansion into other non-insurance activities might involve set-up costs that produce a demand for capital (eg. establishment of a branch network to provide banking services, staff training in new financial products, acquisition of an existing firm). These expansion costs are considered in more depth later in the chapter (see section 4.5).

The demand curve for capital to finance expansion slopes downward. A fall in the price of capital, other things equal, makes the net returns from further expansion positive and thus increases the quantity of capital demanded to finance the expansion. Conversely, a higher capital price causes the net returns from some previously profitable policy sales or other activities to become negative and reduce the quantity of capital demanded, as shown by the movement along the demand curve  $D_{EK}$  from  $D$  to  $E$  in Figure 4.6 below.

<sup>16</sup> McIntosh (1998) presents evidence of similar new business costs for Canadian life insurance firms. For a 'representative' policy (an average across all policies), the cost of issuing a new policy including agents' commissions and evaluation expenses is \$1,121.53 compared to the average premium of \$827.16. The ongoing annual cost of maintaining the average policy was \$499.63. Since McIntosh's 'representative' policy includes policies with much lower establishment costs, the up-front new business expenses of traditional permanent life protection policies alone will exceed the average (calculated across all policies).

<sup>17</sup> Policy "lock-in" on long-term life insurance policies was discussed in Chapter 2, section 2.2.3.

<sup>18</sup> Life insurance companies might need 'working capital' funds to finance expenses on other policies that are incurred in advance of policy purchase, eg. the cost of printing brochures. However since these expenses are relatively trivial and are recouped quickly from fees and charges paid at purchase, they will be excluded from the analysis.

**Figure 4.6: The Demand for Capital to Finance Expansion**

Shifts in the demand curve, illustrated by the outward shift from the  $D_{EK}$  schedule to the  $D_{EK}^1$  schedule, will be caused by:

- changes in the product mix towards (away from) permanent life protection policies that shift the curve to the right (left); factors driving product mix changes were canvassed in section 4.2.1 above;
- increases (decreases) in the profitability of permanent life protection policies, eg. due to higher (lower) tax concessions, shifting the curve to the right (left);
- product innovation or consumer preference changes that lead to a shift in the types of products demanded by consumers, eg. new saving products that are more attractive to consumers than traditional policies combining protection and saving services shift the demand curve in; and
- changes in regulations governing the potential range of products offered by life insurance companies. For example, improved scope to offer a range of saving products could shift the demand curve inwards as these products displace some sales of (more expensive) permanent life protection policies. Removal of regulatory segmentation of the finance industry could prompt expansion into the provision of new financial services, which might involve substantial start-up costs.

The impact of new business costs produces a positive correlation between changes in the share of permanent life protection policies in the product mix and capital demand for expansion purposes, ie.  $\partial D_K / \partial PERM > 0$ . Thus the share of permanent life protection policies in the product mix operates on capital demand to finance expansion in the same direction as on capital demand for prudential reasons. An increase in new business costs, caused for example by the payment of higher commission rates to sales agents, might cause a shift away from permanent life protection policies by companies aiming to conserve on the use of capital funds or by consumers in response to higher premiums on these policies. As mentioned previously, consumer demand for whole-of-life insurance policies is responsive to movements in premiums (Babbel 1985).

#### 4.2.3 The Capital Demand Function of Life Insurance Companies

The aggregate capital demand curve for life insurance companies is the sum of the prudential demand curve and the demand curve to finance expansion. Summarising this section, the total demand for capital can be expressed as the following general functional form:

$$D_K = f [P_K, MRISK, ERISK, NEWCOST, TAX, REGUL, REINS, PRODMIX, VOL]$$

where

$P_K$  is the price of capital and  $\partial D_K / \partial P_K < 0$

$MRISK$  is mortality risk;  $\partial D_K / \partial MRISK > 0$

$ERISK$  is earnings risk;  $\partial D_K / \partial ERISK > 0$

$NEWCOST$  is new business costs (for permanent life protection policies);  $\partial D_K / \partial NEWCOST > 0$  with the magnitude of the effect dependent on the company's product mix,  $\partial PERM / \partial NEWCOST < 0$

$TAX$  is taxation of the life insurance company's earnings; the sign of  $\partial D_K / \partial TAX$  depends on the nature of tax change and its impact on the company's product mix ( $TAX$  and  $PRODMIX$  are interdependent)



**REGUL** is regulatory constraints on product offerings (which affect the product mix) and solvency requirements; the sign of  $\partial D_K / \partial \text{REGUL}$  depends on the nature of regulatory change and its impact on the company's product mix (**REGUL** and **PRODMIX** are also interdependent)<sup>19</sup>

**REINS** is purchases of reinsurance to reduce mortality risk;  
 $\partial D_K / \partial \text{REINS} < 0$

**PRODMIX** is the company's product mix, where **PERM** is the share of permanent life protection policies, **TERM** is the share of temporary life protection policies, **INVL** is the share of investment-linked saving products, and **CAPG** is the share of capital-guaranteed saving products

**VOL** is the volume of life insurance products sold, which will be determined by price  $P_I$  and various parameters including wealth, inflation, consumer preferences, relative rates of return on alternative saving vehicles, etc.<sup>20</sup>;  $\partial D_K / \partial \text{VOL} > 0$  (provided a company does not sell only investment-linked saving products)

Overall changes in taxation **TAX** alter the returns from sales of insurance products and therefore the quantity of sales, which in turn affects the demand for capital,  $\partial D_K / \partial \text{TAX} < 0$ . However changes in the relative taxation of different life insurance products will lead to changes in the product mix. Regulatory changes can also alter the relative shares of various products in the product mix. Taxation and regulation of the life insurance industry are considered further in Chapter 5.

The company's product mix **PRODMIX** and total volume of life insurance products sold **VOL** modify the impact of the other parameters on the company's

<sup>19</sup> The interdependence of the product mix with **TAX** and **REGUL** could generate multi-collinearity in a regression analysis of the equation. The appropriate tests for multi-collinearity would need to be conducted to ascertain the existence of this problem. If multi-collinearity was proven, suitable techniques to account for it would need to be employed.

<sup>20</sup> Cummins (1997) develops a model of insurance demand that treats insurance pricing as analogous to the pricing of risky corporate debt. A key feature of his model is that a company's capital access is a parameter in the demand function for its products. Better capitalisation shifts out a company's demand curve by reducing the expected loss to policyholders consequent on insolvency, and vice versa. Taylor (1995) also includes insurer capitalisation as a factor in the determination of premium rates and notes that equilibrium capitalisation will reflect consumer risk aversion.

capital demand. The impact of differing shares of permanent life protection policies *PERM* and investment-linked saving products *INVL* on a company's exposure to mortality and earnings risks, and of *PERM* on the capital needed to finance new business costs, was discussed in sections 4.2.1 and 4.2.2 respectively. Changes in  $P_K$  will lead to changes in the product mix:

$\partial PERM / \partial P_K < 0$  since permanent life protection policies have high capital requirements for prudential backing and to finance expansion

$\partial TERM / \partial P_K \leq 0$  or  $\geq 0$  because temporary and permanent life protection policies are expected to be partial substitutes depending on their relative costs to life insurance companies and their relative prices to consumers

$\partial INVL / \partial P_K > 0$  since life insurance companies could be expected to substitute investment-linked products for other product classes requiring capital when the price of capital increases and vice versa

$\partial CAPG / \partial P_K < 0$  due to prudential capital needs

This section generates two key conclusions about the impact of product mix on capital demand. *The greater is the share of permanent life protection policies in a company's product mix, the greater is the quantity of capital demanded at any price of capital. Conversely, the greater the proportion of investment-linked saving products in the product mix, the lower is the quantity of capital demanded at all prices of capital.* Factors generating shifts in the product mix and other causes of shifts in the prudential and expansion demand curves, discussed in sections 4.2.1 and 4.2.2 above, cause the aggregate capital demand curve to shift. The extent to which product mix changes occur in response to changes in the price of capital is influenced by the price elasticities of demand for different life insurance products.

### 4.3 The Supply of Capital to Life Insurance Companies

#### 4.3.1 A Standard Capital Supply Function

Capital supply functions for life insurance companies differ from the normal capital supply functions of non-financial firms for two reasons, one caused by

regulatory restrictions on capital access and the other resulting from the special nature of prudential capital reserves. In order to highlight the differences, the salient features of a simple standard capital supply function will be noted before the capital supply curves for life insurance companies are described. Such a comparison was unnecessary for capital demand since life insurance companies' capital demand functions reflect standard demand analysis.

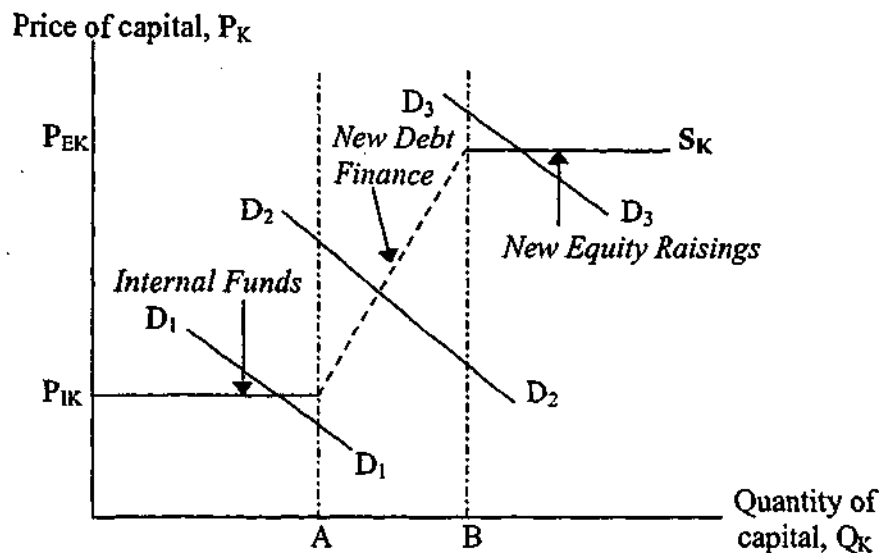
In a perfectly competitive capital market, assuming zero transaction costs and perfect information, the standard capital supply curve for an individual firm is horizontal. The price of capital given by the firm's supply curve equals the opportunity cost of the funds, whether they are derived from internal or external sources. The equilibrium price given by the intersection of aggregate demand and supply for capital in the economy determines the prevailing price of capital to individual firms, abstracting from risk. An increase in the relative risk of providing capital to a particular firm shifts the firm's capital supply curve upwards, while a decrease in relative risk shifts the curve downwards. Therefore,  $\partial S_K / \partial RELRISK < 0$  where *RELRISK* is the relative risk of capital provision to a particular firm compared with alternative investments with the same return.

This brief account gives a very simplified picture of an individual firm's supply curve for capital. It ignores a number of factors relevant to a firm's capital supply in practice. For example, the assessed risk of capital provision to an individual firm may vary with the quantity of capital provided due to such factors as increasing leverage or decreasing trading liquidity; *RELRISK* does not incorporate these effects. However, since the purpose of this exposition is to clarify the differences in capital supply to mutual and stock firms, the only extension incorporated here focuses on the differences between internal and external capital supply. Other refinements would improve the realism of the model but at the cost of a significant increase in complexity that could detract from comparison of the key differences between mutual and stock companies in their access to capital.

Three sources of capital are potentially available to firms: (i) **internal funds** (or retained earnings), (ii) **new borrowings** (eg. issues of corporate bonds and commercial paper and direct loans), and (iii) **new equity raisings** on the

stockmarket. Differences among the three sources of finance were reviewed in Chapter 2 (in section 2.4.1). Fazzari et al. (1988, esp. pp148-157), among others, posit the existence of a "financing hierarchy", with internal finance being the cheapest, debt financing more expensive, and new equity financing the most expensive. This hierarchy reflects higher transaction costs for external finance resulting from information asymmetries (see also Bond and Meghir 1994; Myers and Majluf 1984). A "financing hierarchy" is illustrated in Figure 4.7 below.

**Figure 4.7: An Illustrative "Financing Hierarchy"**



Source: From Fazzari et al. (1988), Figure 1 on p156.

Under the "financing hierarchy" approach, the firm's capital supply curve is no longer a simple horizontal line where the price of capital is equal to its opportunity cost. The price of internal capital  $P_{IK}$  equals the opportunity cost of capital. But the price of external capital will incorporate a premium above  $P_{IK}$  equal to the transaction costs arising from the information asymmetry between the firm's managers and external capital providers. The intermediate position of debt finance results from the assumption that lenders, such as commercial banks, often specialise in monitoring borrowers, can require greater performance disclosure in debt contracts, and consequently incur lower monitoring expenses than equity providers. Thus the differential above  $P_{IK}$  may be lower for debt finance than for equity finance. However, as noted by Fazzari et al., the marginal price of debt will increase with firm leverage.

For quantities of capital up to  $A$  (which equals the total quantity of internal finance available), the firm will rely solely on retained earnings. Intermediate levels of capital demand, as illustrated by the  $D_2$  schedule, will be financed by a mixture of internal funds and new borrowings, at a higher average price than that pertaining to internal funds alone. Higher demand for capital, shown by the  $D_3$  schedule, will necessitate recourse to new equity raisings in addition to the use of internal funds and debt, further lifting the average price paid for capital. As discussed in Chapter 2, bonding activities to limit agency costs tend to encourage the use of external sources of finance even for firms able to retain sufficient earnings to fund all profitable investment opportunities.<sup>21</sup>

Firms reliant largely on internal funds may be constrained in their access to external finance by large information asymmetries, other capital market imperfections, or regulatory limitations on access to borrowings or equity raisings. These possibilities as they relate to Australian life insurance companies are considered further in the following sections.

#### 4.3.2 Prudential Capital Reserves

The internal sources of capital available to life insurance companies, like those for other financial firms, differ somewhat from those available to non-financial firms. To comply with capital adequacy standards, a company must hold assets sufficient to meet contractual promises under life insurance policies and prudential requirements reflecting the company's exposure to mortality and earnings risks. Assets above this level are the company's surplus and may be credited as bonuses to participating policyholders or paid as dividends to shareholders. The company's retained earnings, or 'excess reserves', are the surpluses from existing or past policies that have not been credited to participating policyholders or paid to stock company shareholders.

Retained earnings differ in an important way for life insurance companies compared to other firms, including other firms in the finance industry. Life insurance companies holding a high proportion of products with exposure to mortality risk will experience an increase in their measured retained earnings from

<sup>21</sup> Simultaneous payment of dividends (that reduce retained earnings) and external capital raisings may be an efficient signal of company financial well-being. See Chapter 2, section 2.4.1.

favourable shifts in the mortality distribution. In the same way, an adverse shift in the mortality distribution causes a reduction in the measured level of excess reserves. An example should clarify this point. A favourable shift in the mortality distribution, such as the halving in the mean death rate for the Australian population that occurred between 1921 and 1988 (d'Espaignet, et al. 1991), reduces the present value of expected liabilities on existing permanent life protection policies. Assuming the shape of the mortality distribution is essentially unchanged with a lower mean, ie. the reverse of the shift shown in Figure 4.3, the required amount of prudential reserves remains unchanged. The amount of accumulated assets on these policies is also unchanged. Excess reserves are measured as total assets less the present value of liabilities and required prudential reserves. Therefore a fall in the present value of expected liabilities results in an increase in excess reserves. Thus, the capital supply function for life insurance companies includes an additional shift parameter to those included in the standard capital supply function (which may include relative risk, trading liquidity, capital gains taxation, and so on). The additional parameter is mortality risk *MRISK*, which, it will be noted, is also included in the capital demand function ( $\partial S_K / \partial MRISK < 0$ ).

Excess reserves supply three sorts of benefits to companies. First, excess reserves provide an additional buffer against mortality and earnings risks and increase the security attached to contractual promises to policyholders. The second benefit, which obtains contemporaneously with the first, comes from higher total investment earnings; these earnings finance the returns offered on policies, the bonuses paid on participating policies, and shareholder dividends (for stock companies). Third, excess reserves can be expended on new business costs, to expand sales of permanent life protection policies or to extend the company's operations into new non-life insurance business activities.

Most assets of life insurance companies are financial, rather than real, assets. These financial assets are therefore potentially available as a source of internal finance. Thus the supply of internal funds is greater than just the company's retained earnings. Apart from restrictions imposed by regulation, the only conditions on the investment of these funds is that they meet the minimum

required rate of return both to satisfy earnings promises specified in policy contracts and to maintain product competitiveness. A second condition is that the risks associated with their investment do not augment earnings risk to such an extent that prudential requirements can no longer be met.

#### 4.3.3 *Regulatory Restrictions on Capital Available to Life Insurance Companies*

Life insurance companies are subject to regulatory restrictions designed to protect the solvency of their funds and the interests of policyholders. Regulations control companies' holdings of prudential capital reserves, investments by their statutory funds, and access to external borrowings. The impact of regulation on internal and external sources of capital will be considered in turn.

##### 1. Internal Funds

An important obligation under the *Life Insurance Act 1995* is that each company must establish at least one statutory fund to separate its life insurance business from all other business activities of the company (s.31). Another separate statutory fund must be maintained for investment-linked saving products, presumably because of their quite different risk exposure compared to other life insurance business. Fund assets can be used only to meet the liabilities and related expenses of the fund's policies and to pay dividends to shareholders of stock life insurance companies.<sup>22</sup> They cannot be used to meet the expenses of another statutory fund or other business of the company (s.38). No statutory fund is permitted to reinsure another fund within the company (s.39).<sup>23</sup>

These restrictions suggest that the retained earnings and other financial assets of any particular statutory fund can be applied only to finance further business of the type offered by that fund. However a company's management has substantial scope in its investment strategies to supply capital for other business activities from statutory fund assets. Management is free to invest the assets of a statutory fund "in any way that is likely to further the business of the fund" (s.43(2)). Subject to the following constraints, management can apply the assets of a fund to

<sup>22</sup> Dividends payable to shareholders are limited to the total surplus on non-participating policies plus no more than 20 per cent of the surplus allocated or paid to participating policyholders (s.60(1)).

<sup>23</sup> Purchase of reinsurance from an external reinsurer is legitimate. The reinsurer takes on some of the company's prudential risk upon payment of the required reinsurance premium.

extend loans to other statutory funds or to purchase shares in subsidiary companies:

- (i) rates of return must be sufficient to meet promises under policies and to provide sufficient prudential cover;
- (ii) sufficient liquidity must be maintained to meet outlays and redemptions;
- (iii) the value of investments in shares issued by other companies, including subsidiaries, must not exceed 2.5 per cent of total fund assets (s.43(3)); and
- (iv) the total amount of company assets invested in a subsidiary is subject to a maximum set by Regulation (Reg. 4.01A).

Accordingly the financial assets of a life insurance company's statutory funds can be *invested* internally in such a way as to provide a substantial source of capital for the company's activities. This situation contrasts with the position of non-financial firms that often have the bulk of their assets tied up in buildings, plant and equipment, and other physical assets.

## 2. Borrowing

Legislative restrictions on borrowing create a second major distinction regarding life insurance companies' access to capital.<sup>24</sup> The *Life Insurance Act 1995* limits the use of both secured and unsecured borrowings. Only two types of borrowing can be secured by mortgage against the assets of a statutory fund: (i) bank overdraft, and (ii) borrowings approved by the regulator, with the consent of the Treasurer, to undertake "a major development project" (ss.38 and 40). Life insurance companies' capacity to raise secured borrowings is thus severely restricted, either to relatively small amounts under bank overdraft or to specially

<sup>24</sup> Non-life insurance companies operating superannuation funds are also subject to legislative restrictions on borrowing. The *Superannuation Industry Supervision Act 1993* prohibits borrowing except for short-term loans for two reasons – less than 90 days to cover benefit payments or less than 7 days to cover unforeseen settlement costs. In addition, the borrowing must not exceed 10 per cent of the market value of the total assets of the fund. See Randall (1996, p83).



approved major projects.<sup>25</sup> Consequently the amount of secured borrowings undertaken by life insurance companies in the course of their normal business operations could be expected to be quite small. The low proportion of company liabilities accounted for by bank overdraft – consistently less than one per cent – confirms this expectation.<sup>26</sup> Since secured borrowings by life insurance companies are expected to be relatively minor in the normal course of business, such borrowings will be excluded from the analysis.

Life insurance companies have somewhat greater freedom to obtain unsecured borrowings. However the Act and associated Regulations limit the maximum amount of such borrowings. Total unsecured borrowings relating to a statutory fund must not exceed fifty per cent of the 'free assets' of the fund (s.38(4) and Reg. 4.01(2)). 'Free assets' are defined as "the amount that would be left from the total assets of the fund after deducting the amount required to meet the capital adequacy standard ... of the fund" (Reg. 4.01(1)). In other words, total unsecured borrowings must not exceed half of a fund's excess reserves, ie. its retained earnings.

### 3. Equity

The *Life Insurance Act 1995* requires stock companies to maintain total paid-up share capital of at least \$10 million (s.23).<sup>27</sup> No specific constraints are imposed on life insurance companies' capacity to raise equity capital (that is, in addition to general companies legislation).<sup>28</sup> Mutual companies are, of course, constitutionally unable to raise equity.

<sup>25</sup> What constitutes a "major development project" is not defined in the Act. Consequently, the regulatory body, and the government of the day through the Treasurer, would appear to have significant discretion in the grant of an approval for large secured borrowings.

<sup>26</sup> See Table 12 of ABS Cat. 5622.0 *Life Insurance* for figures up to 1980 and Table 2B of the *Half Yearly Financial Bulletins on Life Insurance* produced by the Life Insurance and Superannuation Commission from 1980 to 1996.

