

The Demutualisation of the Australian Stock Exchange: Causes and Consequences

By

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Acknowledgments

This study would not have been possible without the generous support of the Australian Stock Exchange ('ASX'). Specifically, we are very grateful for the time taken by Maurice Newman, two anonymous Directors, Karen Hamilton and David Shortland to discuss the finer details of the demutualisation process. Our thanks also go to ASX staff (or former staff) members: Justine Newby, Jason Anderson, Jason Keady, Mark Blair, Peter Skalkos, Kris Vogelsong, John Hulst and Ann Reckie for providing us with extensive information and resources. There are also several former members of ASX to whom we owe our sincere thanks: Rob Thomas, John McIntosh and an anonymous former member, all of whom provided insightful comments about the demutualisation process. A special 'thank you' to James Lloyd and Peter Falk for their very helpful critiques and comments. Their time and effort was much appreciated. We wish to thank Professor Peter Swan and Professor Stephen Taylor for their invaluable contributions. Additionally, we are grateful for the opportunity to use the resources available at the Securities Industry Research Centre of Asia-Pacific ('SIRCA'). In particular, we thank two SIRCA computer programmers, Darryl Young and Giancarlo Filippo.

Executive Summary

The Australian Stock Exchange ('ASX') demutualised on 13 October 1998. A day later, it listed on its own market. This monograph examines the reasons for and outcomes of the demutualisation process on the basis of interviews with current and former ASX directors, managers and former members. The interviews are supplemented with extensive access to a wide range of ASX produced reports and documents. The analysis reveals that increasing competition and the inherent inefficiencies of a mutual structure were the main reasons for ASX's demutualisation, consistent with research from the insurance and banking industries. There is evidence that the change in organisational structure has improved ASX as a business and increased stakeholder value.

1.0 Introduction[#]

On 14 October 1998, the Australian Stock Exchange ('ASX') listed following its members' vote to convert from a mutual structure to a stock-based company, thus changing the distribution of ownership and control. In a stock-based company, the common shareholders are the residual claimants of the corporation. The shareholders' residual claim is unrestricted and may be sold without reference to other shareholders. In a mutual organisation, the owners are also customers of the organization and are unable to freely dispose of their stakes. Further, in mutuals the rights to profits or losses reside with its customers and so the customers share risks that the organization has not diversified away. The conversion from a mutual structure to a stock-based company was thus a very significant change in corporate governance for ASX.

ASX is the first exchange in the world to list on its own market.¹ The move has been a success for ASX and its stakeholders by several measures. By October 1999, the shares were trading at over two times the initial opening price.² At the end of its first year as a public company, ASX announced a record profit with operating profit after tax 126% above the previous financial year.

The change in ASX's corporate structure and its subsequent positive performance raises several questions, addressed in this monograph. What were the pressures that prompted the change from a mutual structure, which is common for stock exchanges, to a stock-based company?³ Secondly, how was the process managed, given that gains and losses from the change were not borne equally or proportionately among the stakeholders of the mutual

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¹ The Stockholm Stock Exchange was not the first as it is a subsidiary of a listed company, OM Gruppen. In fact, the Swedish government passed legislation to prevent the SSE from listing on its own market as it considered such a scenario to be "inappropriate" [Offer Document for the Stockholm Stock Exchange (1992)].

² The share price peaked on 16 March 1999 at \$16.18 or a 281% rise from the initial opening price.

³ A stock-based company refers to a company limited by shares.

structure? Thirdly, how have the corporate governance structures of ASX evolved since demutualisation?

Answers to the above questions are of interest to stakeholders in other stock exchanges. Globalisation of financial markets has intensified competition across exchanges.⁴ Alliances and consolidations are occurring in attempts to attract more investors on the basis of lower transaction costs, more products and increased liquidity. Specific examples include the merger of the American Stock Exchange ('AMEX') and the National Association of Securities Dealers Automated Quotation ('NASDAQ'), the merger of the Chicago Board Options Exchange with the Pacific Exchange and in Europe, the formation of Euronext out of the Amsterdam, Brussels and Paris Exchanges. In Australia, ASX has signed an agreement with NASDAQ, NYSE, AMEX and SGX which will provide joint trading of securities on reciprocal markets. ASX has stated that global alliances should allow for the exchange to move to 20 hour trading days.⁵

In the years following the ASX listing, a number of the world's major exchanges such as the London Stock Exchange ('LSE'), NASDAQ and the Stock Exchange of Hong Kong ('SEHK') have followed ASX and demutualised. Many other exchanges such as NYSE are considering a new structure in order to remain competitive in the face of regulatory and technological changes that threaten their viability in the global environment. The question thus arises – should these exchanges follow ASX's model?

1.1 Economic Significance of Stock Exchanges

Stock exchanges have a vital role in the economy. Between 1993 and 2000, ASX mediated over \$157.2 billion⁶ of funds from savers to productive enterprises through initial public offerings and other capital raising activities.⁷ By the end of the 1999 financial year, the value of the market was equivalent to 88.6% of the national gross domestic product. The central role of exchanges in allocating capital underlines the importance of exchanges having appropriate organisational structure and corporate governance mechanisms. Further, in

⁴ Cross-exchange equity trading increased from US\$0.3 trillion in 1988 to US\$2.3 trillion at the end of 1995 [Smith and Sofianos (1997)]. Factors that have contributed to the globalisation of securities markets include: the deregulation of stock exchanges, improved technology and capital mobility, the Internet and increases in contributions towards superannuation funds.

⁵ ASX Press Release – 17 June 1999. This comment was made in regard to the NASDAQ alliance.

⁶ In this study, all currency is in Australian dollars except where otherwise stated.

⁷ Australian Stock Exchange Fact Book (1999).

Australia, over 57% of the adult population have exposure to the Australian share market either through direct ownership or indirect means such as managed funds.⁸ The chairman of ASX, Maurice Newman, was thus underlining a non-controversial proposition when he said “economic growth and employment prospects are enhanced by efficient capital markets which reduce capital formation costs and enable benefits to be widely spread”.⁹

1.2 Analytical Framework

In analyzing ASX’s change in corporate structure we draw principally on agency theory. The key premise of agency theory is that organizational structure affects employees’ (ie, agents) incentives to act in the interest of the stakeholders (ie, principals) who hire them.¹⁰ Different industry conditions may require different organizational forms for optimal performance. A literal interpretation of this view implies there is a uniquely optimal form of organisation for each industry. Casual observation indicates this is not the case.¹¹ However, the agency perspective can serve to identify the pressures on an organisation to adapt and the likely consequences of that adaptation. We adopt the view that the agency perspective may not explain all aspects of the demutualisation of ASX but it is likely to yield several significant insights. If the change has been successful, the members, ASX listed companies and stock market investors (‘investors’) will all have benefited from the change in organisational structure.

1.3 Original Contributions

This study entails the use of a unique data source: ten interviews with current and former ASX directors, managers and former members.¹² The interviews are supplemented with a wide range of internally produced reports and documents from ASX. The monograph thus provides a detailed history of the lengthy process undertaken by ASX in becoming the first

⁸ ASX Fact book 2001

⁹ Australian Stock Exchange Listing Memorandum (1998).

¹⁰ The agency perspective was developed by Jensen and Meckling (1976) and further developed by Fama and Jensen (1983), Hansmann (1985) and Mayers and Smith (1981, 1986, 1988, 1992, 1994).

¹¹ Stock-based companies and mutual organisations regularly coexist in the same industry – the insurance and banking industries are good examples. In terms of stock exchanges, the majority have remained as mutuals. Apart from ASX, the only exchanges to have changed to a corporate structure are: Stockholm Stock Exchange (1993), Helsinki Stock Exchange (1995), Copenhagen Stock Exchange (1996), Amsterdam Stock Exchange (1997) and Borsa Italiana (1997), Singapore Stock Exchange (2000), Hong Kong Stock Exchange (2000), London Stock Exchange (2001), Euronext (2001) and Nasdaq(2001).

¹² Some of the people interviewed asked if they could remain anonymous. This wish has been respected. Others were willing to speak for the record and thus have been identified, where appropriate.

exchange in the world to list on its own market. We also add to previous research by assessing whether the theory and evidence from the demutualisation of companies in the banking and insurance industries is relevant to stock exchanges.

Besides the organisational structure literature, this study contributes to the large and growing body of corporate governance research. At present, there is little evidence of how corporate governance systems in mutuals adapt in a change to a stock company based structure. Have ASX's corporate governance mechanisms evolved in ways that are predicted by the prior literature? If the mechanisms have adjusted, over what time period has this process occurred?

1.4 Summary of Main Findings

The reasons for the demutualisation of ASX are generally consistent with the theory and evidence from the insurance and banking industries. The main reasons for demutualisation were rapidly increasing competition and inefficiencies arising from a collective decision making process. Comparison with international exchanges from the Asia-Pacific indicates that ASX has benefited from an increase in its efficiency as a result of the change in organisational structure.

Our evidence indicates that mutual corporate governance mechanisms adapt to changes in organisational structure in predictable ways. Interestingly, the changes in board composition and board size have occurred progressively since demutualisation. In contrast, an analysis of changes in managerial remuneration indicates that executive and managing director remuneration packages were altered prior to the demutualisation decision in October 1996. One interpretation is that mutual organisations adopt some of the characteristics of a stock-based company in an attempt to improve the performance of the business. When this fails, management will seek to change the organisational structure appropriately.

From the stakeholder's perspective, the main beneficiaries since demutualisation have been the former members of ASX. In the long term, however, there is a possibility that stockbroking organisations will suffer from a decline in profitability. To date, there is only weak evidence to suggest that ASX listed companies and investors have benefited from the change in organisational structure. However, the analysis is limited due to the short time frame post-demutualisation covered in this monograph. This is of particular importance

considering ASX is moving to introduce a number of new initiatives that should benefit both ASX listed companies and investors in the future.

The rest of the monograph is structured as follows. Section 2 describes the processes and negotiations that led to ASX's decision to demutualise. Section 3 reviews the relevant literature on the reasons for demutualisation and identifies the changes in circumstances that prompted ASX to reconsider its organisational structure. The economic consequences and outcomes of the process are evaluated by comparing the critical financial and qualitative attributes of ASX before and after demutualisation. Section 5 changes undertaken by ASX since demutualisation and critiques them from the corporate governance perspective. Section 6 examines whether any benefits have accrued to the stakeholders of ASX as a result of the change in organisational structure. Section 7 canvases the options that were available to management to adapt to the changes in circumstances. It also provides predictions about the future direction of ASX and the stockbroking industry. Section 8 comprises concluding remarks and suggestions for future research.

2.0 Historical Perspective

2.1 Origins of ASX

All major stock exchanges began as mutual organisations. Why? The events surrounding the formation of the Sydney Stock Exchange in the late nineteenth century suggest that self-regulation was an important element in the success and early growth of Australian equity markets. Salsbury and Sweeney's (1988) history of the Sydney Stock Exchange (summarised below) indicates that the requisite self-regulation was most efficiently provided via a mutual structure.

During the mining boom of 1872 the number of stockbrokers in Sydney increased from 22 to 131. Stockbrokers were able to perform three functions simultaneously. A stockbroker could act as an agent for clients, buy and sell shares on his own account and also 'float' new companies for a fee. The large potential for a conflict of interest in the execution of these functions meant that the trustworthiness of stockbrokers was an important issue that needed to be resolved in order to facilitate trade.

Press reports from that period confirm that lack of public confidence in the integrity of stockbrokers was a potential deterrent to trade. On 6 September 1872, an article in *The*

Sydney Morning Herald expressed strong public dissatisfaction with the conduct of stockbrokers and their industry.¹³ The criticisms focused mainly on the ‘sloppy’ methods used to trade shares. Situations arose where prospectuses for companies raising new capital either omitted important information or blatantly lied. Stockbrokers were commonly accused of buying or selling shares without disclosing whether they were acting as an agent or as a principal.

In a number of instances, dissatisfaction with stockbrokers led to legal disputes between stockbrokers and their clients. In *Garret versus Bird*, the Chief Justice, Sir Alfred Stephen argued in his judgement that the laws were ineffective in appropriately regulating the stockbroking profession. He concluded that “the law in this colony in relation to stockbrokers is very defective – more so than that in force in any other country. Every judge upon this bench has had cases under his observation, in which it was impossible to say that frauds had not been perpetrated – owing to the want of regulations, such as exists in London and some other towns in England”.¹⁴ Given the ‘defective’ regulatory environment at the time, stockbrokers needed to regulate themselves to protect the integrity of the market and thereby protect and promote their business.

In December 1872, a *New South Wales Shareholders’ Bill* was introduced to State Parliament in an attempt to regulate the stockbroking industry. However, the *Shareholders’ Bill* was defeated without any significant debate [Salsbury and Sweeney (1988)]. There was no other attempt by the government to impose regulations. In fact, until the introduction of the *New South Wales Securities Act 1975*, the Sydney Stock Exchange was completely self-regulating [Aitken (1990)].

Formalised self-regulation began in 1887 when the Sydney Stock Exchange developed its own rules as a legal framework for share trading. The rules restricted membership of the exchange to those who met certain criteria based on honesty and efficiency. This was a mechanism used by the stockbroking industry to ensure that the public perceived that stockbrokers were of good fame and character and acted with the highest business integrity. The exchange also adopted rules that regulated companies’ prospectuses and accounting

¹³ Cited in Salsbury and Sweeney (1988).

¹⁴ Cited in Salsbury and Sweeney (1988).

practices (i.e., listing requirements).¹⁵ As a mutual, the Sydney Stock Exchange board was able to operate a miniature legal system, with its own rules governing securities trading and resolving trade related disputes [Salsbury and Sweeney (1988)].

Aitken (1990) identifies the similarities between the development of the Melbourne Stock Exchange and the Sydney Stock Exchange. Aitken observes that apart from the initial attempt in 1891 to introduce the *Shareholders' Bill*, the government allowed the stockbroking industry to remain self-regulatory until 1937. At this point, Victorian State Parliament passed the *Stock and Sharebrokers Act 1937*. However, the *Stock and Sharebrokers Act* complemented the efforts of the stockbrokers to self-regulate rather than override the regulations that were self-imposed in 1861.¹⁶

In the US, Banner (1998) shows that the success of the NYSE can be attributed, in large part, to the ability of members to regulate themselves. Banner contends that the self-regulatory function was enhanced by the lack of enforceability in the New York courts of “time bargain” transactions. These transactions involved two members reaching an agreement to transfer and pay for a given quantity of stock at a given price on a specific date in the future. To enhance public confidence, the NYSE members imposed restrictions on admission to the exchange to ensure that the members were of the highest integrity, which provided some assurance of the creditworthiness of those persons trading. Existing members were the only people who could propose new members. A person was only accepted after a secret ballot of all the members: three negative votes were enough to deny admission. Similar to the Sydney Stock Exchange, a number of legislative bills that would have changed the way business was conducted on the NYSE came close to passing. However, the bills failed to gain the necessary support. This allowed the NYSE to continue its self-regulatory function until 1968 [Aitken (1990)].

It is pertinent here to note that a self-regulating legal system can operate effectively only when the parties affected by the decisions agree to abide by its rules and regulations. This agreement is most effective when all members have an equal vote, as facilitated by a mutual structure. As the barriers to entry increase and the law becomes more developed then the need for self-regulation as a mutual decreases. In due course, external legislation came closer

¹⁵ It was not until 1890 that the listing requirements became formalised. Further, it was in 1911 that the exchange published a full list of these requirements [Aitken (1990)].

to supplanting self-regulation by the members of the Australian stock exchanges. In large part, this was because self-regulation itself became a vehicle for abuse of market power. In time, the Sydney Stock Exchange came to act as a closed cartel, artificially restricting supply via unduly restrictive membership. For example, until 1984 the Exchange operated with a fee structure which ensured large commissions, especially on large trades. It then lost an action under the Trade Practices Act and fixed fees were replaced by negotiated fees. Aitken and Swan (1993) report results of an investigation that showed investors gained by about 60% of the gross revenue of brokers from deregulation of minimum charges.

2.2 Formation of ASX

ASX was formed on 1 April 1987 by an act of the Commonwealth Parliament sponsored by the Ministerial Council for Companies and Securities. This resulted in the merging of the six regional stock exchanges, i.e., Sydney, Melbourne, Perth, Brisbane, Adelaide and Hobart. Part of this process involved the abolition of the seat system that characterised each of the regional exchanges.¹⁷ The seat system had been used by exchanges throughout the world to ration the available space on the trading floor [Salsbury and Sweeney (1988)].

Between 1980 and 1982, many of the Sydney Stock Exchange members resisted the proposals to remove the seat system. In particular, smaller companies mounted stubborn resistance. However, the then Trade Practices Commission (since subsumed under the Australian Competition and Consumer Commission) indicated that, unless the seat system were abolished, ‘outsiders’ would be given access to the Sydney Stock Exchange whether the members concurred or not. The seat redemption plan passed overwhelmingly in early 1983 with the members agreeing that they risked losing the entire value of their seat unless the change was implemented. On 1 July 1983, the Sydney Stock Exchange members were given the option of retiring and receiving a \$20,000 cash payment or remaining as a member and receiving \$50,000 paid in two installments over a six year period.¹⁸ The abolition of the seat system meant that membership was no longer transferable [Salsbury and Sweeney (1988)].

¹⁶ The rules outlined the procedures for trading shares and the admission requirements for all members. The rules also defined the role of stockbrokers and the scales of brokerage.

¹⁷ The term ‘seat’ refers to a seat and desk occupied by a stockbroker on a trading floor.

¹⁸ The price of seats in the Sydney Stock Exchange varied across time and economic conditions. During the 1970’s the price for seats fluctuated between \$7,500 and \$87,000. Just prior to the announcement of the redemption in early 1983, a seat could be bought for approximately \$20,000. There is evidence to suggest that the Melbourne Stock Exchange seat prices were closely related to the Sydney Stock Exchange. The other four regional stock exchange seats sold for a substantial discount. This was purely due to the discrepancies in the expected value of future benefits.

On formation, all the members who had joined one of the six regional exchanges *prior* to 13 December 1985 (the day the initial decision to form ASX was made) automatically became members of ASX. *After* 13 December 1985 individuals and organisations could purchase membership in ASX for \$25,000 and \$250,000 respectively. Prospective members applying as individuals still had to meet qualifying criteria under Articles 36 to 40 of the Articles of Association. This was to ensure that the applicant was of “good fame and character” and of the highest business integrity. For a corporate applicant, the non-member directors and any substantial shareholders also needed to be recognised by the board as being of good fame and character. Although the seat system was abolished and statute had been introduced, ASX retained portions of its self-regulatory function to protect the integrity of the market.

Table A1 shows that ASX initially comprised 693 members: 66 of these being organisations. By July 1996, the number of members had declined overall despite the number of corporate members having increased by over 45%. This is more than likely because the corporate members had the ability to license individuals to trade on their behalf.

2.3 Proposals for Reform

Following the formation of ASX, management put forward a number of proposals in an attempt to change the membership structure of the exchange. In December 1992, the board of ASX considered the following proposal:

- a) Introduce categories of voting and non-voting membership for natural persons;
- b) A reduced admission fee of:
 - \$1,000 for non-voting natural person members; and
 - \$25,000 for voting natural person and corporate members;
- c) A licence fee payable to ASX to carry on business on the exchange. Under the proposal, \$50,000 was payable if the member organisation were a partnership of natural persons and \$225,000 if the member organisation were a corporation;
- d) Members admitted after 1 April 1987 and prior to the effective date of any new structure and who had paid \$25,000 were to receive a transferable credit of \$24,000. A transferable credit was not intended to be a liability for ASX and could not be redeemed. It was

proposed that a register of entitlements to transferable credits be established and maintained by ASX. Prior to the tenth anniversary of the ‘effective date’,¹⁹ a transferable credit may have been applied towards payment of a new licence to trade fee. If this were the case, an application of this sort would constitute an election by the holder of the transferable credit to become a non-voting member. Any remaining transferable credits would lapse on the tenth anniversary of the effective date; and

- e) New natural person members would be required to have completed the Diploma course of the Securities Institute of Australia or the equivalent thereof.

The proposal was initiated to provide members of ASX with flexibility in the organisation of their trading structure. It would have given an opportunity to members to choose between recovering some of the \$25,000 admission fee over a ten-year period or retaining their right to vote. At the same time, management was hoping to encourage qualified persons to join ASX by removing the substantial admission fee. This would have provided a wider range of suitable people who would be available for election/appointment to ASX’s board and committees. This constituted recognition that running a modern exchange requires more than just trustworthiness. It requires managerial skills that are not necessarily possessed by people who would otherwise have the requisite attributes to be successful stockbrokers. In doing so, ASX was attempting to improve the efficiency of its own business as well as the stockbroking industry. These were the early signs that of recognition, by management at least, that the typical mutual structure was not entirely well adapted to meeting the needs of the stock exchange stakeholders.

On 19 January 1993, an exposure draft of the proposal for change was distributed to all members seeking their views and suggestions. After an extensive consultation process,²⁰ the board concluded that the proposal set out in the exposure draft would not have been passed by the required 75% of members. As a result, the board determined that management would consider a revised proposal which specified different membership fees depending on whether a natural person were a non-voting member, a voting member or a member corporation. The licence fee element of the proposal was abandoned. However, the board never asked the members to consider this variation of the 1993 proposal. It was not until 24 October 1994 that

¹⁹ The effective date referred to the date of introduction of the new classification of members.