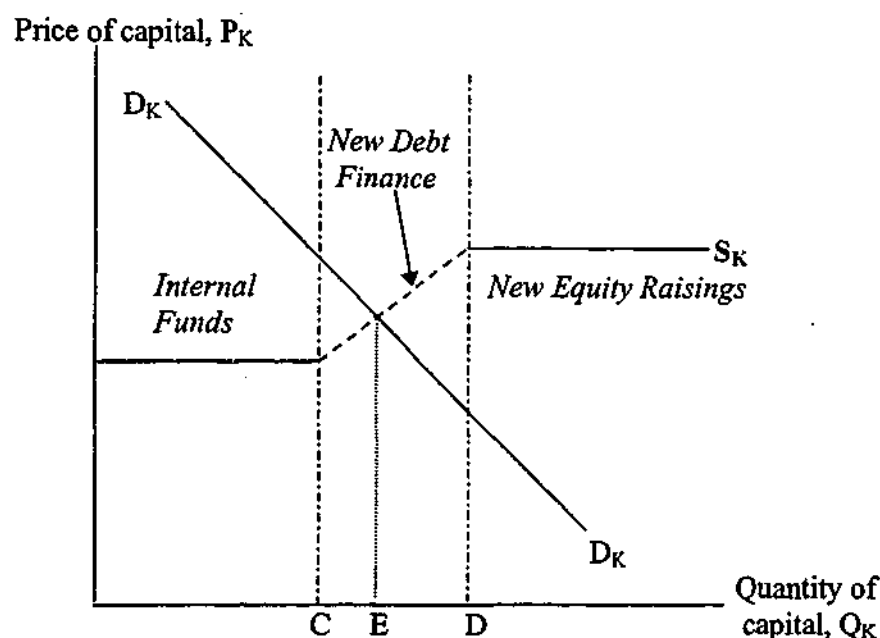
<sup>27</sup> Stock companies must also hold at least \$5 million of eligible assets (ie. assets in addition to those held by statutory funds) more than total liabilities, excluding share capital liabilities and the liabilities of statutory funds. Non-stock companies must hold eligible assets of at least \$10 million.

<sup>28</sup> Listed life insurance companies are subject to the listing rules imposed on all member companies by the Australian Stock Exchange. Most of these rules relate to disclosure and reporting requirements.

#### 4.3.4 The Capital Supply Function for Stock Life Insurance Companies

The capital supply curve for stock life insurance companies does not depart radically from the standard supply schedule. The two main differences are first that internal funds are available from the financial assets of the company's statutory funds in addition to retained earnings. Second, external borrowing capacity is limited to half of each fund's excess reserves. Applying the "financing hierarchy" approach, the impact of these differences is shown graphically in Figure 4.8 below.

**Figure 4.8: A Capital Supply Function for a Stock Life Insurance Company**



The capacity for *intra*-company provision of debt and share funds enlarges the supply of internal funds as a source of capital. For example, a company's Statutory Fund No.1 could use some of its financial assets to extend a loan to Fund No.2 or to purchase shares in a subsidiary of the company. While such loans and share purchases may be commercially based, internal provision would have the advantage of avoiding information asymmetries that raise the price of external finance. Thus, even if a life insurance company and a non-financial firm had similar demand schedules – if, for example,  $D_K$  in Figure 4.8 above was roughly the same as  $D_J$  in Figure 4.7 – a larger proportion of capital might be supplied from internal funds for a life insurance company than for a non-financial firm.

That is, comparing the maximum available amount of internal finance shown in Figure 4.8 with that shown in Figure 4.7,  $C > A$ .

For companies with scope to accumulate large amounts of excess reserves, an option would be to avoid recourse to external finance by relying on internally generated funds.<sup>29</sup> Alternatively the company could augment retained earnings by providing the maximum financing from intra-company sources permitted under the legislation in order to reduce the need for external funding. In Figure 4.8 this would mean expanding the amount of internal funds available from  $C$  to  $E$  (or beyond). Competitive product markets will restrict the extent to which excess reserves can be earned and retained by the company instead of being credited as bonuses on participating policies.

Competition in product markets also means that intra-company provision of debt and equity finance will only occur where market rates of return are paid (adjusted for any transaction cost and risk differences). In addition, competitive capital markets, allied with pressure from the takeover market, should limit excessive retention of earnings, which increases the potential for managerial opportunism, at the expense of dividend payments to shareholders. Thus, a stock company's management will face limits on its capacity to retain substantial amounts of excess reserves even if product market competition is weak due, for example, to high switching costs of many life insurance products (see, eg. Babbel 1985, pp227, 235; Schlesinger and von der Schulenberg 1993) or to regulation-imposed entry barriers.

Borrowing restrictions may reduce life insurance companies' use of debt finance. However, stock companies' ability to raise equity enhances their borrowing capacity. A stock company's equity raisings can augment the excess reserves of a statutory fund.<sup>30</sup> Furthermore, in the event of financial difficulties, stock companies have the option of raising more equity capital in order to avoid default, which reduces the risk attached to their borrowings.

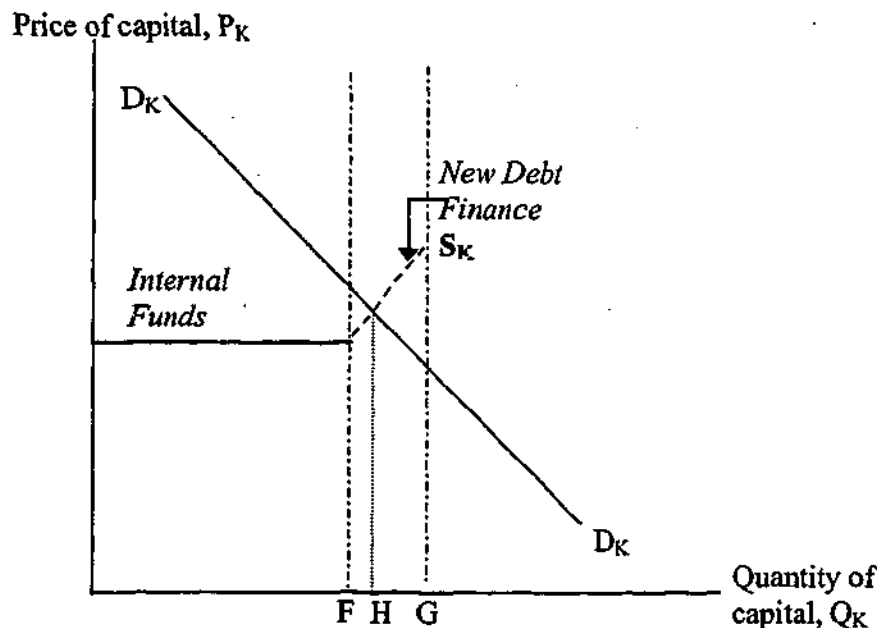
<sup>29</sup> Large excess reserves might result, for example, from a favourable shift in the mortality distribution from that anticipated at the time policies were sold. Alternately, weak product market competition might allow excess profits to be earned.

<sup>30</sup> S.37 of the *Life Insurance Act 1995* permits companies to make capital payments to their statutory funds.

#### 4.3.5 The Capital Supply Function for Mutual Life Insurance Companies

The capital supply function for mutual life insurance companies shows two additional differences from the standard capital supply function, as well as those noted in the context of stock life insurance companies. First, and most obvious, mutual companies are unable to raise equity capital. Thus the capital supply schedule  $S_K$  shown in Figure 4.9 below has only two segments, relating to internal finance and new debt finance.

**Figure 4.9: A Capital Supply Function for a Mutual Life Insurance Company**



Mutual companies' inability to raise equity has an impact on the availability of external debt finance. The amount of debt finance potentially available, i.e. the difference between  $F$  and  $G$ , is determined by the amount of excess reserves held by the company. External borrowings are limited by legislation to a maximum of half of a statutory fund's excess reserves. Since equity finance is not available, mutuals are unable to augment their excess reserves with additional equity raisings, as stock companies can.

Other features of mutual ownership might further restrict the availability of debt finance. With no capacity to raise additional equity, creditors' desire to maintain a reasonable level of leverage places a limit on total debt finance available to mutuals. For most companies however, the legislative limit on borrowings is likely to be a more binding constraint. In addition, the lower quantity and quality

of information publicly available about a mutual company could boost the risk premium added to the interest rate charged on external borrowings, making external finance more expensive for mutual companies than for stock companies.

The second difference derives from the possibility that mutual companies, like stock companies, could avoid recourse to external finance by relying on internally generated funds if they have scope to accumulate large amounts of excess reserves or to access large amounts of financing from intra-company sources (or by a combination of both). In Figure 4.9 this would mean expanding the amount of internal funds available from *F* to *H* (or beyond). Strong competition in life insurance product markets will restrict the extent to which firms can accumulate excess reserves and retain them instead of crediting them as bonuses to participating policyholders. Product market competition will also limit intra-company provision of debt and equity finance to the quantities of debt and equity on which market rates of return can be paid (adjusted for any transaction cost and risk differences between internal and external finance). However, unlike stock companies, mutual companies do not experience pressure from shareholders or from the takeover market to check excessive retention of earnings. Therefore if product market competition is weak, mutual companies may be able to accumulate large amounts of excess reserves.

Mutual companies' capacity to accumulate substantial excess reserves, leading to over-capitalisation, was hypothesised in Chapter 3 to be a key explanation for sustained mutual dominance of the Australian life insurance industry. In contrast, inadequate access to capital, producing under-capitalisation, was proposed as a major rationale for demutualisation. The next section identifies the specific industry demand and supply conditions that give rise to a situation of over-capitalisation of mutual companies and the alternative conditions that generate mutual under-capitalisation. The analysis focuses on the strength of product market competition, which was argued in this section to determine mutual companies' capacity to accumulate large capital reserves – a crucial component of mutual capital supply. The second element of the analysis is industry product mix, which was shown in section 4.2 above to be a critical determinant of capital demand by life insurance companies.

#### **4.4 Competition and Product Mix in Life Insurance Product Markets and Their Impact on Capital Access**

This section investigates the impact on capital access of differences in product market competition and in the relative shares of different types of products by contrasting two sets of industry conditions. First is an industry dominated by sales of 'traditional' products, ie. permanent life protection policies, and characterised by a low level of competition among life insurance companies. The second case features a greater share of temporary life protection policies and investment-linked saving products combined with strong product market competition.

##### *4.4.1 Dominance of Permanent Life Protection Policies with Low Competition*

Permanent life protection policies were shown in section 4.1 to have large prudential capital requirements and substantial new business costs that require partial financing from capital funds until they are fully recouped. Section 4.2 established that a larger proportion of permanent life protection policies in the product mix generates greater capital demand at all prices of capital than product mixes with a lower proportion of these products. Thus life insurance companies with a product mix dominated by these policies will have large capital demands.

Mutual companies were shown above in section 4.3.5 to place a relatively heavy reliance on internal funds as a source of capital (compared to stock life insurance companies and standard non-insurance firms), due to regulatory restrictions on borrowing and their constitutional inability to raise share capital. The combination of a heavy reliance on internal funds and a substantial demand for capital is likely to prompt managers of mutual companies to attempt to accumulate sufficient excess reserves to meet their current and expected future capital needs.

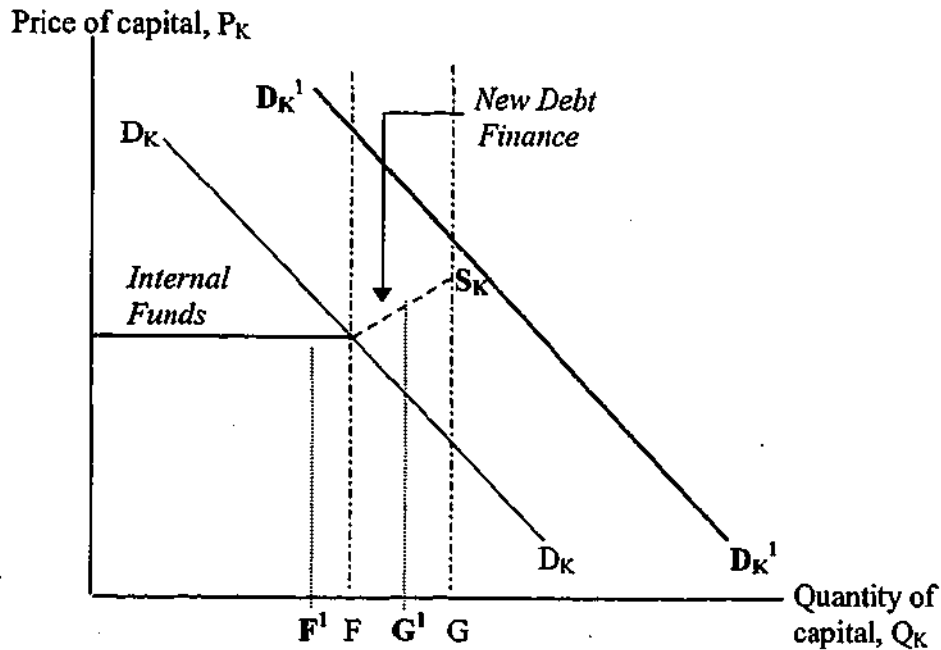
The incentives for a mutual company's management to accumulate large quantities of excess reserves become obvious from considering the consequences of inadequate internal capital funds to meet an outward shift in the demand for capital. Suppose the demand schedule for permanent life protection policies shifts out.<sup>31</sup> With unchanged premiums, the total volume of life insurance products will

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<sup>31</sup> Higher demand could result from, for example, introduction of a tax subsidy for these policies, stronger real income and/or employment growth, or a shift in consumer preferences towards such policies. I assume that the average new policyholder presents essentially the same insurance risk as

increase. Since  $\partial D_K / \partial VOL > 0$ , the capital demand schedule will also shift out as shown by the movement from  $D_K$  to  $D_K^1$  in Figure 4.10.

**Figure 4.10: The Impact of Greater Product Demand on a Mutual Life Insurance Company's Capital Demand and Supply**



If internal funds were only just sufficient to meet capital demand before the boost to product demand, a significant increase in capital demand will result in a shortfall in the available supply of capital from internal and external sources, as illustrated in Figure 4.10. In fact, the *expenditure* of some existing excess reserves on the new business costs incurred in expanding policy sales will reduce available excess reserves in the next period (although *prudential* reserves will be higher reflecting increased provision for mortality and earnings risks on the larger quantity of insurance in-force). The point  $F$  will therefore move inwards to  $F^1$ , assuming no change in the availability of intra-company loans, due to the reduction in the amount of excess reserves.

Since the maximum amount of permissible unsecured borrowings is based on the quantity of excess reserves, access to external borrowing is also reduced. Therefore the mutual company's supply curve for capital will terminate at a lower maximum quantity of capital following the positive product demand shock. That

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the average of existing policyholders to simplify illustration of the consequent shift in the capital demand curve.

is, the total quantity of capital potentially available from both internal and external sources might end at point  $G^j$  for example, rather than at point  $G$  as before the demand shock. A reduction in the maximum supply of capital further worsens the shortfall in capital needed to take full advantage of the opportunities offered by increased product demand.

Once sufficient premium income has been earned on the new policies to recoup their sale and establishment expenses – after the first two years or so – premium income net of expenses becomes positive. The new policies will then add to reserves and possibly, over time, restore excess reserve levels. But in the short term, the impact on capital supply is negative. When the mutual company's initial holding of excess reserves is low, its growth capacity in the event of a significant increase in product demand is constrained. In other words, *the company will be under-capitalised.*

Until excess reserves are rebuilt, the mutual company will be hampered in its capacity to compete with companies that have greater access to capital. Any consequent loss of market share, which has a negative impact on the company's reputation or on scale economies, would then be negative for reserves in the long run.<sup>32</sup> If however the company had a substantial amount of accumulated excess reserves, a long period of rapid growth in new policy sales would have to occur before the company's growth capacity was diminished.<sup>33</sup>

<sup>32</sup> A life insurance company's reputation might be damaged by a period of growth significantly slower than the industry average if large size and strong growth are equated with prudential strength by existing and/or potential policyholders. In addition, policyholder difficulties in adequately assessing the features of life insurance policies might lead them to use relative growth in policy sales as a signal of policies' relative quality. Metrick and Zeckhauser (1999) suggest that, in markets where quality differentials are sufficiently small and the proportion of poorly informed consumers sufficiently great, high-quality producers will compete with low-quality producers on quantity, not on price.

<sup>33</sup> Reinsurance allows companies to reduce their prudential capital demand by shifting mortality risk to the reinsurer. Whether companies choose to reinsure or to accumulate excess reserves depends on the relative costs of each option. Mutual companies operating in traditional life insurance product markets with low competitive pressures are likely to perceive the net costs of reserve accumulation as less than the cost of reinsurance. Payment of reinsurance premiums reduces 'free cash flow' and managerial discretion while reserve accumulation has the opposite effect (this argument has similarities to Jensen's 'free cash flow' hypothesis summarised in Chapter 2, section 2.4.1). This proposition may explain why Adams and Hossain's (1996) study found that mutual companies were less reinsured than stock life insurance companies, contrary to their prediction based on monitoring costs.



A mutual that does not hold large accumulated excess reserves therefore faces a notable risk in the event of a significant increase in product demand. 'Excessive' retention of earnings may in fact be an expedient response by management to the constraints imposed by the mutual form. *Accumulation of large excess reserves helps mutuals to avoid the risk of missed growth opportunities and loss of market share to competitors caused by insufficient access to capital (under-capitalisation).*

Reserve accumulation then forms a sensible strategy for managers by underpinning their employment security. This argument accords with Hansmann's contention that there is

*one costly managerial perquisite – excessive retention of earnings – that is not easy to detect or proscribe, that is likely to bring approval rather than censure from friends and colleagues both inside and outside the firm, and that is generally encouraged rather than checked by managers' desires to retain or build their empire. Retentions benefit managers by creating a buffer against adversity and by increasing the size of the firm that the managers control. ... And because excessive retention of earnings tends to enhance rather than decrease the survival value of the firm, those firms that are particularly subject to this tendency ... may actually be favoured rather than pressured by the invisible hand of market selection. (Hansmann 1996, p38)*

Davis makes a similar point. He notes that mutual firms have an incentive towards "excessive safety". By minimising the risk of institutional failure, managers increase their expected lifetime compensation since it is a function of tenure as well as total remuneration and perquisites (1995, p51). The reduction in firm risk also benefits policyholders, particularly those holding long-lived 'permanent' policies. Davis suggests that uninformed, risk-averse individuals may prefer mutual firms for this reason (1995, pp318-19).

However, 'excessive' reserve accumulation imposes costs on mutual policyholders. First, reserve accumulation to finance future growth creates an 'intergenerational transfer' from the policyholders who contributed the accumulated surpluses to those purchasing policies at the time of the expansion. In effect, previous generations of policyholders pay for the capital used to finance sales to new policyholders and to expand the prudential asset backing of all

policies.<sup>34</sup> These costs are likely to exceed any benefits from a reduction in firm risk to the policyholders contributing the surpluses (see Davis 1995, p322).

A second cost to policyholders results from the incentive for a mutual company's management to use available internal funds to expand its company's sales beyond the efficient level. Alternatively management might dissipate some of the accumulated reserves on higher expenses, eg. higher salaries, better perquisites, or larger staffs. Figure 4.11 illustrates the impact of an expansion in policy sales up to the point where all available internal capital funds are used. The efficient quantity of capital is at  $N$ , which leaves some available internal funds unused, shown by the difference  $(N - L)$ . The unused internal funds should optimally be used to reduce premiums or to credit higher bonuses on participating policies. However management has two compelling incentives to extend the size of the company: (i) to safeguard their own tenure and human capital investments, and (ii) to provide personal benefits from a larger empire. Jensen states:

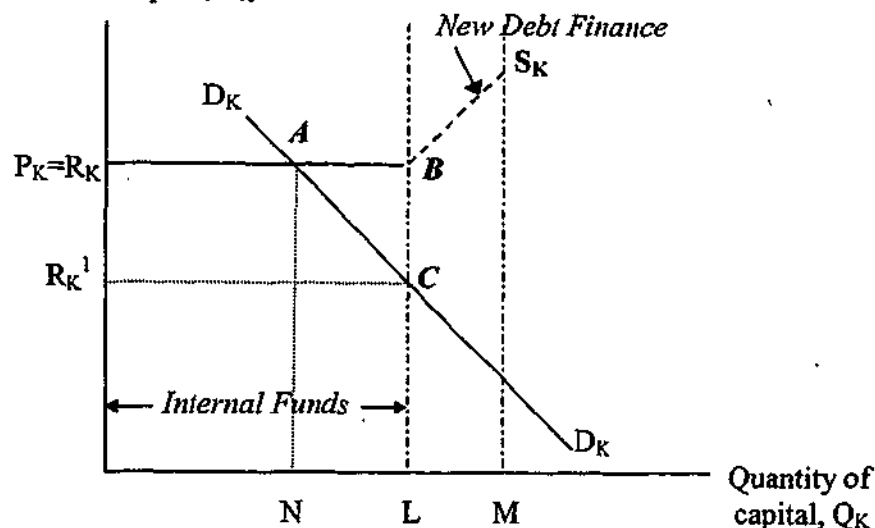
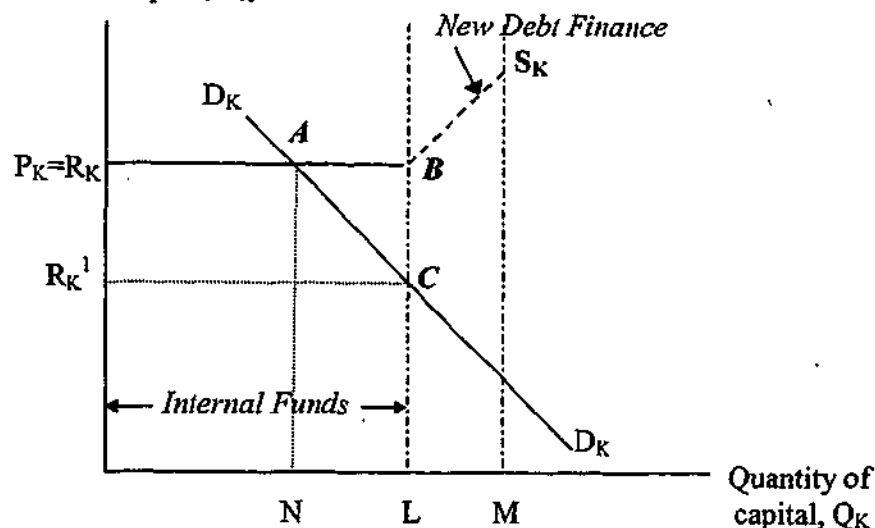
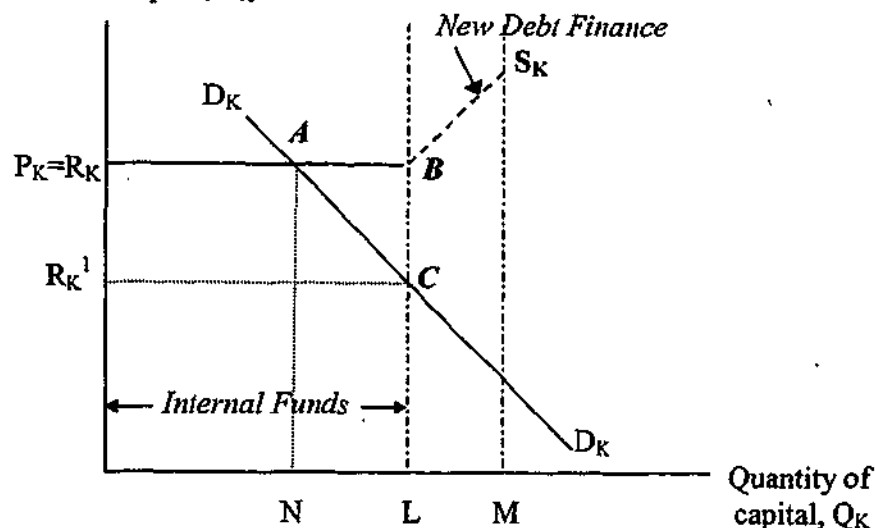
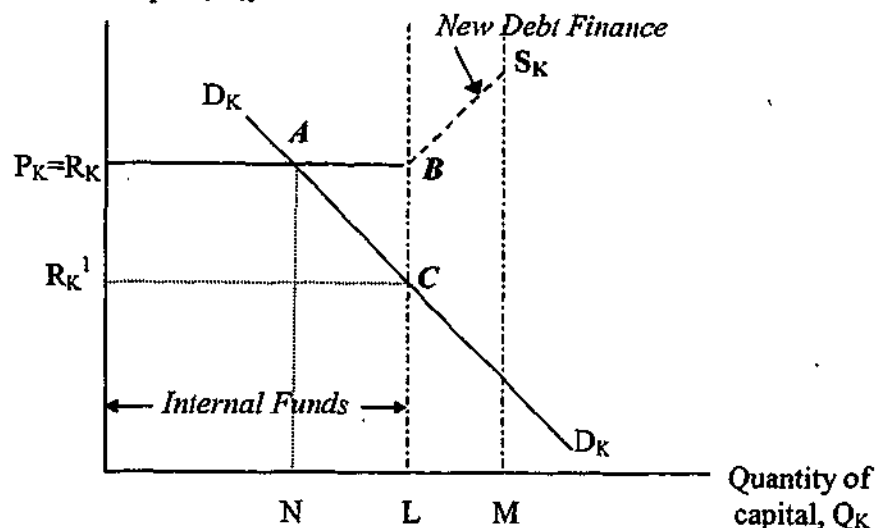
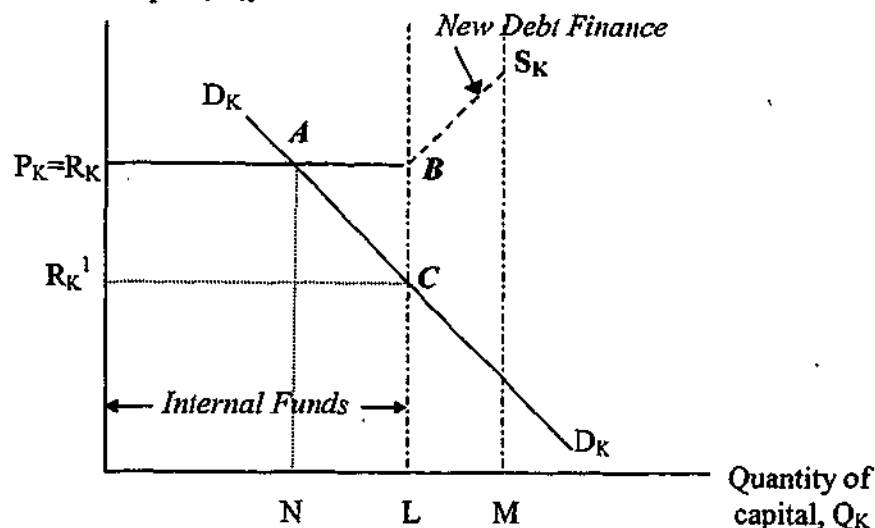
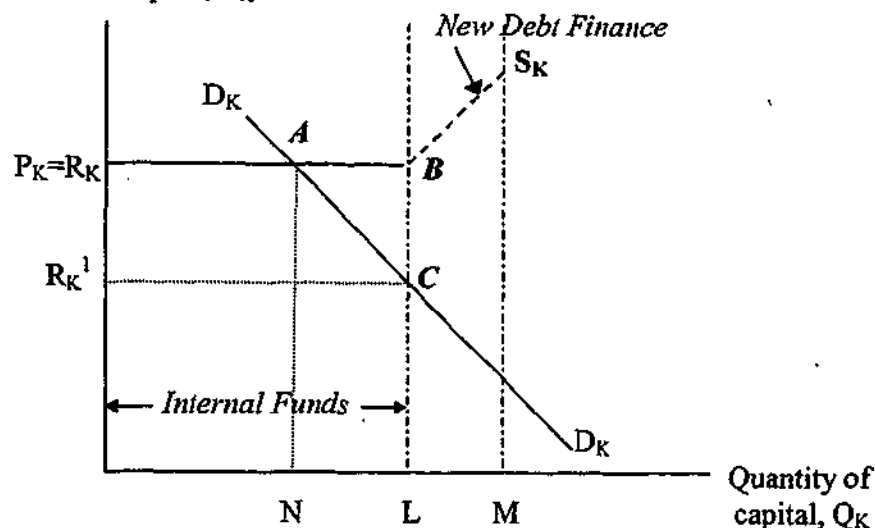
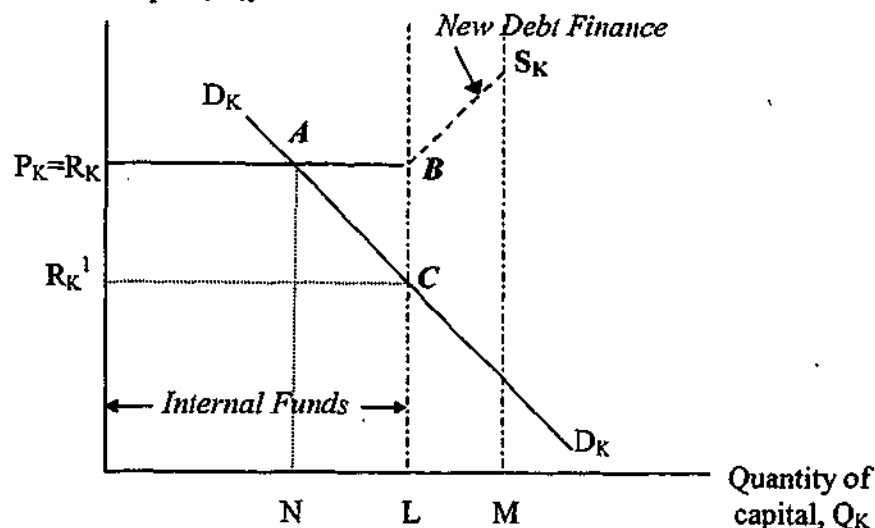
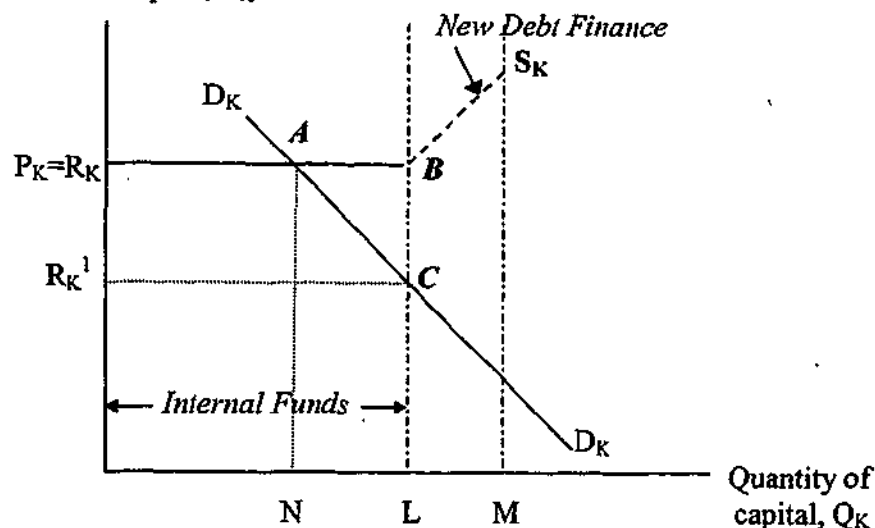
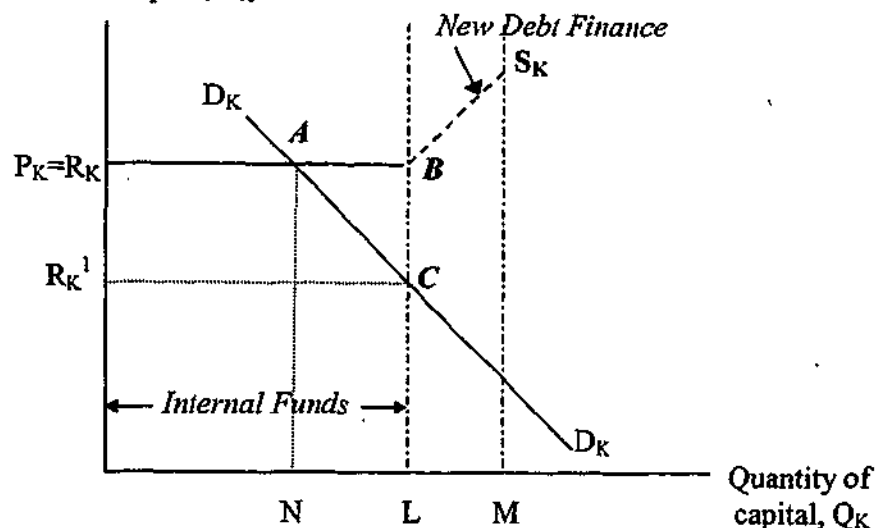
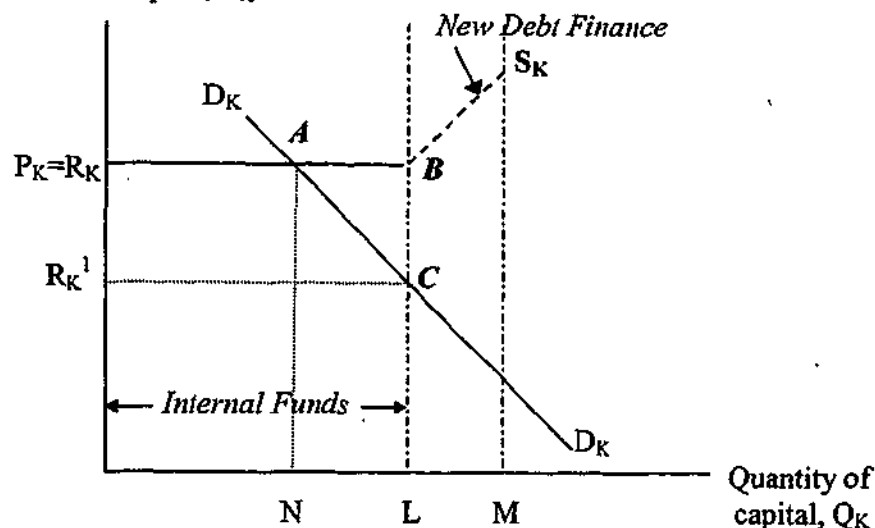
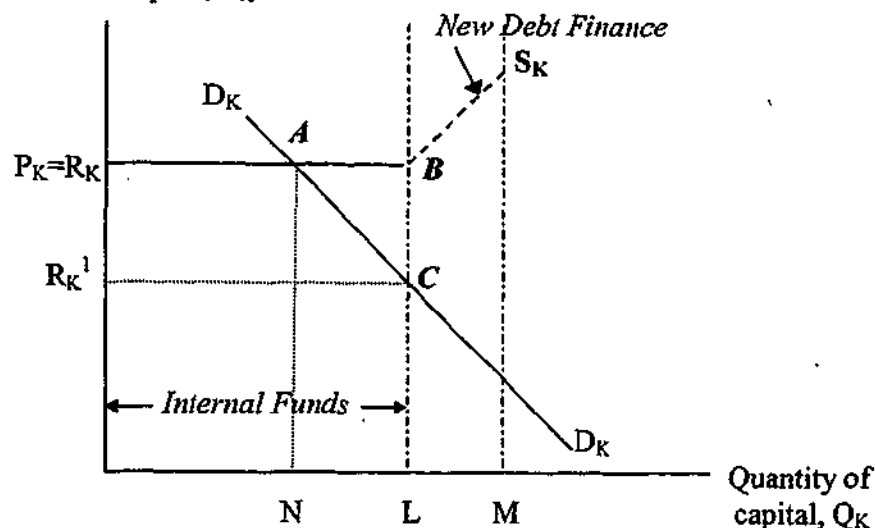
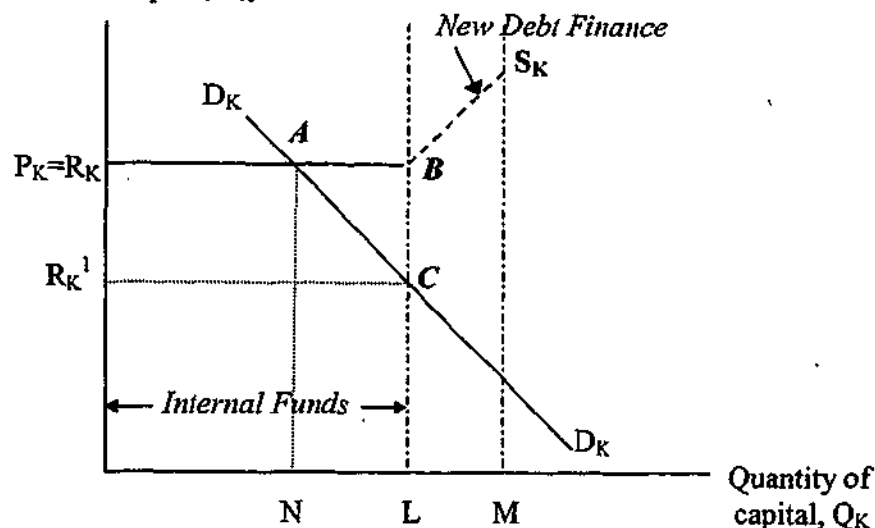
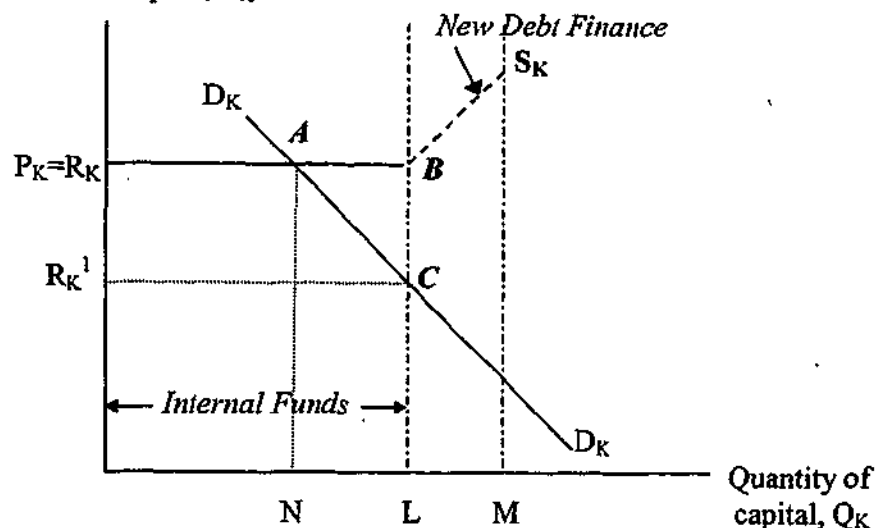
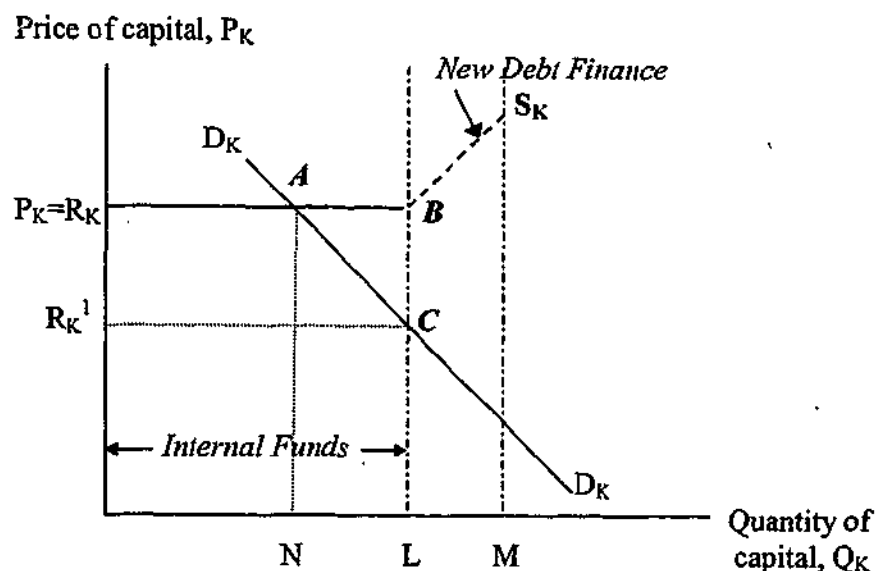
*Managers have incentives to cause their firms to grow beyond the optimal size. ... Growth increases managers' power by increasing the resources under their control. It is also associated with increases in managers' compensation, because changes in compensation are positively related to the growth in sales. (1986, p323).<sup>35</sup>*

Consequently, given the opportunity, management may choose to utilise all available internal capital funds to finance further expansion in policy sales. Thus the actual quantity of capital used may be the total quantity of internal funds  $L$ .

<sup>34</sup> Section 2.3.2 in Chapter 2 discussed intergenerational transfers between policyholders.

<sup>35</sup> Kanninen (2000) and Zwiebel (1996) also discuss managerial empire building.

**Figure 4.11: Inefficient Use of Accumulated Internal Funds by a Mutual Life Insurance Company**



At quantity  $N$ , the rate of return on capital from the marginal project is  $R_K$  which is equal to the opportunity cost of capital (its shadow price),  $P_K$ . Additional investments beyond the efficient point  $N$  earn a rate of return that falls short of the opportunity cost of the capital used. Thus, at quantity  $L$ , the rate of return on capital from the marginal project is  $R_K'$  and  $R_K' < P_K$ . Thus excessive use of capital to over-expand product sales generates an inefficiency shown by the triangle  $ABC$ . The inefficiency may be manifested in a number of ways. One example is higher expenses resulting from higher commissions or bonus payments to sales agents who make more than a specified quantity or value of sales, which constitutes a transfer from policyholders to sales agents. A second example is entry fees or premiums that fall short of costs on new policies. A third example is higher capital guarantees than warranted by realistic investment earnings forecasts. These two inefficiencies create a transfer between groups of policyholders.

However the full extent of any transfers among policyholders, and in particular the extent of intergenerational transfers among policyholders, cannot be shown on the above diagram. The full extent of transfers among policyholders reflects the implicit or actual rates of return actually credited to the policyholders from whom the internal funds were accumulated. Even if, in a specific period, the mutual company earns a rate of return at least equal to the opportunity cost of the capital

employed, it might still credit a lower rate of return to its policyholders in order to add to its internal capital reserves. Therefore transfers from policyholders might still occur despite an efficient use of capital in that particular period. Davis describes surplus retention by cooperatives in order to accumulate capital reserves as a tax on current members, the benefits from which are obtained by future members (1997a, p322).

Despite the lower return obtained from investing in the company's own growth up to quantity  $L$ , shown in Figure 4.11 above, there may be little or no pressure from policyholders to optimise the use of internal funds. As explained in Chapter 2, mutual policyholders have little incentive to invest much time and effort in monitoring the company's overall performance. Mutual company managers may therefore have both strong incentives to accumulate large excess reserves and scope to use these reserves to expand the size of the company.

The strength of competition in the product market is however a crucial determinant of the amount of excess reserves that can be amassed. Weak product market competition and high policyholder information acquisition costs are fundamental to permit companies to accumulate excess reserves at policyholders' expense. In order to make surpluses on policies in-force, premiums must exceed the true cost of meeting contractual promises, ie. the costs of life protection based on mortality probabilities and of earning the implicit rates of return promised on saving. To retain these surpluses, crediting rates to mutual policyholders will be lower than the bonuses warranted by company profitability. In a competitive product market, higher premiums and lower crediting rates than those offered by competitors would prompt existing policyholders to transfer their business to lower-cost insurers and new policyholders to choose a lower-cost company. Where competition is weak, however, insurers charging higher premiums and crediting lower bonuses than other firms offering comparable policies will be able to operate profitably.

A sizeable literature exists to support the contention that high switching costs "lock-in" policyholders and deter the transfer of insurance business to lower-cost insurers (Adams and Hossain 1996, p23; Babbel 1985, p235; Blair 1991, pp36 & 45; Boose 1988, p76; 1990, p500; Johnston-O'Connor, et al. 1984, p217;

Parsegian 1985, p44; Schlesinger and von der Schulenberg 1991, 1993). Heavy search costs, including those resulting from consumer difficulties in understanding complex permanent life protection policies, imply that non-extensive price searches may be optimal (Babbel 1985, p227; Blair 1991, pp36 & 45; Crosby and Stephens 1987; Johnston-O'Connor, et al. 1984; Schlesinger and von der Schulenberg 1991).<sup>36</sup> In addition, policyholders will be rationally unaware of the extent of the retained surpluses due to high information costs. High product differentiation increases policyholder information costs and, as noted in Chapter 3 (section 3.3), may be utilised by companies in order to reduce competitive pressures even further.

In contrast to mutual companies, the managers of stock companies have fewer incentives to accumulate large excess reserves and less scope to retain excess reserves. Stock companies are not subject to the same risk that mutual companies face, that is the risk of inadequate access to capital following a significant increase in product demand. Provided capital markets are reasonably efficient, stock companies will be able to raise additional equity capital to finance enhanced growth opportunities in permanent life protection policies.

New equity raisings can replace the excess reserves expended on the new business costs of expanding policy sales. Equity capital will therefore maintain or enlarge the company's capacity to borrow external funds. Creditors may be willing to extend loans, to the maximum prescribed under the legislation, at a lower rate of interest than before the product demand shock because the expansion in equity held by the company lowers leverage and reduces creditors' risk in lending funds to the company. As noted in section 4.3.1,  $\partial S_K / \partial RELRISK < 0$ . Thus, an outward shift in the product demand curve *improves* stock companies' access to capital by reducing the risk premium included in the price of capital and shifting the capital supply curve down. Therefore they do not need access to large accumulated excess reserves as mutual companies do.