²⁰ The consultation process included meetings in each state with the members, the Chairman of the respective state board and the Deputy Managing Director of ASX, Ronald Coppel.

a substantially revised proposal was put to the members. The 1994 proposal was based on the following:

- a) Membership was to be confined to corporations with the nine existing partnerships to be included as member corporations if they chose to incorporate;
- b) Corporations wishing to join in the future would be required to pay \$250,000 to ASX to become a corporate member. This would not have been refundable;
- c) The number of votes gained by the member corporations would be weighted according to the consideration paid to ASX in the form of non-discretionary fees.²¹ Each member would have one vote and would receive an additional vote for each 1.1% of the total market turnover they provided. However, corporate members would be limited to 5% of the total vote. ASX research indicated that small and large stockbroking organisations would have experienced an increase in their voting power. On the other hand, the medium sized stockbroking organisations would have suffered under the new system;²²
- d) Natural members were to be paid \$25,000 to surrender their membership. This amount was equal to the current individual joining fee; and
- e) A Stock Exchange Institute was to be established in order to protect the interests of the stockbrokers. It was proposed that the Institute would be an independent body responsible for the continuing education of stockbrokers and promotion of high ethical standards throughout the stockbroking industry.

There were a number of ostensible reasons for management wanting to change the structure of ASX. It was claimed that the close link between individual membership and the exchange no longer existed, which made the stockbroking profession seem irrelevant and outdated. Previously, individual membership had practical reasons for existence. For instance, prior to automation of the market, trading floor limits meant that access to the exchange had to be rationed through the sale of a fixed number of memberships. Furthermore, the membership

²¹ Non-discretionary fees comprised transaction fees, the administration fee for each member organisation, the share market summary fee and the contract fees charged by the Australian options market.

²² Stockbroking organisations with a turnover value of less than \$200 million would have increased their voting power from 18.4% to 25%. On the other hand, stockbroking organisations with a turnover value of between \$500 million and \$1 billion would have seen their voting power reduced from 16.9% to 7.9%. Under the proposal, stockbroking organisations with turnover greater than \$1 billion in value would have experienced an increase in their voting power from 33.4% to 52.3%. [“ASX proposal runs into strong resistance”, *The Australian*, 1 September 1994, p. 30]. It should be noted that these calculations assume that each member organisation in the same ‘size category’ would vote in the same manner.

of the regional stock exchanges consisted only of sole traders and partnerships, although the settlement with the Trade Practices Commission in 1984 provided for company membership as well as individual and partnership.

However, by 1994 member corporations accounted for over 99% of the trading volume. Individual members did not have access to the market other than the access provided by the member corporations. Despite this, under the mutual structure all the members had equal voting rights. The irrelevance of individual membership was also emphasised by the fact that non-members held more than 80% of the capital of member corporations.

The vote failed to gain the 75% majority required for the proposal to be implemented.²³ Discussions with former members indicate that the main reason the proposal was unsuccessful is that the members believed that their membership was worth substantially more than \$25,000. At the time, members claimed that on a comparative valuation basis, Computershare Limited²⁴ ('Computershare') was capitalised at \$90 million. Yet at \$25,000 per (natural person) member, ASX was valued at only \$13 million. The majority of the former members interviewed stated that if ASX had offered a slight premium for the redemption of their membership, the proposal would have passed. However, a director of ASX pointed out that it would have been highly unlikely that the Trade Practices Commission²⁵ would have ratified such a proposal. ASX was a company limited by guarantee and therefore was unable to distribute its assets to its members. Another reason for the rejection of the proposal is that the new structure would have provided the large institutional stockbrokers with 52.3% of the voting power.²⁶ Many of the smaller corporate members believed the larger stockbroking organisations would ignore the interests of other members and use their additional power to increase their own profitability.

It should be noted that the protection of the integrity and reputation of the market did not feature in the debate. This was because members realised that market integrity would not be threatened as a large majority of ASX's mutual characteristics would have been retained

²³ The motion gained 69% support from the members ["Old guard gives thumbs down to reform of ASX", *The Australian*, 25 October 1994, p. 57].

²⁴ Computershare is an ASX listed technology company. Its primary businesses include the sale of computerised share trading equipment and the provision of share registry services. Although it was recognised that the comparison was not entirely accurate, it was the only company that was closely related to ASX's business.

²⁵ The Trade Practices Commission is now the Australian Competition and Consumers Commission.

²⁶ "ASX proposal runs into strong resistance", *The Australian*, 1 September 1994, p. 30.

under the proposal. For example, the collective decision making process would still have continued, although the voting would have been restricted to the corporate members.

2.4 The Demutualisation Process

At a board strategy meeting held on 31 July 1993 Gavin Campbell, the then Managing Director,²⁷ gave a presentation to the board on the possibility of floating the exchange. The board rejected the proposal. At the time, it was considered that the proposal was too ‘radical’. One director of ASX stated “there were too many perceived obstacles”. However, in 1995 the board considered it “appropriate to reconsider ASX’s organisational and ownership structure, and to determine whether it provided the flexibility to meet the challenges that present themselves to a modern exchange in a changing domestic and international environment”.²⁸

As a result of the decision, the board formed a number of committees to discuss the relevant issues and options available to the exchange with regard to its ownership structure. These included a Governance Task Force consisting of members of ASX’s board and senior management. The Task Force was told to consider all options and not to limit their views according to current international models. As one member of the Task Force said, “we did not want the quick fix – we wanted the optimal governance structure”. A Reference Panel was also established to provide feedback from members on their views. The panel consisted of members from each state. At the same time, Hogan Stokes Pty Limited (‘Hogan Stokes’) were appointed external consultant to produce a report on the appropriate organisational structure of ASX.²⁹

On 24 September 1996, ASX distributed an explanatory memorandum as well as a report completed by Hogan Stokes commending the demutualisation process to the members. At a special general meeting on 18 October 1996, over 96% of the members endorsed the resolution.³⁰ The proposed amendments to the *Corporations Law* were released in bill form

²⁷ For the purpose of this study, the terms ‘Managing Director’ and ‘Chief Executive Officer’ will be used interchangeably.

²⁸ Australian Stock Exchange Listing Memorandum (1998).

²⁹ Bruce Hogan and Nigel Stokes are the principals of Hogan Stokes. Prior to forming Hogan Stokes, Bruce Hogan was employed by Bankers Trust Australia over a 15 year period. In 1992, he became Joint Managing Director. Nigel Stokes was also an employee of Bankers Trust Australia. Previously, Nigel Stokes was a financial adviser to the NSW Government.

³⁰ The resolution sought to alter the Articles of Association. As a result of the vote, Article 83 was inserted which gave the board a mandate to approach the government to change the legislation and allow ASX to convert to a stock-based company.

on 6 August 1997 for public comment. On 27 November 1997, the Commonwealth Parliament provided the necessary consent to allow ASX to convert to a stock-based company. The *Corporations Law (ASX) Amendments Act* ('ASX Act 1997') received royal assent and came into effect on 16 December 1997 [refer to Table A2.]

2.5 Allocation of Shares

At demutualisation, the board decided that it would issue 100,596,000 shares (at a par value of \$1) by way of an appropriate capitalisation of reserves. The shares were divided equally among the 606 members giving each member 166,000 shares. The board considered a number of different options before deciding on an equal distribution of shares. These included a distribution based on length of membership, the type of membership (i.e., natural person or corporate member) and/or a distribution among the corporate members based on volume of transactions undertaken on ASX's market.

Between 1987 and 1996, natural person members paid subscription fees of between \$300 and \$400 per annum. Members paid no discretionary fees during this time period. It was decided that the difference between the amounts paid to the exchange from the members was not material and did not need to be recognised in the final allocation of shares.³¹ One ASX director also noted that "really (it was) the natural person members who had built the business. Individuals had made contributions to the regional stock exchange fidelity funds (now known as the National Guarantee Fund). Individuals had also sat on many different committees and had contributed many hours of their time". It should be noted that the board did not consider the length of membership for the members of the regional exchanges. This was because each of the members had their state memberships redeemed (via the abolishment of the seat system) prior to the formation of ASX in 1987.

More importantly, the board of ASX considered the equal distribution the only workable option. The Hogan Stokes report and ASX had the view that an unequal distribution of shares was open to a legal challenge. ASX would have had the onus to prove that the unequal distribution was fair and also that the weight of legal precedent favouring equal distribution should not apply. The board believed that it would have failed to gain government support if

³¹ Other companies that have demutualised have used the number of years of membership as the basis of determining the number of shares issued. The NRMA proposes to issue shares based on the length of time the

ASX attempted to distinguish between members when distributing the shares. Discussions held with former members confirmed that the equal distribution of shares was an important reason why the special resolution was able to pass with such a large majority. Many of them stated that if equal distribution had not been adopted then the focus of the arguments would have been on how the shares should be distributed and not the real issue, which was whether ASX should demutualise.

Notwithstanding the above, there is no doubt that the 68 corporations that paid \$250,000 for membership have been disadvantaged. The natural person members received the same number of shares having paid \$25,000. The method of distribution and subsequent demutualisation has led to a significant transfer of wealth from the member corporations to the natural person members. At the initial listing price of \$4.25 the total wealth transfer equated to approximately \$54 million.³²

2.6 Summary

In closing, the history of Australian stock exchanges to the formation of ASX may be summarised as follows. The early growth of Australian equity markets depended investors perceiving that stockbrokers were both trust and credit worthy. Government regulation in Australia, as elsewhere, was inadequate and so stockbrokers developed a system of self-regulation. The mutual form of organization provided the most effective structure for self-regulation. However, although the one-member, one vote system in the mutual structure facilitates adherence to rules and regulations it constrains managerial flexibility and decision-making autonomy. The relative cost of constrained management decision-making increase over time as the barriers to entry to the stockbroking profession increased and the law became more developed, thus reducing the need for self-regulation. The period spanning roughly 1980 to 1998 may be seen as comprising the transition period from a self-regulatory system

person has been a member and the number of qualifying policies. This follows a similar method used by the AMP when it demutualised on 15 June 1998.

³² This calculation compared the benefits gained based on an even distribution of shares with the benefits that would have been gained if the issue of shares were weighted according to the membership fees paid to ASX. The estimation takes into account that only 165 of the 606 members (68 of the 165 were organisations with the remaining being natural person members) actually paid an admission fee. It should be noted that this does not mean that ASX should have weighted the issue of the shares based on the admission fees paid to the exchange – this is purely a calculation attempting to quantify the effect of the demutualisation on the wealth of the members. The main reason why this method of distribution would not have been possible is that 441 members were not required to pay for admission to ASX. Membership of ASX was granted automatically to the former members of the six regional exchanges.

via a mutual structure to the more common stock corporation structure. Chapter three describes the motives and pressures inherent in this process in detail.

3.0 ASX Demutualisation: Theory and Evidence

The history of the Australian Stock Exchange shows that the mutual form of organization can be effective in some circumstances. To understand the reasons the members of the Australian Stock Exchange chose to demutualise, it is helpful to identify the developments that decrease the relative advantages of the mutual form of organization. Six such developments have been identified in the literature: increase in intensity of competition, change in relative importance of management incentives, change in effectiveness of monitoring of management, demand for capital to fund expansion, change in members' liabilities, and divergence of members' interests. Each of these developments and their applicability to ASX's decision to demutualize are discussed in turn below.

3.1 Increase in intensity of competition

Kay (1991) and Hansmann (1985) observe that mutual structures are common in lines of business where the company has a natural monopoly or limited competition. In a natural monopoly, customer based ownership provides assurance to customers that the vendor will not use its monopoly power to extract economic rent from them. In essence, a mutual provides subsidised services for its residual claimants.

As competition increases, the opportunity for companies to make a surplus diminishes (Kay, 1991). Management cannot rely on monopoly returns but is forced to improve trading performance. At this point, the collective decision making process that characterises a mutual increases in cost as opportunities to adapt are lost. Timeliness of response becomes more important to survival and management needs to have the flexibility to make decisions based on its own judgement. In these circumstances, the efficiency of stock based organizations increase relative to that of mutual organizations (Masulis, 1987). A consideration of ASX's history and industry conditions shows that increased competition was indeed a spur to demutualisation. The threat was international competition rather than domestic competition.

At the creation of ASX in 1987, management benefited from a monopoly situation. For a stock exchange, being a monopoly provides not only the usual advantages from a captive market but is also helpful in enhancing market liquidity. Investors value liquidity and will

favour those exchanges that have higher liquidity as it enables securities to be bought and sold more easily at a lower cost [Harris (1990)]. ASX thus enjoyed (and continues to enjoy) considerable “first mover” benefit in terms of liquidity as any putative rivals will need to provide comparable liquidity in order to attract company listings and the provision of such liquidity is difficult when starting from scratch.

Given the importance of first mover advantage in provision of liquidity it is not surprising that in the years prior to demutualisation little domestic competition emerged. There was only one proprietary trading system and the over-the-counter (‘OTC’) markets³³ were yet to impinge on the trading volume in the derivatives market.³⁴ However, ASX was not complacent about the threat of domestic competition emerging. Both ASX and Hogan Stokes recognised that under Section 769 of the *Corporations Law*, the Finance Minister may approve any body corporate becoming a stock exchange. In an interview with Maurice Newman,³⁵ he stated that “there was murmuring that regional stock exchanges were going to attempt to start again and we could not afford to take that risk”. In addition, the Sydney Futures Exchange (‘SFE’) had declared that it was looking to expand its product range to compete more directly with services provided by ASX. Despite this, discussions with former members provided little evidence to suggest that this was a serious concern at the time of voting.

The evidence indicates that the former members were right in not rating existing domestic competition a serious concern. Since the decision to demutualise in 1996, there is little evidence that OTC markets have substantially impacted on ASX’s derivatives market, even though it is argued that some institutions prefer the OTC options market as their orders are assured of prompt execution and anonymity. Figures from the Bank of International Settlement show that turnover in the global OTC derivatives markets increased by 76% between 1996 and 1998.³⁶ During the same period, the Australian OTC market turnover grew

³³ ASX offers put and call option contracts for over 50 of the leading stocks. The exchange also provides a range of warrants which include put and call warrants, instalment warrants and endowment warrants. The OTC financial markets focus on debt securities (government and non-government), foreign exchange, currency options, forward rate agreements, swaps and interest rate options.

³⁴ Figure B1 fails to identify any clear downward trend in derivatives trading volume and/or operating revenue in the years prior to the demutualisation.

³⁵ Maurice Newman has been Chairman of ASX since 1994 and a director of the exchange for ten years. He is also Chairman of Deutsche Bank group in Australia.

³⁶ “Australia gains in international derivatives”, *The Australian Financial Review*, 24 October 1998, p. 6.

by 38%³⁷ while ASX revenue derived from derivatives trading, clearing and settlement increased by 70% (see Table B1 and Figure B1). The increase in revenue was achieved despite an 18% decrease in the number of contracts traded and only an 11.6% increase in daily volume. However, from 1998 there was strong growth in the number of contracts traded with 9,043 contracts being traded in 1999 and 11,649 in 2001 – a 28.8% increase. Impressively, the growth in the volume of contracts traded coincided with a slowdown in OTC market activity. Specifically, growth in global OTC markets slowed since 1998 to 10%, which was 1% below the rate of growth experienced by Australian OTC markets over the same period.

So much for existing domestic competition. What about the threat of such competition in the future? The threat is not merely hypothetical. Less than 18 months following demutualisation of ASX, the Newcastle Stock Exchange ('NSX') commenced trading as a fully automated stock market³⁸, offering a range of funding alternatives for small, medium and regional enterprises. However, NSX does not directly compete against ASX as it targets companies that need between \$500,000 and \$1,000,000 and which are unable to meet the listing requirements of ASX. ASX provides electronic clearing and settlement facilities for the exchange on a T+3 basis via the Clearing House Electronic Subregister System ('CHESS').

In May 1999, Computershare Ltd, following its withdrawal of a proposed merger with the SFE, formed a strategic alliance with Bendigo Stock Exchange (BSX) that received formal approval to operate in early October 2000. Similar to NSX, BSX aims to meet the needs of small capitalization companies. However, not one former member or director of ASX who was interviewed believed BSX would be a serious threat to ASX. As one former member noted, "they (Computershare) will not gain the rate of return they require for the project to succeed". Rob Thomas, CEO of Salomon Smith Barney (Australia), shares the scepticism of ASXs' directors. He comments "it is highly unlikely that Australia would be able to sustain more than one internationally competitive exchange. The market would become fragmented and liquidity would decline to unacceptable levels. You just have to look overseas. Really,

³⁷ Australian Financial Markets Association (1998), "The Australian financial markets report".

³⁸ NSX commenced trading on the 20th March 2000.

the US is the only country which has been able to sustain more than one internationally competitive exchange.”³⁹

The extant research supports the above view, albeit indirectly. Arnold, Hersch, Mulherin and Netter (1999) review the outcomes from the merging of US regional stock exchanges. The authors report that the mergers increased the dollar volume of trading in the short term relative to a control sample consisting of exchanges not involved in a merger.⁴⁰ In the long run, Arnold *et al.* (1999) find that the merging exchanges increase their market share and the bid-ask spreads of the merging exchanges narrow. These results underline the importance of liquidity in facilitating share trading and suggest that Australia, whose companies contribute just 1.57% of the world’s equities capitalisation,⁴¹ will not be able to sustain more than one substantial, internationally competitive exchange.

Further support, if more is needed, that it is unreasonable to expect that Australia can support more than one domestic exchange come from the recent trend of mergers among geographically proximate exchanges. These include⁴²:

- Copenhagen Stock Exchange and Swedish Stock Exchange
- Deutsche Borse and London Stock Exchange
- Amsterdam Exchange, Brussels Exchange and Parris Bourse to form Euronext
- SSE/SIMEX to form SGX
- HKSE/HKFE to form HKEX
- AMEX and NASDAQ, followed by the merger of AMEX-NASDAQ with the Philadelphia Exchange and the Chicago Stock Exchange with Instinet.

As noted by Arnold *et al.* (1999), mergers within the world’s financial market should be interpreted as a competitive response to a transforming marketplace. Based on this evidence, it is highly questionable that any exchange will be able to compete directly with ASX at a domestic level in the long-term. It would appear that the only way Australian regional exchanges will be sustainable in the long term is if they can capture a niche market.

³⁹ Swan and Westerholm (2004) examine the issue of exchange fragmentation. They find that while transaction costs are increased (but not a great deal) most estimates of trading activity increase.

⁴⁰ The study analyses the effects of three mergers: the Philadelphia-Baltimore merger in March 1949, the Midwest merger in December 1949 and the Pacific merger in January 1957. The control sample consists of all the other registered stock exchanges that existed in the same period.

⁴¹ This is based on the Morgan Stanley Capital Investment World Index. Quoted in Seglun (2002).

⁴² Information obtained from the International Federation of Stock Exchanges Annual Reports, 1999-2001 as well as Monthly Newsletters.

If being the first mover has conferred ASX a perhaps unassailable advantage over its present and potential domestic competitors due to the importance of liquidity, this is not true for international competition. Unlike domestic competition, there is substantial evidence that international competition is real and growing. A former Chairman of the Sydney Stock Exchange, Jim Bain,⁴³ noted as early as the mid 1980's that Australia was about to face strong competition from overseas. He was quoted as saying "It is no longer Sydney versus Melbourne or Brisbane versus Perth but Australia versus the world". He recognised that developments in communication technology had led to an increase in the level of capital mobility. To counter the threat Australia needed to provide "the best possible facilities" to ensure that ASX would be internationally competitive and prevent major Australian companies listing on overseas exchanges [Salsbury and Sweeney (1988)].⁴⁴

Mr Bain's concerns were well founded. The experience of the Swedish Stock Exchange (SSE) shows that when an exchange becomes less competitive, in terms of trading costs, both companies and investors will turn elsewhere. In 1984 the Swedish government introduced a special 1% transfer tax on equity trading. When the tax was subsequently doubled in 1986, 60% of the trading volume in the 11 most actively traded stocks migrated to London in an attempt to avoid the tax. At the time, this represented 30% of the total Swedish equity trading volume. By 1990, the proportion of total Swedish equity trading volume traded in London had risen to over 50% [Umlauf (1993)].

Mr Bain was not an isolated figure in recognising the threat posed by international competition. At the time of demutualisation, all of the former members who were interviewed recognised that international competition had the potential to significantly affect the profitability of ASX. One ASX director noted, "there is no doubt in my mind that competition from exchanges such as NASDAQ, Singapore and the NYSE is real – it becomes more and more obvious every day. We need to keep companies such as BHP and News

⁴³ Jim Bain was Chairman of the Sydney Stock Exchange between 1983 and 1987.

⁴⁴ It is likely that these comments were prompted by a report produced by Chapman, Coppel, Lee and Marshman in December 1985 that was titled "Future Structure of Australian Associated Stock Exchanges and its Member Exchanges". The report states that "in the near future Australian stock exchanges will experience severe competition from exchanges overseas. This competition will not be met successfully if Australian efforts are dissipated on historical state rivalries. Securities markets are national and international rather than intrastate".