<sup>36</sup> Babbel notes that price-elastic demand is not inconsistent with low competition on price for whole-of-life insurance, due to the complexity of price and quality comparisons and large search costs. "A consumer's decision of whether to purchase and how much to purchase from a particular company could still be responsive to the perceived price, regardless of whether price comparisons have been made" (Babbel 1985, p227).

Furthermore attempts by a stock company to accumulate excess reserves, for example to avoid monitoring by external capital providers and broaden managerial discretion, will elicit negative consequences for the company's management. The deterioration in profitability caused by excessive expansion would prompt a downgrading of the company's valuation by stockmarket participants, leading to a fall in the share price and pressure on management to improve profit performance. Poorer profit performance, and the increase in leverage consequent on the fall in the company's share price, would also increase the company's default risk and thus the risk premium demanded by debt providers. Furthermore, large under-utilised reserves in stock companies would attract takeover bidders who would use the reserves better, a mechanism that is absent for mutual companies. For stock companies then, pressures from the capital market set a limit on the level of excess reserves the company can retain even if low product market competition allows firms to generate excess reserves.

In summary, conditions of low product market competition and dominance of permanent life protection policies in the product mix cause mutual companies' access to capital to diverge markedly from that of stock companies. Mutual companies will have the opportunity and the incentives to generate and retain large amounts of accumulated reserves. Their managements also have an incentive to utilise these reserves to expand policy sales beyond an efficient level. Large accumulated excess reserves generate a path dependency that safeguards the mutual ownership form by subsidising its expansion. In sharp contrast, while weak product market competition gives stock companies scope to produce excess reserves, they lack the incentives and the discretion to retain such reserves. A study of US life insurers by Wells, Cox and Gaver (1995) supports the prediction that mutual companies will retain greater amounts of 'free cash flow' (a concept very similar to excess reserves) than stock life insurers.<sup>37</sup> Under these industry conditions, mutual companies' more favourable access to capital allows them to

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<sup>37</sup> Wells et al.'s study was based on a sample of 277 mutual and 1,015 stock life insurers in a single year (1989) and used undistributed cash flow as a proxy for free cash flow. They obtained a significant negative coefficient on the organisational form variable and a significant positive coefficient on firm size, reflecting greater monitoring costs in larger firms (1995, p62). Their results did not support their prediction that a higher default risk motivates greater retention of cash flow (1995, p63).

achieve higher market shares than stock companies, although at a cost to mutual policyholders.

#### *4.4.2 Predominance of Temporary Life Protection Policies and Investment-Linked Saving Products with Strong Competition*

A prevalence of temporary life protection policies, like term life insurance, and investment-linked saving products in the product mix combined with strong competition in product markets creates a very different set of industry conditions than those considered above. First, investment-linked saving products create no capital demand requirements while the prudential capital demand associated with term life policies is small, in contrast with the large capital needs of permanent life protection policies. Expansion of sales of these products is not reliant on access to capital (except for small quantities of working capital) since these products are self-financing. That is, selling and administrative costs are recouped from the first premium payment as noted in section 4.2.2. Without significant capital needs, differences in capital supply become unimportant. Therefore, neither mutual nor stock companies obtain an advantage in these product markets due to differential capital access, in contrast with the case of permanent life protection policies.

Second, strong product market competition implies that the survival of individual firms, whether mutual or stock owned, is determined by their capacities to keep costs down, to price competitively, and to ascertain and provide those combinations of quality and price attributes desired by life insurance purchasers. It is reasonable to expect that the markets for term life policies and investment-linked saving products (and also capital-guaranteed saving products) are more competitive than the market for permanent life protection policies. Term life policies and saving products are less complex and thus easier to compare to similar products offered by competitors than whole-of-life policies are. Since they lack the "lock-in" characteristics of permanent life protection policies, switching costs are lower.

Thus, neither ownership form will have any inherent advantage based on capital access in the provision of competitive temporary life protection policies and investment-linked saving products. Relative efficiency will be the determinant of

profitability and long-term survival in these product markets. The theoretical and empirical evidence presented in Chapter 2 suggested that stock companies tend to operate at higher levels of efficiency than mutual companies. This conclusion implies that stock companies will perform more successfully than mutual companies in these product markets.

#### *4.4.3 Product Specialisation by Mutual and Stock Companies*

Comparison of the implications for ownership form of the two sets of industry conditions presented above suggests an alternative explanation for 'line-of-business' specialisation by stock and mutual companies than the managerial discretion hypothesis (see Chapter 2, section 2.8). The life insurance industry can reasonably be categorised into two main segments. In the market for permanent life protection policies, conditions support an outcome that advantages mutual companies with large accumulated reserves. These firms are able to finance greater expansion in policy sales than stock companies can. In the second segment, including investment-linked saving products and temporary life protection policies, stock companies are advantaged by their superior efficiency relative to mutual companies.

Mutual and stock companies will coexist by specialising in the business lines where they have a comparative advantage. Mutual companies will specialise in permanent life protection policies, using their accumulated reserves to finance continued growth. Weak competition in this product market will permit an ongoing flow of policy surpluses to maintain or add to reserve levels. Stock companies will specialise in the more competitive product lines, ie. term life policies and investment-linked saving products. These propositions correspond with the evidence of specialisation by business lines presented by Blair (1991) for Australian mutual and stock companies.

#### **4.5 Expansion into Non-Insurance Business**

Life insurance companies have since the 1980s sought to expand their operations into non-insurance financial services, such as banking.<sup>38</sup> What conclusions does

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<sup>38</sup> Saving products, particularly investment-linked products, are strictly a funds management service rather than a traditional life insurance service. Investment of superannuation funds falls into the same category.



the model presented in this chapter imply about the relative prospects of stock and mutual companies in broadening their business bases into other financial services?

Let us consider the provision by a life insurance company of retail banking services through a fully owned subsidiary. The bank subsidiary will incur substantial start-up costs in establishing a branch network.<sup>39</sup> Alternatively a life insurance company might seek to add an established subsidiary through acquisition, incurring substantial acquisition costs. In addition, the subsidiary might have a significant demand for capital to meet capital adequacy standards. Colonial Mutual, for example, demutualised in part to satisfy Reserve Bank capital adequacy requirements following its takeover of the former State Bank of NSW.

A mutual company subsidiary can obtain capital from two sources in addition to retained earnings. First, the mutual's statutory funds can either extend loans to or buy shares in the subsidiary, up to the limits imposed by legislation. The availability of such finance depends on the amount of reserves held by statutory funds and the subsidiary's capacity to pay commercial rates of return. Second, the subsidiary can borrow on a commercial basis since it is not bound by the legal limitations on borrowings imposed on life insurance business. However, borrowing by a fully owned subsidiary of a mutual company may be constrained by investor concerns about the subsidiary's debt-equity ratio unless the mutual parent is able to provide a substantial equity investment. A stock company-owned subsidiary has access to the same sources of capital as a mutual-owned subsidiary but with one key difference. The stock company can raise equity to inject capital into its subsidiary to finance expansion. Equity injections by the parent improve not only the subsidiary's direct capital access but also its borrowing capacity. Greater parent equity in the subsidiary, and the ability to raise further equity if necessary, would alleviate investor concerns about the subsidiary's leverage. Consequently the capital supply for the subsidiary of a stock company exceeds that for a mutual-owned subsidiary. A mutual company with substantial reserves

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<sup>39</sup> Branch establishment costs are substantial despite recent efforts by banks to reduce the size of the branch network required, eg. promotion of telephone banking, wider provision of electronic funds transfer facilities in retail outlets, and lower charges for use of ATMs relative to in-branch transactions.

may be able to finance adequately a fairly small subsidiary. Once a particular size has been reached relative to reserves, the subsidiary could start to experience a constraint on its growth capacity due to under-capitalisation.

Under the industry demand and supply conditions described in section 4.4.1, mutual companies may be able to accumulate sufficient excess reserves to meet all of their expansion demands. However, under the very different conditions described in section 4.4.2, mutual companies' scope to accumulate large excess reserves is severely limited, leading to under-capitalisation when substantial profitable expansion opportunities exist. Thus mutual companies' desires to become financial service providers contributes part of the explanation for the transformation of their capital positions from one of over-capitalisation, as described in section 4.4.1, to one of under-capitalisation where growth is constrained by inadequate access to capital. Opportunities to expand into new financial services have been created by financial market deregulation that removed the strict segmentation of the finance industry. Chapter 5 reviews the history of regulatory change since the 1970s.

#### **4.6 Summary of Chapter 4**

Chapter 3 posed two crucial questions: the first asked which type of industry conditions give rise to mutual over-capitalisation while the second concerned the changes in industry conditions needed to transform a situation of over-capitalisation to one of under-capitalisation. The model developed in this chapter provides answers to these questions.

The first set of industry conditions – the one that produces mutual over-capitalisation – features a product mix dominated by permanent life protection policies and weak product market competition. These conditions give mutual life insurance companies scope to accumulate large excess reserves. The absence of significant pressure on mutual company managements to redirect excess internal funds to more productive uses, combined with managers' incentives to ensure sufficient capital supplies to finance growth opportunities, means that "capital tends to get locked into non-profit firms" (Hansmann 1996, p241). Substantial managerial discretion under the mutual ownership form permits the use of excess reserves to finance over-expansion of mutual companies' product sales and

increases in their market shares. Mutual ownership is, under these conditions, advantaged by easy access to "cheap" capital – provided the true costs to policyholders are not taken into account.

A shift away from the traditional life insurance company products to more highly competitive products lacking the large capital demands of permanent life protection policies removes the mutuals' capital-based advantage over stock companies. Stronger product market competition makes relative efficiency the driving force in determining relative profitability and long-term survival. Strong competition also reduces mutual companies' scope to accumulate large internal reserves. Under these industry conditions, mutual companies will be vulnerable to under-capitalisation due to their inability to raise equity capital. Mutual companies may not have access to sufficient capital to finance major acquisitions or expansion into non-insurance service provision. Industry rationalisation prompted by stronger competitive pressures may make growth through acquisition critical for maintaining a company's relative market position. The inherent mutual constraint on external capital access will, under these conditions, damage mutual companies' long-term growth capacity.

Under both sets of industry conditions, the assumption that capital markets are reasonably efficient ensures that stock companies are neither over- nor under-capitalised. Monitoring by the stockmarket, the threat of management replacement in the event of poor performance, and performance feedback through the company share price push stock company managements to operate efficiently.

A key implication of these capital and efficiency differences is that *mutual and stock companies can coexist by specialising in the business lines where they have a comparative advantage*. Mutual companies will specialise in permanent life protection policies, financing continued growth with excess reserve accumulation made possible by weak product market competition. Stock companies will specialise in the more competitive product lines of term life protection and investment-linked saving. Depending on the relative size of these industry segments, either mutual or stock companies may be able to dominate the industry.

Several testable hypotheses follow from these conclusions:

1. **A large proportion of permanent life protection policies in the product mix and weak competitive pressures allow mutual companies with substantial accumulated reserves to dominate the industry.**
2. **A large share of investment-linked saving products and temporary life protection policies in the product mix and stronger product market competition is expected to cause the mutual share of the industry to decline over time (and the stock company share to increase).**
3. **A combination of the above industry conditions with an increase in growth opportunities and industry rationalisation will prompt mutual companies to demutualise to improve their access to capital.**

Changes in the industry product mix and the level of product market competition are caused by changes in a number of exogenous variables. The main exogenous variables identified in this chapter are:

- government regulations affecting the life insurance industry and the demand for its products;
- relative taxation of life insurance products;
- product innovation by competing financial institutions;
- consumer preferences for different types of life insurance products; and
- the level of inflation.

The following chapter tests the three hypotheses listed above against developments in the Australian life insurance industry. Changes in the exogenous variables are evaluated in order to reveal the reasons underlying demutualisation.

## **CHAPTER 5: APPLICATION OF THE MODEL TO THE AUSTRALIAN LIFE INSURANCE INDUSTRY**

This chapter compares historical trends in mutual company shares of the Australian life insurance industry with trends in the industry product mix and changes in existing barriers to competition to test the three hypotheses derived from the model developed in Chapter 4. Government regulation of the life insurance and broader finance industry has had a major impact on the level of competition in the industry. Changes in the regulatory environment and in the relative taxation of life insurance products are linked to changes in the industry product mix and in the mutual share of the industry. Changes over time in the other exogenous variables are also examined for their impact on the industry product mix and competition levels.

Several reasons justify the decision not to apply regression analysis to test the model. First, the small size and high concentration of the Australian industry means that the sample size for any regression analysis would be fairly small and very skewed. In 1999, the top ten life insurance companies held 86 per cent of total industry assets while the share of the top three was more than half of the total. Second, the large number of changes in the regulatory and taxation environment of the industry means that inclusion of dummy variables, even just for the major changes, would significantly reduce the degrees of freedom

available for any regression. Third, the discrete nature of demutualisation, particularly of large mutual companies, imposes discontinuities in the series showing ownership share of assets that could distort regression results. For example, at the time of its demutualisation, AMP accounted for about 30 per cent of industry assets. Fourth, the analysis of historical trends undertaken in this chapter offers a preliminary test of the capital access model. The major contribution of this thesis lies in the development of the model and identification of the critical variables (and the signs of their coefficients) determining ownership structure in the life insurance industry. Estimation of the magnitudes of the coefficients of the exogenous variables awaits further research.

Over the past decade, the Australian life insurance industry has experienced a dramatic shift in ownership structure – from dominance by several large, long-established mutual companies to the almost complete disappearance of mutual-owned companies. This ownership change reflects the conversion of nearly all the Australian mutual companies to stock ownership. Chapter 4 concluded with three testable hypotheses linking the industry's product mix and level of competition to the share of the industry held by mutual life insurance companies. The hypotheses are reiterated here for the reader's convenience.

- 1. A large proportion of permanent life protection policies in the product mix and weak competitive pressures support mutual dominance.**
- 2. A large share of investment-linked saving products and temporary life protection policies in the product mix plus stronger product market competition leads to mutual decline.**
- 3. Greater growth opportunities and industry rationalisation combined with the industry conditions in 2. above prompt mutual companies to demutualise.**

Most of the data presented to test these propositions dates from the 1970s, which marks the start of the period of mutual ownership decline culminating in the recent wave of demutualisations. Changes in the mutual shares of industry assets and new premiums since the 1970s and the demutualisations during the 1990s are examined in detail in sections 5.1.2 and 5.1.3 respectively. But first, section 5.1.1

briefly reviews some key events from the industry's foundation years noted in histories of the Australian industry. The section highlights the early rise to industry dominance by mutual companies and speculates on some factors responsible for kick-starting the process of reserve accumulation by the long-established Australian mutual companies. The remainder of the chapter considers the evidence on industry product mix, competition, and acquisitions in turn and the causes of changes in these variables. Industry trends are found to be consistent with the three propositions from the model.

## **5.1 An Overview of the Australian Life Insurance Industry**

### *5.1.1 A Brief Early History: Mutual Dominance*

This section draws from the literature a number of possible explanations for the early success and rapid rise to prominence of Australian mutual companies. Mutuals' early success underpinned their subsequent long history of successful operation by establishing a number of path dependencies, such as first mover advantages (see Chapter 3). One of the most important path dependencies supporting the mutual companies was the early start they were able to make on the long, slow process of reserve accumulation. Substantial accumulated reserves supported their future survival and growth. The explanatory factors mentioned in this section are necessarily tentative in the absence of a thorough analysis of the industry's early history.

Life insurance policies were first offered in Australia from the early 1800s, initially by UK life offices. From the 1830s and over the remainder of the 19<sup>th</sup> century, many stock companies were founded to sell life and general insurance but their life operations were generally short-lived (see Blair 1991; Gray 1977, chaps. 2-3). The first mutual life insurance company established in Australia was the Australian Mutual Provident (AMP) in 1849, followed by the Mutual Life Association of Australasia (MLA) and National Mutual Life (NML) in 1869. Several other mutual life offices were founded during the 1870s, including Colonial Mutual Life (CML) in 1873 and City Mutual Life in 1879. No mutual life insurance companies were established in Australia after 1881 (Gray 1977, p48).

Mutual companies quickly gained overriding dominance of the Australian life insurance industry. Table 5.1 below shows that seven of the largest eleven life insurance companies in 1905 were Australian mutual companies. By far the biggest mutual company was the AMP, which sold close to half of ordinary in-force business. Of the other four companies in the top eleven, three were US mutual companies, which ceased operations in Australia in the 1920s following adverse findings on life insurance operating practices by the US Armstrong Report. Only one company among the largest life insurers at the beginning of the 1900s was a stock company.

Several reasons have been suggested for the relative lack of success of stock companies during the 1880s. Gray (1977) emphasises the role of philanthropy – a desire by prominent citizens to protect families from penury – in the establishment and success of mutual life insurance companies. However, several alternative explanations appear more convincing. First, mutual companies appear to have been more innovative, offering policies with less restrictive conditions and lower premiums (for example, removing loadings on premium rates for residents of the colonies compared to UK residents). Mutual companies were the first to introduce surrender values on policies and non-forfeiture of policies for non-payment of premiums as long as policies had an available surrender value (Gray 1977, p35).



**Table 5.1: Top Eleven Australian Life Insurance Companies, 1905**

Company	Type of Company	Ordinary Business In-Force, \$m	Share of Top 11, %	Year of Establishment
AMP	mutual	110.9	48.5	1849 <sup>1</sup>
NML	mutual	31.9	14.0	1869 <sup>1</sup>
CML	mutual	21.7	9.5	1873 <sup>1</sup>
MLA	mutual	12.8	5.6	1869 <sup>2</sup>
Equitable Life of the US	US mutual	11.6	5.1	1884 <sup>3</sup>
Citizens' Life	stock	10.6	4.6	1886 <sup>2</sup>
Australian Widows' Fund	mutual	10.3	4.5	1871 <sup>4</sup>
New York Life	US mutual	6.9	3.0	1884 <sup>3</sup>
Mutual Life of New York	US mutual	4.8	2.1	1887 <sup>5</sup>
Temperance & General (T&G)	mutual	3.9	1.7	1876 <sup>6</sup>
City Mutual	mutual	3.0	1.3	1879 <sup>7</sup>

Source: Gray (1977, p122); Insurance and Superannuation Commission, "Half Yearly Financial Bulletin on Life Insurance" (various years)

Notes:

1. Demutualised in January 1998 (AMP), September 1995 (NML), and December 1996 (CML).
2. MLA and Citizens' Life merged to form Mutual Life and Citizens' (MLC) Assurance Company in 1908. Acquired by Lend Lease and renamed to MLC Life Ltd in 1985.
3. Year of starting operations in Australia. Withdrew from Australia and transferred business to NML in 1922 (Equitable Life) and 1924 (Mutual Life of New York). Equitable Life demutualised in the US in 1992.
4. Business taken over by MLC in 1910.
5. Year established in Australia, established in the US in 1843. Withdrew from Australia and transferred business to CML in 1924. Demutualised in the US in 1998.
6. Business taken over by NML in 1983.
7. Changed name to Capita Financial Group in 1986. Demutualised via acquisition by MLC in October 1990.

Second, the crudeness of early mortality tables and scant knowledge of the determinants of individual-specific health risks exposed policyholders and shareholders to severe uncertainty about actual mortality risk and appropriate premium rates (Blainey 1999; Gray 1977, chap. 6; Hansmann 1996, p267 on the US).<sup>1</sup> Uncertainty about aggregate mortality risk prompted life insurers to set premiums and policy payouts conservatively, generating policy surpluses where actual experience was better than had been assumed. In a stock company, shareholders could expropriate these surpluses through higher dividend payments. Mutual ownership and sales of participating policies by stock companies avoided this problem. Bonuses paid on participating policies in effect refunded premium over-payments while the excess surpluses of mutual companies that were not credited to participating policyholders were retained in reserves for policyholders' benefit (Hansmann 1996, pp267-70). Mortality risk uncertainty provides an explanation for Blair's (1991, p93) finding that only stock companies offering participating policies were successful in selling traditional whole-of-life and endowment insurance policies during the 1800s. These policies are exposed to greatest mortality risk, leading to greatest uncertainty for policyholders about the appropriateness of premium rates.

Third, inaccurate mortality tables expose shareholders of stock companies to the risk that actual payouts will exceed those assumed in premium calculations.<sup>2</sup> Shareholder risks were considerable prior to the introduction of limited liability for company owners and shareholders. Limited liability laws were passed in the Australian colonies between 1863 and 1893 (Gray 1977, p2). Mutual company policyholders were also subject to unlimited liability prior to the passage of limited liability laws. However, two mutual companies – AMP and MLA – apparently used their links with prominent citizens and politicians to lobby successfully for a special Act of Parliament to confer limited liability on their policyholders (Gray 1977, pp31-34).<sup>3</sup> Gray does not mention similar protection

<sup>1</sup> Smith and Stutzer (1995) relate the formation of mutual financial firms to the existence of aggregate uncertainty and moral hazard.

<sup>2</sup> Hansmann notes that these risks were very high for stock life insurance companies in the early years of the industry and shareholders could be expected to demand a high risk premium for bearing them (1985, p141).

<sup>3</sup> AMP was registered, on its foundation, as a friendly society. According to the 1849 prospectus, this ownership form provided "entire freedom from personal liability ... and the general privileges

being provided under special legislation for the owners of stock companies founded during the same period.

The possibility of a significantly worse mortality experience than assumed in premium calculations exposed shareholders to the risk that payouts could exceed existing assets. Prior to limited liability laws, shareholders were legally required to meet any shortfall in company assets from their own personal wealth. Stock companies minimized the consequences associated with mortality risk uncertainty by concentrating on sales of short-term life protection policies, like term policies, where premium rates can be regularly adjusted to reflect actual mortality experience. The impact of mortality risk uncertainty on shareholders' risk exposure, particularly prior to limited liability legislation, helps to explain Blair's (1991) finding that stock companies concentrated in sales of term life insurance policies. Capital requirements form another element of the explanation; specialization based on capital advantages offers an alternative to Blair's 'line-of-business' hypothesis (see Chapter 4, section 4.4.3).

Fourth, mutual and stock companies both suffered from insufficient access to capital during their early years. Mutual companies' lack of access to external capital was not a major point of difference between mutual and stock companies in the 19<sup>th</sup> and early 20<sup>th</sup> centuries. Stock companies faced serious problems in raising capital in Australia's then-undeveloped capital markets (see Gray 1977, pp145-147; Merrett 1997, pp5, 17). Gray identifies insufficient capital as a major cause of the high number of insolvencies among the 23 new stock companies established during the 1920s and 1930s.<sup>4</sup> Many companies practised share hawking (door-to-door canvassing of shares) until it was made illegal. Capital raisings were inadequate to meet heavy establishment costs and to allow for the payment of bonuses required to compete successfully with the incumbent (mainly mutual) companies. If pressures from shareholders for dividends limited their capacity to retain funds in order to build up internal reserves, stock companies

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of a 'charter company' (quoted in Gray 1977, p31). However restrictions on benefits payable to policyholders under friendly society legislation led the AMP to seek an *Act to Incorporate the Australian Mutual Provident Society 1857*, which gave limited liability protection to its policyholders (Gray 1977, p32).

<sup>4</sup> Within five years of their establishment, almost 50 per cent of the new companies had become insolvent (Gray 1977, pp145-147).

might even have had poorer on-going access to capital than the established mutual companies that had been able to accumulate reserves over time.<sup>5</sup>

Several factors allowed the Australian mutual companies either to meet or to minimise their initial capital needs:

1. The founders either took out single premium policies involving the up-front one-off payment of premiums on term insurance, which provided an initial base of capital, or promised to meet any shortfall of funds in the early years.<sup>6</sup> Such premium payments and guarantees substituted for the initial equity raised by stock companies.
2. Start-up expenses were minimised by access to free or very cheap labour and office space, usually provided at minimal cost by the companies' founders, and by paying no directors' fees in the first year or two. In effect, the founders and directors of the mutual companies supplied most of the initial capital required to establish the companies.
3. Mutuals avoided the deposit requirements of Life Assurance Companies legislation, either because their foundation predated the legislation or because early operations were limited to colonies without such legislation (see Gray 1977, pp32-41).
4. The undeveloped state of actuarial science and lack of prudential oversight by policyholders and government allowed early life insurers, both mutual and stock-owned companies, to be established with inadequate prudential reserves.<sup>7</sup>

Thus product innovation, mortality risk uncertainty, initial absence of limited liability legislation, and mutual company founders' provision of capital funds all advantaged the mutual companies during their establishment period. Early success enabled the mutual companies both to grow to a sufficient size to attain economies of scale and to build up reserves with which to finance further

<sup>5</sup> Investigation of this possibility is beyond the scope of this thesis.

<sup>6</sup> No founders of mutual companies were required to honour their promises.

<sup>7</sup> Blainey states that a 'bad year' of mortality experience, leading to a few large claims, could easily have sent the newly-established mutual companies into insolvency. "The AMP Society faced this hazard in its first years, and survived largely by luck." (1999, p66).

expansion.<sup>8</sup> Buyer inertia or policy "lock-in", generated by high switching costs, and reputational benefits further entrenched the established mutuals' positions.

### 5.1.2 *Decline in the Mutual Share of the Industry*

As late as the beginning of the 1990s, mutual companies still dominated the Australian life insurance industry. Table 5.2 below shows that in 1990 mutual companies managed 65.9 per cent of industry assets held in statutory funds (column 2) and received 62.9 per cent of premiums paid on new annual business (column 4). By 1998, demutualisation by the four largest mutual life insurance companies had caused the mutual share of the industry, measured in both assets and premium income, to fall below one percentage point. Demutualisation of the NRMA in July 2000 has further reduced the mutual share of the industry. The RACV, another motoring club-based financial services provider, is now the only remaining Australian-owned mutual company operating in the life insurance industry.

However erosion of the mutual companies' share of the industry began even before the recent wave of demutualisations. Over the 1980s, the mutual asset share fell seven percentage points from 76.0 per cent in 1980 to 68.5 per cent in 1989 (column 2). Mutual companies' share of new single premium business decreased from 55.4 per cent to 46.7 per cent (column 7).<sup>9</sup> Their share of new

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<sup>8</sup> See Grace and Timme (1992) for evidence of increasing overall scale economies in the US life insurance industry, McIntosh (1998) for scale economies in the Canadian life insurance industry (the estimated scale factor was 1.45), and Finsinger, Hammond and Tapp (1985, p96) for (limited) economies of scale in the UK.

<sup>9</sup> Insurance products can be distinguished by whether premiums are payable annually or by one single payment. Single premium products require the policyholder to make only a single payment into the policy, typically a superannuation saving product. Policyholders may be able to make additional voluntary contributions into single premium policies. Annual premium products, such as traditional whole-of-life and endowment insurance policies, require policyholders to pay premiums annually over the life of the policy.

Table 5.2: Mutual Companies' Share of the Life Insurance Industry

	(1) Total Industry Assets <sup>1</sup>	(2) Mutual <sup>2</sup> Share of Total Assets	(3) Total New Business, Annual Premiums <sup>3</sup>	(4) Mutual <sup>2</sup> Share of New Bus., Annual Premiums	(5) Bank <sup>4</sup> Share of New Bus., Annual Premiums	(6) Total New Business, Single Premiums <sup>5</sup>	(7) Mutual <sup>2</sup> Share of New Bus., Single Premiums	(8) Bank <sup>4</sup> Share of New Bus., Single Premiums
	\$billion	%	\$million	%	%	\$million	%	%
1970	6.4	75.9	113.1	66.9	0	21.9	59.6	0
1971	na	na	na	na	0	na	na	0
1972	na	na	na	na	0	na	na	0
1973	8.7	74.5	185.9	67.2	0	48.2	43.4	0
1974	9.4	74.2	194.6	67.5	0	47.7	47.7	0
1975	10.3	74.4	234.8	69.2	0	51.4	54.5	0
1976	11.9	75.2	281.3	70.3	0	55.7	55.3	0
1977	12.8	78.3	286.7	75.0	0	52.9	48.3	0
1978	14.6	76.5	319.7	69.9	0	75.5	53.6	0
1979	16.5	75.4	342.7	65.3	0	82.1	55.4	0
1980	18.6	76.0	368.0	68.9	0	138.0	55.4	0
1981	20.4	75.9	572.1	65.4	0	245.1	50.2	0
1982	23.1	76.0	637.2	66.3	0	311.3	41.9	0
1983	26.6	76.4	618.7	63.9	0	486.7	67.1	0
1984	30.2	74.0	710.2	63.5	0	1008.0	65.2	0
1985	37.4	74.4	857.1	61.9	0.0	1288.6	54.9	0.1
1986	52.8	75.0	1097.6	60.0	0.2	2521.8	48.9	0.7
1987	67.9	72.9	1470.7	64.6	0.6	5547.8	45.5	7.9
1988	77.9	69.3	1979.1	66.6	2.6	4860.0	41.7	11.7
1989	97.9	68.5	2533.2	69.3	3.3	4710.9	46.7	10.9

	(1) Total Industry Assets <sup>1</sup>	(2) Mutual <sup>2</sup> Share of Total Assets	(3) Total New Business, Annual Premiums <sup>3</sup>	(4) Mutual <sup>2</sup> Share of New Bus., Annual Premiums	(5) Bank <sup>4</sup> Share of New Bus., Annual Premiums	(6) Total New Business, Single Premiums <sup>3</sup>	(7) Mutual <sup>2</sup> Share of New Bus., Single Premiums	(8) Bank <sup>4</sup> Share of New Bus., Single Premiums
	\$billion	%	\$million	%	%	\$million	%	%
1990 <sup>5</sup>	111.1	65.9	2790.2	62.9	3.4	6285.1	43.3	9.6
1991	99.5	62.6	2257.5	60.2	4.6	5149.5	39.7	18.7
1992	116.1	49.0	1821.1	56.4	4.7	5813.9	24.3	17.8
1993	129.3	54.3	1730.1	52.0	6.7	7148.0	17.0	16.2
1994	128.1	43.7	1566.7	45.5	8.0	7465.5	25.8	13.9
1995 <sup>5</sup>	140.1	37.6	1856.2	28.4	9.1	6515.4	18.9	19.2
1996 <sup>5</sup>	147.2 <sup>6</sup>	34.0 <sup>6</sup>	1776.0	31.4	8.8	10175.4	20.4	20.2
1997	151.6	29.1	1622.9	34.1	11.1	13891.7	18.9	30.6
1998 <sup>5</sup>	168.1	0.6	27255	*	21.3	1279	*	30.7
1999	181.3	*	30427	*	24.6	1470	*	35.4

Source: Insurance and Superannuation Commission, "Half Yearly Financial Bulletin on Life Insurance", and Australian Prudential Regulation Authority, "Half Yearly Life Insurance Financial Bulletin" for asset figures; Insurance and Superannuation Commission, "Quarterly Statistical Bulletin" and Australian Prudential Regulation Authority, "Life Insurance Market Statistics" for premium figures. Figures refer to calendar years.

Notes: \* Exact figures not available but less than one per cent.

1. Australian and overseas assets of statutory funds.

2. Mutual companies include Australian and foreign-owned mutuals and their subsidiaries.

3. Total Australian business.

4. Includes Australian and foreign bank subsidiaries up to 1996 and only Australian banks thereafter. AMPAC, a company jointly-owned by AMP and Westpac from 1991 to 1996, is treated as a bank subsidiary for calculating ownership shares. Prior to 1991 AMPAC was a fully-owned Westpac subsidiary; it reverted to full ownership by Westpac in 1996 when Westpac exercised its option to repurchase the business.

5. Companies are removed from the mutual share from the year of their demutualisation, ie. Capita from 1990, National Mutual 1995, Colonial Mutual 1996, and AMP 1998.

6. September figures.

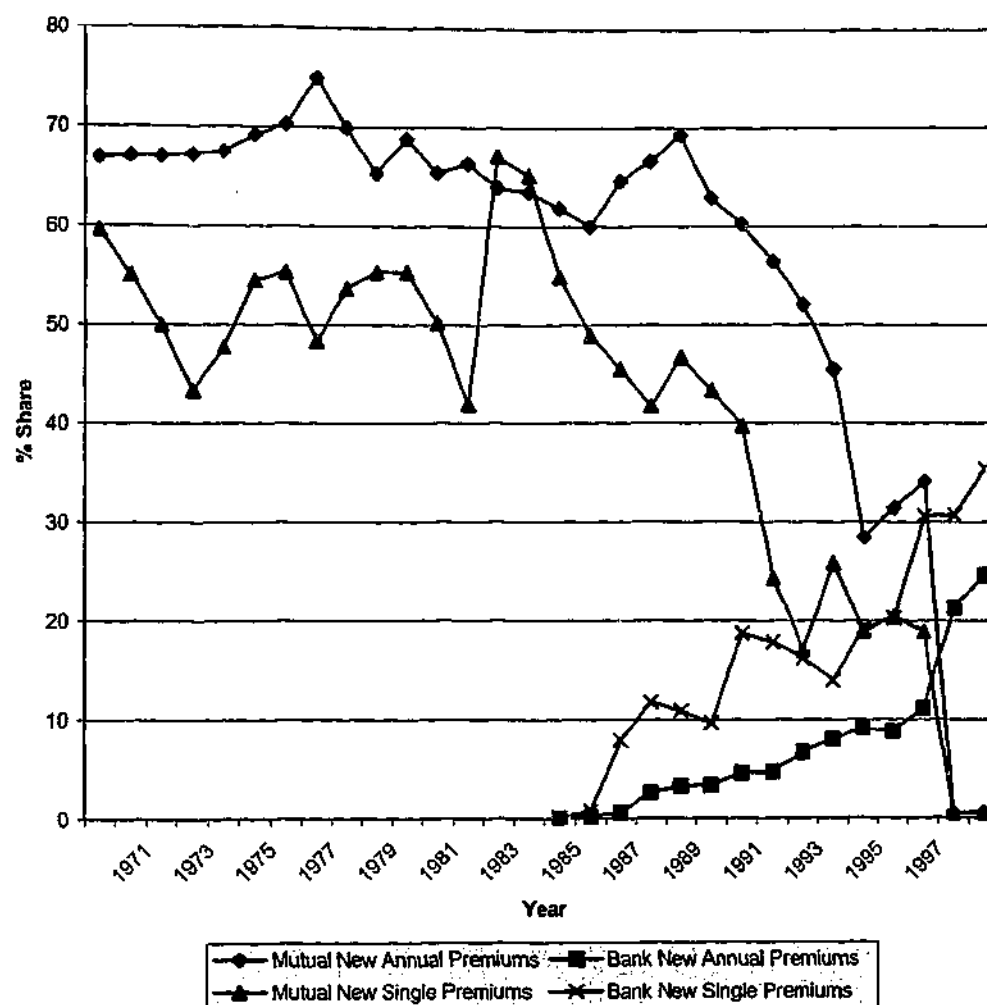
annual premium business, having dropped significantly between 1980 and 1986, bounced back in the second half of the 1980s before resuming its downward trend (column 4). Over the first half of the 1990s – following the acquisition of the mutual-owned Capita Financial Group in 1990 and before the demutualisation of National Mutual in 1995 – the mutuals' share of industry assets dropped a further 22 percentage points while their share of new premiums also dropped dramatically, by 17 percentage points for both annual and single premium business. From 1995, demutualisation accelerated the fall in the mutual share.

By comparison, the long-standing mutual domination of the industry weakened only slightly over the three decades prior to the 1980s. Total industry assets in statutory funds held by mutual companies stood at 81.9 per cent in 1950, 80.2 per cent in 1960, and 75.9 per cent in 1970. The comparable figures for new annual premiums are 72.3 per cent in 1950, 63.7 per cent in 1960 and 66.9 per cent in 1970. Mutual companies' share of premiums received from new single premium business, which constituted a minor part of total business at the time, shows the greatest drop, from 84.5 per cent in 1950 to 59.7 per cent in 1960 and 59.6 per cent in 1970.

The acceleration in the relative decline of the mutual companies coincides with the entry into the industry of the Australian banks from the mid-1980s. Banks are the major stock companies operating in the Australian life insurance industry in competition with the established mutual companies. Table 5.2 shows the large share of new premiums, particularly in single premium business, gained by banks' life office subsidiaries since 1985 (columns 5 and 8). Australian bank subsidiaries had captured 34.5 per cent of total industry assets, 35.4 per cent of new single premium business (column 8), and 24.6 per cent of new annual premium business (column 5) by December 1999. Trends in mutual and bank shares of new premiums since 1970 are shown graphically in Figure 5.1 below.



Figure 5.1: Mutual Company and Bank Premium Shares, 1970 to 1998



### 5.1.3 Recent Demutualisations and Industry Acquisitions

Over the 1990s, the four largest Australian mutual companies have converted to stock ownership. The first demutualisation occurred as a consequence of the acquisition in October 1990 of the Capita Financial Group (previously City Mutual Life) by MLC Life, a subsidiary of the Lend Lease Group. In September 1995, National Mutual Life (NML) demutualised and sold a 51 per cent ownership share (for \$1.1 billion) to the French life insurance and financial services group AXA Groupe. Listing on the Australian stockmarket, with a market capitalisation of about \$3 billion, occurred in October 1996. Colonial

Mutual (CML) demutualised in November 1996, listed on the stockmarket (with a market capitalisation of \$1.9 billion) and raised additional capital of \$232 million in May 1997, with a further capital raising during 1998.

In November 1997, AMP policyholders approved its demutualisation proposal. Its stockmarket listing followed in June 1998 (with a market capitalisation of about \$18 billion). The latest demutualisation is that of the financial services arm of the NRMA, which demutualised in July 2000 and listed on the stockmarket in August 2000 (with a capitalization of around \$4 billion).

Acquisition activity has also been important over the 1990s. After acquiring Capita in 1990, the MLC took over Australian Eagle Life in 1997. Since its demutualisation, the Colonial Group has acquired Legal and General Life of Australia effective from July 1998, Prudential Corporation of Australia in September 1998, and Tasmania's Trust Bank in 1999. (Colonial Mutual acquired the former State Bank of NSW prior to its demutualisation.) The demutualised AMP acquired a UK funds manager in early 1998 and GIO effective from January 1999. The Australian Prudential Regulation Authority noted in its 1998-99 Annual Report that: "Acquisition and transfer activity was higher than normal due to institutions seeking strategic and cost reduction benefits as competitive pressures intensify, especially in funds management and superannuation." (1999, p16) Appendix III shows the number of companies entering and leaving the industry over the 1980s and 1990s. Eight companies ceased operations during 1998. More recently, during the first half of 2000, the Commonwealth Bank acquired the Colonial Group and MLC was taken over by the National Australia Bank.

Table 5.3 lists the top ten companies in the Australian life insurance industry as at December 1999. The change in ownership compared with Table 5.1 is striking. However it will be noted that the top four companies in 1905 – the AMP, NML, CML (now Colonial and owned by the Commonwealth Bank), and MLA (now MLC and owned by the National Australia Bank) – still appeared in the top five companies almost a century later.

**Table 5.3: Top Ten Australian Life Insurance Companies, Year to December 1999**

Rank	Company	Total Assets of Statutory Funds	Share of Total Industry Assets	Ownership
		\$million	%	
1.	AMP	54.4	30	stock
2.	MLC (Lend Lease)	23.9	13	stock
3.	NML-AXA	17.9	10	stock (51% foreign)
4.	Mercantile Mutual	13.9	8	foreign stock
5.	Colonial Group	13.6	7	stock
6.	Commonwealth Life	9.8	5	stock (bank)
7.	Westpac Life	8.1	4	stock (bank)
8.	Zurich Life	5.1	3	foreign stock
9.	National Australia Financial Mgt	4.5	2	stock (bank)
10.	ANZ Life	4.2	2	stock (bank)
	<i>Total Industry</i>	<i>181.3</i>	<i>100</i>	
	<i>Top Ten Groups</i>	<i>155.4</i>	<i>86</i>	
	<i>Australian Bank- owned Groups</i>	<i>34.5</i>	<i>19</i>	

Source: Australian Prudential Regulation Authority, "Life Office Market Report", AGPS: Canberra, December 1999

With their recent acquisitions of Colonial and MLC respectively, Commonwealth Life has moved up to second position and National Australia to fourth position in terms of asset share. The total bank-owned share has increased dramatically.

## 5.2 Industry Product Mix

In the early years of the life insurance industry, most policies were for term insurance, mainly to insure against the lives of key employees. Over the second half of the 1800s, the focus shifted towards permanent life protection policies like whole-of-life and endowment insurance policies. These policies were initially designed to provide for families in the event of the early death of the breadwinner in a period prior to the introduction of government social security. Subsequently growing real incomes led to greater use of these policies as saving vehicles. Demand for permanent life protection policies may have also been boosted by consumer preferences for policies that promised a return above premiums paid (Gray 1977, p220). (See Gray 1977 for a history of the Australian life insurance industry up to the mid-1970s and Ashforth 1985 for an overview from the 1960s to the mid-1980s.)

The first panel of Table 5.4 shows that in 1971-72 permanent life protection policies accounted for 95.3 per cent of new annual premiums on ordinary (ie. non-superannuation) business (column 1). The dominance of permanent life protection policies in the product mix, at the same time as mutual companies held the major share of industry assets, accords with the model's prediction that a prevalence of this product type supports mutual ownership (*Hypothesis 1*). The share of these policies fell steadily from the early 1970s until they accounted for only 5.9 per cent of new annual ordinary premiums in 1998. New business increasingly shifted to temporary life protection policies, that is term life and accident and disability policies (columns 2 and 4). Their combined share totalled 78.4 per cent in 1998. The large share of annual ordinary premiums earned from individual investment-account and investment-linked saving products (column 3) during the 1980s reflects the popularity of insurance bonds, largely due to tax concessions.<sup>10</sup> The correlation of the decline in the mutual share with the shift in the product mix towards temporary life protection policies supports the model's second hypothesis (*Hypothesis 2*).

<sup>10</sup> Insurance bonds were unbundled combinations of life protection (usually term life) and saving units (in contrast to the bundled nature of whole-of-life and endowment insurance policies). Policyholders could choose the quantities of life protection units and saving units purchased. Investment-linked bonds gave no rate-of-return promises while investment-account bonds were capital-guaranteed.