Corporation listed on ASX. Can you imagine what would happen if we started to lose companies of this calibre?”

The NYSE, SEHK and the Stock Exchange of Singapore (‘SES’) were all actively promoting the listing of international stocks in the years leading to ASX demutualisation. This strategy proved successful for the NYSE. Between 1986 and the end of 1996, the number of non-US companies on the NYSE increased from 59 to 290 [Pulatkonak and Sofianos (1999)]. Other exchanges that have the ability to attract Australian companies include the Vancouver Stock Exchange for mining stocks and NASDAQ for technology based companies. By 1996, 32 of the 50 largest Australian stocks (ranked on market capitalisation) were listed on both ASX and an overseas exchange⁴⁵ and approximately 8.7% of the total turnover in ASX listed companies occurred on overseas exchanges.⁴⁶ The overseas transactions were worth an estimated \$17 billion. Furthermore, Panel A of Table B2 and Figure B2 show that the value of trading in ASX listed companies on international exchanges between 1992 and 1996 had increased by 71%.

In the period after the demutualisation decision (1997-1999), the value of turnover in ASX listed companies that occurred on overseas exchanges continued to rise. For the 12 months ended 31 December 1999, trading in ASX listed companies on overseas exchanges is forecasted to be over \$30 billion. This equates to a 77% rise from 1996 [refer to Panel A of Table B2, and Figure B2,]. In support, the 1997 ASX Institutional Investor Survey⁴⁷ reported that 55% of respondents have traded Australian shares in overseas markets. As noted in the survey, this indicates that domestic institutions are willing to trade overseas if Australian markets become less competitive.

Notwithstanding that the threat of overseas competition is real and that the amount of cross-border trading will continue to increase with advances in technology, the evidence suggests

⁴⁵ Smith and Sofianos (1997) provide evidence to suggest that cross listing can actually provide substantial benefits for the home exchange. For the nine Australian stocks that co-listed on the NYSE between 1985 and 1996, the value of trading on ASX increased from \$145 million to \$226 million per month per stock. Annual turnover also increased significantly. This suggests that trading in the US is not a substitute but rather a complement to home market trading. However, these results should be treated with caution as the authors fail to control for trading changes in the whole market.

⁴⁶ This is based on data from NASDAQ, NYSE, NZSE, LSE and estimates for other international exchanges and the US OTC market. Adjustments have been made to account for double counting on NASDAQ and LSE.

⁴⁷ The survey was sent to 62 largest institutional investors in Australia. The analysis provided in the report was based on responses from 30 domestic institutions.

that, to date, ASX has held its own. For instance, the proportion of the total value of trades that occurred on the NYSE in News Corporation has remained constant since 1994 (at approximately 45%). Moreover, the percentage of trading in ASX listed companies conducted on overseas exchanges has actually declined from 14.2% in 1992 to approximately 9.1% in 1999 [refer to Panel B of Table B2, Figure B3, and Figure B4]⁴⁸. Further, there has been an increase in the number of international companies listed on ASX from 34 in 1991 to 86 in December 2000. The market capitalisation of the overseas-based companies increased from \$78 billion to \$337 billion during the same time period. However, there is little room for complacency. For instance, there are five Australian based companies that are exclusively listed on NASDAQ.⁴⁹

In sum, the evidence indicates unambiguously that increased competition, principally from established exchanges overseas capitalising on advances in communications and allied technology, was a significant and warranted concern to ASX members and directors in the period leading to demutualisation. The evidence also indicates that to cope effectively with the threat posed by increased competition ASX management would need more autonomy than typically available to managers under a mutual structure. Prior to the advent of international competition as a significant force, ASX being structured as mutual would have served the members well since they could then enjoy the greater liquidity afforded by a single exchange whilst avoiding the excesses associated with a monopoly supplier of exchange services. The rise of international competition reduced the threat of economic rents being extracted by ASX as a monopoly supplier and so eliminated a powerful argument in favour of a mutual form. Under these circumstances, it made sense to do away with the constraint on managerial decision-making imposed by the mutual structure and convert to a stock-based organization.

3.2 Management Incentives

Providing managers with autonomy is a necessary but not sufficient condition for optimal performance in competitive markets. Decision-making entails initiative and effort and managers need incentives to exercise both. In mutuals, there is little incentive for managers to

⁴⁸ This decline may not be as large as reported. Panel B of Table B2 shows that the percentage of trades on ASX that have an overseas condition code has declined from 4.5% in 1992 to 1.3% in 1999. This refers to the percentage of turnover that is recorded by ASX and by an international exchange. This is basically a form of double counting on the behalf of ASX.

maximise the value of the organisation. This is because management cannot be compensated by the granting of stock options or stock bonuses to align their interest with that of shareholders. The importance of options as an incentive-aligning device is evident in Murphy's (1998) finding that 627 of the 1,000 largest US stock companies in 1992 granted options so as to provide a direct link between managerial rewards and shareholder wealth. In a mutual structure, the only way for management performance to be linked to performance is through the use of accounting-based data [Rasmusen (1988)]. The problem with this approach, from the members' perspective, is that managers have incentives to manipulate the financial results to maximise their own utility⁵⁰ [Watts and Zimmerman (1986)].

Survival is the ultimate test of fitness and so the on-going survival of mutuals in some industries implies that, on balance, their costs and benefits are about equal to stock organizations in the industry sectors they appear. Nevertheless, managerial incentive to exercise initiative and effort is probably most important in markets undergoing change. In stable markets where managerial tasks are well defined and the exercise of management initiative is not integral to survival, the absence of a direct link between management incentives and stakeholder outcomes might not be costly [Mayers and Smith (1981, 1986, 1988, 1992, 1994)].

The increased international competition faced by ASX in the lead-up to demutualisation suggests that at least in the future it would be better for management to have its incentives more closely aligned with the organization's stakeholders to motivate the exercise of initiative and effort. As noted earlier, an effective way of aligning managers' interests with stakeholders is through share-based compensation schemes. Such schemes entail a stock organization and so the potential to introduce stock-based management compensation was likely a motivating factor in the move to demutualisation.

Some writers have expressed concern that demutualisation might be motivated by the self-interest of managers. Hetherington (1969) argues that demutualisation is a process that may allow management to convert its *de facto* ownership into stock that forms a controlling block

49 The companies are Looksmart, Barbeques Galore, ResMed (through a US holding company), OLS Asia Holdings and Transcom International.

⁵⁰ Manipulation of accounting information is usually carried out through discretionary adjustments in accruals or shifting earnings across periods.

of shares. This happens if management has the ability to structure the offer so that many shareholders are entitled to only a fraction of the shares available and that management will have the right to purchase shares not taken by the residual claimants. In support, Masulis (1987) reports that senior management and the board of directors generally realise large wealth gains from the demutualisation process. Losses are generally small and infrequent. Moreover, management tends to make a significant investment of between US\$100,000 to US\$7.4 million (median value of US\$825,000) in stock.

The ASX experience is consistent with Hetherington's view. The Managing Director, Richard Humphry, stated in the ASX employee share prospectus that one of the major benefits resulting from the transformation from a mutual structure was that employees could become part owners in the organization in which they work. The employee share plan was approved and implemented at the 1998 AGM. Since demutualisation, ASX has approved and implemented two employee share plans. Scheme 1 gives permanent employees one parcel of ordinary shares having a market value of \$1,000, while scheme 2 gives employees the ability to borrow interest free funds from ASX to buy stock up to 10% of their annual salary. Furthermore, ASX adopted a short-term and long-term incentive scheme for the Managing Director. The short-term performance-based incentive was based on the achievement of certain targets established in consultation with the nomination and remuneration committees. It would not exceed 50% of the base salary applicable to the year. The long-term incentive was designed to reflect the performance of the company. The Managing Director was issued with the equivalent of 165,999 shares for nominal consideration (a total of \$3). The allocation occurred over three separate tranches – 1 March 2000, 1 March 2001 and 1 March 2002. Upon commencement of the incentive scheme, the board stated that there was no performance criterion that needed to be satisfied for the issue of shares to occur.

In addition, ASX implemented a senior executive equity plan at the 1999 Annual General Meeting ('AGM'). To counter 'short-termism' the plan uses annual rolling three-year award periods. The performance measure used in the plan is total shareholder returns over the award, relative to a sample of similar companies listed in the insurance and finance index. This executive plan has been approved at all subsequent AGMs. Other outcomes consistent with Hetherington's observation that demutualisation is supported by a mutual's managers if it offers an opportunity to maximise their own wealth is that ten of the 15 directors were members of ASX and benefited financially from demutualisation.

It is inappropriate to construe support for a proposal because it maximises one's wealth as an untoward or malign development. After all, wealth maximisation is a cornerstone of neo-classical economic explanations of organisational behaviour and the management of ASX in favour of demutualisation could rightly point out that while they might benefit from the proposal, other stakeholders would benefit as well through the better aligning of interests. Further, there were safeguards in place to prevent management transferring wealth from the members to themselves. Firstly, 75% of the members were required to ratify the change and, secondly, the Commonwealth Parliament had to approve the change through the adoption of the *ASX Act 1997*.

3.3 Efficient monitoring of managers

Under a company structure, if management under-performs, shareholders are able to enforce change. The change often takes the form of management dismissal. Even if ownership is diffuse, the transferable nature of shares allows institutions to use the market for corporate control to remedy the situation and there is evidence that changes in corporate control through takeovers lead to above normal levels of management turnover [Martin and McConnell (1991)]. Thus, the threat of a takeover is a significant constraint on managers seeking to deviate from profit maximising behaviour [Rasmusen (1988)].⁵¹

In a mutual organization ownership rights are not freely transferable and, therefore, it cannot be easily taken over. Hence management is not disciplined by the threat of a takeover⁵² [Mayers and Smith (1986); Rasmusen (1988); McNamara and Rhee (1992); Hart and Moore (1996); and Mayers, Shivdasani and Smith (1997)] and there is no incentive for individuals or institutions to constantly monitor management as the benefits of improved management are unlikely to be reflected in the value of the members' ownership claims. In support of this, Thomson (1997) observes that there is very little interaction between mutual owners and managers. She argues this is not surprising given that the one vote per member rule ensures that it is not possible for a member to single-handedly influence management's decisions.

⁵¹ Gilson (1989) documents that managers who are forced to leave their company are not employed by another exchange listed company in the subsequent three years.

⁵² The members of a mutual have the ability to remove management through a proxy fight. However, proxy fights are not very common as they usually prove to be expensive and time consuming.

Given the lack of close monitoring by shareholders and the absence of the disciplinary effects of the market for corporate control we expect that there is a higher probability that management becomes entrenched in a mutual organisation. In support, Mayers and Smith (1986) document that CEO turnover is substantially lower in mutual organisations relative to stock-based companies.⁵³ In a similar study, McNamara and Rhee (1992) report that 24% of the 29 companies in their sample changed CEO's in the year demutualisation was approved.⁵⁴ They also find greater management turnover during the periods after and immediately prior to the conversion. These findings are consistent with stock-based companies having improved opportunities and incentives to monitor management. It is pertinent to note that the salutary disciplinary effects of an active market for corporate control is acknowledged in Australia's Corporation Law.

Notwithstanding the above, it is unlikely the prospect of increasing the disciplinary pressure on management was a motivation for demutualisation. The government nullified the takeover market by implementing a 5% shareholding limit on the exchange.⁵⁵ The government believed that ASX has a critical role in the Australian economy and that it would not be in the interest of the public for anyone one party to have significant influence over the direction of the business.⁵⁶

Ironically, the restrictions are tighter for ASX than for other companies that have ownership constraints. For example, the four major banks have a 15% limit. Hogan Stokes also supported a limit that is consistent with the *Bank (Shareholding) Act 1972*. As the preceding discussion indicates, the ownership restriction impacts on the level of shareholder monitoring of management. The free rider problem provides lower incentives for shareholders to expend the necessary effort to monitor management effectively and permits management to become entrenched. There is (weak) evidence consistent with entrenchment. The board of ASX agreed in 1999 that the employment contract of the Managing Director would be extended until at least 31st July 2002. Similarly, the Chairman's office was guaranteed for at least three years following demutualisation.⁵⁷

⁵³ Refer to section 3.2 for a more detailed discussion.

⁵⁴ Information is available for 29 out of the 33 companies in the sample.

⁵⁵ S766G-766J of the *Corporations Law* enforces the limitation and provides the remedial actions if anyone is to exceed the set ownership level.

⁵⁶ "Free trade? No way, this is ASX", *The Australian Financial Review*, 18 April 1997, p. 67.

⁵⁷ Australian Stock Exchange Annual Report (1999).

The question of interest is whether, on balance, the 5% shareholding limit seriously impacts on the efficient operation of ASX. The nature of the risks that the Government sought to avoid by imposing a 5% ownership limit are not easily defined and assessed and so it is difficult to estimate the costs and benefits. However, insofar that the principal benefits of not having a single majority owner of ASX accrue mainly to the investing public and other parties, the available evidence from companies that adopt “poison pills” to deter takeovers indicate it is reasonable to presume that the shareholders are worse-off with the limitation. Comment and Schwert (1995) examine the sharemarket reaction to 1,577 poison pills adopted by US companies between 1983 and 1991.⁵⁸ They find there is a negative two per cent abnormal return on announcement of adoption of a poison pill if a control premium is already built into the target’s stock price at the time of the announcement.

There are grounds for concluding that the Australian government’s fears about the adverse effects of allowing a single entity to control ASX are unwarranted. In 1998, the Swedish government allowed the SSE to merge with a leading Swedish technology company. The company, OM Gruppen, is listed on the SSE. The former CEO of the SSE, Bengt Ryden, stated that “special constraints or ceilings on ownership were not deemed to be necessary, since any attempt to take control of the exchange in the pursuit of private interests could quickly provoke investors and issuers to move to other market places”.⁵⁹ Any concerns that private entities would not act in the best interests of their customers have proven to be unfounded. Since 1993, the trading volume on the SSE has increased 540%. In recognition of the market’s improved efficiency, foreign investment has increased by 522% over the same period.⁶⁰ At the same time, trading fees have been cut by up to 66% and entry fees for members by 75%. Like ASX, the SSE has continued in its supervisory role for the market.⁶¹

The costs of the 5% shareholder limit should not be overstated. Even stock companies without an ownership limit may have entrenched management because management has the ability to accumulate ownership as a means of insulating themselves from the corporate control market. Denis, Denis and Sarin (1997) find that the frequency of hostile control

⁵⁸ A poison pill refers to the creation of securities that carry special rights that are exercisable by a triggering event. An example of a triggering event is an announcement of a tender offer. While the rights can take many different forms, it is recognised that poison pills make it more costly to acquire control of the target company.

⁵⁹ Ryden (1995).

⁶⁰ Stockholm Stock Exchange Fact Book (1999).

activity declines from 0.13 for those companies with managerial ownership less than 5% to 0.05 for companies with managerial ownership greater than 25%.⁶² The difference is statistically significant at the 1% level.⁶³ Further, Garvey and Swan (1991) show that the threat of takeover is detrimental to a company which depends on ongoing loyalty and/or the development of intangible assets.

It is not clear in what relevant respect ASX differs from other companies to warrant management protection from takeover so as to facilitate development of critical intangible assets, however, it is true that takeovers can be badly executed or ill-advised. If ASX were to experience a disastrous takeover, the costs would not be borne by just the shareholders but all investors (as well as other stakeholders in listed companies) if the capital market suffered long-term damage to confidence. In closing this section, we may also note that while the ownership limit might reduce the level of shareholder oversight to well below the level it would otherwise be, the stock-based compensation provided to management continues to provide them incentive to maximise shareholder wealth.

3.4 Capital Restrictions

A potentially costly limitation of a mutual is that its capabilities to raise capital are restricted. The lack of clarity of the claims by the members in the assets and reserves means that financial institutions are less inclined to provide debt finance. It is common for management of a mutual to be restricted to contributions by its members. An advantage of a stock-based company is that management is able to obtain funds to expand the development of the business and/or provide reserves against adverse trading [Kay (1991)]. The capital raising constraints on mutuals are not absolute, they may be able to accumulate reserves that enable the business to develop and expand [Hansmann (1996)]. The problem is that it may take considerable time for this to occur and that during this period the business may forfeit opportunities to realise profits.

⁶¹ Credit Suisse First Boston (1998), “The Toronto Stock Exchange – a blueprint for success”.

⁶² These findings do not necessarily indicate that managerial entrenchment is inefficient. In fact, managerial entrenchment may be an efficient outcome if higher management equity ownership better aligns the interests of shareholders with the managers and provides them with a greater incentive to invest in company specific human capital.

⁶³ The sample consists of 5,545 company years involving 1,394 different companies over the period of 1985 to 1988.

In line with the above, Llewellyn and Holmes (1991) find that improved access to capital markets was identified as the primary reason for demutualisation by all the UK financial institutions that have undertaken the process. In the US, McNamara and Rhee (1992) report that for 33 US legal reserve companies there was a large increase in capital and surplus after conversion from mutual to stock-based companies.

Another perspective is that managers will not always use additional capital to maximise shareholder wealth. For example, managers may prefer to maximise company size based on the presumption that larger size will mean more pay. This is consistent with Baker, Jensen and Murphy's (1988) finding that, on average, a 10% increase in sales results in a 3% increase in the level of management's cash remuneration. The problem for shareholders is that performance is not necessarily correlated with the size of the company. Thus, in some circumstances mutuals will benefit from the restrictions placed on the flow of capital.

On balance, the circumstances of ASX at the time of demutualisation suggest that the greater capital raising capabilities afforded by a stock-based company were a strong but not critical factor in the decision to demutualize. Larry Anthony, Federal MP, stated in Parliament "one of the principal reasons why it (ASX) needs to be demutualised is that ASX needs funds for further capital expansion".⁶⁴ His view is backed by Hart and Moore (1996) who contend the development of technology has meant that exchanges require more capital to remain competitive. Consistent with this, in the two years prior to demutualisation ASX spent \$42 million on computer hardware and software⁶⁵ and between 1997 and 2001, ASX used \$143 million in funds on capital expenditure. Further, Hogan Stokes argued that access to capital could have become a problem in the long term with the potential establishment of other exchanges in Australia. They believed that in this scenario a mutual ASX may not necessarily have access to SIDA fund. Additionally, if domestic stockbrokers became able to trade Australian shares on other exchanges (domestically or internationally) a mutual ASX would also have had difficulty levying its members.

Against the above, ASX stated explicitly that it did not demutualise to raise more capital.⁶⁶ A credible signal that this was indeed the case came via ASX's announcement that it would

⁶⁴ House of Representatives, Main Committee, *Official Hansard*, 27 November 1997, p. 11, 562.

⁶⁵ Also see Table B5 and Figure B5.

⁶⁶ Australian Stock Exchange Members' Information Package (1996).

return \$30 million or 30c a share to its shareholders via capital restructuring that would⁶⁷ still leave it with \$120 million in cash. In addition, ASX has not sought any additional debt or equity in the 3-year period following demutualisation. However, there is no doubt that management would have been restricted in its ability to raise finance promptly in response to changes in circumstances in the new competitive environment if it had retained its mutual structure. An example is the revision of the takeover bid for the SFE in 1999. Although ASX was not successful in its bid, it did give management the option of offering a cash and scrip bid – an avenue that was not available to ASX in the years prior to demutualisation.⁶⁸

3.5 Liability of Members

O'Hara (1981) points out a difference in risk exposure between mutual and stock-based enterprises. She argues that because a mutual manager is unable to reap the full benefits from increased returns the manager's incentive to take on risk is diminished. O'Hara also argues that mutual organizations are less able to absorb any adverse trading because of capital restrictions, and hence management will avoid risk taking.

The issue of risk was of particular importance in ASX's situation. Under Article 7 of ASX's former Articles of Association, the board had the power to determine the levies and fees paid by members in order to fund the operation of the exchange. Further, the Article stated that the board could differentiate between member corporations and other members as to the amounts of levies. In the event of winding up, members had a guarantee liability not exceeding \$1,000. Both Hogan Stokes and the Members' Information Package argued that in the future a mutual ASX may be limited in its access to the Securities Industry Development Account ('SIDA') funding.⁶⁹ For example, if domestic competition did arise, ASX would have had to compete for access to the SIDA funds. In Hogan Stokes' opinion, the combination of the

⁶⁷ The return will be through a \$20 million capital reduction and a \$10 million special dividend to be paid in March 2000. The announcement follows Commonwealth Parliament passing the *Taxation Laws Amendment (Demutualisation of Non-Insurance Mutual Entities) Act 1999* that will allow ASX to restructure its post-demutualisation capital without attracting tax ["ASX opts for conservative return", *The Sydney Morning Herald*, 29 September 1999, p. 23].

⁶⁸ On 27 April 1999, ASX proposed to merge with the SFE. Initially, ASX offered \$210 million in cash with SFE members having the option of taking up, in aggregate, \$70 million of ASX shares at a 12.5% discount to the market [ASX Press Release – 27 April 1999]. However, after Computershare put forward a competing bid, ASX revised its purchase price to \$260 million. The offer comprised \$210 in cash and five million ASX shares [ASX Press Release – 11 June 1999].

⁶⁹ If the National Guarantee Fund exceeded \$70 million, the Securities Exchanges Guarantee Corporation had the right to pay all or part of the excess to SIDA. A mutual ASX could only use the money in SIDA for a purpose that had been approved by the Minister and related to the development of the securities industry in Australia.

possibility that ASX would be confronted with higher business risks in the future and the lack of SIDA funding would increase the probability of the members being levied.

Hogan Stokes identified two main factors that were associated with the increasing levels of risk. These were:

- (a) Larger scale investments in systems and equipment that are used for trading, clearing and information services.

From Table B5, it can be seen that in the three years leading up to the demutualisation of the exchange (1994-1996), ASX spent almost \$67.9 million on internally developed software and the purchase of other property and equipment. This represents a 124% increase from the period 1991 to 1993. The pattern is even more obvious when a four year rolling average is used [Figure B5]. Consistent with Hogan Stokes' prediction, ASX has outlaid over \$142 million for computer software, property and equipment in the years after the demutualisation decision (1997-2001). However Figure B5 does indicate that ASX has reduced capital expenditure since 1999.

- (b) The higher business risks associated with a more competitive climate.

The problem for ASX is that its profitability is dependent upon trading volume and value of equities traded, the number and market capitalisation of listed entities and the number of new listings. Table B6 demonstrates that the main revenue divers for ASX were volatile during 1999. For example, the annual number of equity trades was 8.29 million, up 31.4% on the reported number of trades for the 12 months to 30 June 1998. This represents a 37% increase from the 6.07 million annual number of trades forecasted in the Information Memorandum. In the same period, the average fee per equity trade decreased from the forecast of \$6.30 to \$6.07.

While it is difficult to quantify whether the level of risk associated with ASX's business has changed, it is more likely that the recent volatility was a consequence of the cyclical nature of the industry rather than the changes in the global equity markets. From the figures presented in Table B7, it is reasonable to state that between 1989 and 2001 the key ASX revenue drivers have been highly cyclical and volatile. For example, during the period of 1991 and

1996 there was no consistency with the number of new companies that listed on the market. The number of new listings ranged from a low of 18 to a high of 169. As a consequence, ASX's has reported vastly different operating results over the years. In the years ended 30 June 1990 and 1991, the exchange reported an operating loss of \$23.7 million and \$8 million respectively. Yet in the year ended 30 June 1994, ASX made an OPAT of \$24 million.⁷⁰

However, due to the short time period available post-demutualisation, no conclusive results can be provided. The short time frame also makes it difficult to determine whether ASX will be required to spend as much on computer software, property and equipment in the future.

Furthermore, there is mixed evidence on whether the liability of the members was a serious consideration at the time of demutualisation. In the interviews conducted, both the former members and some of the directors of ASX dismissed the claim that the potential liability of the members was a serious concern. The consensus was that even if ASX did levy the natural person members, the corporate members would have paid on their behalf. However, Maurice Newman argued that the liability of the members was a serious consideration. He said, "it is true that in a bull market no member would have thought twice about his liability. However, in a bear market things change very quickly ... Perhaps the large stockbroking companies would have paid on their behalf. Yet we had about 85 corporate members at the time and not all of them would have been able to pay for the individual members. It was also indicated to us that Treasury was considering taking SIDA away from our control ... I believe that it would have been irresponsible for ASX to leave the question of members liability to chance".

Both the theory and empirical evidence imply that ASX's operations would have involved lower risk prior to demutualisation. However, the evidence is not conclusive. Firstly, the only empirical study undertaken in this area was based on cross-sectional analysis. Thus there is no evidence to suggest how companies change their risk profile when they change organisational structure, nor whether this is an influencing factor in the decision to demutualise.

⁷⁰ The problems associated with the cyclical and volatile nature of the industry is compounded by the highly automated nature of the exchange. Generally, over 80% of ASX's costs are fixed. This means that the impact of any small change in the main revenue drivers will be exaggerated.

3.6 Divergence of Members' Interests

According to Hart and Moore (1996) a stock-based company structure allows exchanges to make more timely and effective business decisions. The authors' theoretical model shows that as membership of a mutual becomes more diverse, the efficiency gains of a stock-based company are magnified. Consistent with this notion, ASX stated in the Members' Information Package that the interests of the members were diverging. The problem for ASX was that the benefits derived from a decision made in respect to the overall market place may not have accrued equally to all members. The problems associated with the divergence of the members' interests were aggravated by the one vote per member rule.

By 1996, the corporate members accounted for over 99% of the trading volume and received less than 15% of the total votes.⁷¹ Table B8 shows that the interests of the corporate members were also becoming more diverse. In 1987, the top ten stockbroking organisations had gained 56% of the market share⁷² and received 1.44% of the total votes available. The remaining corporate members had 44% of the market share and 8.08% of the votes. However, by 1996 the non-top ten stockbroking organisations had experienced a decline in market share yet their voting power had increased to over 14%. At the same time, the top ten stockbroking organisations' voting power had remained constant. Table B9 demonstrates that the divergence of members' interests was also based on geographic location.

The facts cited above show the potential for divergence in members' interests on particular issues. The extension of trading hours is specific example of a strategic decision that under the mutual structure would have been unlikely to gain the necessary 75% majority. The smaller stockbroking companies could argue that they would be unfairly disadvantaged as they do not have the financial capabilities to employ more stockbrokers and back office staff (who clear stock trades) to cater for the extended trading. In addition, Western Australian members would be further disadvantaged due to the time differences.

Situations were also arising where the interests of ASX and specific members diverged. The Members' Information Package argued that in the future ASX management would be required to initiate a greater number of changes in order to remain competitive, many of

⁷¹ Australian Stock Exchange Annual Report (1996).

⁷² Market share is defined as the percentage of the total transactions that pass through a stockbroking organisation.

which would impose costs on the member organisations. Further, ASX could not guarantee that any of these changes would provide direct economic benefits to the member organisations. As a consequence of the divergence of interests, ASX believed that the collective decision making process would inhibit the development of the exchange. The Chairman of ASX, Maurice Newman, stated in an interview “while in the long term the interests of the stockbrokers and the exchange coincide, in the short term there were situations arising where our interests differed ... by demutualising, we are able to react to the rapidly changing environment – management is now able to use their own business judgement to make decisions”.

In support, Hogan Stokes states “in a climate of growing competition between exchanges, mutual ownership will make it harder for ASX to make timely and effective strategic decisions”. Also, the Vice-Chairman of the Chicago Mercantile Exchange, Jim Oliff, has recently come out in support of demutualisation as “we would end up with a leaner organisation, with fewer committees and less need for consensus”.⁷³

3.7 Summary

Six developments have been identified as potential spurs to demutualisation: increase in intensity of competition, change in relative importance of management incentives, change in effectiveness of monitoring of management, demand for capital to fund expansion, change in members’ liabilities, and divergence of members’ interests. Analysis of the relevance of each of these reasons to ASX’s position prior to demutualisation indicates that the threat of increased international competition was a substantial driver of demutualisation, along with the divergence of members’ interests that made it more difficult for ASX to respond in a timely and effective manner whilst it retained a mutual structure. More effective design of management incentive, better monitoring of management, likely increased demand for capital and changes in members’ liabilities were not obviously strong spurs to demutualisation.

⁷³ “An IPO of the big board? Why not?”, *Business Week*, 12 April 1999, p. 59.

5.0 Developments in ASX's corporate governance post-demutualisation

A key tenet of agency theory is that stakeholders implement control mechanisms to safeguard their interests.⁷⁴ The monitoring, disciplining and control devices that shareholders use to ensure that managers act in their interest are commonly referred to as corporate governance mechanisms. Five important governance mechanisms are board composition, board size, executive remuneration, blockholder monitoring and the market for corporate control. In this chapter, we examine the impact of demutualisation on each of the five mechanisms. In each case, the discussion is preceded by a review of the importance of each governance mechanism in safeguarding investors' interests. The review is helpful because, as shown, theory is not always supported by the evidence.

5.1 Board composition and firm performance

The board is the ultimate source of authority in a stock company and so the relationship between board composition and company performance has attracted much research interest. The dimension of composition on which most research has focused is "independence". As Bhagat and Black (1999) observe, the common view is that the board's principal task is to monitor management. An associated view is that only independent directors are vigilant monitors.

The predominance among large US public companies of boards with a majority of independent, outside directors indicates the prevalence of the belief that board independence is value enhancing.⁷⁵ However, independence is not without cost. Executive directors and even non-executive directors with prior affiliations with the company are often better informed and thus better placed to oversee managers. The extent to which a board should be independent to maximise shareholder value is therefore an empirical issue. The evidence, however, is mixed at best.

⁷⁴ Jensen and Meckling (1976) define the agency relationship as a contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf. This involves delegating some decision making authority to the agent. Where the interests of the different parties diverge, the potential for conflicts of interest arises. To control the conflict, costs are incurred. These include structuring, monitoring and bonding a set of contracts among the agents.

⁷⁵ This view is also held by many stakeholders in Australia. For instance, the Australian Investment Managers' Association ('AIMA') contends that "every listed company should be constituted with a majority of individuals who qualify as independent directors". See "Corporate governance: A guide for investment managers and corporations", AIMA (1997). However, in 1996, only 40% of the top-100 companies had conformed to the recommendation [Stapledon and Lawrence (1996)].

In an early study, Baysinger and Butler (1985) document that for a sample of 266 major US companies the proportion of independent non-executive directors is not related to company performance in the same year.⁷⁶ However, the number of outside directors in 1970 is positively correlated with the return on equity ten years later. Even so, Baysinger and Butler do not suggest that boards should have a majority of independent directors. They report that companies with above average relative performance have boards consisting of approximately 33% independent non-executive directors and so they conclude that that boards which have an equal mixture of the three different types of directors are more likely to be successful. Other studies, such as Mehran (1995), Yermack (1996) and Agrawal and Knoeber (1996) report findings consistent with Baysinger and Butler.

Notwithstanding the above, the most persuasive evidence against a link between director independence and company performance comes from Bhagat and Black (1999) who review 934 of the largest US companies from 1991.⁷⁷ Bhagat and Black find that board independence, measured by the fraction of independent directors on a board, is negatively correlated with long-term performance and growth. The results persist after controlling for board size, company size, industry effects, CEO stock ownership, stock ownership by outside directors as well as the number and size of blockholders. Bhagat and Black also note that companies with independent directors making up over 70% of the composition of a board perform worse than those companies with more balanced boards.

Importantly, Bhagat and Black assess whether the causation runs the other way (i.e., from poor performance to greater board independence). Their tests confirm that it is not poor past performance that leads to companies adding more outside directors. Based on all the results, Bhagat and Black (1999) argue that companies should adopt a more balanced approach to board composition. They suggest that a board should be composed of 55% independent non-executive directors with the remaining board seats being made up of insiders and affiliated directors.

⁷⁶ The sample represents a portion of the *Forbes* list of major US companies between 1970 and 1980. Any company that changed their product mix, merged or were acquired by others was excluded. Any company that was not included in the *Forbes* list for the entire ten year period was also excluded. The relative financial performance of a company is calculated by dividing the company's return on equity by the average return on equity for all the companies in the same industry including those not in the sample.

⁷⁷ The sample comprises 934 of the largest US companies from 1991. Sensitivity analysis is reported using separate regressions for the following sub-periods: 1985-1987, 1988-1990, 1991-1993 and 1994-1995.

One issue with the studies that review the link between board independence and firm performance is that the benefits of independence may accrue principally in discrete tasks with clear outcomes. In an early study that addresses this issue, Weisbach (1988) investigates the effect of board composition on CEO changes in 367 NYSE companies.⁷⁸ He finds that boards with at least 60% independent directors are three times more than likely to replace a poorly performing CEO, as measured by stock price performance, than other types of boards.⁷⁹ The results are similar when accounting measures of performance are used. Weisbach's results support the view that management entrenchment at the cost of shareholders is less likely with more independent boards.

Cotter, Shivdasani and Zenner (1997) show that independent directors benefit target firm shareholders in takeover bids. Analysing 169 tender offers over 1989 to 1992, they find that targets with boards having a majority of independent directors extract 20% higher stock returns measured over the entire contest period.⁸⁰ The independent board variable is also significantly positive for the multivariate regression models that incorporate the initial tender offer premium and any revisions of the offer.

Byrd and Hickman (1992) examine the same issue from the bidding companies' perspective, using a sample of 128 US tender offer bids made over the year 1980 to 1987. They find that tender offer bidders with a majority of independent directors earn about zero stock price returns. In contrast, bidders where insiders dominate the board suffer a statistically significant loss of 1.8%. Interestingly, Byrd and Hickman also find that the relationship between bidding companies' abnormal stock returns and the percentage of independent directors is non-linear, implying that it is possible to have too many independent directors to benefit shareholders. This last finding is consistent with Bhagat and Black (1999) analysis.

⁷⁸ For all the companies in the sample, there were 286 CEO resignations in the period 1974 to 1983. Any CEO dismissals that were unrelated to performance were eliminated from the sample.

⁷⁹ In the study, the author separates the sample into three sub-samples: independent non-executive directors make up less than 40% of the board (insider dominated), companies in which independent non-executive directors comprise greater than 60% (outsider dominated) and companies with between 40% and 60% independent non-executive directors (mixed).

⁸⁰ The authors use seven control variables that can influence shareholder gains regardless of board composition. The variables are: market value of equity, the existence of a poison pill or golden parachute, the ownership of inside directors, ownership of affiliated blockholders, ownership of unaffiliated blockholders and prior ownership of the bidder.

Bhagat and Black (1999) comment that a problem with using board performance on discrete events to assess the value of director independence is that independence may be valuable in some situations but not in others. It may well be that when all aspects of performance are considered, board independence is less valuable than evaluations of performance in discrete tasks would lead one to believe. It is worth noting that there have been no studies reviewing board performance in specific tasks where specific company or industry knowledge might be expected to give directors an advantage.

Given that investors take into account all aspects of performance when evaluating the appointment of independent directors, reviewing the share market reaction to such appointment is another way of assessing whether independent directors add value. Unfortunately, the results are inconclusive. Rosenstein and Wyatt (1990) review the share market reaction to 1,251 announcements by US companies of outside director appointments over the period 1981 to 1985. They report a statistically significant positive share price reaction (0.215%) for the two days surrounding an announcement. However, in a later study, Rosenstein and Wyatt (1997) examine 170 inside director announcements drawn from the *Wall Street Journal* ('WSJ') between 1981 to 1985. All the companies analysed were listed on either the NYSE or AMEX. The results indicate that the abnormal stock market returns are essentially zero.⁸¹

In sum, the evidence on board composition suggests that while having a substantial proportion of independent directors increases shareholder value, particularly in discrete tasks such as CEO replacement where board loyalty to management might be detrimental to shareholder interests, the optimal board comprises both independent and non-independent directors. The value of non-independent directors probably lies in their firm or industry specific knowledge that gives their boards a more informed basis for deliberations. This point is important in evaluating ASX's board.

5.1.3 Optimal board composition in stock and mutual organisations

Williamson (1983) is the first author to address the question whether organising as a stock or mutual will have an impact on board composition. He posits mutual organisations will appoint more outside directors than stock-based companies because restriction on the

⁸¹ The returns are calculated for the two days surrounding the announcement period starting the day prior to the announcement.

transferability of ownership claims eliminates stock-based compensation and reduces monitoring by institutions, blockholders, and also reduces the disciplinary effect of the prospect of a hostile takeover. This implies that the proportion of non-executive directors on the board should decline when a company changes from a mutual to a stock-based company because the greater effectiveness of other incentive aligning mechanisms allows the company to appoint more firm affiliated directors. This implication is known as the “substitution hypothesis”.

Mayers, Shivdasani and Smith (1997) review the board composition of 121 stock-based companies and 225 mutual life insurance companies in 1985 and find support for the substitution hypothesis. They report that the mean (median) fraction of non-executive directors for mutual organisations is 0.72 (0.78) and 0.44 (0.44) for the stock-based companies.⁸² The difference between both the mean and the median is significant. Further, the authors conduct an OLS regression. The company type coefficient is significantly positive at the 1% level. The results imply that, if a typical company is a stock-based company, the outside directors would create a minority (48%). Yet if the same organisation is a mutual, non-executive directors would constitute a majority (64%).

Mayers et al also analyse a sample of 50 property-casualty insurers that change from mutual to stock ownership between the period of 1920 and 1985. In line with theory, they report a significant reduction in the number of outside directors measured for three years prior to the demutualisation to three years after. The mean (median) fraction of outside directors for the companies converting from mutual to stock ownership falls from 0.71 (0.7) to 0.61 (0.67). This result is statistically significant at the 5% level.⁸³ Based on the substitution hypothesis, it is expected that ASX will have a greater proportion of outside directors prior to demutualisation.

5.1.4 ASX board composition pre- and post-demutualisation

Under the mutual structure, the composition of ASX’s board was fixed in the Articles of Association to reflect the company’s mutual status.⁸⁴ While 93% of the directors were non-

⁸² The sample consists of 121 stock-based companies and 225 mutual life insurance companies from 1985.

⁸³ Mayers, Shivdasani and Smith (1997) define an outside director as a non-executive, non-family director. However, the results are qualitatively the same when independent non-executive board members are analysed.

⁸⁴ Article 8 of the former Articles of Association states that the board should consist of ten member directors, elected by the members, including one from each state; four non-member directors appointed by the board and subject to confirmation at the following AGM; and the Managing Director appointed by the board.

executives, only 27% of the directors could be classified as independent.⁸⁵ For a 12 month period post-demutualisation the board consisted of six senior members of the stockbroking community, four senior members of the business community and one executive. Contrary to the substitution hypothesis, the proportion of independent outside directors actually increased from 27% to 36% post-demutualisation. However, it is probable that this change reflected the unusually high need for ASX not to be seen as an entity catering to a narrow range of interests. Rob Thomas, CEO of Salomon Smith Barney (Australia) alluded to this concern when stating, in an interview, that “the more independent directors that are appointed to the board the more confidence investors, Australian Securities and Investment Commission (‘ASIC’) and the government will gain in the management of ASX”.

It is likely that, as theory suggests, the appointment of more outside directors has come at a cost, the cost being a reduction in level of exchange-specific expertise at the board level. A former member issued some concern that in the future the board may not have enough directors who understand the market on both a domestic and international scale. He said, “ASX is unique and probably needs to be treated differently than most publicly listed companies”. However, aside from the political benefits of having a more diverse board, the appointment of outside directors also carried potential benefits. One former member noted “the change will allow for people to join the board that have greater experience in operating a public company”. Maurice Newman stated “while I don’t want to take anything away from the stockbroker directors that have served on the board, I do believe ASX will benefit from the change in composition. We now have an equal proportion of directors who have vast experience with other publicly listed companies and institutional investors ...whether we have the optimal composition – well, that is a different question. A question that I don’t believe anyone has the answer.”

⁸⁵ This study uses the Australian Investment Managers’ Association definitions for independent non-executive directors as its benchmark. This definition is qualitatively the same as the definitions used in prior research. The Australian Investment Managers’ Association states an independent non-executive director has the following characteristics: (a) is not a substantial shareholder of a company or an officer of or otherwise associated directly or indirectly with a substantial shareholder of the company; (b) has not been employed within the last three years in any executive capacity by the company or any other group member; (c) is not retained as a professional adviser to the company or any other group member or a principal of a firm or company so retained; (d) is not a significant supplier or customer of the company or any other group member or an officer of or otherwise associated directly or indirectly with a significant supplier or customer; (e) has no significant contractual relationship with the company or any other group member other than as a director of the company; and (f) otherwise free from any interest and any business or other relationship which could or could reasonably be

Given the unique position of ASX being a profit-making entity yet performing a quasi-public service function in the execution of its services, Mr Newman's view that the optimal composition of ASX's board is unknown is a reasonable comment. Further, the legislated limit on the proportion of shares any entity may own so as to prevent ASX being controlled by a single entity lower the incentive to monitor management closely and thus make the appointment of outside directors more attractive than usual for stock companies. In fact, ASX is not obviously anomalous in the composition of its board. The proportion of independent directors is consistent with theoretical and empirical literature that shows a board comprising between 40-55% independent directors should help create shareholder wealth. Further, the new composition conforms to current Australian practices. In 1996, the average proportion of independent directors on boards of the top-100 ASX listed companies was 43% [Stapledon and Lawrence (1996)].

In closing, one other ASX departure from recommended practice in relation to board appointments is worth noting. Traditionally, the chairman of the board selects non-executive directors of listed Australian companies.⁸⁶ Stapledon (1996) argues this can be problematic if the chairman is either an affiliated non-executive or an executive director. The AIMA recommends that boards should have a nomination committee that has the responsibility of nominating new board members. An independent director should chair the committee with the majority of the members being non-executive directors. ASX has ignored this recommendation. An affiliated non-executive director still chairs both the board of directors and the nomination committee.

5.2 The relationship between board size and company performance

Section 221 (2) of the *Corporations Law* states that a publicly listed company must have at least three company directors. This, however, does not give any indication as to the optimum size of a board. There is a trade-off between the board's capacity for monitoring and the costs associated with large groups. Examples of these costs include communication difficulties and less timely decision making. Jensen (1993) posits that by limiting the size of the board there are efficiency gains that can be made. He states "keeping boards small can help improve their performance. When boards get beyond seven or eight they are less likely to function

perceived to, materially interfere with the director's ability to act with a view to the best interests of the company.

effectively and are easier for the CEO to control”. Lipton and Lorsch (1992) also endorse this theory. They argue that when “a board is greater than ten members, it becomes difficult for them all to express their ideas and opinions in the limited time available”.