**Table 5.4: New Annual Premium Business by Type of Policy (Percentage Distribution of New Annual Premiums)**

Year	(1) Individual Whole-of- Life and Endowment	(2) Individual Term	(3) Individual Investment Account & Investment Linked	(4) Individual Accident Sickness & Disability	(5) Group Life and Credit Life	(6) Other <sup>1</sup>	(7) Total
	%	%	%	%	%	%	%
<b>Ordinary Business</b>							
71-72	95.3	3.3	-	-	-	1.4	100
72-73	94.5	3.9	-	-	-	1.6	100
73-74	92.6	5.7	-	0.2	-	1.5	100
74-75	90.2	7.4	-	0.8	-	1.4	100
75-76	84.8	10.5	-	3.3	-	1.4	100
76-77	79.5	15.4	-	3.7	-	1.4	100
77-78	74.6	19.7	-	4.2	-	1.5	100
78-79	63.6	19.9	9.0	5.8	0.0	1.7	100
79-80	55.4	21.9	14.2	7.8	0.4	0.7	100
1980	44.2	17.6	23.0	9.2	5.4	0.6	100
1981	41.4	18.0	24.3	11.0	4.6	0.7	100
1982	40.7	19.5	23.2	11.4	4.2	1.0	100
1983	41.7	17.5	26.5	9.4	3.7	1.2	100
1984	35.8	16.2	31.9	9.0	4.3	2.8	100
1985	33.6	16.2	32.8	10.3	4.9	2.2	100
1986	33.3	15.1	35.9	12.1	1.9	1.7	100
1987	33.0	14.4	39.5	9.5	2.8	0.8	100
1988	32.8	11.4	39.5	10.4	4.4	1.5	100
1989	40.8 <sup>2</sup>	10.4	35.5	9.3	2.8	1.2	100
1990	45.0 <sup>2</sup>	10.7	31.4	10.4	1.9	0.6	100
1991	26.2	15.3	35.2	18.7	3.0	1.6	100
1992	16.7	19.6	34.5	23.7	3.8	1.7	100
1993	12.8	29.1	22.4	29.0	4.7	2.0	100
1994	8.4	34.4	16.8	33.4	4.6	2.4	100
1995	7.6	37.0	15.4	33.2	4.5	2.3	100
1996	6.1	36.4	12.6	36.7	5.8	2.4	100
1997	5.8	38.1	8.1	37.0	7.9	3.1	100
1998	5.9	44.6	7.0	33.8	7.4	1.5	100

Year	(1) Individual Whole-of- Life and Endowment	(2) Individual Term	(3) Individual Investment Account & Investment Linked	(4) Individual Accident Sickness & Disability	(5) Group Life and Credit Life	(6) Other <sup>1</sup>	(7) Total
<b>Superannuation Business</b>							
71-72	37.8	0.1	-	-	12.1	50.0	100
72-73	35.9	0.2	-	-	11.4	52.5	100
73-74	35.1	0.6	-	-	10.5	53.8	100
74-75	31.4	0.6	-	-	10.0	61.9	100
75-76	32.0	0.7	-	-	9.2	58.1	100
76-77	30.9	1.0	-	-	8.8	59.3	100
77-78	26.9	1.1	-	-	8.5	63.5	100
78-79	21.2	1.1	4.2	0.0	8.0	65.5	100
79-80	18.1	1.3	5.5	0.0	8.1	67.0	100
1980	12.5	1.2	16.7	0.4	5.9	63.3	100
1981	8.1	1.5	25.1	0.2	5.5	59.6	100
1982	6.9	1.7	22.7	0.2	5.6	62.9	100
1983	5.2	1.6	21.6	0.2	5.5	65.9	100
1984	4.8	1.7	24.9	0.1	5.3	63.2	100
1985	4.8	1.6	26.3	0.2	4.6	62.5	100
1986	4.6	1.3	27.8	0.1	4.9	61.3	100
1987	4.1	1.2	27.1	0.1	4.7	62.8	100
1988	4.2	1.0	23.5	0.1	4.6	66.6	100
1989	3.7	1.0	27.8	0.1	5.3	62.1	100
1990	3.3	1.4	29.1	0.1	5.3	60.8	100
1991	2.7	1.9	31.8	0.1	5.9	57.6	100
1992	1.3	2.3	28.4	0.1	5.9	62.0	100
1993	0.9	1.9	21.6	0.1	6.2	69.3	100
1994	0.6	2.2	25.7	0.2	6.9	64.4	100
1995	0.5	2.1	19.0	0.1	5.9	72.4	100
1996	0.5	3.3	16.6	0.1	8.5	71.0	100
1997	0.4	3.6	14.9	0.2	10.5	70.4	100
1998	0.4	5.9	28.3	0.1	12.4	52.9	100

Year	(1) Individual Whole-of- Life and Endowment	(2) Individual Term	(3) Individual Investment Account & Investment Linked	(4) Individual Accident Sickness & Disability	(5) Group Life and Credit Life	(6) Other <sup>1</sup>	(7) Total
<b>Total Business</b>							
71-72	71.3	1.8	-	-	5.1	21.8	100
72-73	70.1	2.2	-	-	4.8	22.9	100
73-74	65.6	3.0	-	0.1	5.0	26.3	100
74-75	56.2	3.2	-	0.3	5.8	34.5	100
75-76	51.4	4.1	-	0.4	5.5	38.6	100
76-77	48.2	5.7	-	1.3	5.6	39.2	100
77-78	44.8	6.3	-	1.4	5.5	42.0	100
78-79	42.1	6.1	4.9	1.1	5.1	40.7	100
79-80	39.5	5.6	6.2	1.7	5.1	41.9	100
1980	22.0	5.7	18.3	2.8	5.7	45.5	100
1981	16.0	5.2	24.6	2.7	5.3	46.2	100
1982	14.6	5.7	22.7	2.7	5.3	49.0	100
1983	15.6	6.1	23.0	2.8	5.0	47.5	100
1984	14.5	6.2	27.1	2.9	5.0	44.3	100
1985	13.7	6.1	28.3	3.3	4.7	43.9	100
1986	12.2	5.0	29.9	3.3	4.1	45.5	100
1987	11.8	4.7	30.4	2.6	4.2	46.3	100
1988	11.0	3.5	27.3	2.5	4.6	51.1	100
1989	13.1 <sup>2</sup>	3.4	29.8	2.4	4.6	46.7	100
1990	13.8 <sup>2</sup>	3.8	29.7	2.7	4.4	45.6	100
1991	8.4	5.1	32.6	4.6	5.2	44.1	100
1992	4.7	6.2	29.8	5.3	5.4	48.6	100
1993	3.5	7.9	21.8	6.4	5.9	54.5	100
1994	2.6	10.4	23.4	8.6	6.3	48.7	100
1995	2.0	9.9	18.2	7.5	5.6	56.8	100
1996	1.9	11.8	15.6	9.5	7.8	53.4	100
1997	1.9	13.1	13.0	10.4	9.8	51.8	100
1998	2.1	18.6	21.3	11.1	11.1	35.7	100

Source: Insurance and Superannuation Commission, "Quarterly Statistical Bulletin", AGPS: Canberra, Appendix C from December 1981, March 1986, and Appendix D from December 1990 and 1995, and September 1996; Australian Prudential Regulation Authority, "Half Yearly Life Insurance Financial Bulletin", December 1997 and 1998.

Notes:

1. 'Other' comprises mainly blanket (ie. group) superannuation policies relating to managed funds on an investment-linked basis.
2. The 1989 and 1990 percentages for individual whole-of-life and endowment are inflated by the issue of a class of whole-of-life insurance that has now been discontinued.

The actual shift away from permanent life protection policies is even greater when the analysis is extended to superannuation and single premium business. The second panel of Table 5.4 shows that 37.8 per cent of new annual premiums received on superannuation business was accounted for by permanent life protection policies in 1971-72 (column 1).<sup>11</sup> Their share had dropped to 0.4 per cent by 1998. Individual and group-based saving products, mostly investment-linked, are the main source of annual superannuation premiums with a combined share of 81.2 per cent in 1998 (columns 3 and 6). Group life protection policies (column 5), which had a 12.4 per cent share of new annual superannuation premiums in 1998, are generally included as components of group-based superannuation policies.<sup>12</sup> The shift in the product mix for superannuation business thus strengthens support for *Hypothesis 2*.

Superannuation started to become significant in Australia during the 1950s. Superannuation schemes were introduced to attract and retain employees in the prevailing tight labour market conditions. Tax deductibility of employer contributions gave additional encouragement for superannuation contributions as an alternative to wage rises. The concessional taxation treatment of superannuation contributions led to an amendment to the *Life Insurance Act* in 1961 to require companies to separate their superannuation business from their ordinary and industrial life insurance business. Consequently, from 1962 the data on life insurance premiums and assets are divided into ordinary (and industrial) business and superannuation business.<sup>13</sup>

Table 5.5 below shows that new superannuation premiums (on annual and single premium business) overtook new ordinary premiums in 1974 and now account for 90 per cent of all new premiums (column 2). Likewise, superannuation-related assets now comprise the great majority of industry assets at 82 per cent in 1999

<sup>11</sup> Due to the relatively low proportion of superannuation business in annual premium income in 1971-72, permanent life protection policies dominated total new annual premium business with a 71.3 per cent share. See panel 3 of Table 4 (column 1).

<sup>12</sup> As at June 1999, around 70 per cent of people covered by superannuation had life protection elements included within their superannuation policies (Australian Prudential Regulation Authority, *Life Insurance Market Statistics*, June 2000).

<sup>13</sup> Industrial business, i.e. life insurance policies where premiums were collected (usually weekly) from policyholders' homes, was discontinued in 1984. The great majority of policies were permanent life protection policies.



(column 1). Initially the established life insurance companies provided saving services, including superannuation policies, through their traditional permanent life protection policies. However the high front-end loadings and inflexibility characteristic of whole-of-life and endowment policies disadvantaged the life insurance companies when non-insurance companies, mainly banks, entered the superannuation market in competition with them. From the 1970s, banks and other fund managers offered superannuation fund management services with low front-end loadings and greater flexibility in premium payments, initially to employer-sponsored schemes and then to superannuation funds open to all employed persons.<sup>14</sup>

Furthermore conventional endowment-type policies are more suitable for defined contribution schemes, where contracted payouts reflect contributions and earnings over the period of the contract, rather than for defined benefit schemes, where superannuation payments are related to employees' final salaries. Non-insurance company competitors offering deposit administration contracts and pure fund management services were able to run defined benefit schemes more cheaply than life insurance companies relying on their traditional product lines. The marked shift towards defined benefit schemes up to the mid-1980s thus advantaged the life insurance companies' competitors and accelerated the shift away from permanent life protection policies (Covick and Lewis 1997, pp265-66).

The life companies responded by introducing new, more flexible saving products to substitute for their traditional permanent life protection policies. 'Group deposit administration' and 'group investment-linked' policies – included in the 'other' column of Table 5.4 and Table 5.6 – were targeted at employer-sponsored schemes and involved contracts between the life insurance company as insurer and the trustees of the superannuation funds as the insureds. Individual investment-account and investment-linked policies could be sold to people not covered by employer-sponsored schemes (including people not in employment) and could be cashed in prior to retirement age. As the second panel of Table 5.4

<sup>14</sup> Since banks and other fund managers were not registered under the *Life Insurance Act*, they could not provide life protection services in conjunction with their fund management services. Because they did not operate under the *Life Insurance Act*, they are not included in the life insurance statistics presented in this chapter. The banks' life insurance subsidiaries are included from their entry to the industry during the 1980s.

**Table 5.5: Shares of Superannuation and Investment-Linked Products in Assets and New Business Premiums and Superannuation Coverage of the Labour Force**

Year	Superannuation	Investment-Linked Assets	Investment-Linked Premiums
	(1)	(2)	(3)
	Share of Assets	Share of New Premiums (Annual and Single)	Share of Assets for Australian Liabilities
	%	%	%
1963		36.9	
1964		31.9	
1965		34.4	
1966		40.4	
1967		39.0	
1968		36.7	
1969		39.5	
1970		44.2	
1971		42.5*	
1972		41.8	
1973		48.0	
1974		58.7	
1975		62.9	
1976		62.8	
1977		64.2	
1978		63.5	
1979		62.4	
1980		68.4	20.9
1981		69.6	22.1
1982		72.7	25.8
1983		56.0	29.5
1984		52.1	29.6
1985		48.3	31.1
1986		44.0	28.7
1987		40.9	31.3
1988	60.0	54.4	33.4
1989	59.8	64.8	29.8
1990	59.8	70.5	29.0
1991	62.7	70.8	32.6
1992	66.1	77.6	37.1
1993	69.5	85.1	42.2
1994	69.9	85.9	46.8
1995	71.3	89.8	47.8
1996	75.0	92.4	50.3
1997	78.4	93.8	52.3
1998	80.2	90.1	58.6
1999	82	90.4	60.5

Source: Asset figures from Australian Prudential Regulation Authority, "Bulletin" and "Life Office Market Report". Premium figures from Gray (1977), Table 15.2 on p242 for annual premiums up to 1970; Insurance and Superannuation Commission, "Quarterly Statistical Bulletin", for annual premiums up to 1980 and annual and single premiums from 1981; Australian Prudential Authority, "Life Insurance Quarterly Statistical Bulletin", December 1998 and "Life Office Market Report", December 1999

Note: \* Prior to 1970, industrial business is excluded causing a break in the series between 1970 and 1971.

shows, these products rapidly increased their share of new annual superannuation premiums during the 1980s (column 3). Personal superannuation products became less attractive after 1990 due to a cut in tax deductions for persons with employer-provided superannuation (see Appendix I) and increases over the 1990s in the amount and coverage of employer-provided superannuation contributions. The 1998 increase in their share of superannuation business coincides with the introduction of a tax rebate for personal after-tax superannuation contributions (see Appendix I).

Much superannuation and other saving is made through single premium products, where the policyholder is required to make only a single deposit into the policy (although additional voluntary contributions may be possible after the policy is purchased). Most single premium policies now relate to superannuation saving. The considerable increase in superannuation saving – from total assets of \$124 billion in June 1990 to \$455 billion in March 2000 (Australian Prudential Regulation Authority, *Superannuation Trends*, March Quarter 2000), or close to a three-fold increase in real terms over the decade – has generated much faster growth over the 1990s in new single premium business than in new annual premium business.<sup>15</sup> Single premium business now accounts for 82 per cent of life insurance premiums (Australian Prudential Regulation Authority, *Life Insurance Market Statistics*, June 2000). Table 5.6 indicates that permanent life protection policies constitute a negligible share of new single premium policies, both for ordinary and superannuation business (column 1 in panels 1 and 2). Investment-linked and capital guaranteed saving policies on an individual and group basis, dominate single premium business (columns 3 and 6).<sup>16</sup> The increase in the proportion of life insurance sales accounted for by single premium business has caused the share of saving products in the industry product mix to rise in line with the model's second prediction (*Hypothesis 2*).

<sup>15</sup> In 1989-90 dollars, superannuation assets have grown from \$124 billion to \$365 billion, deflating by the Consumer Price Index (ABS Cat. 6401.0). Since 1983, assets in real terms have increased almost seven-fold, from \$53 billion.

<sup>16</sup> Group investment-linked and capital guaranteed saving policies are included in the 'other' column.

**Table 5.6: New Single Premium Business by Type of Policy (Percentage Distribution of New Single Premiums)**

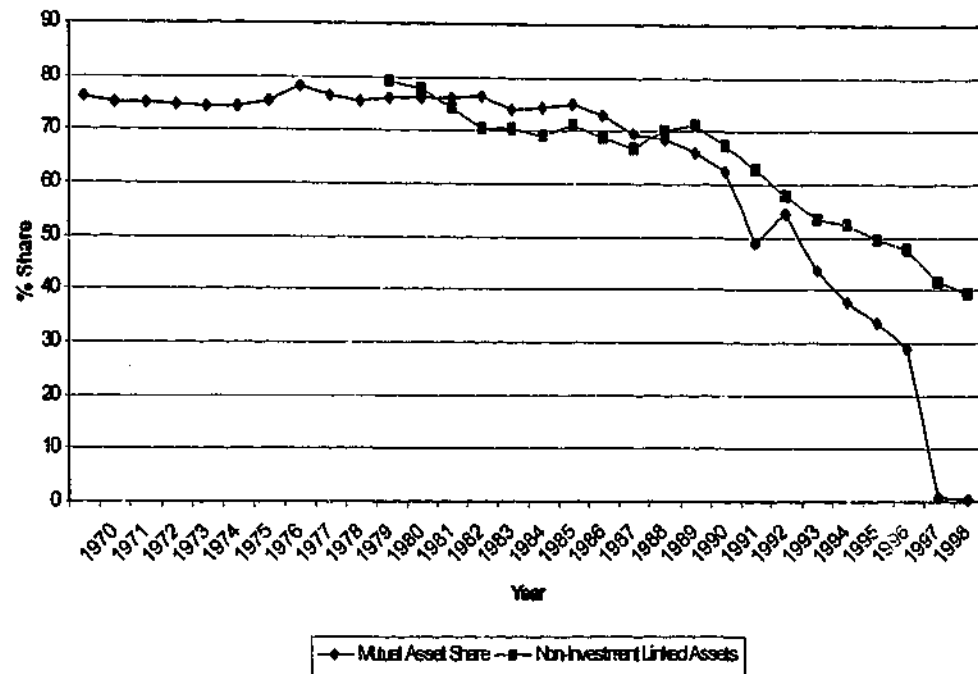
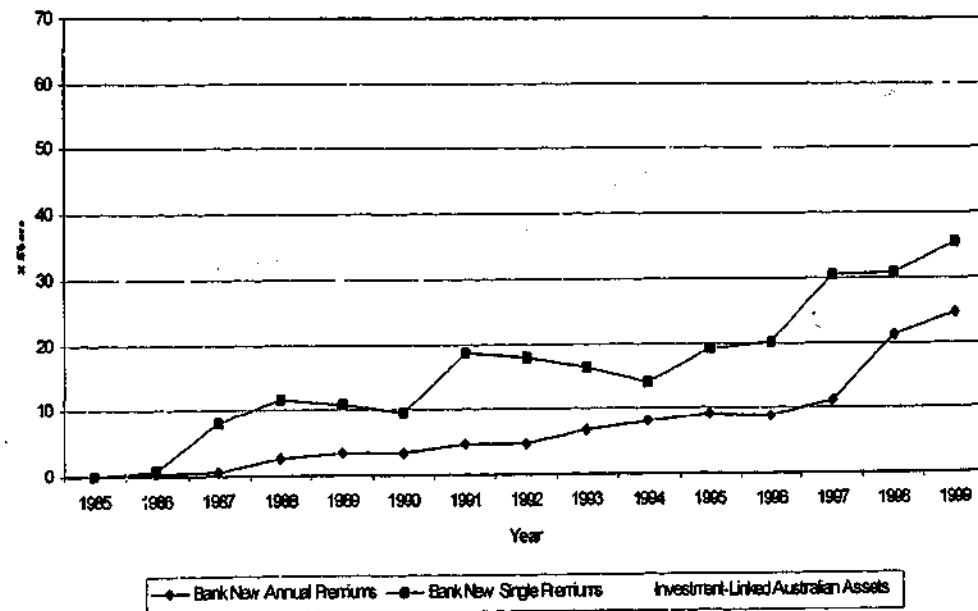
Year	(1) Individual Whole-of- Life and Endowment	(2) Individual Term	(3) Individual Investment Account & Investment Linked	(4) Individual Accident Sickness & Disability	(5) Group Life and Credit Life	(6) Other <sup>1</sup>	(7) Total
	%	%	%	%	%	%	%
<b>Ordinary Business</b>							
1981	17.1	2.4	61.2	0.0	18.0	0.7	100
1982	13.3	2.4	63.9	0.1	20.1	0.2	100
1983	2.0	1.3	88.9	0.1	7.7	0.0	100
1984	2.0	0.7	91.6	0.0	5.5	0.2	100
1985	1.3	0.5	92.6	0.0	3.8	1.3	100
1986	0.4	0.4	95.5	0.0	1.3	2.4	100
1987	0.2	0.3	98.0	0.0	0.8	0.9	100
1988	0.0	0.5	95.2	0.0	1.0	3.3	100
1989	0.1	0.6	91.2	0.0	1.4	6.7	100
1990	0.1	0.5	95.5	0.0	1.1	2.8	100
1991	0.2	0.7	96.5	0.0	1.1	1.5	100
1992	0.2	0.6	95.8	0.0	2.0	1.4	100
1993	0.4	0.9	94.8	0.0	3.2	0.7	100
1994	0.3	0.8	94.3	0.4	3.2	1.0	100
1995	0.7	2.1	90.8	0.2	3.6	2.6	100
1996	0.4	2.2	91.1	0.2	3.3	2.8	100
1997	0.1	2.7	91.2	0.1	4.4	1.5	100
<b>Superannuation Business</b>							
1981	1.1	0.1	24.3	0.0	0.1	74.4	100
1982	14.5	0.0	15.0	0.0	0.4	70.1	100
1983	2.4	0.0	22.4	0.0	0.5	74.7	100
1984	1.4	0.0	20.6	0.0	0.5	77.5	100
1985	0.5	0.0	26.7	0.0	0.2	72.6	100
1986	0.0	0.0	40.0	0.0	0.2	59.8	100
1987	0.0	0.0	35.1	0.0	0.2	64.7	100
1988	0.0	0.0	32.3	0.0	0.2	67.7	100
1989	0.0	0.0	35.0	0.0	0.0	64.9	100
1990	0.0	0.0	32.7	0.0	0.1	67.1	100
1991	0.0	0.0	37.9	0.0	0.2	60.9	100
1992	0.0	0.0	39.6	0.0	1.2	60.4	100
1993	0.0	0.0	26.4	0.0	0.0	73.6	100
1994	0.0	0.0	32.1	0.0	0.0	67.9	100
1995	0.5	0.1	38.6	0.0	0.0	60.8	100
1996	0.2	0.0	41.8	0.0	0.0	58.0	100
1997	0.1	0.0	42.5	0.0	0.0	57.4	100

Year	(1) Individual Whole-of- Life and Endowment	(2) Individual Term	(3) Individual Investment Account & Investment Linked	(4) Individual Accident Sickness & Disability	(5) Group Life and Credit Life	(6) Other <sup>1</sup>	(7) Total
	%	%	%	%	%	%	%
<b>Total Business</b>							
1981	9.0	1.2	41.9	0.0	8.6	39.3	100
1982	14.1	6.9	33.1	0.1	7.7	44.1	100
1983	2.2	0.6	65.0	0.0	5.1	27.1	100
1984	1.7	0.4	62.9	0.0	3.5	31.5	100
1985	1.0	0.3	69.5	0.0	2.6	26.6	100
1986	0.3	0.3	78.1	0.0	1.0	20.3	100
1987	0.1	0.2	77.8	0.0	0.6	21.3	100
1988	0.0	0.3	66.7	0.0	0.6	32.4	100
1989	0.0	0.2	57.8	0.0	0.6	41.4	100
1990	0.0	0.1	52.4	0.0	0.5	47.0	100
1991	0.1	0.2	56.3	0.0	1.2	42.2	100
1992	0.0	0.1	52.3	0.0	0.5	47.1	100
1993	0.1	0.1	35.4	0.0	0.4	64.0	100
1994	0.0	0.1	39.4	0.1	0.4	60.0	100
1995	0.5	0.3	42.1	0.0	0.2	56.9	100
1996	0.2	0.1	44.0	0.0	0.2	55.5	100
1997	0.1	0.1	44.3	0.0	0.2	55.3	100

Source: Insurance and Superannuation Commission, "Quarterly Statistical Bulletin", AGPS: Canberra, Appendix D from March 1986 and Appendix F from December 1990, 1995 and 1997.

Notes: 'Other' comprises mainly blanket superannuation policies relating to managed funds on an investment-linked basis.

The impact of product mix changes – the move away from permanent life protection policies towards temporary life protection and saving policies and the large expansion in superannuation business – can be summarised by the trend in the proportion of business that is investment-linked. The final column of Table 5.5 shows a significant increase in investment-linked premiums within annual premiums, from 13.5 per cent in 1969 to 40.7 per cent in 1979. Since 1980, the proportion of investment-linked Australian assets has grown from 21 per cent to 60 per cent in 1999 (column 3).

**Figure 5.2: Mutual Asset Share and Proportion of Non-Investment-Linked Assets****Figure 5.3: Bank Premium Share and Proportion of Investment-Linked Policies**

The trend in the proportion of non-investment-linked assets – which is the inverse of the trend for investment-linked assets – is compared with the mutual asset share in Figure 5.2 above. The close correlation between the two series confirms the model's prediction that the mutual share of the industry will decline with an increase in the share of investment-linked saving products in the product mix (*Hypothesis 2*). The divergence between the series from 1990 reflects the discontinuities introduced into the trend line for the mutual asset share by demutualisation of large mutual companies.

Figure 5.3 demonstrates a good correlation between trends in bank premium shares and the growth in the proportion of investment-linked assets. The increase in the bank share of life insurance business corresponds with the decline in the mutual companies' share, indicating that bank competitors have increased their market share at the expense of the mutual companies. The Australian banks are the major stock companies operating in the life insurance industry. The good correlation between their increasing share of the industry and the increase in the share of investment-linked business reinforces the support for the model's prediction (*Hypothesis 2*).