Yermack (1996) empirically tests this hypothesis and concludes that there is a statistically significant inverse relationship between board size and company performance (measured by Tobin’s Q). The coefficients imply that if a board increases its size by 50%, Tobin’s Q will fall by 0.13.⁸⁷ If an eight member board expands by one, it is expected that Tobin’s Q will fall 0.04.⁸⁸ These results are robust to various controls that include company size, industry, inside stock ownership, past performance and alternative governance mechanisms such as board composition. The results also hold under different methodology (OLS regression and fixed effects model) and various measures of performance (sales/assets, return on assets and return on sales). Further, the stock market perceives a reduction in board size to be positive. For six companies that announce significant reductions in board size, shareholders realise a 2.5% abnormal return for the three days surrounding the announcement.

However, there is a possibility that Yermack’s results might not apply to smaller companies or companies that operate in a different regulatory and economic environment. Eisenberg, Sundgren and Wells (1998) examine a sample selected in 1996 of 900 small to medium Finnish companies. The authors also find a negative correlation between board size and company profitability after controlling for the size of the company, age of the company and the industry classification. Unlike Yermack, Eisenberg *et al.* (1998) measures company performance by industry adjusted-return on assets. This is because a majority of the companies in the sample are not publicly traded. This may not be a major problem as Yermack’s results are robust to several variations in accounting profitability measures. The study also confirms the direction of the causation. That is, board size influences company performance rather than past performance determines the board size.

⁸⁶ Under ASX listing rule 3L(1), the initial appointment must then be confirmed by an ordinary resolution at the AGM.

⁸⁷ As mentioned in section 5.1.1.1, this empirical investigation is based on a sample of 452 companies over an eight year period (1984-1991). The sample of companies is drawn from the annual *Forbes* 500 largest US companies list.

⁸⁸ A 0.01 change in Tobin’s Q equates to a US\$25 million reduction in company value for the median company.

Mayers *et al.* (1997) finds that for a sample of 50 property-casualty insurers that demutualise the mean and median board size remains the same.⁸⁹ This is surprising considering the common argument that mutuals are inefficient. If this were the case, it would be expected that the board size would decrease after demutualisation.

5.2.2 ASX's board size pre- and post demutualisation

At the AGM in October 1999,⁹⁰ the composition of ASX's board changed substantially. The number of directors was reduced from 11 to nine members with 45% of the board being independent. The board has retained its size and composition at these levels since 1999. In support of the efficiency argument, there was a consensus among the former members and current directors who were interviewed that the reduction in the board size is a positive move. They agreed that a larger board is inefficient and ineffective. One current ASX director commented "the reduction in the board size and the elimination of a number of committees has meant that decisions can now be made on a much timelier basis". The change is also consistent with current Australian practices.⁹¹

The revised ASX board is in line with changes that occurred at the SSE (already demutualised) and Toronto Stock Exchange (in the process of demutualisation). When the SSE became a stock-based company in 1993, the board was reduced from 22 directors to nine. Only three of the remaining directors are from stockbroking companies with the balance representing SSE listed companies and investors.⁹² The Toronto Stock Exchange ('TSE') proposes to change the composition of its board to having 50% of the directors elected from outside the stockbroking community.

5.3 Managerial remuneration and company performance: Theory and evidence

Managerial remuneration is an important component of 'good' corporate governance. If properly used, it has the ability to motivate, retain and align the interests of management – both executives and directors. We do not attempt to identify whether ASX appropriately remunerated its management under the mutual structure or if it has adopted an optimal remuneration strategy post-demutualisation. Our objective is to identify whether executive and director remuneration levels change as a result of demutualisation.

⁸⁹ See section 5.1.1.3 for details on the sample and methodology.

⁹⁰ The AGM was held on 25 October 1999.

⁹¹ Stapledon and Lawrence (1996) document that the average board size of Australia's largest 100 companies is 8.89.

⁹² Credit Suisse First Boston (1998), "The Toronto Stock Exchange – a blueprint for success".

Based on the agency perspective, Mayers and Smith (1981, 1986, 1988, 1992, 1994) argue that mutual organisations should perform better in areas that require less managerial discretion. This is a direct result of the higher costs associated with monitoring management in a mutual structure. Mayers and Smith (1992) posit that mutual organisation CEO's will be paid lower wages and less incentive remuneration compared to stock-based company CEO's. They find, based on a sample of 515 companies, that mutual CEO's are compensated at a significantly lower level. The estimated difference in remuneration between two identical companies that have different ownership structures is approximately 18%.

Mayers and Smith (1992) also hypothesize that remuneration should be more responsive to performance for stock-based companies than for mutuals.⁹³ The authors estimate pooled cross-section and time-series regressions for the growth rate in CEO remuneration on performance.⁹⁴ Their time-series evidence, from a sample of 48 companies comprising 27 stock-based companies and 21 mutual organisations drawn from the period 1974 to 1988, indicates stock-based company CEO remuneration is significantly more responsive to company performance than mutual CEO remuneration. The results indicate that a 1% increase in the net premiums written for a stock-based company in the previous year leads to a 0.7% increase in the level of CEO remuneration.⁹⁵ No relationship between pay and performance was found for the mutual organisations.

5.3.1 Upper echelon remuneration at ASX pre- and post-demutualisation

As the discussion in section 3.0 indicated, ASX has been operating in an increasing competitive environment that requires its managers to exercise substantial levels of initiative and discretion to ensure an effective response. Examples of initiatives include the (failed) proposals to takeover the SFE and introduce 'BLOX', the establishment of global alliances through the development of 'ASX World-Link,' and the launching of a trading platform for ETFs. Contentious decisions such as extending trading hours can now be resolved solely by management without the need for direct recourse to other stakeholders. No longer is management required to gain agreement from at least 75% of the members to implement

⁹³ As mutual organisations are restricted to accounting-based remuneration schemes, the analysis is focused on the responsiveness of remuneration to company performance. As noted by the authors, this could lead to a potential bias as equity-based compensation is an important component of executive remuneration packages.

⁹⁴ Performance is measured by net premiums written, income before tax, total revenue and dividends to the policyholders.

⁹⁵ No other statistically significant results were reported for any of the other performance variables.

substantive reform. The questions of interest are whether the upper echelon management of ASX has been compensated for the higher risk now inherent in their work and whether their pay is, at least in part, performance based.

ASX managerial remuneration levels pre and post-demutualisation are examined at three different levels: executive, managing director and director. Data were collected from ASX Annual Reports for the period 1990 to 2001. Earnings before interest and tax ('EBIT') is used as management's performance benchmark. EBIT was preferred to operating profit after tax on the basis that EBIT is less subject to influences outside management's control.⁹⁶

Until the insertion of Section 300A in the *Corporations Law* in the 1999 financial year,⁹⁷ companies were only required to disclose director and executive remuneration levels in \$10,000 bands. While no names were associated with a specific band, this analysis assumes the Managing Director is the highest paid employee. This is a reasonable assumption as for each year there is only one executive on the board of ASX and for each year the highest paid individual is on the board and is an executive. For each director and executive, the lower bands were used to aggregate the total remuneration paid to directors and executives. This reduces the accuracy of the testing.

The investigation is also restricted by the lack of information on the retirement of directors/executives. The Annual Reports only identify a band where termination/retirement payments are made for the relevant financial year. It is not possible to quantify the value of any one-off payments which reduces effectiveness of the pay for performance sensitivity analysis. ASX only started to disclose the performance-based components of the remuneration packages in 1999 and so the pay for performance sensitivity analysis is based on casual observations. The only exception is for the Managing Director, in which some empirical analysis is undertaken.

⁹⁶ In unreported results, sensitivity analysis was conducted using OPAT as the performance benchmark. The results were qualitatively the same.

⁹⁷ Section 300A of the *Corporations Law* requires details of the nature and amount of each element of the remuneration of each director and each of the five named officers of the company receiving the highest remuneration.

5.3.2 Executive Remuneration

Despite the shortcomings in available data, there is strong evidence to suggest that ASX changed its remuneration structure for its executives prior to the demutualisation. Between 1990 and 1994, ASX was dominated by a high number of executives earning, on average, a significantly lower remuneration package. Further, the rate of increase in the average executive remuneration level was low and fairly monotonic [refer to Table C1 and Figure C1].

On face value, it appears that the structure of executive remuneration may have changed either during 1994 or 1995. However, in 1994 and 1995 the high number of senior executive retirement and/or termination payments distorts the figures provided in Table C1. In 1994, seven executives left ASX including those executives who held the top three positions. While in 1995 four executives either retired or were retrenched, none held roles within the top four posts. This means that the average remuneration level for 1994 would have been biased upwards by a greater amount than 1995.

The substantial changes in pay structure actually occurred in 1996. At this time, it is evident that there was a 60% decline in the number of executives (17 people) and a 45% increase in the average executive remuneration package. Between 1997 and 1999 there was a further 27% increase. During this period, there also appears to have been an increase in the level of performance related remuneration. Table C5(i) shows that in 1999, the performance based component of the top six executives was, on average, 27% of their total remuneration package. By 2001 however, this pay/performance ratio has been reduced to 22.5% [Table C5(iii)]. However we cannot infer conclusively that performance based compensation incentives have decreased over these last two years. Rather, the lower proportion of performance based pay may be due to ASX's decline in operating profit from the previous year, hence the lower levels of performance pay bonuses claimed by senior executives. Interestingly, the majority of the changes occurred in the year prior to the demutualisation decision and four years prior to the official change in structure. In support, it is stated in the 1996 Annual Report "a new remuneration structure was introduced in October 1995, with a greater emphasis on pay and performance. All senior executives now have a proportion of their remuneration linked to achievement of results".

In 1999, the increase in the average executive remuneration was relatively insignificant.⁹⁸ One possible interpretation of these results is that mutual organisations, in the first instance, adopt characteristics of a stock-based company in an attempt to remain competitive. If this is unsuccessful, management will then seek to change the organisational structure.

5.3.3 Managing Director Remuneration

Between 1990 and 1993, the Managing Director received small, though relatively constant increases in remuneration levels that were unrelated to the performance of the business [refer to Table C2 and Figure C2]. For example, in 1993 despite an 87% improvement in EBIT, the Managing Director received a mere 3.33% increase in remuneration. On face value, the amount paid to the Managing Director in 1994 and 1995 increased significantly (22.58%) and became more responsive to performance. However, once again a one-off retirement payment to the Managing Director distorts the 1994 figure.

It was not until the 1996 financial year that the Managing Director's remuneration package underwent significant change in composition. Between 1996 and 1999, the Managing Director experienced a 100% rise in the level of remuneration. This provides further evidence to suggest that the changes occurred prior to the demutualisation decision in 1996 (1997 financial year) and actual conversion to a stock-based company in 1998 (1999 financial year). Since demutualisation, the Managing Director's remuneration has continued to grow strongly, increasing 21% in 2000 and 8.76% in 2001, despite the fall in earnings. It is also observed that the level of pay has become more responsive to performance. Table C6 indicates that in the 1999 financial year, 34% of the Managing Director's remuneration package is based on operational performance of the business. This was 3.5% higher than any of the other top six executives. Further, in following years, this gap has been widened with the Managing Director receiving 8.77% higher performance related remuneration than any other of the other top six executives in the 2001 financial year.⁹⁹

⁹⁸ It is reported in Table C1 that executive remuneration levels, on average, increased by 5.65%. However, it is likely that this figure was actually higher. The 1998 figures were biased upwards as three of the top four executives received retirement/termination payments.

⁹⁹ The mean (median) total remuneration package for CEO's in the top-100 Australian ASX listed companies for the 1999 financial year is \$1,497,000 (\$977,000). Using this as a benchmark, Richard Humphry is fairly remunerated with a total package worth \$850,388.

5.3.4 Directors' Remuneration

In contrast to the executive and managing director remuneration, Table C3 and Figure C3 show that the level of directors' remuneration increased after the demutualisation decision in 1996. Between 1997 and 1999, the average director remuneration level increased by 67%. This compares with a 13% increase between 1992 and 1996. Continued increases in director remuneration have been observed in the 2000 and 2001 financial years, however the rate of increase has been at a much lower level. These observations are supported by the calculations for the average non-executive director remuneration level [refer to table C4 and Figure C4]. During the 1997-1999 period after the demutualisation decision, the average non-executive director remuneration package increased by 38%. For the same period prior to demutualisation, the increase was relatively insignificant (3.5%).

It is surprising to observe that director remuneration has moved inversely to changes in ASX's earnings since demutualisation. For example, average director remuneration declined 4% with a 76% increase in EBIT in 2000, while in 2001, remuneration rose by 29% despite the 10% decrease in EBIT. While such a result is unexpected, it is not confounding, given that ASX annual reports state that no non-executive director receives any performance-pay related remuneration. Given the large proportion of non-executive directors on the board following demutualisation, changes in director remuneration are evidently explained by factors other than ASX's performance.

Interestingly, the majority of the changes occurred for the lower paid non-executive directors. For example, the three highest paid non-executive directors experienced a decline in their pay between 1997 and 1999 (-3%). Similar to the executives, the three highest paid non-executive directors experienced a 50% increase in remuneration in 1996.¹⁰⁰

5.4.2.1 Management Share Ownership Levels

Given that granting executives options has similar incentive effects as granting executives shares in the company, it is appropriate to review ASX's managers' share ownership levels in this section.

¹⁰⁰ For the full list of names and corresponding remuneration packages for the 1999 financial year refer to Table C6.

Until August 2001, the Corporations Act limited voting power in a public company to 5%. This limit restricted ASX from providing its executives with an optimal level of managerial equity investment and thus weakened the link between pay and performance. Article 9 of the Constitution provided that where a person had more than 5% of the voting shares, the shares above 5% were classified as “default shares” which meant they were not counted for voting purposes.

Empirical analysis conducted by Cole and Mehran (1998) supports the argument that shareholder restrictions interfere with executive remuneration packages. For a sample of 94 companies from the thrift industry that converted from a mutual to a stock-based structure between 1983 and 1987,¹⁰¹ the lifting of ownership restrictions caused the mean insider ownership level to increase significantly.¹⁰² The difference between the pre and post-inside ownership levels is statistically significant at the 1% level. Furthermore, the authors report a significant improvement in company performance, based on industry-adjusted market return,¹⁰³ for the three years after the anti-takeover rule expires. This is particularly evident for the companies where insider ownership is greater than the median amount. In this case, the difference between the pre and post-performance is 9.87%, significant at the 10% level.

Clearly, the 5% restriction on voting power was an example of where political restraints served to adversely affect company performance and hence shareholder wealth. Inevitably, in August 2001, the Senate agreed to approve a new regime whereby the voting power limitation was lifted to 15%. The adoption of this new regime in the ASX constitution was subsequently proposed and accepted at the Annual General Meeting in October 2001. However it is still too early to investigate the effect of this modification to voting power limits due to no executive actually increasing their shareholdings above 5% since the legislative amendment.

¹⁰¹ Each of the companies in the sample is traded on either the NYSE, AMEX or an OTC market for at least eight years.

¹⁰² In 1976, US Congress adopted a post-conversion anti-takeover rule for the thrift industry. The rule prohibits any person directly or indirectly acquiring more than 10% of the beneficial ownership of any class of equity issued by the savings institution during the three to five years post-conversion to a stock-based company.

¹⁰³ The authors calculate the median annual return for a control group of 76 savings and loans companies that are unaffected by the legal restrictions. This is then subtracted from the annual stock return for each of the sample observations.

Similarly, with regard to non-executive directors' remuneration, Bhagat, Carey and Elson (1999) argue that without direct economic incentive they will not engage in active monitoring of the company. The authors posit that this would have a negative effect on the company's performance. In support, the authors report that for a sample of 449 (including 200 of the largest) US companies,¹⁰⁴ the dollar value of the median non-executive directors' stock holding is positively related to the company's growth in sales and operating income.¹⁰⁵ Further, there is a positive relationship between a company's previous performance and the value of the non-executive directors' share holdings. The relationship is significant when company performance is measured by three year growth in sales, return on equity and stock returns.

Bhagat et al. (1999) also investigates whether non-executive director ownership influences CEO turnover for the 449 companies during 1991 to 1997. During this period, 162 of the companies in the sample experienced CEO turnover. Using a logit regression the authors report, given poor company performance, that there is a negative relationship between the dollar value of the median director's share ownership levels and the probability that there will be a disciplinary CEO turnover, i.e., companies that are performing poorly have boards with large equity holdings that are more willing to take corrective action. This result is statistically significant for four of the five different performance measures.¹⁰⁶

Under Article 12.10 of ASX's Articles of Association, a director is not required to hold any shares in the company. Table C7 shows that six of the ten non-executive directors were members of ASX and therefore received 166,000 shares each at the time of demutualisation. All of these directors subsequently reduced their holding in three years following the listing of ASX. Of the four independent non-executive directors, all purchased shares in ASX subsequent to demutualisation, however the average number of shares purchased was very low, with each independent director holding an average of 2,000 shares in June 2001.

In an interview in 1999 with Maurice Newman, the Chairman of ASX, he did not rule out the possibility of establishing a link between non-executive pay and performance via share

¹⁰⁴ Share ownership data is obtained for 4,874 directors from the 1994 proxy statements for the 449 companies.

¹⁰⁵ Regression results using return on equity and stock returns as the performance measure are mixed.

¹⁰⁶ Company performance is measured for the year prior to the CEO turnover by the following: three year growth in earnings per share, five year growth in earnings per share, one year stock return, three year stock return and five year stock return.

ownership. He said, “our first priority (after demutualisation) was to properly remunerate our staff and executives. We will now consider whether there should be a link between non-executive remuneration and the company’s performance.” However, to date the link between non-executive remuneration and performance appears to have weakened, despite the increase in voting power limits.

5.3.5 Summary

Overall, despite the limitations in the analysis, there is evidence to suggest that managerial remuneration levels have changed. Interestingly, the results indicate that executive remuneration and specifically the Managing Director’s remuneration changed in the years prior to the demutualisation decision. This implies that mutuals adopt some of the characteristics of a stock-based company. One interpretation of this is that management attempts to adapt to the changes in circumstances and if this is unsuccessful will then change the organisational structure appropriately. In contrast, the majority of changes in the remuneration packages for non-executive directors have occurred after the decision to demutualise in the 1997 financial year. While both the executive and director remuneration has increased since 1998, there is no evidence to indicate that the board waits until the actual conversion to a stock based company before implementing remuneration changes.

5.4 Ownership structure and management monitoring

Agency theory implies that where ownership in a company is diffuse the expected costs of a shareholder monitoring management are likely to be greater than the expected benefits. As a result, management has the freedom to pursue their interests, which is likely to take the form of excessive perquisite consumption. However, where a shareholder holds a relatively large portion of the issued shares in a company, the shareholder becomes more willing to monitor management because he will receive a greater share of the benefits from detecting inefficiencies.

Notwithstanding the above, the connection between ownership structure and firm performance is not necessarily straightforward. Ramsay and Blair (1993) are among several authors who point out that the effectiveness of other corporate governance mechanisms such as the market for corporate control and the independence of the board of directors influence the relative value of large shareholders or concentrated shareholdings. Further, there are other reasons why large shareholders may not wish to engage in active monitoring of management.

Coffee (1991) argues that some institutional investors will avoid monitoring if it means that their investment is no longer liquid. In support, Maug (1998) argues that if stock markets are less liquid, large shareholders will avoid any commitment to monitor management by diversifying their portfolio and buying smaller stakes in companies. Given the conflicting implications from theory, we rely on empirical evidence to establish the connection between shareholder structure and managerial monitoring.

5.4.1 Ownership Concentration

Studies that examine the relationship between company performance and the degree of ownership concentration report mixed results. Demsetz and Lehn (1985) analyse 511 companies from the major sectors of the US economy, including the regulated and financial sectors.¹⁰⁷ Their results indicate that there is no linear relationship between ownership concentration and performance measured by accounting rates of return.¹⁰⁸ In a similar study, Murali and Welch (1989) use *Value Line* surveys to identify a sample of 43 companies whose shares are more than 50% owned by a small group of investors. They compare the profitability of the sample over the period 1977 through to 1981 with 83 widely held companies matched on industry with the experimental sample but otherwise randomly selected. Again, the results indicate no significant difference in the level of profitability between the two samples.

It is possible that ownership concentration matters more early in the life of a company when effective monitoring might be more crucial in establishing profitability. Goergen (1997) tests this hypothesis using a sample of UK and German IPOs from the period of 1981 to 1988.¹⁰⁹ The author then matches the German IPOs with UK IPOs based on size and industry. The final sample comprises 124 companies. Goergen's analysis shows that listed German and UK companies, despite their ownership concentration differences, are not characterised by different levels of performance. Further, significant reductions in ownership concentration did not cause any changes in performance for either the UK or German companies.

¹⁰⁷ The authors also analyse a sub-sample of 406 manufacturing and mining companies.

¹⁰⁸ Accounting profitability is measured by accounting profit after tax expressed as a percentage of book equity value.

¹⁰⁹ Goergen (1997) uses three different measures of performance: annual cash flow divided by the sum of equity and debt, annual cash flow divided by the market value of equity and the book value of debt and the annual cumulative abnormal returns calculated by the end of month share prices.

In contrast, Belkaoui and Pavlik (1992) find that there is a positive relationship between shareholder concentration and performance of a company. However, the relationship is only present when shareholder concentration increases above 25%, calculated as the percentage of outside shareholders that own more than 5% of issued shares. Approaching the 25% level, the relationship was negative. Belkaoui and Pavlik argue that this is consistent with agency theory that states that a large concentration of shares allows shareholders to “coordinate action, demand information ... and influence management’s actions towards value maximisation”.

Weiss and Nikitin (1998) report that ownership concentration in the Czech Republic is associated with improvements in the performance of companies for a sample of 755 company year observations between 1993 and 1996.¹¹⁰ This relationship holds for all the performance measures used in the study.¹¹¹ In contrast to previous studies, the authors review the relationship between annual *changes* in performance and *changes* in ownership concentration rather than the *level* of performance and the *level* of ownership concentration.

5.4.2 Institutional Shareholders

Not all shareholders are alike. Pound (1988) posits that institutional investors¹¹² have greater expertise and can monitor management at a lower cost than small investors and as a result create more shareholder wealth. In support, McConnell and Servaes (1990) find a significant positive relationship between Tobin’s Q and the fraction of shares owned by institutional investors in a sample of 1,173 companies for 1976 and 1,093 companies for 1986. All the companies are listed on either the NYSE or AMEX. The direction of causation, though, remains unclear. That is, do institutional investors add value through the monitoring of management or do they just buy good performing stocks?

¹¹⁰ However, the authors note that the relationship does not hold if the ownership is concentrated with investment funds. Investment funds in the Czech Republic are close-ended fund structures. Units in the funds can only be sold to another shareholder (rather than being redeemed) therefore providing little incentives for managers to maximise the value of the investment fund. Poor performance has only a relatively small affect on funds under management and the level of fees charged.

¹¹¹ Performance is measured by the change in value added by each employee, the change in value added per unit of capital, the change in operating profit per worker and the change in operating profit per unit of capital. A Solow residual (using an OLS estimation of the production function) is also used to measure the contribution of management expertise to company performance.

¹¹² Institutional investors refer to organisations that invest money on the behalf of others. They include pension funds, superannuation funds and other fund managers.

Brunner (1999) uses a case study approach to examine the effects of institutional activism in the attempted merger of Volvo and Renault in 1993. Based on interviews of 20 individuals¹¹³ and an analysis of abnormal returns throughout the period of the proposal, the author concludes that institutional monitoring can create shareholder value. Brunner shows that ‘institutional voice’ can take many different forms. In this particular case, institutions demanded more information, communicated directly with the board of directors, issued threats to sue the directors, announced opposition to specific proposals as well as demanding for a renegotiation of the merger terms and the resignation of the entire board of directors.

In Australia, Craswell, Taylor and Saywell (1997) examine the relationship between the distribution of equity ownership and company performance for two sub-samples of ASX listed companies. The 1986 sample consists of 95 large companies and 91 small companies while the 1989 sample comprises 82 large and 81 small. Craswell et al find no evidence of a relationship between institutional ownership and performance measured by a proxy for Tobin’s Q.¹¹⁴ The results are qualitatively the same when the proxy for Tobin’s Q is modified to include the book value of debt. Also, a similar result is found using an accounting-based performance measure.¹¹⁵

5.4.3 Large Outside Blockholders

Schleifer and Vishney (1986) use a theoretical model to predict that, all else being equal, the presence of a large blockholder¹¹⁶ will increase the market value of the company. They observe that blockholders are commonly linked to increased management turnover when a company is performing sub-optimally. In testing Schleifer and Vishney’s hypothesis, Barclay and Holderness (1991) examine management turnover and market reaction to 106 block trades where at least 5% of the common stock of a NYSE or AMEX listed company is traded.¹¹⁷ Any block trades that are announced simultaneously with an offer to purchase the remaining amount of the company are excluded.

¹¹³ The interviews were held with senior managers at Volvo and Renault, investment bankers, institutional investors and the two CEO’s who founded the alliance.

¹¹⁴ In Australia, replacement cost information is unavailable and there is no active market for corporate debt. Thus, the authors use a proxy for Tobin’s Q. The measure equals the market value of equity over the book value of net assets.

¹¹⁵ The accounting performance measure is OPAT divided by the book value of equity.

¹¹⁶ A blockholder is defined as a company that holds a substantial portion of shares in another company, which is not in the business of managing funds.

In line with Schleifer and Vishney (1986), Barclay and Holderness (1991) report that following a block trade, 33% of the CEO's depart in the subsequent 12 months and an additional 19% in the following year. Similarly, 43% of the number two and three executives leave in the year after a block trade. Further, Barclay and Holderness find that the initial public announcement of a block trade is followed by an average abnormal stock return of 16.5% for the 12 month period after the announcement. The stock price changes are larger when the shares pass to a new blockholder, when management cooperates and allows the blockholder to influence corporate policy and when the blockholder eventually purchases the company. In the situation when the company is not acquired, the stock prices decline over a 40 day period before stabilising. However, the average cumulative abnormal return over a 12 month period remains positive and significant at 5.6%. This evidence suggests that large shareholders are perceived in the stock market to increase the wealth of *all* shareholders.

However, when Holderness and Sheenan (1988) compare the performance of a company with a blockholder to a sample of companies with widely distributed ownership, the authors find no statistical difference in their Tobin's Q or accounting profitability measures. Similarly, McConnell and Servaes (1990) also find no relationship between Tobin's Q and the presence of a blockholder or the fraction of equity held by a blockholder. This result holds for both the 1976 and 1986 sample of companies.¹¹⁸

In sum, the literature provides little substantial evidence of a causal link between absolute levels of shareholder concentration and firm performance. This is not to say that concentrated shareholders do not have strong incentives to monitor managers; the positive market reaction to trades that result in a blockholder being created suggests that ownership concentration is viewed positively by the market. A possible explanation is provided by Kahn and Winton (1998).

Kahn and Winton (1998) develop a theoretical model to show that, all else being equal, monitoring of management will occur in companies that are publicly perceived as poor performers, and weakest for the companies that are perceived to be good performers. They also show that monitoring would be more likely to occur in situations that are relatively

¹¹⁷ The book value of assets of the companies in the sample varies from US\$2 million to US\$1.7 billion. The mean (median) is US\$247 million (US\$85 million).

¹¹⁸ Refer to section 5.4.1.2 for details regarding sample size and methodology.

accessible from well-informed outsiders and in situations where management is clearly performing below expectations. In contrast, the model indicates that monitoring is less likely in companies that specialise in new technology, where the business relies heavily on intangible assets and/or they conduct business in a relatively young industry. Kahn and Winton's theory suggests that the positive market reaction found by Barclay and Holderness (1991) in response to blockholder trades occurs because the companies in which the trades occur are in particular need of the disciplinary oversight provided by the blockholder.

In closing this brief review of ownership concentration and managerial monitoring, it is worth noting Zeckhauser and Pound's (1990) hypothesis that monitoring of management is commonly undertaken in well understood industries such as retailing, textiles and publishing. They predict that monitoring of management is less likely in technology-based industries. To test their conjectures, the authors sort each industry based on the ease of monitoring, and examine the effects of a single outside shareholder with a holding greater than 15% of the issued shares. Using a sample of 286 companies, the authors report that large shareholders are associated with significantly higher earnings growth rates in the industries where monitoring is readily undertaken. Further, there is no relationship between the large shareholder and expected earnings growth rates for the industries where it is hypothesised that monitoring of management would be difficult.

5.4.4 ASX's Experience

At demutualisation the ASX Act 1997 provided for a maximum shareholding in ASX of 5% by any individual or entity. On October 2001, ASX Act 1997 was amended to increase the shareholding ceiling to 15%. Why did the government choose a 5% shareholding limit? And, what were the reasons that prompted the revision?

To answer the first question, perhaps the government believed that ownership composition is not an important determinant of company performance in the Australian environment and the political and economic risks in having ASX controlled by a single entity were too high to bear. The assumption that ownership composition does not matter to performance is consistent with the empirical results of Craswell, Taylor and Saywell (1997). The view that political concerns coloured the government's policy is also consistent with the evidence. A director of ASX stated that while the limit was restrictive from a strategic point of view, it was the government's belief that no one should have the ability to influence the decision

making process of ASX due to its significant role in the Australian economy. Others shared the government's view. For instance, Rob Thomas stated, "I don't think that anyone should be able to gain control of the exchange. For example, if Computershare was to gain control it is likely that they would reduce the amount of intermediation so that they could increase their own profitability".

It is debateable whether there is a significant risk of substantial adverse consequences if one party were to gain control of ASX. In particular, it is not obvious why a profit maximising controlling shareholder would implement reforms that constrain or reduce market activities. The experience of the Swedish Stock Exchange, discussed in section 3.3, shows that a having controlling shareholder is entirely compatible with improved efficiency.

While the merits of the 5% ceiling are debateable, there has been broad agreement of the costs entailed. Among them was the inability to implement significant capital restructurings such as a share buyback or issue of convertible debt. The 5% shareholding limit also reduced ASX's ability to forge relationships with other international exchanges or technology companies; relationships that are typically cemented by each party holding of substantial equity stakes in the other. These links are likely to become increasingly important as ASX seeks to reduce the proportion of the market held by the largest companies. At 31 December 2000, the top ten and 50 stocks by market capitalisation accounted for 42.21% and 70.03% of the total value of trades respectively.¹¹⁹

The relatively short period before the ownership ceiling was lifted from 5% to 15% suggests that costs described above became quickly evident to the government. In any event, all of the former members and ASX directors who were interviewed prior to the increase in voting power indicated their support for the revision. One ASX director commented "we were certainly pushing for a 15% limit at the time of demutualisation. It would certainly provide management with greater flexibility. For example, it would allow NASDAQ or some other exchange to buy a strategic stake in our company". Similarly, Maurice Newman said, "we never wanted a limit in the first place. We said, 'if we are required to have a limit then we would prefer a limit similar to the *Banks (Shareholding) Act 1972*'. It is undoubtedly a restriction from a strategic point of view".

¹¹⁹ Australian Stock Exchange Fact Book (2001).

Even though the limitation has been increased to 15%, some of the former members have argued that the limit should be removed completely. For example, John McIntosh at the time of demutualisation said, “initially I was concerned that an individual or company would be able to control ASX. However, my attitude has changed. I now view ASX as a technology company. I think there would be significant benefits if a company such as Computershare gained control of ASX”. Notwithstanding Mr McIntosh’s point, there are grounds for believing the 15% shareholding limit represents a significant improvement in the quality of corporate governance at ASX. As the discussion in the preceding section indicates, a blockholding of 15% is probably enough to provide sufficient incentive for the holder to monitor management closely and take action when appropriate.

The 15% ceiling also allows ASX to link non-executive directors’ remuneration to performance through the adoption of an equity-based incentive plan. This would create a greater financial incentive for the non-executive directors to be active in their managerial oversight. Currently, each independent director holds an average of only 2000 shares in ASX.¹²⁰

However, even after approving the increase to 15% of voting power, there are a number of interrelated questions. Does the share register consist of a majority of retail investors? If there are any institutions or blockholders on the share register, will they have an incentive to monitor management? From Table C8 it is difficult to determine exactly what effect either the 5% or more recent 15% shareholding ceiling has had on the composition of the share register. Although it appears that no individual or institution owns more than a 6.68% as at August 2001, the large number of nominee and trustee companies makes it impossible to determine the exact composition of ASX’s share ownership structure. These questions can only be answered if the beneficial shareholders were traced under Section 723A of the *Corporations Law*.

If ASX’s CHESS records were made available for research purposes, it would have been possible to examine the changes in shareholder concentration since ASX’s listing.¹²¹ This analysis could have been extended by comparing ASX with a sample of other companies with

¹²⁰ Refer to section 5.3.3 for further discussion.

¹²¹ Shareholder concentration could be measured by the percentage of common stock held by the largest five, ten and 20 stockholders in addition to a Herfindahl index.

5% ownership restrictions, e.g, AMP Limited and Telstra Limited. Alternatively, research could be conducted which examined ASX ownership structures and performance pre and post October 2001 when the legislative amendments were approved by ASX. The provision of settlement information would also have allowed for an examination of ownership concentration and its effect on the performance of ASX's share price. These are areas for future research.

6.0 ASX Stakeholders and Demutualisation

6.1 Efficiency Ratio Analysis

This section evaluates whether in the 12 months since the change of organisational structure ASX has benefited from an increase in efficiency. The analysis compares ASX with four other exchanges from the Asia-Pacific region across a range of efficiency ratios. The control sample of exchanges include the SES, SEHK, New Zealand Stock Exchange ('NZSE') and Kuala Lumpur Stock Exchange ('KLSE'). The calculations are based over an eight year period from 1994 to 2001.¹²² The information to calculate the ratios was obtained from the Annual Reports. At each balance date, the figures were adjusted for currency movements.¹²³

All exchanges analysed have an automated order driven market. For the majority of the sample period, all exchanges that constitute the control sample were mutual organizations. However, both the Singapore and Hong Kong Stock exchanges demutualised in 2000.¹²⁴ Table B10 and B11 compare the size of the exchanges based upon the value of trading and market capitalization.¹²⁵ ASX was approximately the same size as SEHK and KLSE for both measures until the end of the 1996 financial year. In the following four years, the SEHK is the only exchange in the sample of similar size in terms of both market capitalization and trading volume, due to substantial declines in the size and trading volumes of control

¹²² It was not possible to gain the 1999 Annual Reports for KLSE or SES. The figures for SEHK are estimates based on the interim financial results for the six months to 31 December 1999.

¹²³ The exchange rates were obtained from Westpac Banking Corporation for June 30 of each year. If this day was not available the nearest available day was used. The exchange rate equated to the mid-point of the buy and sell quotes for the specific day.

¹²⁴ Singapore integrated its derivatives and equity exchanges on the 1st December 1999 and the merged entity listed on the 23rd November 2000. Hong Kong integrated the futures and stock exchanges to listed under the name, Hong Kong Exchanges and Clearing Ltd in June 2000.

¹²⁵ This information was gained from the International Federation of Stock Exchanges Annual Reports. To ensure the validity of the comparisons all the exchanges included in the sample count turnover only as the transactions that pass through their trading systems. It should be noted that all the figures are based on a 31 December balance date. This method was chosen due to the lack of consistency between the different exchanges when disclosing the level of market activity in their Annual Reports.

markets. This suggests greater weight should be given to the comparison between ASX and SEHK.

There is no obvious “right” accounting performance measure to use when undertaking this type of assessment. A collection of ratios that reflect efficiency is used so as to provide a clearer picture. Trends are investigated over time to determine whether there are any obvious changes that may be directly linked to the change in organisational structure.

The asset utilisation ratio (defined as operating income divided by average assets)¹²⁶ reflects how efficiently a company’s assets are employed. The higher the ratio, the greater the contribution the assets are making to the company’s profitability. The results in Table B12 and Figure B6 provide some support for the expectation that ASX benefited from an increase in efficiency as a result of demutualisation. In the three years prior to the decision (1994-1996), the asset utilisation ratio declined from 50.2% to 35.7%. Since the end of 1997, ASX’s ratio increased from 33.5% to 77.4%. A significant proportion of the improvement occurred after the change in organisational structure. Critics may argue that this is purely a result of the increasing volume of transactions. However, Table B7 indicates that the number of equity trades has increased steadily between 1995 and 2000, dropping slightly from its record high in the most recent period. Moreover, during the entire sample period all four international exchanges experienced a decline in their asset utilisation ratio.

However, this argument is weakened by the fact that the SEHK experienced an improvement in the ratio between 1995 to 1998 before a substantial decline in the following financial years. A reasonable interpretation of this result is that the SEHK suffered from the Asian financial crisis.¹²⁷ In support of this interpretation, Table B10 shows that the value of trading (the main revenue driver for stock exchanges) declined on all the Asian stock exchanges between 1 January and 31 December 1998. In the SEHK’s interim financial report for the six months to 31 December 1998 it stated “the economic downturn continued to affect our markets. The credit squeeze normally seen in a bear economy added difficulties to the commercial sector

¹²⁶ Average assets are used instead of total assets so as not to bias results against growing organisations. This is consistent with the method used by O’Hara (1981).

¹²⁷ The Asian crisis began in June 1997 with large falls in all the Asian currencies. The second stage of the crisis began in October 1997 when the effects spread to the stock markets. For example, over a four day period the SEHK lost approximately 25% of its total valuation [“Crisis or opportunity?”, *Asiasphere – KPMG International Monthly Newsletter*, March 1998]. Stock market volatility, corporate collapses and other related problems were still being experienced at the end of 1998.

and led to a number of corporate collapses.” However it must be noted that despite recent improvements in the value of trading on all exchanges, Asian exchanges have continued to exhibit low and declining asset utilisation ratios.

The operating expense/operating income ratio also supports the hypothesis that demutualisation improved ASX’s efficiency [refer to Table B13 and Figure B7]. This particular ratio follows a similar pattern to the asset utilisation ratio. In the three years prior to the demutualisation decision, ASX suffered from a reduction in efficiency. This continued into 1997. Over this four year period, the ratio increased from 71% to 89%. The ratio then declined from the 1997 high of 89% to 63% in 2001. Importantly, a significant portion of the improvement came in the 1999 financial year. During the same period, three of the four overseas exchanges experienced a decrease in their cost-effectiveness based on the operating expense/operating income ratio. The SEHK followed a similar direction to ASX. Apart from the direct year following demutualisation of ASX, SEHK has experienced gradual increases in efficiency consistent with the experience of ASX. A combination of the Asian financial crisis, the demutualisation of ASX or the merger and demutualisation of the Hong Kong Futures and Stock exchanges could explain this result.

Another ratio reviewed is operating expenses over average assets (management expense ratio). Based on this ratio, ASX has performed poorly both relative to the other exchanges and on an individual basis [refer to Table B14 and Figure B8]. Three of the four control exchanges showed a gradual improvement over the specified time frame. ASX, on the other hand, suffered from a decline in the ratio post-1996. Further, demutualisation does not appear to have had any impact on the efficiency with which managers manage the exchange’s assets. However, this ratio is generally a crude measure of managerial expense behaviour. This ratio may have been more appropriate in previous years when exchanges produced a homogeneous product. In more recent years, with the globalisation of world’s financial markets, exchanges have attempted to distinguish themselves with the introduction of new products and initiatives.¹²⁸

¹²⁸ For example, ASX has introduced a number of innovative products in recent years. These include low exercise price options, capped call warrants, call and put warrants over currencies, barrier index warrants and premium income warrants. This trend has continued in 1999 with management deciding to establish an interest rate market and ASX index derivatives.

Another crude measure of managerial expense behaviour is fixed assets/total assets. However, this ratio is unlikely to be applicable to stock exchanges as a high percentage of fixed assets relate to computer software and equipment which are central to the markets operating effectively. This notion is supported by the fact that for the majority of exchanges, the ratio increased over the sample period. However the behaviour of the ratio for most exchanges is highly variable, again placing doubts as to the soundness of this measure as a proxy for managerial expense behaviour. [refer to Table B15, Figure B9]

Perhaps a more appropriate measure to capture managerial expense behaviour would be total staff costs divided by the average number of employees. The results reported in Table B16 and Figure B10 show that between 1996 and 1999 the average remuneration package per ASX employee increased from \$63,380 to \$80,560 (a 27% increase). However, ASX's ratio has increased at a slower rate than the New Zealand and Hong Kong exchanges despite being the only exchange to change from a mutual to a stock-based company.¹²⁹

The final measure of cost-effectiveness is operating income/average number of employees. Table B17 and Figure B11 show that between 1997 and 1999 ASX employees improved their productivity by 37%. The NZSE followed a very similar pattern except for 1999. One explanation for this is that ASX benefited from the change in organisational structure. In support of this argument, ASX's 1999 financial year was characterised by a 17% improvement in operating revenue and a 5.7% reduction in the number of employees (or 34 employees). Although the SEHK experienced significant gains in both 1997 and 1998,¹³⁰ on investigation, the improvement appears to have originated from unprecedented gains in operating revenue that were a result of the opening of the Hong Kong options market.¹³¹

Overall, there is some evidence to support the hypothesis that organisations experience efficiency gains from the conversion process. Any evidence that is found to support the efficiency hypothesis is generally observable in the year prior to the change as well as the year of conversion. Perhaps this is because ASX's demutualisation was approved and announced in the 1997 financial year. Management may have sought change in preparation for the listing of the exchange and, in doing so, was able to maximise the members and their

¹²⁹ No other comparisons could be undertaken as the other exchanges failed to disseminate the required information in their Annual Reports.

¹³⁰ The improvement equated to a 227% increase between 1996 and 1998.

own wealth. This was supported by comments made by Maurice Newman. He stated “as soon as the board and the members approved the proposal, management set out to change the culture. We identified the inefficient practices and provided ways for which we could improve our efficiency and hence our profitability”. The results are also consistent with Thomson’s (1997) study that analyses the conversion of mutual building societies to banks using similar efficiency ratios. She finds evidence that some behavioural changes occur after the announcement date and prior to the demutualisation.