Four developments explain the considerable shift in the product mix away from permanent life protection policies:

- (i) higher inflation in the 1970s;
- (ii) tax changes to favour superannuation;
- (iii) award superannuation increases; and
- (iv) increased competition from other financial institutions (which is discussed in section 5.3 below).

A significant increase in the average inflation rate – from an average of around 2.5 per cent over the 1960s to nearly ten per cent over the 1970s, as measured by the Consumer Price Index – eroded the real value of payouts promised under whole-of-life and endowment insurance policies, particularly since they generally incorporated very conservative rate of return guarantees. More importantly, the

interaction of inflation with taxation advantaged non-taxable superannuation business. Taxation of nominal investment earnings, including realised capital gains, on ordinary and industrial business reduced the real net earnings rate of non-superannuation life insurance policies compared to superannuation policies where the full, untaxed nominal earnings could be credited to policyholders. Thus, the large increase in inflation during the 1970s increased the real earnings rate from superannuation relative to non-superannuation policies (Covick and Lewis 1985, pp209-210).

Changes in the taxation of life insurance and superannuation policies, and of life insurance companies, have since the early 1970s increased the relative concession granted for superannuation saving, even as the total tax concessions for life insurance and superannuation were being reduced (see Appendix I for a summary of the major changes). The 1980 introduction of tax deductibility for superannuation contributions by self-employed persons and employees not covered by employee-sponsored superannuation, for example, significantly boosted sales of individual investment-account and investment-linked saving policies by the life insurance companies. However the major boost for superannuation saving has come from the introduction of Award Superannuation over the late 1980s and early 1990s, followed by the 1992 imposition of the legislated Superannuation Guarantee Charge to ensure the spread of employer-provided superannuation to most employees. Superannuation coverage of all employees increased from 41.4 per cent in 1988 to 91.3 per cent in 1998 (Australian Prudential Regulation Authority, *Bulletin*, December Quarter 1998). In addition, phased increases in the minimum superannuation contributions required under the Superannuation Guarantee Charge are gradually lifting the amount of superannuation coverage provided for employees (see Appendix I for details).

### 5.3 Competition

Competition within the life insurance industry has increased significantly since 1970 due to four factors:

- (i) proscription under trade practices legislation of a number of collusive agreements among life insurance companies;



- (ii) the move away from permanent life protection policies to temporary life protection and saving products;
- (iii) product innovation by banks and other fund managers to obtain life insurance, especially superannuation, business; and
- (iv) broad finance industry deregulation.

Until 1972, when the Trade Practices Commission disallowed the practices, the member companies of the Life Offices Association of Australia (which held a combined market share of 85 per cent) "adhered to a number of agreements which had the effect of maintaining existing and potential policyholders in ignorance about the relative performance of the various offices" (Covick and Lewis 1985, p201). The Competitive Practices Agreement prevented agents from providing written information on the terms and benefits of policies offered by other life insurance companies. The Twisting Agreement, which prohibited payment of commission to agents on business transferred from another company, deterred agents from contacting existing policyholders of another company even when their company offered lower-cost policies. The Tied Agency Agreement required insurance brokers contracted to a particular company to recommend to clients only policies offered by that company, despite the availability of a cheaper suitable policy from a competing company (see Covick and Lewis 1985, p201).

The effect of these three agreements was to reduce the amount of information provided to consumers, thus boosting consumer search and switching costs and reinforcing buyer inertia. As noted in Chapter 3 (section 3.3), buyer inertia strengthens path dependencies that entrench established companies. By reducing consumer information costs and the magnitude of policy "lock-in", disallowance of these anti-competition agreements increased the price elasticity of life insurance demand, permitting more effective price competition among companies.

The change in the product mix towards saving and temporary life protection products, described in section 5.2 above, has also boosted product market competition. These policies lack the "lock-in" characteristic of permanent life protection policies. The lower complexity of these policies, greater ease in assessing their returns, and the absence of front-end loading reduce monitoring,

search and switching costs for policyholders. Consequently the market in these policies is inherently more competitive than that for permanent life protection policies.

Section 5.2 noted that banks and fund managers gained a significant share of the growing superannuation market by offering deposit administration and fund management services more cheaply than the life insurance companies' traditional policies. The Australian banks' moves into funds management were driven by tight regulatory constraints on their ability to offer bank-based saving services at competitive interest rates. Increasingly restrictive regulations had been imposed on the finance industry, particularly the banking sector, in the post-World War II period. Eventually regulations governed virtually all areas of bank operations, including their lending policies, interest rates on loans and deposits, liquidity levels, holdings of government securities, and foreign exchange dealings (see, for example, Merrett 1997). Financial markets were segmented by regulatory restrictions on the types of products that specific classes of companies could offer; life protection and long-term "locked-in" saving services were reserved for the life insurance sector while short-term and at-call saving services were allocated to the banking sector. Regulatory segmentation of the finance industry created barriers to entry that protected life insurance firms from competition by established firms from other finance sectors.

From the 1970s and particularly the 1980s however, financial market segmentation began to break down as product innovation allowed financial institutions, including the banks, to circumvent regulatory restrictions. Formal deregulation followed the effective erosion of regulatory control through product innovation. As shown in Appendix II, regulatory controls on bank deposits and loans were lifted gradually during the 1970s and more rapidly during the 1980s. Deregulation of the finance industry accelerated following the Martin Review Group's 1984 report recommending the acceptance of most of the changes proposed by the Committee of Inquiry into the Australian Financial System (the Campbell Committee). The resulting changes effectively ended financial market segmentation, removing the entry barriers that had sheltered the established life

insurance companies from vigorous competition (Davis 1997b; Forsyth 1992; Lewis and Wallace 1997; Lyell, et al. 1997; Merrett 1997).

Appendix III documents changes in the composition of the life insurance industry over the 1980s and 1990s. A high number of new companies, including most notably subsidiaries of the major Australian banks, entered the industry during the 1980s. Subsequently, the industry during the 1990s has experienced a significant degree of rationalisation, with a substantial number of companies exiting the industry either via acquisition or transfer of their business to another company. The Australian Prudential Regulation Authority's *Annual Report 1999* attributes the high level of acquisitions and transfers to firms "seeking strategic and cost reduction benefits as competitive pressures intensify, especially in funds management and superannuation" (1999, p16). As noted in section 5.1.3, the recently-demutualised life insurance companies have been active in acquisitions and two have been acquired by banks in 2000.

Figure 5.3 above illustrates the rapid increase in the share of premiums received by bank subsidiaries. In terms of size, the asset holdings of each of the three largest mutual companies greatly exceeded those of the four biggest bank subsidiaries in 1995, the year of NML's demutualisation. By comparison, MLC's assets of \$16.53 billion were larger than those of NML. MLC was the largest non-bank stock company. Table 5.7 below shows a comparison of mutual and bank asset holdings:

**Table 5.7: Comparison of Mutual and Bank Asset Holdings, 1995**

Mutual Assets		Bank Assets	
	\$billion		\$billion
AMP	42.79	Commonwealth	5.53
NML (including its subsidiary AC&L)	16.09	ANZ	3.31
CML (including its subsidiary CFML)	9.60	Ampac/Westpac <sup>1</sup>	2.04
		National Australia Financial Management	1.85

*Note 1.: AMPAC was jointly-owned by AMP and Westpac from 1991 to 1996. Prior to 1991 AMPAC was a fully-owned Westpac subsidiary, Westpac Life. It reverted to full ownership by Westpac (and was renamed Westpac Life) in 1996 when Westpac exercised its option to repurchase the business. It is treated as a bank subsidiary in this thesis and AMP's fifty per cent ownership is treated as an investment by AMP. (See Bartholomeusz 1996 for details on the arrangement).*

The comparison is similar when measured in terms of new premium income. The four Australian bank subsidiaries averaged \$185.6 million in single premiums and \$40.3 million in annual premiums compared to the averages of \$633.2 million and \$318.4 million respectively for the three largest mutuals during 1995.<sup>17</sup> Economies of scale in life insurance operations, identified as a possible contributing factor to mutual dominance of the Australian industry in Chapter 3 (section 3.3), still appear to favour the established mutual companies. However bank competitors have apparently overcome any scale disadvantages by utilising alternative distribution systems, specifically by making use of their branch networks and customer databases to sell life insurance products.

The evidence on levels of competition in the Australian life insurance industry confirms the predictions from the model. Weak competition, caused by regulatory entry barriers, collusive practices by life insurance companies, and high buyer inertia associated with permanent life protection policies, coincides with the period of mutual dominance of the industry (*Hypothesis 1*). The substantial

<sup>17</sup> It should be noted however that individual companies' new premiums tend to vary significantly on a yearly basis.

strengthening in product market competition since the 1970s, resulting from financial deregulation, the shift in new business to more inherently competitive products, prohibition of collusive practices, and entry of new competitors is closely associated with the decline in the mutual industry share over the same period (*Hypothesis 2*).

Furthermore, during the second half of the 1980s, the large established mutual companies, in particular National Mutual and the AMP, attempted to maintain and expand their market shares in the face of stronger competitive pressures and the shift towards saving products. As predicted by the model in Chapter 4 (section 4.4.1), these companies made use of accumulated internal funds to try to expand their product sales beyond an efficient level. First, many of the mutual companies began in the mid-1980s to offer large financial inducements to the top-selling insurance agents from other companies to transfer to their companies (see eg. Mallick 1987). Second, in the latter half of the 1980s, many mutual companies ran down their internal reserves by paying higher than warranted returns on capital-guaranteed products and by failing to limit sales of these policies for prudential reasons (see eg. Anonymous 1991 and Greenwood 1995). These events accord with the types of inefficiencies predicted to occur by the model.

National Mutual in particular suffered a substantial deterioration in its reserve-to-liabilities ratio, which forced it to seek unsuccessfully to merge with the ANZ Bank in 1990 in order to obtain capital. After the federal government prohibited the proposed merger, National Mutual obtained a large capital injection via subordinated debt provided by the ANZ Bank (Greenwood 1995).

#### **5.4 Acquisitions**

The model suggests that an increase in new growth opportunities provides part of the reason for demutualisation during the 1990s (*Hypothesis 3*). Access to external financing gives companies the flexibility to take full advantage of profitable expansion opportunities. Section 5.1.3 and Appendix III highlight the increase in acquisition activity in the life insurance industry during the 1990s in the context of industry rationalisation. Expansion into new business areas, particularly the provision of banking services, has also occurred, for example Colonial Mutual's entry into retail banking via the acquisition of the former State Bank of NSW and

AMP's provision of a wide range of banking services through its subsidiary, AMP Bank Limited. The correlation of demutualisation with the recent high level of acquisition and expansion activity supports the third hypothesis from the model.

Unfortunately, data limitations prevent a more direct examination of trends in mutual companies' excess reserve levels. Two main measures are used to assess life insurance companies' solvency position and thus to identify their level of excess reserves, a major component of internal capital supply:

- a) A company's **solvency reserve percentage** "measures the reserve required by the company to enable it to meet its obligations, under a prescribed set of adverse conditions, as a percentage of the company's base liabilities. This percentage will vary from company to company depending on the types of business the company writes and the types of assets it holds to back these liabilities" (Insurance and Superannuation Commission, *Half Yearly Life Insurance Financial Bulletin*, December 1997), that is, its exposure to mortality and earnings risks.
- b) The **solvency coverage ratio** "measures the number of times the company's excess assets are able to cover the required solvency reserve" (Insurance and Superannuation Commission, *Half Yearly Life Insurance Financial Bulletin*, December 1997). This measure permits comparison of companies with different product and asset mixes.

New reporting requirements were introduced from 1996 to provide information on individual company's solvency positions on a comparable basis. Data on company's solvency coverage ratios are available from 1997, after three demutualisations had already occurred. Consequently, information on life insurance companies' excess reserves is not available for a sufficient period to identify trends, particularly for the period of most interest, that is prior to demutualisation. Solvency coverage ratios for selected companies in 1998-99 and 1996-97 are shown below:

**Table 5.8: Solvency Coverage Ratios of Selected Companies, Year to June 1999 (1997 figures in brackets)**

Company	Ratio	Company	Ratio
AMP	1.51 (1.60)	ANZ Life	1.55 (3.96)
NML	2.69 (2.40)	Commonwealth Life	2.22 (1.90)
CML	2.37 (1.82)	National Australia FM	3.25 (2.53)
MLC	1.75 (1.30)	Westpac Life	8.02 (3.40)

*Source: Insurance and Superannuation Commission/Australian Prudential Regulation Authority, "Half Yearly Life Insurance Financial Bulletin", December 1997 and 1999*

The solvency coverage ratios indicate that all of the companies had adequate provisions to meet their liabilities. The solvency positions of the demutualised companies and the banks, with the exception of Westpac Life, do not appear to differ significantly. AMP's solvency coverage ratio is not appreciably different in 1998-99 from its 1996-97 ratio despite its demutualisation in January 1998. However, these ratios are not unambiguous measures of firms' access to capital. Regulatory oversight might ensure that solvency ratios do not vary greatly among companies according to ownership form. Thus, even if a longer data series was available, trends in individual companies' solvency coverage ratios could not be expected necessarily to suggest problems in meeting solvency requirements by those companies that subsequently demutualised.

A second reason for rejecting the usefulness of solvency ratios and other measures of excess reserves derives from the literature on capital-constrained firms and the model developed in Chapter 4. Large excess reserve holdings by mutual companies do not necessarily confirm an absence of capital constraints and may in fact indicate the opposite situation. Chapter 4 (section 4.4.1) highlighted the incentives mutual companies have to hoard excess reserves to guard against future capital shortages, given their inability to raise equity capital. Fazzari et al. assert that "high cash stocks may indicate the *presence* rather than the absence of [financing] constraints in a dynamic context where financially constrained firms use cash stocks to buffer their investment against expected future financial

restrictions" (1996, p2, emphasis added). Thus, a high solvency coverage ratio would not necessarily indicate that a company had sufficient access to capital to finance all profitable expansion opportunities. Therefore no unambiguous relationship can be predicted between a company's solvency coverage ratio and access to capital nor between a mutual company's solvency coverage ratio and the likelihood of its demutualisation.

This argument undermines the basis on which Carson, Forster and McNamara (1999a; 1999b) reject greater access to capital as a rationale for demutualisation. They argue that the higher surplus-to-asset ratios and larger free cash flow levels of demutualising companies compared to mutual companies that did not demutualise, and their higher surplus-to-asset ratios than stock companies, contradict the hypothesis that mutual companies demutualise in order to expand their ability to raise capital. However, their evidence of large excess reserve holdings by demutualising companies is consistent with the expectation that capital-constrained firms attempt to accumulate substantial amounts of internal funds.<sup>18</sup> Their findings can therefore be interpreted as *supporting* the contention that mutual companies *were* constrained in their access to capital and demutualised in order to expand their ability to raise capital.

This does not deny the possibility that wealth transfer, including Carson et al.'s managerial expropriation hypothesis, provides a secondary rationale for demutualisation. Section 2.3.2 in Chapter 2 noted that much of the payments received by existing policyholders at the time of demutualisation may have constituted a wealth transfer from previous policyholders from whom the reserves had been accumulated. The opportunity for opportunistic wealth transfers to demutualising company managers and to current policyholders undeniably strengthens the incentives to demutualise. But the wealth transfer hypothesis does not generate an explanation for the timing of the recent wave of demutualisations. The capital access hypothesis, in contrast, does explain both the reasons for

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<sup>18</sup> Carson et al.'s (1999a) use of financial variables for the year prior to demutualisation may distort their results if companies planning demutualisation had cut costs, reduced investment and other expansion expenditures, or added to accumulated internal funds in the lead-up to demutualisation in order to strengthen their balance sheets and improve their stockmarket valuations (assuming stockmarket participants are not fully informed about companies' performance).



demutualisation and the timing of demutualisation activity in terms of changes in industry demand and supply conditions.

Mutual companies' inherent capital constraint was, as argued in Chapter 4, activated by change in the product mix and stronger industry competition, both of which limited their capacity to generate large internal funds, and industry rationalisation and new opportunities for expansion into a broader range of financial service provision, both of which increased their capital demands. A large acquisition could use much of the accumulated excess reserves held by a mutual company, leaving it in a precarious position should future profitable expansion opportunities arise fairly soon after the acquisition. Reserve accumulation is "usually a slow process" (Needleman and Westall 1991, p322), even in an oligoplistic industry that allows companies to retain sizeable policy surpluses. In the now much more competitive industry environment, "[e]ven companies that do not contemplate near-term capital needs might undertake conversion to a stock company to achieve structural flexibility" (Gart 1994, p222; see also Needleman and Westall 1991, p327). These considerations may have been important in the AMP's decision to demutualise, despite it holding substantial excess reserves prior to demutualisation.<sup>19</sup>

## 5.5 Conclusions

Historical trends in the Australian life insurance industry support the three main propositions from the model developed in Chapter 4. From the late 1800s until the 1970s, the life insurance industry featured weak product market competition and a predominance of traditional permanent life protection products. These industry conditions favoured established mutual companies with substantial accumulated reserves that could be used to finance continued growth, maintaining or expanding their market share. Mutual companies consistently dominated the industry, in terms of both premiums and assets, over this period. These circumstances accord with the first hypothesis derived from the model.

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<sup>19</sup> In addition, the successful demutualisations of National Mutual and Colonial Mutual and privatisations of large public enterprises (eg. Commonwealth Bank and Telstra), all of which conferred large financial gains on policyholders and new shareholders, are likely to have created a favourable environment for AMP's demutualisation – the "demonstration effect" noted in Chapter 3, section 3.2.

Several changes since the 1970s eroded the mutuals' historically protected industry environment. Higher inflation, product innovation by banks and other fund managers, and increasing government promotion of superannuation saving relative to conventional life insurance policies have shifted life insurance sales away from the mutuals' traditional product lines towards investment-linked saving products and temporary life protection policies. Since these products have low capital requirements, the relative advantage conferred on mutual companies by large accumulated reserves all but disappeared. Relative efficiency became the driving force behind successful performance. At the same time, financial market deregulation was lowering entry barriers, generating a significant strengthening of competition within the industry. As predicted by the second hypothesis from the model, these industry conditions led to a substantial decline in the mutual industry share.

Finally, stronger competition has generated rationalisation of the industry, involving a high level of acquisition activity and exit from the industry. Financial market deregulation has also greatly expanded the growth opportunities available to life insurance companies. In order to protect and improve their positions, three of the companies that demutualised during the 1990s have undertaken substantial acquisitions. These developments support the proposition that a key reason for demutualisation was to obtain access to a flexible source of capital, ie. external equity raisings, in order to ensure sufficient capital is available to finance future profitable growth opportunities. This final situation conforms to the third hypothesis from the model, which predicts demutualisation under these industry conditions.

## **CHAPTER 6: SUMMARY AND CONCLUSIONS**

This thesis contributes to the existing literature on determinants of life insurance company ownership by analysing the impact of differential capital access under two main sets of industry supply and demand conditions. Comparative studies of ownership in life insurance industries have, with the prime exception of Hansmann (1996), omitted capital access as a determinant of the survival and relative success of different ownership forms. This study draws together the divergent concepts of firm 'under-capitalisation' and 'over-capitalisation' by explaining how changes in industry demand and supply conditions can transform a situation of 'over-capitalisation' into one of 'under-capitalisation'. The analysis can explain the three central features of the ownership history of the Australian life insurance industry: (i) its long dominance by mutual companies, (ii) prolonged coexistence of mutual and stock companies, and (iii) the demutualisation and conversion to stock company ownership of most of the large Australian mutual companies during the 1990s.

### **6.1 Summary of Findings**

The capital access model developed in this thesis predicts that a combination of weak product market competition and dominance of the product mix by traditional life insurance products permits mutual companies to make and retain surpluses on these policies. The retained surpluses cause large internal reserves to

be built up, generating a situation of mutual over-capitalisation. Mutuals' lack of access to equity capital, together with management desires to protect their employment tenure and promotion prospects, create incentives to accumulate a source of internal capital sufficient to meet both current solvency requirements and anticipated future capital demands. Large accumulated reserves provide a buffer against future prudential or product demand shocks that increase companies' demands for capital. However, the availability of a large supply of internal funds – in the presence of low monitoring by policyholders and external capital markets plus managerial benefits from growth in company size (eg. better salary and promotion prospects) – allows the use some of these reserves to finance an over-expansion in policy sales. Policy sales will be increased beyond the point where marginal returns equal marginal costs, reducing returns to existing policyholders.

An analysis of historical trends within the industry supports the over-capitalisation prediction. For much of the 19<sup>th</sup> century, the product mix within the Australian life insurance industry was dominated by traditional life insurance products like whole-of-life and endowment insurance policies, reflecting both consumer preferences for combined life insurance and saving products and limited choice resulting from low product innovation in the industry. The significant complexity and high switching costs associated with these products, allied with regulatory segmentation of the finance industry, caused product market competition to be weak. Consequently mutual companies were able to obtain a 'cheap' source of internal funds that was used to maintain large market shares.

The model further predicts that a shift in the product mix towards investment-linked saving products and temporary life protection policies, combined with stronger product market competition, removes the mutual advantage derived from large internal capital reserves. Relative efficiency becomes the driving force in determining relative success in the industry. Changes in the exogenous variables, most of which occurred over the 1970s and 1980s, shifted the product mix away from traditional life insurance products and, at the same time, strengthened the level of industry competition. Product innovation by banks and other fund managers, the impact of higher inflation on policy returns, tax changes to favour

superannuation saving, and increasing employer provision of superannuation benefits to employees all caused a shift in the product mix towards investment-linked saving products. Product market competition was boosted initially by product innovation by non-insurance company competitors and the shift to more inherently competitive saving products, and subsequently by finance industry deregulation. Under these industry conditions, mutual companies' lower operating efficiency put them at a disadvantage to stock companies. Consequently, the mutual share of new policy sales began to decline and, after a lag, their asset share also fell.

Stronger competition greatly diminished mutuals' capacity to retain the policy surpluses needed for reserve accumulation. The situation describing mutual companies' access to capital began to move to one of under-capitalisation although large reserves accumulated over the preceding century masked the emerging problem. Deregulation opened up new expansion opportunities for life insurance companies in non-insurance sectors of the finance industry. Capital was needed to underwrite the establishment costs of entering many of these new markets, particularly entry via acquisition of sizeable existing institutions. Finally an increase in industry rationalisation and associated acquisition activity during the 1990s activated the mutual under-capitalisation problem. The abrupt shift away from the mutual ownership form reflects the mutuals' need to secure external capital supplies to fund future growth opportunities. Without an adequate external capital supply, the mutual companies would have been unable to prevent inexorable erosion of their market share. Thus the mutual companies demutualised and converted to stock company ownership.

The model also generates an explanation for the prolonged coexistence of mutual and stock companies based on product specialisation according to capital access differences. When the Australian industry consisted of two sizeable segments, mutual and stock companies specialised in the segment where they had a relative advantage. Mutual companies predominated in the market for traditional life insurance products, ie. permanent life protection policies, where product market competition was weak and large accumulated reserves subsidised continued growth. Stock companies concentrated in the second market segment for term life

insurance and saving products, where their greater efficiency in the more competitive product environment allowed them to out-perform the mutual companies. Continued mutual survival and success was safeguarded by the protection from competition afforded by entry barriers erected by industry regulation, tax concessions for life insurance policies, and the companies' accumulated capital reserves. The sharp contraction since the 1970s in the relative size of the traditional market segment undermined the product specialisation strategy as a means of ensuring mutual companies' long-term success. With the substantial shift in the product mix towards investment-linked saving products, continued specialisation in permanent life protection policies would guarantee long-term decline. Consequently mutual and stock companies could no longer coexist as they had done in the past.

This explanation for mutual and stock company coexistence offers an alternative to Mayers and Smith's (1986) 'line-of-business' hypothesis. In contrast to Mayers and Smith's hypothesis that mutual managers bond themselves by specialising in low-discretion product lines, my alternative rationale for 'line-of-business' specialisation supposes that mutual managements choose to operate in those product lines allowing them most discretion to amass and expend excess internal reserves. The Australian empirical evidence presented by Blair (1991) to test the 'line-of-business' hypothesis is consistent with my contention that specialisation is based on mutual advantage deriving from capital access.

## 6.2 Implications

### 6.2.1 *Prospects for Further Research*

Three major opportunities for further research follow from this thesis. First, regression analysis of Australian ownership change may be useful to estimate the relative significance of each exogenous variable. Confirmation of the predictions of the model has been limited here to an analysis of Australian historical trends. A number of problems need to be solved to obtain good results from regression analyses. The major problems were noted in the introduction to Chapter 5.

Second, similar moves towards demutualisation have been experienced in the US, Canadian and UK life insurance industries. A useful test of the model would be to

examine its applicability to ownership change in these industries. A comparison of historical trends in industry ownership structure against changes in industry product mix and levels of competition in these countries could test the predictions of the model. Regression analysis of the US industry may yield better results than an Australian regression, given the much larger sample size possible for the US. However an additional complication may be introduced by the different regulatory systems applying among US states.

Third, the model developed in Chapter 4 could be formalised in a series of equations. The financial models of Cummins and Danzon (1997) and Winter (1994), which correlate total industry capacity with insurer capitalisation in property liability insurance, might provide a useful starting-point for incorporating the effects of capital access differences between stock and mutual companies in a formal mathematical model. However the models would require substantial adjustment to reflect the significant differences between life insurance and property liability insurance.

Further research opportunities exist to follow up other possible influences on ownership structure that were suggested, but not pursued, in this thesis:

1. The degree of mutual policyholders' awareness of, and interest in, their ownership role, as distinct from the customer relationship, may have a significant impact on mutual company monitoring, performance feedback to management, and company efficiency (mentioned in Chapter 2, section 2.3 and Chapter 3, section 3.2).
2. The 'demonstration effect' of a successful demutualisation and stockmarket listing may have influenced decisions about, and timing of, further demutualisations by reducing information costs for company managements, for mutual policyholders, and for potential share purchasers. Further research is needed to confirm the existence and importance of any potential 'demonstration effect' in the Australian life insurance demutualisations (Chapter 3, section 3.2).
3. Product differentiation by life insurance companies, through the bundling of saving and protection services in traditional life insurance policies, may

have been aimed at either improving consumer choice or creating entry barriers by increasing consumer information and search costs. Which motivation applied in the Australian life insurance industry is an empirical question (Chapter 3, section 3.3). Product differentiation would appear to be less feasible for saving products, where product performance is easier to judge by comparing published investment returns.

4. The insights of my model could be combined with Davis' (2000) overlapping generations model to investigate the role of wealth expropriation in policyholders' majority votes in favour of demutualisation. Specifically, the regulatory and product mix changes detailed in Chapter 5, and possibly perceptions of lower security of policies consequent on under-capitalisation, are likely to have played a major role in lowering the expected net present value of benefits to policyholders from continued membership of a mutual-owned life insurance company.

Regulatory and tax changes played a major role in prompting change in the ownership structure of the Australian life insurance industry. The aims and decision processes underlying the history of life insurance regulation were not investigated. While a substantial body of literature examines the foundations for broader finance industry regulation and deregulation, a similar amount of attention has not been given to life insurance regulation. Harper (1982) is one of the few extant Australian studies.

#### *6.2.2 Future Developments in Life Insurance and Superannuation*

With the ageing of the Australian population and increasing reliance on self-provision for retirement, the market for annuities is anticipated to continue growing. As noted in Chapter 4 (section 4.1.3), the four product categories included in the model do not cover all the product types offered by life insurance companies, with annuities being the most notable omission. Annuities combine a dis-saving service with long-term life protection and thus incur similar mortality and earnings risks to permanent life protection policies. The impact of a growing annuities market on industry competition levels and capital demands has received little attention. Consumer monitoring and switching costs for annuities do not



seem to have been examined; their magnitude has important implications for the competitiveness of the annuities market.

### 6.2.3 *Managerial Objectives*

Much Australian media attention has focused on some very large increases in monetary rewards obtained by top managers of demutualised life insurance companies through performance-related salary increases, share issues and stock options. Various managerial objectives were listed in Chapter 2 (section 2.1.2) and Chapter 4 (section 4.4.1). They included high salaries, over-consumption of perquisites, power (such as through empire building), employment security (achieved through maximisation of firm sales or growth beyond profit-maximising levels), and shirking or pursuit of a 'quiet life'. Trade-offs between these objectives appear related to ownership form. Low performance monitoring under mutual ownership permits greater managerial consumption of perquisites, entrenchment of managers' positions, shirking, and the pursuit of power. Accumulation of excess reserves by mutual life insurance company managers facilitates the achievement of these goals, as noted in Chapter 4. Greater ease in attaining these objectives comes at the expense of lower pecuniary benefits reflecting the absence of managerial incentive schemes like stock options under mutual ownership.<sup>1</sup> The reverse situation seems to apply in stock companies, with the trade-off for larger monetary payments to executives being higher managerial turnover and greater pressure to maximise company performance.<sup>2</sup>

Shortcomings in the monitoring of management performance under both mutual and stock ownership suggest that scope for managerial opportunism exists under both ownership forms. Hansmann has suggested that performance-related compensation arrangements may in reality simply allow management to appropriate owners' profits in circumstances where owners' effective level of control is low (1996, p304, endnote 5). Risk-averse managers who wish to maximise their employment security or managers with strong preferences for non-

<sup>1</sup> Roomkin and Weisbrod (1999) found total monetary compensation was higher for the top executives in for-profit hospitals and performance-related bonuses in particular were much higher in for-profit than in non-profit hospitals.

<sup>2</sup> Mayers and Smith (1986) and McNamara and Rhee (1992) found that managerial turnover was lower in mutual than in stock life insurance companies.

pecuniary benefits may choose employment in mutual companies. Less risk-averse managers or those with strong preferences for monetary forms of compensation may favour employment in stock-owned companies. Whether either ownership form permits managers of life insurance companies to maximise *total* compensation, pecuniary and non-pecuniary, may be a fruitful area for further research.

#### *6.2.4 Policy Implications*

This thesis has highlighted how the regulatory and tax environment influenced ownership structure in the life insurance industry. An important implication from the study is that inefficient regulations can generate economic costs by supporting inefficient ownership forms, in addition to the standard economic distortions recognised in most studies of regulation. Assessments of regulatory policies may need to incorporate their potential impact on industry ownership structures.

The most productive measure to diminish costs of excessive earnings retentions in industries where mutual ownership is still important is to foster a high level of competition in the industry. Requirements for prices and benefits to be expressed in a comparable, simple-to-understand format would reduce consumer search, monitoring and switching costs. Regulation-induced entry barriers should obviously be avoided to ensure sufficient levels of industry competition.

## **APPENDIX I: MAJOR CHANGES IN TAXATION AND REGULATION AFFECTING LIFE INSURANCE AND SUPERANNUATION**

### **AI.1 Taxation of Life Insurance and Superannuation Policies**

- 1975      Removal of tax deductibility for premiums on non-superannuation policies and superannuation policies with employer contributions, except when all concessional expenditure including \$1,200 of premium payments exceeds \$2,000. Amounts above \$2,000 rebated at the standard rate. Previously, the first \$1,200 of premiums on non-superannuation policies with contract periods of more than ten years and superannuation contributions were fully deductible against taxable income, ie. at individual's marginal tax rate.
- Retention of full deductibility for the first \$1,200 of premiums on superannuation policies with no employer contributions; excess contributions rebated as above. Premium payments on superannuation policies by employers are an allowable deduction by the employer.
- 1980      Introduction of tax deductibility for contributions made to superannuation schemes by self-employed persons and employees not covered by employee-sponsored schemes.
- 1983      Reduction in the concessional taxation of lump sum superannuation payments. Maintenance of the concession for pre-1983 amounts, ie. 5% treated as part of taxable income with the remainder tax-free. Post-1983 amounts to be taxed at a higher rate (15 or 30%) according to a formula based on size of lump sum and individual's age (ie. whether over or under 55 years).
- Lump sum benefits (including reversionary bonus payments) received under non-superannuation life insurance policies not treated as taxable

- income unless payment results from surrender of a policy less than ten years old. Annuity receipts treated as part of taxable income except for 'return of capital' portion (ie. undeducted purchase price).
- 1985 Rebate provisions for superannuation contributions abolished.
- 1986 Tax deduction for superannuation contributions by self-employed and employees with no employer contributions (ie. 'unsupported persons') increased to \$1,500. Introduction of tax deductibility up to \$1,500 for employees ('supported persons') with only award superannuation contributions by employer.
- 1988 Tax deduction for 'unsupported persons' and 'supported persons' with only award superannuation increased to \$3,000.
- Tax rates on post-1983 superannuation lump sums reduced by 15% to 0% or 15%, dependent on age at receipt (unchanged at 15% and 30% for 'unfunded', ie. public sector, schemes). Tax on superannuation pensions and roll-over annuities reduced by a rebate of 15 percentage points ; previously taxed at applicable marginal income tax rate.
- 1990 Tax deduction for 'unsupported persons' increased to \$3,000 plus 75% of additional contributions up to a set maximum. Tax deductibility for 'supported persons' reduced to a potential rebate of up to \$750 (ie. 25% of \$3,000) for low-income earners.
- 1992 Potential rebate for low-income earners reduced to \$100.
- 1994 RBLs no longer relevant for calculation of maximum contributions but relevant to taxation of benefits. Imposition of age-based limits (indexed annually) on employer superannuation contributions and contributions by self-employed persons<sup>1</sup>; no tax deductibility for personal superannuation contributions by employees.
- 1997 Income tax rebate of 18% for contributions up to \$3,000 on behalf of low-income or non-working spouse.
- 1998 Tax rebate of 7.5% for personal undeducted (after tax) superannuation contributions up to \$3,000 a year.

## AI.2 Taxation of Life Offices

- 1973-75 Removal of concession of 5 percentage points below the company tax rate. Life offices' taxable income to be taxed at the normal company tax rate (then 46 cents in the dollar). In calculating tax, premiums on life policies were not treated as taxable income, nor expenses incurred in gaining premiums (ie. commissions) nor benefits paid were allowable deductions. Investment income, including realised capital gains and losses, was assessable income; expenses incurred in gaining assessable income (including an investment-related proportion of general management expenses) were allowable deductions. Transactions relating

<sup>1</sup> The initial annual limits were \$9,000 for employees aged up to 35 years, \$25,000 for employees aged 35-49 years, and \$62,000 for those aged 50 years and over. (Deloitte Touche Tohmatsu 1996, p195).

to annuities were treated as being part of non-superannuation business for tax purposes.

Superannuation business of life offices and superannuation funds tax exempt (provided the 30/20 rule was complied with).

- 1973-75 Reduction in tax concession on non-superannuation business through a 'special' deduction equal to a proportion of the value of non-superannuation policy liabilities. Reduced from 3% in 1973 to 2% in 1974 to 1% in 1975.
- 1973-75 Value of dividend rebate reduced – now rebate on dividends received in association with non-superannuation business allowed at life offices' marginal tax rate.
- 1988 Introduction of 15% tax on superannuation fund earnings and employer contributions. Taxed at 15% instead of top marginal tax rate. Introduction of dividend imputation to superannuation funds. Indexation of cost base of assets introduced for the calculation of capital gains tax, provided asset is held for at least 12 months.

### **AI.3 Employer Superannuation Contributions**

- 1987 Australian Industrial Relations Commission agreed to certify agreements and make consent orders relating to provision of 3% award superannuation contributions in lieu of an equivalent wage increase.
- late 1980s Spread of Award Superannuation under which industrial awards provide
- early that employers must make superannuation contributions, usually
- 1990s equivalent to about 3% of the employee's wages.
- 1992 Introduction of Superannuation Guarantee Charge to ensure employers provide minimum levels of superannuation coverage to employees earning over \$450 per month. The minimum level of support is prescribed at 3% of an employee's earnings in 1992, increasing to 9% by July 2002. It is currently 8%.

### **AI.4 Regulation of Life Offices**

- 1961 Introduction of 30/20 rule requiring life offices to hold at least 20% of the assets of each statutory fund (on a cost basis) in Commonwealth securities and at least 30% of each fund's assets in public sector securities.
- 1972 The Trade Practices Commission disallowed several anti-competitive agreements made by the Life Offices Association of Australia. The Competitive Practices Agreement prevented agents making written quotations on the terms and benefits of competing policies. The Twisting Agreement forbade payment of commissions to agents on replacement business, i.e. business transferred from another company. The Tied Agency Agreement prevented brokers from shopping around the life offices to find the best deal for their clients.
- 1983 Capacity to invest overseas improved.

- 1984 Abolition of 30/20 rule.
- 1986 Insurance and Superannuation Commission established to supervise insurance and superannuation industry.
- 1990 Proposed merger of ANZ Bank and National Mutual Life Association prohibited by federal government.  
New solvency requirements for life offices announced.
- 1992 Amendments to prudential standards for insurance companies.

*Sources: Australian Prudential Regulation Authority, "Bulletin", December Quarter 1998; Covick and Lewis (1985, pp207-212); Lyell et al (1997, pp143-150); Deloitte Touche Tohmatsu (1996).*

## APPENDIX II: FINANCE INDUSTRY REGULATION

- 1969 Trading banks permitted to issue certificates of deposit. Savings bank investment accounts introduced.
- 1973 Interest rate ceilings on bank certificates of deposit abolished.
- 1976 Federal government introduces Australian Savings Bonds offering higher interest rates to savers; first issue heavily subscribed.
- 1977 Proportion of savings bank deposits held in prescribed assets reduced (to 45 per cent).
- 1978 Proportion of savings bank deposits held in prescribed assets reduced again (to 40 per cent).
- 1979 The Committee of Inquiry into the Australian Financial System (Campbell Committee) announced.
- 1980 Removal of controls over interest paid on deposits with banks.  
First cash management trust established.
- 1981 Final Report of the Committee of Inquiry into the Australian Financial System (Campbell Committee) tabled in Parliament.
- 1982 Savings banks allowed to accept fixed deposits (of less than \$50,000) and to offer call savings accounts. Savings bank prescribed assets ratio replaced by a minimum liquidity ratio of 15 per cent. Variable repayment home mortgages permitted.  
Maturity controls on trading bank deposits relaxed. Removal of quantitative controls over trading bank lending.
- 1983 Martin Review Group established to review the findings of the Campbell Committee.  
Australian dollar floated and exchange controls removed.

- 1984 Report of Martin Review Group.  
Additional bank controls removed. Controls on bank deposit rates and maturities lifted. Saving banks allowed to offer cheque accounts. Interest allowed to be paid on cheque accounts
- 1985 Sixteen partly and fully owned foreign banks permitted to begin banking operations in Australia. Reserve Bank introduced new capital adequacy guidelines for banks. Removal of controls over bank loans but retention of the interest rate ceiling on some housing loans.  
LGS ratio replaced by (less severe) prime assets ratio (PAR). Reserve Bank commences prudential supervision.
- 1986 Removal of interest rate ceiling on new housing loans (but retention of ceiling on existing loans).
- 1988 Removal of legal distinction between trading and savings banks. Savings banks to be allowed greater flexibility in their investment policies.  
New capital adequacy requirements for banks.
- 1990 The Parliamentary Committee on Finance and Public Administration (Stephen Martin, MP, Chairman) asked to inquire into and report on the importance of the Australian banking system to the Australian economy, including bank profitability and competition.
- 1991 Report of Martin Committee.
- 1992 Issue of Reserve Bank guidelines on banks' involvement in funds management activities to ensure these activities are kept separate from other bank activities. Foreign banks allowed to operate in Australia as branches as well as subsidiaries.
- 1994 New guidelines for role of bank subsidiaries as trustees for superannuation funds.
- 1996 Announcement of an inquiry into the Australian financial system (Wallis Inquiry), in particular to consider the appropriateness of the regulatory and supervisory arrangements.
- 1998 Establishment of the Australian Prudential Regulation Authority (APRA), consolidating supervisory oversight of banks, life insurance companies, general insurance companies, and superannuation funds under a single regulatory body (previously split between the Reserve Bank and Insurance and Superannuation Commission). Replacement of the Australian Securities Commission with the Australian Securities and Investments Commission (ASIC) to oversee disclosure standards, market conduct, complaints handling, and licensing of agents and brokers.

Sources: Covick and Lewis (1985, pp207-212); Insurance and Superannuation Commission, "Annual Report 1997-98", 1998; Lyell et al (1997, pp143-150).



### APPENDIX III: HISTORY OF ENTRY AND EXIT TO THE AUSTRALIAN LIFE INSURANCE INDUSTRY SINCE DECEMBER 1981

Year	Number of Companies	Entrants	Exits
1981	48		
1982	48	Heritage Life Insurance Zurich Aust'n Life Ins.	Commonwealth General Ass. Shield Life Insurance
1983	49	Cologne Life Reinsurance Falkirk Assurance Society	Underwriting and Insurance
1984	48		T&G Mutual Life Society
1985	49	FAI Life Insurance National Australia Life* NZI Life	Falkirk Assurance Society South British United Life Ass.
1986	53	Capita Financial Group <sup>1</sup> Continental Assurance Equity Life Fidelity Life Insurance Lumley Life State Ins. Office Victoria Westpac Life*	City Mutual Life Assurance <sup>1</sup> Phoenix Life Assurance Security Life Assurances
1987	53		
1988	58	Armstrong Jones Life Ass.	APA Life Assurance

		ANZ Life Assurance* Commonwealth Life* Federation Life Insurance Liberty Life Metropolitan Life Ass. Norwich Union Life Aust. Oceanic Life	Aust'n Manufacturers Life Ass. Greater Pacific Life Assurance
1989	59	Ansvar Life Assurance Cigna Life Insurance GIO Life Tyndal Life Insurance	Assoc. National Life Insurance Metropolitan Life Assurance Norwich Union Life Insurance
1990	60	Advance Life Insurance Bankers Trust Life**	Business Men's Assurance <sup>2</sup> Capita Financial Mgt. <sup>3</sup>
1991	59	AMPAC Life <sup>4</sup> Macquarie Life	Westpac Life <sup>4</sup> Investors Life Insurance Liberty Life
1992	57		Continental Assurance Friends Provident Life
1993	50		Ansvar Life Insurance Fidelity Life Insurance GIO of NSW <sup>5</sup> GIO of Victoria <sup>5</sup> Guardian Assurance Public NZI Life Switzerland Superann. & Life
1994	50	AM Life Gerling Global Life Reins. RACV Financial Services	Friends Provident Life Ass. Occidental Life Insurance Regal Life Insurance
1995	50	National Mutual Holdings <sup>6</sup>	National Mutual Life <sup>6</sup>
1996	52	Colonial Group <sup>7</sup> Deutsche Life** RGA Reinsurance	Colonial Mutual Life Ass. <sup>7</sup>
1997	53	MLC Lifetime <sup>8</sup> St George Life	Le Fort Life
1998	45	AMP <sup>9</sup>	Aust'n Mutual Provident <sup>9</sup> Advance Life Insurance Armstrong Jones Life Ass. Australian Eagle Life Colonial Financial Mgt. Heritage Life Insurance Legal and General <sup>10</sup>

			Life Insurance Co. of Aust. Oceanic Life Prudential <sup>10</sup> SGIC Life
1999	42		Deutsche Bank <sup>11</sup> GIO <sup>12</sup> Tyndal Life Insurance
2000	42	PrefSure Life	Colonial Group <sup>13</sup> FAI Life Insurance MLC <sup>14</sup>

Source: Office of the Life Insurance Commissioner (later the Insurance and Superannuation Commission), "Quarterly Statistical Bulletin" and "Half-Yearly Financial Bulletin", various issues; Australian Prudential Regulation Authority, "Life Insurance Market Statistics" and "Half-Yearly Financial Bulletin", various issues

Notes to the table:

The year of company exit shown in this table may reflect the year in which the company's business was transferred to another company which may not coincide with the year of ownership change.

\* Denotes subsidiaries of Australian banks. National Australia Life was renamed National Australia Financial Management Ltd in 1988.

\*\* Denotes subsidiaries of overseas banks.

1. In September 1986, City Mutual Life became the Capita Financial Group.
2. Business transferred to FAI Life.
3. Capita Financial Group (a mutual company) acquired by MLC Life in October 1990, leading to demutualisation via acquisition.
4. Westpac Life was sold to AMP and renamed AMPAC. The sale was reversed in December 1996.
5. The life insurance business of the NSW and Victorian Government Insurance Offices was transferred to GIO Life.
6. Demutualised in September 1995 via a 49% share issue to policyholders and 51% sale to AXA Financial Group.
7. Demutualised in December 1996 via issue of shares to policyholders.
8. Previously Capita Financial Group; reactivated and renamed to handle MLC's traditional life insurance products.
9. Demutualised in January 1998 via issue of shares to policyholders.
10. These companies continued to operate but as Colonial Financial Corporation and Colonial Portfolio Services respectively under the ownership of MLC.
11. Deutsche Bank acquired Bankers Trust in June 1999 and consolidated its life insurance business under BT Life.
12. Acquired by AMP but continued to operate as a separately registered company.
13. Acquired by the Commonwealth Bank but still operating as a separate company.
14. Acquired by the National Australia Bank but still operating as a separate company.

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