There are a number of limitations that may restrict the validity of this analysis. Firstly, three years is not a very long time to implement change and review the consequences. Further, the short time frame means that macroeconomic factors (for example the Asian crisis) have an even greater effect on the results. This could be overcome in future research by including international exchanges from different geographical areas in the control sample, and further extending analysis over a longer period of time.¹³² The last problem specific to our sample is that two of the control sample exchanges demutualised shortly after the ASX demutualised. Such initiatives by foreign exchanges were likely to bias the effectiveness of the control sample in recent years following demutualisation of these foreign exchanges.

Another potential problem is that accounting information is prone to manipulation and distortion. Also, consideration should be given when interpreting the results that accounting standards can differ between countries which may produce different classifications of asset, liability, revenue and expense items. This may make it difficult to obtain accurate comparisons between various exchanges. However, it should be noted that in producing the ratios, adjustments were made if there were any obvious discrepancies between the exchanges accounting classifications. For example, since 1997 the SEHK’s balance sheet and accounts included the Options Clearing Members’ margin fund as a current asset. No other exchange used this approach.

6.2 Members

It is obvious that former members of ASX benefited financially, in the short term, from the demutualisation process. Figure D1 demonstrates that after the initial 178 days of trading, the

¹³¹ The Hong Kong options market opened on 8 September 1995.

¹³² The task of increasing the sample size may be quite difficult. All the other international stock exchanges either have a 31 December or 31 March balance date. This means that either ASX’s or the control sample’s financial accounts would have to be adjusted to ensure the accuracy of the results.

buy and hold abnormal returns for ASX were 117%. This compares favourably with the average buy and hold abnormal return of 12.8% for all the other Australian companies that have also demutualised and listed on ASX's market.¹³³ Over this period, ASX is the most successful Australian demutualisation measured by share price performance. The only other demutualisation that has realised a buy and hold abnormal return of greater than 50% in the first 178 days of trading is Adelaide Bank (90.6%).

However, there were mixed views as to whether the stockbroking industry has benefited from ASX's change in organisational structure. The Chairman of ASX, Maurice Newman, stated in an interview "I believe that the stockbroking industry has benefited from ASX's improvement in efficiency and ability to provide services at a lower cost. The stockbroking industry will also benefit from a number of our new initiatives including the NASDAQ alliance, Bloomberg agreement, third party clearing and the BLOX trading system¹³⁴ ... While it is true that we have increased our variable trading costs, we still remain one of the cheapest international exchanges. This will become even more obvious with the introduction of volume discounts for the large stockbroking organisations".

However, some former members held contrasting views. One former member argued that the real beneficiaries from the demutualisation were the natural person members. He noted that "the majority of members who benefited were on the verge of retirement". The former member argued that "demutualisation has not provided any significant benefits for the stockbroking industry". Similarly, another former member commented "only the members benefited from the demutualisation through the financial windfall. The stockbroking industry has actually suffered from the demutualisation. For example, variable trading costs have increased seven times for trades over \$750,000. The ASX argues that despite the increases it has remained internationally competitive. However, ASX seem to forget that to execute large transactions stockbrokers will usually spit the trades into 50 small parcels. In contrast, in the US there is the necessary liquidity for these trades to be executed in one parcel".

Rob Thomas also agreed that apart from the initial financial windfall, the stockbroking industry has failed to realise many other benefits. Although he did say "I suppose one other

¹³³ The sample consists of AMP, National Mutual Holdings, St George Bank, Colonial, Adelaide Bank, Bank of Melbourne, Challenger Bank, Advance Bank and Metway Bank.

benefit is that the exchange can now make strategic decisions on a more timely basis. It has meant that initiatives such as third party clearing have been allowed to proceed”. However, he also said, “the increase in trading costs has certainly influenced the profitability of Salomon Smith Barney. For a trade over \$750,000 the exchange now charges \$15. Previously the same trade would have cost \$2.19. It has meant that our costs are up by about 50% in the current financial year”. Although, Rob Thomas did note that, in part, the increases in cost levels could be attributed to the new method of dealing with institutions. He said, “institutions now demand that (in respect to shares sold) they receive the average price over the day which has meant that many large trades need to be broken into lots of small parcels”.

6.3 Listed Companies

Companies listed on the exchange are one of the three major stakeholders in ASX’s business. At the year ended 30 June 1999, listing fees from companies totalled \$32.5 million (or 21.3% of total operating revenue). While in recent years, listing fees revenue has decreased (as a proportion to total operating revenue),¹³⁵ listing revenue remains an important source of revenue and thus it is vital that the exchange remains internationally competitive based on listing fees and efficiency.¹³⁶

While it is obvious that lower listing fees will provide economic benefits to ASX listed companies, the effect of market efficiency is more obscure. A more efficient market is able to reduce the costs and risks associated with trading. As a direct consequence investors (both international and domestic) are more likely to invest in ASX listed companies. In turn, this will reduce the costs of raising equity – an important source of funding for many publicly traded companies. In support, Harris (1990) states that “investors who must move quickly move funds between cash and securities – for whatever reason – therefore value liquidity and are willing to pay for it. The costs of acquiring capital will therefore be lowest for firms whose securities trade in liquid markets”. Hence, if the ASX listed companies have benefited from the demutualisation there will have been a reduction in listing fees and an improvement in market efficiency in the period after the change in structure.

¹³⁴ The Bloomberg agreement and BLOX trading system were not implemented due to the failure of regulatory approval by ASIC.

¹³⁵ At the year ended 30 June 2001, listing fees from companies totalled \$34.1 million (or 17.7% of total operating revenue)

¹³⁶ Aitken (1993) states that market efficiency is a function of liquidity, transparency, volatility and transaction costs.

Table D1 provides mixed evidence as to whether ASX listed companies benefited from the change in ASX's organisational structure. With the exception of 1994, listing fees increased at a constant rate from 1990 up to the demutualisation year. However, in the first year following demutualisation, listing fees declined from \$27,930 to \$26,520 per listed company. Further declines in listing fees were observed for the following two years with revenue per listed company declining by 15% between 1999 and 2001. However it remains questionable whether this is considered economically significant. A more noticeable change occurred in the immediate period after the demutualisation decision in 1996, where listing fees increased from \$23,200 to \$27,930 (a 20.4% increase).

To gain a more accurate assessment of whether ASX listed companies have benefited from demutualisation, ASX listing fees are compared against a sample of international stock exchanges. The comparison is made with nine other international exchanges: NZSE, NYSE, NASDAQ, TSE, CSE, LSE, SSE, Tokyo Stock Exchange and SEHK.¹³⁷ Table D2 and Table D3 demonstrate that ASX, despite the constant increases in listing fees since 1990, has improved its international competitiveness post-demutualisation [also refer to Figure D2 and Figure D3].¹³⁸ The only two exchanges that have lower listing fees are the NZSE and CSE. However, these exchanges are considerably smaller exchanges than ASX based on market capitalisation and the value of transactions. Importantly, Table D3 and Figure D3 show that ASX has remained a cheaper stock exchange for companies to list than its major competitors including other leading second tier markets such as TSE, SSE and SEHK.¹³⁹

6.4 Stock Market Investor

It is difficult to quantify whether investors have benefited from ASX's demutualisation. This problem is compounded by the short time frame post-demutualisation. Despite this, two areas have been identified where investors may have benefited indirectly from the demutualisation process. They are a reduction in ASX's trading charges and an improvement in market efficiency. However, as documented in section 6.2 ASX trading charges have

¹³⁷ All the figures are from each of the exchanges Annual Reports. The pre-demutualisation period refers to the listing fees for 1996. The post-demutualisation period refers to the listing fees using the most recent Annual Report available. The balance dates are either 31 December 1998, 31 March 1999 or 30 June 1999.

¹³⁸ The listing revenue has been adjusted for currency differences at the end of each exchanges financial year. The exchange rates were obtained from Westpac Banking Corporation. The exchange rate equated to the mid-point of the buy and sell quotes for the specific day.

remained relatively constant between 1991 and 2001. Evidence with respect to market efficiency is presented below.

To provide an optimal level of market efficiency, ASX needs to minimise transaction costs and maximise liquidity. The relevance of liquidity has been discussed earlier. The importance of minimising transaction costs is evident in Block, French and McInish's (1995) finding that the bid-ask spread is a major component of indirect transaction costs, being 35% of total transaction costs. Similarly, Aitken and Swan (1995) demonstrate that the bid-ask spread represents 36% of the cost of transacting on ASX's market. Aitken and Swan also conclude that a 1% reduction in transaction costs will translate into a 1.2% increase in trading volume.

To see whether any changes have occurred in ASX's market efficiency as a result of demutualisation, both liquidity and transaction costs are measured for a ten month period surrounding ASX's conversion to a stock-based company. The following measures are used to proxy for liquidity and transaction costs:

a) Liquidity:

We use market depth as a measure of liquidity. Many microstructure research papers proxy market depth by the quantity quoted at the best bid and ask. However, Aitken, Brown and Walter (1995) show that this method is flawed as it only captures approximately 17% of all trades recorded on SEATS. Using the methodology from Aitken and Comerton-Forde (1999), this study defines market depth as the value of orders in the bid-ask schedule between the best bid (ask) and the price 5% below (above) the midpoint. The orders are weighted linearly where heavier weights are placed on orders closer to the midpoint.

$$LIQUIDITY = (LIQUP * LIQDOWN)^{1/2}$$

Where:

LIQDOWN	=	⊗ (bid order price)(bid order quantity)(bid order weighting)
LIQUP	=	⊗ (ask order price)(ask order quantity)(ask order weighting)
Bid order weighting	=	<u>bid order price – price 5% above midpoint</u>

¹³⁹ As at 31 December 1998, ASX had a total market capitalisation of \$536,285 million. At the same point in time, the total market capitalisation for TSE, SEHK and SSE ranged between \$456,734 million and \$885,902 million.

$$\text{Ask order weighting} = \frac{\text{mid point price} - \text{price 5\% above midpoint}}{\text{price 5\% above midpoint} - \text{ask order price}}$$

b) Transaction costs:

Relative spread is used to measure the bid-ask spread because it controls for the positive relationship between bid-ask spreads and stock prices [Aitken and Frino (1994)]. By using the midpoint of the spread for the stock price, *RELSPREAD* also is able to avoid the effects of bid-ask bounce.

$$RELSPREAD = (ask - bid) / [(ask + bid)/2]$$

Where:

Ask = best ask

Bid = best bid

The data to implement the above measures are trading data from the SEATS database maintained by the Securities Industry Research Centre of Asia-Pacific ('SIRCA'). The SEATS database provides a record detailing the price, volume, date, time and broker for every order and trade submitted and executed.

The initial sample includes all the companies that were included in the All Ordinaries index between the 7 January 1998 and 23 July 1999. The pre-demutualisation period extends from 7 January 1998 to 13 October 1998. The post-demutualisation period includes all the trading days between 15 October 1998 and 23 July 1999. Any stocks that are included in or excluded from the index during these periods are eliminated from the sample. Companies are also excluded if they had undertaken a stock split or a reverse stock split during the specified time frame or if they had missing observations. The final sample includes 173 companies for the market depth measure and 189 for the transaction cost measure.

For both the liquidity and transaction cost proxies data were collected at every hour, except for the opening and closing periods, for each day of trading during the specified time frame. A daily average was provided for each company. Each daily company average in the sample was then used to produce a daily All Ordinaries index average.

There is evidence to suggest that liquidity has improved in the time period post-demutualisation. Using a pooled variance t test, the mean for the pre-demutualisation period is \$241,372. In comparison, the mean for the post-demutualisation period is \$310,595. The difference between the means for the two sample periods is significant at the 1% level (t statistic = -12.38). These results can be seen graphically in Figure D4, Figure D5 and Figure D6]. Similarly, a pooled variance t test shows the decline in the relative bid-ask spread variable in the post-demutualisation period is significant at the 1% level (t statistic = 7.10). In support, Figure D7 identifies a clear *downward* trend in the relative bid-ask spread in the post-demutualisation period [also refer to Figure D8 and Figure D9].

While there is evidence to suggest market efficiency has improved since the demutualisation of ASX, it is questionable whether this is a direct result of the demutualisation process. More than likely, it is a consequence of the increased trading volumes that were experienced in the ‘bull’ market observed in the immediate period following demutualisation. Again, a longer time frame post-demutualisation would allow for a more accurate analysis, as it would reduce the effect of the cyclical nature of the securities industry.

Interestingly, the three ASX directors interviewed all argued that the greatest beneficiaries of the demutualisation were investors in the stock market. One ASX director commented “I would say that investors have gained the most from the demutualisation. In the future, they will benefit from the new initiatives such as the alliance with NASDAQ, the introduction of BLOX and third party clearing... I believe that there are many more benefits still to be realised”. Maurice Newman also stated that investors have been the major beneficiaries of the demutualisation process.

7.0 Evaluation of ASX’s Model

All former members who were interviewed agreed change needed to occur if ASX was going to be able to compete with other exchanges on a global basis in the future. Rob Thomas stated “in order to compete internationally ASX had to change its structure – it needed to get away from the club mentality”. So the question is not whether change needed to occur but rather whether the model used by ASX was the most effective way to adapt to the changes in the world’s equity markets. To answer this question, all the reform proposals canvassed at the time of the demutualisation decision are identified and analysed. A critique of the model adopted by ASX is also provided. Finally, the future direction of ASX is assessed.

7.1 Options for Reform

In 1995, the board of ASX decided to reconsider its organisational structure. As discussed in section 2.4, part of this process involved establishing a Governance Task Force to investigate all options available. Excluding demutualisation, Hogan Stokes (who participated in 12 of the Governance Task Force meetings) canvassed ten different options that were available to ASX.¹⁴⁰ Each of the following options were considered whereby ASX would:

- a) Eliminate the natural person members or create a separate membership class for the natural person members which would have restricted voting rights.

Under this proposal, ASX would have been brought under the control of the corporate members. This was very similar to the 1994 proposal discussed in detail in section 2.3. Hogan Stokes argued that the potential advantage of this option would have been to place ownership and control in the hands of the principal users of ASX services. However, Hogan Stokes noted that this proposal would have failed to overcome all of the problems associated with the collective decision making process.¹⁴¹

This particular option did have some support among the former members who were interviewed. One stated “it is my belief that the most effective structure would have seen ASX remain as a mutual and remove the natural person membership. Individual membership of stock exchanges had certainly become an anachronism”. This is contrasted with the view shared by the current directors. One director commented “some may argue that the adoption of the 1994 proposal would have achieved the same result. However, I believe that the new structure gives ASX greater flexibility and the ability to make decisions on a more timely basis. We would still have had the problem of collective decision making under the 1994 proposal, something that I believe would have limited our development”.

- b) Allow non-stockbrokers membership to a mutual ASX. Possible inclusions to membership were listed companies, institutional investors and financial institutions.

¹⁴⁰ No other alternatives were identified by any of the former members during the interview process.

At the time, it was argued that wider ownership of a mutual ASX would have had the advantage of providing the board with a larger group of stakeholders who could be levied if ASX required further capital. However, this approach would have caused an even greater divergence of the members' interests. In this situation, the collective decision making process would have become even more time-consuming and cumbersome. In the view of Hogan Stokes, this proposal would have had difficulty gaining the necessary support from the members and making new membership attractive enough to non-stockbrokers.

- c) Alter the board structure to allow for more independent, non-stockbroker directors and/or more directors who would represent other ASX stakeholders, such as listed companies and institutional investors.

Hogan Stokes was concerned that a board without a majority of stockbroker directors would raise member concerns about their liability created by the levy obligation under Article 7 of the Articles of Association. They also stated that a "parliamentary-type board representing various constituencies may have even greater difficulty making timely strategic decisions under future competition".

In isolation, it is difficult to see how this proposal would have significantly improved the competitiveness of ASX as a business. More than likely, this proposal was considered combined with other reforms such as the abolishment of the natural members.

- d) Separate ownership of ASX from market access.

Under this proposal, the mutual ownership structure would have been retained. At the same time, market access would have been granted through contractual agreements with non-member participants.

The benefits of this proposal were limited. It is widely recognised in the organisational structure literature that the major benefit of a mutual structure is that it provides some assurance to the customers that the company will not charge inappropriate prices for use

¹⁴¹ Refer to section 4.6.1 for further discussion.

of their services.¹⁴² The question arose – what would the incentives be for someone to become a member of ASX? Further, Hogan Stokes argued that gaining support from the members could have been difficult to achieve.

- e) Remove Article 80 from the Articles of Association thereby allowing the payment of dividends to the members.

Hogan Stokes identified that the payment of dividends could increase the ability of ASX to reward its members and provide returns which offset their liability. It was thought that this proposal would help realign the interests of the members and ASX by giving the members a greater incentive to agree to proposals that would benefit ASX as a business. While this proposal may have lessened the divergence of interests between ASX and the members, it was highly questionable whether it would have overcome the problem. If the situation arose where ASX put forward a proposal that would greatly improve its competitiveness yet would impose substantial costs for the members to implement the required technology, ASX would still have had difficulties implementing the changes. In addition, the problem of the divergence of interests within the membership would have remained. Any decision made by ASX would not necessarily provide equal benefits or costs to the members therefore making it difficult to gain 75% of the members approval.

Another potential problem with this proposal was that dividend payments would run down ASX cash reserves. Reserves are a particularly important element of mutuals as they have difficulty raising external finance. In these circumstances, the probability of ASX levying its members would have increased substantially. There could also have been potential problems in deciding on a fair dividend policy.

- f) Allow members to have limited rights to sell their ownership interest.

It was proposed that retiring members would be able to sell their rights to new members or ASX would be able to repurchase ownership rights from the retiring members. This option would have failed to help improve the competitiveness of ASX. The only benefit of this reform would have been that members could realise the value of their interests.

¹⁴² Refer to Hansmann (1985) and Kay (1991).

- g) Provide the members with limited liability by removing Article 7 from the Articles of Association.

The implementation of this plan could have severely restricted the development of ASX. As a mutual without the ability to raise internal finance, ASX would have had difficulty remaining competitive in the new global environment.

- h) Adopt a formula for the payment of levies issued by ASX to its members.

This option would have provided members with some certainty about their liability. However, in isolation this option would have had difficulty countering any of ASX's major problems. ASX would still have lacked the necessary flexibility to raise finance promptly. For example, ASX would have had difficulty revising its takeover bid for the SFE if it had been limited to internally generated funds. Hogan Stokes also noted that it would have been difficult to determine the appropriate formula.

- i) Amend the Articles of Association to provide ASX management with greater scope to use their own business judgment without gaining approval from 75% of the members.

This reform would have enabled ASX to strengthen as a business by improving the timeliness and flexibility of the decision making process. However, Hogan Stokes argued that this would have increased the risk associated with the unlimited liability of members and therefore would have been unlikely to gain approval of the members.

- j) Review the functions and structure of ASX's committees, advisory boards in order to simplify the decision-making processes.

Hogan Stokes identified that a reform of the committees and advisory boards that dominated the mutual ASX operations would have streamlined the decision making process. However, gaining approval for this reform would most likely have been difficult. The members recognised that the committees were a useful mechanism to help balance the interests of the various constituencies within ASX's membership.

Although Hogan Stokes considered each of the options outlined above individually, there were also a number of combinations that were considered when deciding which reform package would be the most beneficial to ASX and its stakeholders. For example, ASX could have introduced option a), c), e), h), i) and j) as one reform package. If this package had been adopted it would have substantially refined the decision making process. It would have allowed management to use its own business judgement, reduced the number of committees and improved the independence of the board. At the same time, the members would have had a greater understanding of their liability and would have had their interests more closely aligned to the interests of ASX through the payment of dividends.

On face value, this combination of reform proposals may have overcome several of the problems confronted by ASX. However, on a closer examination, the underlying problems of a mutual structure attempting to compete in a competitive environment would have remained. ASX would still have had the problem of the collective decision making process and the capital inadequacy that characterises a mutual organisation. While ASX did not require further capital, a stock-based company provides the added flexibility for management, i.e., funds can be raised more promptly and more easily.

In contrast, one former member stated “I do not believe in the capital argument. As a mutual, 100% of ASX’s profits were retained. There were no dividends or tax paid. Furthermore, a mutual ASX had the advantage of having access to the National Guarantee Fund for capital raising purposes. Even if a situation arose where ASX was required to levy its members, there is little doubt that the stockbroking organisations would have paid on behalf of the natural person members”. While this may be true, this argument is significantly weakened if, as stated by Maurice Newman, ASX was not going to have access to SIDA to fund future capital requirements. Furthermore, this argument also fails to consider the possibility that the smaller corporate members would have been unable to pay any levies on behalf of the individual members.

One former member questioned whether the collective decision making process was a problem. He said, “the collective decision making process may have affected the timeliness of proposals being implemented. However, I can’t remember a situation where it was serious problem”. However, as noted by Hogan Stokes, the case for demutualisation is not that a mutual cannot make strategic decisions. Rather as competition increases the need for timely

decisions increases, which means the collective decision making process becomes inefficient. This is even more evident in situations where the interests of the members diverge.

Some of the former members who were interviewed raised their concerns about the consequences of ASX transforming to a for-profit organisation. John McIntosh stated “in my opinion, ASX should be a market that facilitates trades as cheaply as possible ... by increasing the costs of trading to extract shareholder wealth, opportunities are provided for other companies to enter the market”. He argued that the fragmentation of the Australian equities market would have serious ramifications for liquidity. Based on this argument, a mutual structure would have best served the needs of ASX stakeholders.

However, after discussions with three of the directors, it was quite clear that they recognised that ASX could not afford to increase the fees for its services above internationally competitive standards. One director commented “with today’s technology investors will choose to carry out their trades in the cheapest market available. There is certainly no loyalty among investors”. As shown in section 6.2.1 and section 6.3, there is no evidence to suggest that ASX has increased its fees, on average, for either the ASX listed companies or investors in the period after demutualisation.

Another reform option considered by ASX was to demutualise but limit the trading of the members’ shares to an exempt stock market. This would have prevented any conflict of interest arising as a result of ASX being listed on its own market while still fulfilling its role as market supervisor. In support of ASX’s decision, Doonan (1999) concludes that the demutualisation and listing of ASX on its own market is “not incompatible with self-regulation”. The author argues that the move will be successful as long as ASX continues to meet its obligations under the *ASX Act 1997*. There is no evidence to the contrary. In fact, one of the major concerns of the former members who were interviewed was that ASX might offload its supervisory role to a third party.¹⁴³

A problem with exempt markets is that they tend to be illiquid. ASX’s board decided that it would be more beneficial if a liquid and transparent market were formed. Hogan Stokes considered that this would ensure that analysts, institutional investors and the media closely

¹⁴³ For more detailed discussion refer to section 7.2.3.

followed ASX. It would also provide ASX members with the opportunity to obtain the full value of their shares and the most effective method of widening the ownership base.

Consistent with Hogan Stokes' conclusion, no individual or combination of reforms could have overcome, in full, the underlying problems associated with a mutual structure attempting to compete in a competitive market. A stock-based company, on the other hand, has all the necessary characteristics to provide ASX with the appropriate structure to compete on a global basis. In support of this argument, Securities Exchange Commission Chairman, Arthur Levitt, has recently stated "in my judgement, if they (NASDAQ and NYSE) rely on the status quo, they won't be here five years from now".¹⁴⁴

7.2 Limitations to ASX's Model

This monograph has identified some limitations to the model adopted by ASX. Some of the limitations are a direct result of political intervention in the open market. Other limitations are a result of ASX failing to adopt 'good' corporate governance practices. If the shortcomings to ASX's model are not overcome in the near term, there may be a reduction in shareholder wealth. In support of this argument, Felton, Hudnut and van Heeckeren (1996) survey 50 of the largest US institutional investors with a total of US\$840 billion under management. For the purpose of the survey, the authors define 'good' corporate governance as having a clear majority of independent directors who hold significant stock holdings and who are, to a large extent, remunerated in stock. The results show that institutional investors, on average, are willing to pay a 11% premium for companies that have 'good' corporate governance. Felton *et al.* (1996) note "consider the scope and intensity of the effort that would be required to earn a similar increase through measures such as cost cutting and higher productivity".

7.3 Supervisory Concerns

The majority of former members who were interviewed expressed concern that ASX would offload their supervisory role to a third party in search of shareholder wealth. One former member stated "in order for ASX to maximise profitability there is the possibility that management will offload this (supervisory) duty to a third party. More than likely, it would

¹⁴⁴ "NYSE puts float plans on hold until late 2000", *The Australian Financial Review*, 2 November 1999, p. 46.

be ASIC. If this were the case, serious problems would be created. Any disputes would be easily caught up in the bureaucracy of a government agency”.

Interestingly, in an article published in *The Australian Financial Review*, Richard Humphry suggested that ASX was considering options to transfer its investigative, enforcement and surveillance functions to a separate company. He believed that supervision had become an issue when Computershare decided to produce a competing bid for the SFE. Richard Humphry said, “we found ourselves supervising a body that we were competing with”.¹⁴⁵

When questioned about the possibility of ASX offloading its supervisory responsibilities and how the concerns of some of the largest stockbroking organisations in Australia would be alleviated, Maurice Newman responded by stressing the importance of market integrity for ASX as a stock-based company. He said, “integrity of the market is our number one, two and three priority. It is absolutely imperative that we maintain the integrity of the market. We will not offload any part of our supervisory functions that jeopardises the integrity of the market. We believe that it is a competitive edge that we hold over our rivals. While I won’t rule out the possibility of ASX delegating some of its supervisory role to another entity, I will assure you that we will do everything in our powers to retain our role as market supervisors”.

7.4 Future direction of ASX

Securities markets will continue to transform. While it is not possible to predict the future with any degree of certainty, there is no doubt that ASX will have to deal with continual change within the coming years. In interviews held with former members and current directors of ASX, some interesting views were expressed about the future direction of ASX and the world equity markets.

One view expressed involves the emergence of ‘super’ regional exchanges through the merger of different national exchanges within the same time zones. This would lead to a situation where there were perhaps three major markets – European, Asia-Pacific and North America. This scenario has become even more likely with the introduction of a common currency in Europe. One former member said, “there may be a two or three major markets. Given the time zones, I imagine that they would be London and the US. This may lead to a

¹⁴⁵ “ASX muses on separate watchdog”, *The Australian Financial Review*, 30 August, p. 19.

situation where Australia's top-50 stocks may be 'cherry picked' with ASX taking the role of a regional exchange for small to medium sized companies". A similar point of view is held Frank Zarb, CEO of NASDAQ. He has been quoted in saying "the world is not likely to move to a consolidated market, but rather a collection of markets, some strictly domestic, others – like NASDAQ and other bigger players – more global in reach".¹⁴⁶

Maurice Newman put forward some slightly different scenarios. He stated "in my opinion, the number of exchanges will continue to decrease. I could imagine a situation where in the future there are ten major exchanges. Perhaps there will be one major exchange which would trade Australia's top-50 companies with ASX serving more as a regional exchange".

However, some former members had more extreme views about the future role of ASX in the world equity markets. One commented "the world is evolving so quickly that ASX's may not even exist in the future". Another former member stated "potentially, the world's equity markets could end up in the same form as the currency markets – in the dealing rooms of the major investment banks".

Another plausible alternative is that exchanges will continue forming alliances and trading systems that each offer the trading of securities from a variety of countries. In this regard, ASX has already negotiated memorandums of understanding with the stock exchanges in Thailand, Korea, Malaysia, Taiwan, Indonesia and Philippines. ASX has also established an alliance with NASDAQ, NYSE, AMEX and SGX which allows cross border trading between alliance markets. Perhaps exchanges will start buying strategic stakes in the exchanges with which they have formed alliances. For example, the SSE is the largest shareholder in the Helsinki Stock Exchange with 15% ownership.¹⁴⁷ This initiative is part of the SSE's strategy to establish a common Nordic securities market in 2000.¹⁴⁸ It should be noted that the increase in shareholding limits now facilitates international exchanges buying a strategic stake in ASX, consistent with our predictions.

¹⁴⁶ "Charting the future of competition, regulations and technology in the securities business", Address by Frank Zarb, Chairman of National Association of Securities Dealers at Pace University 4th Annual Securities Industry Conference, 25 September 1997.

¹⁴⁷ Helsinki Stock Exchange Annual Report (1998).

¹⁴⁸ SSE has also signed an agreement with the Copenhagen Stock Exchange which will provide the basis for the establishment of a common Nordic securities market.

There is no doubt that world equity markets will continue to evolve. Technology is changing the way business is done and the types of products offered by stock exchanges. For ASX this may involve initiatives such as the introduction of 20 hour trading and/or the establishment of a partnership with a world wide trading network. The changes that confront ASX provide both threats and opportunities. Threats from the perspective that easier access to international markets afforded by on-line technology may divert investors to overseas markets. Yet, at the same time, opportunities will arise for ASX to attract more overseas investors and listed companies by maintaining internationally competitive transaction costs, a high level of market integrity and market efficiency.

Rob Thomas has observed that “if ASX became less competitive either due to a decline in liquidity or increases in trading costs both investors and ASX listed companies could go elsewhere as electronic markets develop”.

Pulatkonak and Sofianos (1999) report that the relative transaction costs are an important factor in determining the division of trading volume between the NYSE and a home market for those companies that are co-listed. Based on data collected for 254 NYSE listed non-US stocks from 48 different countries, the authors conclude that a ten basis point increase in home market trading costs, all else being equal, increases the NYSE’s market share by nine basis points.¹⁴⁹ Aitken and Swan (1995) also noted in their discussion of the impact of stamp duty that transaction costs are an important consideration when investors are deciding on which stock exchange to trade.

International trading cost comparisons are not undertaken in this study as comparisons can be misleading due to fundamental differences in the organization of equity markets (i.e., dealer versus order driven markets). Instead, we examine if demutualisation has influenced the fee that the stockbrokers are charged for using ASX’s services.¹⁵⁰ Based on Aitken and Swan’s (1995) methodology, trading and settlement revenue as a percentage of the value of securities traded is used to measure the cost of trading on ASX’s market [refer to Table B3]. While ASX’s charges have fluctuated in recent years from 0.019% in 1997, to 0.025% in 2000, and then 0.02% in the year ended June 2001, the charges have remained relatively constant when compared against the entire sample period (1991-2001). When we use trading and settlement

¹⁴⁹ The analysis was based on data from the 1996 trading year.

revenue per trade as an alternative measure of trading costs, [refer to table B4] we observe that trading costs have decreased marginally since 1997. However again we must recognize that trading costs have remained relatively stable over the entire period examined.”

The stabilization of trading revenues per equity trade in 1999 and subsequent decrease in the following two periods may at first glance be surprising, however these observations must be viewed in the context of recent amendments which ASX has made to order charges. Specifically, ASX increased the variable trading costs for large orders at the beginning of the 1999 financial year to \$0.19 per order and 0.002% of the value of trade capped at \$750,000.¹⁵¹ Then in July 2000, ASX introduced volume linked price reductions. It is assumed that even absent official volume discounts revenue per trade will diminish to a certain extent with corresponding increases volumes. For this reason, the increase in trading costs implemented by ASX in 1999 may have been dampened by trading cost reductions associated with the abnormally higher volumes observed (32% increase in trades), resulting in similar trading revenue per trade being accrued by ASX in 1998 and 1999 financial years. However, the volume discounts introduced in the following periods had the effect of actually reducing revenue received per trade thereby explaining the decade’s lowest ever levels of revenue per equity trade in 2000 and 2001. [See table B4]

A conceptual examination of the initial listing decision is provided by Foucault and Parlour (1999). The authors develop a model where there are two exchanges that compete for the listing of companies based on listing fees and trading costs. Their results suggest that large initial public offerings (‘IPOs’) will list on the exchange with the lower trading costs and higher listing fees. Conversely, the smaller companies will list on the exchange with lower listing fees and higher trading costs.

Corwin and Harris (1999) empirically test the model provided by Foucault and Parlour (1999). They examine a sample of 590 IPOs in an attempt to ascertain the reasons for the initial listing decision. The sample consists of companies that either listed on the NYSE or met the NYSE’s minimum listing requirements and decided to list on NASDAQ. The fact that 43% of the sample continued to list on NASDAQ implies that the costs and benefits of

¹⁵⁰ These fees are generally not observable by investors as they are reflected in brokerage charges.

listing on a particular exchange vary across companies. The authors estimate a probit model for the initial listing decision to identify the relative importance of potential listing decision criteria.¹⁵² The positive coefficient on the company size variable is consistent with Foucault and Parlour's (1999) model. Larger companies will list on the market that has lower execution costs and higher listing fees. However, the results also indicate that there are other criteria that are considered by a company when deciding on which exchange to list. For example, the authors find companies tend to list on the exchange where their industry peers are listed.

Post-demutualisation, ASX has instigated two major initiatives to respond to the rapid globalisation of securities markets. The first involves the development of international alliances with US and Singapore markets. The 'ASX World Link' initiative differs for each link:

a)The US alliance is a *one-way* link which enables Australian investors to trade, settle and hold a selection of securities and ETFs traded on NASDAQ, NYSE and AMEX. The scheme effectively allows investors to trade US securities in a manner which gives them the same appearance as securities listed on ASX.

b)The Singapore alliance is a *reciprocal* trading link allows companies to raise capital, either in the form of an IPO or add-on offering, in both markets. This reduces the need for Australian companies to seek a co-listing in Singapore. Orders are routed to the most liquid market for any security, thus maintaining the sovereignty of each market while facilitating order flow between the markets. ASX has plans to replicate this model to establish linkages with other markets.

The second strategic initiative was the launch of a platform for listing and trading exchange traded funds (ETFs). This initiative is in conjunction with the development of the Listed Investment Fund Exchange (LIFE) which allows trading of managed funds just like securities. In addition to allowing investors to diversify their portfolios, ASX believes this trading platform will complement its ASX World Link program and benefit ASX listed

¹⁵¹ Prior to the adjustments, ASX charged \$0.19 per order and 0.002% of the value of the trade capped at \$100,000. This means that for a trade greater than \$750,000, the variable trading costs are seven times higher than during the period prior to 1 July 1998.

¹⁵² The explanatory variables include the log of market value, NYSE industry market share, aftermarket standard deviation, market to book, scaled off-season offer proceeds, company age, and dummy variables identifying the technology companies, venture backed IPOs, reverse leverage buy outs and carveouts.

entities by providing an easy mechanism for overseas investors to gain exposure to ASX's market.¹⁵³

Both ASX and the former members interviewed considered that the Internet and development of other technology could threaten the viability of ASX in the future. It was thought that on-line services would stimulate and facilitate an interest in international stocks. The Members' Information Package states that "the impact of technology on the information driven financial industry has unarguably led to immediate access to data and almost instantaneous transaction capabilities". The development of the Internet has meant that it is now possible to trade companies listed on exchanges throughout the world at low cost. For example, it is possible to trade shares listed on NASDAQ for a \$20 flat fee (excluding brokerage).¹⁵⁴ All the current directors and former members interviewed unanimously supported the view that investors will invest in other markets if ASX become less competitive.

In January 2000, analysts estimated that there were 242 million Internet user worldwide and some analysts expect that there will be over one billion users by 2005.¹⁵⁵ More importantly, on-line trading volume has surged. In the US, 25-30% of retail trades were made over the Internet during 1998. In the first six months of the same year, the number of active on-line accounts increased from three million to six million. By the end 2002, Deutsche Bank Securities estimate 51% of stock trading to be online. Currently there are 18 million online which are expected to balloon to 28.7 million by 2003. World developments in Internet use have certainly been observed in Australia with the rate of growth of online accounts being between 1-2% a day [Semaan 1999].

In addition, Weil (1998) believes there is the potential for exchanges to adopt an Internet-based market system that would make their market even more accessible to market participants. The author states that NASDAQ is planning to move to an Internet-based market linking investors to a wide range of exchanges and trading systems. The Managing Director of ASX, Richard Humphry, has been quoted as saying "the Internet is not only a potential threat, it is alive with possibilities, many of which we can't yet foresee".¹⁵⁶

¹⁵³ ASX Annual Report 2001

¹⁵⁴ "Brokers, financiers attack ASX's corporate plan", *The Australian Financial Review*, 27 August 1997, p. 1.

¹⁵⁵ House of Representatives, Main Committee, *Official Hansard*, 27 November 1997, p. 11,555.

Thus far, the ASX World Link and ETF trading platform initiatives are the only ventures that have been put forward by ASX to overcome the continual danger that the Internet poses to the Australian market. As mentioned earlier, cross-border alliances will allow both investors and ASX listed companies to have access to foreign markets via SEATS. In support of this agreement, one ASX director said, “I believe that the agreement (cross border trading) will provide numerous benefits to ASX some of which may be unforeseen.”

In the United States, alternative trading systems, (‘ATS’)¹⁵⁷ have secured an appreciable share in the market by enabling cost-effective, order driven, electronic screen trading which circumvents the usual intermediaries and avoids high spreads in some established markets.

By October 28 1999, 47 private companies in the US had started to offer these services. Most of the operators are formally regulated as stockbrokers. These included Instinet (owned by Reuters), POSIT (owned by ITG) and Lattice Trading (owned by State Street). The Arizona Stock Exchange and Tradepoint are formally classified by their respective regulators as an exchange. However, they basically operate in an identical manner. These proprietary systems have steadily increased their market share from 12% in the first quarter of 1998 to 29% of the trading volume on the NASDAQ in June 2001 [Degryse et al 2001]. The systems have also gained a 4% market share of the NYSE trading volume [Dornau 1999].

In a domestic setting ATS have had a minimal impact on ASX, only accounting for less than 2% of ASX trading volume.¹⁵⁸ At the moment, there are only two ATS currently operating – POSIT and Instinet. In 1996, when the members were asked to vote on the demutualisation of ASX, it was realised that one of the reasons why ATS have had a substantial impact in the US equity markets is that they introduced an electronic order book into a dealer based market structure. Based on this, it was considered unlikely that ATS would gain a market share in Australia similar to the US markets. As John McIntosh¹⁵⁹ noted “ASX is basically one big electronic communication network (‘ECN’)”. Due to the market structure in Australia, ASX expects that any proprietary network will work in conjunction with the national exchange rather than in competition.

¹⁵⁶ “Brokers, financiers attack ASX’s corporate plan”, *The Australian Financial Review*, 27 August 1997, p. 1.

¹⁵⁷ The term “alternative trading systems” encompasses proprietary trading systems, broker-dealer systems, order management systems and electronic communication networks.

¹⁵⁸ Semaan (1999).

¹⁵⁹ John McIntosh was former Chairman of McIntosh Securities (now Merrill Lynch) and a former member of ASX.

In 1999, ASX attempted to counter any threat posed by alternative trading systems by proposing a trading facility, BLOX, which was intended to deliver lower block trading costs and increased block trading efficiency, and at the same time, complement and enhance liquidity on SEATS, ASX's central order book. Despite Maurice Newman stating that the initiative was necessary in order to counter the threats of ECN's, BLOX was not implemented due to failed regulatory approval.

Despite BLOX failing to be implemented, there is indirect evidence to suggest that the ATS may not develop at the rate expected by many commentators. Modigliani and Perotti (1998) believe that an "unreliable enforcement regime" results in investors' rights being poorly protected. This reduces the ability of companies to raise equity capital. They state that "unreliable legal enforcement ultimately wears out the thread of public confidence in the legal process and destroys the necessary sphere of contractual autonomy of the private sector". The authors argue that the recent experience of many companies from less developed countries deciding to list in either the US or UK supports this claim. Through the *Corporations Law* and listing rules, ASX is able to facilitate informed and transparent trading. By maintaining the confidence of investors and companies ASX may be able to survive the threat from alternative systems - although it may be with reduced economic rent.

The CHESSE system provides virtually all the clearing and settlement for ASX quoted securities. At the time of demutualisation, ASX Settlement and Transfer Corporation ('ASTC')¹⁶⁰ was the only approved securities clearing house under the *Corporations Law*.¹⁶¹ However, Hogan Stokes identified that ASX may be confronted with competition in the future from organisations that specialise in clearing and settlement.

Consistent with Hogan Stokes prediction, on 5 August 1998 the Australian Competition and Consumers Commission ('ACCC') authorised the ASTC and ASX to change their Business Rules to explicitly permit stockbrokers to use alternative clearing and settlement procedures. At the same time, the ACCC gave authorisation for the ASTC to operate on a commercial

¹⁶⁰ The ASTC is a wholly owned subsidiary of ASX.

¹⁶¹ The *Corporations Law* does not prohibit a person or organisation from conducting a securities clearing house without approval. However, if the clearing house does not have approval it will not be able to take advantage of benefits provided by the government including the National Guarantee Fund.

basis which would allow the company to transfer any profits to ASX. However, at this stage it is unclear whether competition will arise in this area of ASX's business in the near term. While the company's behaviour is restricted by the *Trade Practices Act 1975*, at this stage it is still able to exhibit monopoly power.

In the derivatives market, there are two clearing organisations – one is operated by ASX and the other by the SFE. For underlying financial instruments, each of the clearing organisations has specialised in a particular segment of the market. Austraclear Limited ('Austraclear') provides clearing and settlement services for Australian fixed interest and money markets and the Reserve Bank Information and Transfer System specialises in Commonwealth government securities. In June 1999, ASX bought a 13% stake in Austraclear.¹⁶² However, it is uncertain whether other companies will attempt to compete with the current clearing organisations or whether rationalisation will become prevalent.

Based on the theoretical, empirical and anecdotal evidence provided from the insurance, banking and financial services industries it is predicted that ASX will have encountered rising levels of competition in the years prior to demutualisation. If this is the case, it is likely that management will have endorsed the change in structure in order to remain competitive. Past literature recognises that a mutual structure is limited in methods it can adopt to remain competitive. This is not to say that all mutual structures need to convert to a stock-based company if competition arises. However, it is clear that there is a greater chance of survival.

For many years, the mutual structure provided an appropriate governance mechanism, which allowed ASX to operate efficiently. In 1996, ASX gained international recognition for its efficiency rating in the top three exchanges in the area of operational risk, settlement performance and value for money assessed by Global Securities Consulting Service (UK).¹⁶³ Furthermore, ASX between 1991 and 1995 achieved overall reductions in its fees to the users of the exchange.¹⁶⁴ By June 1998, ASX had created a balance sheet with net assets totalling \$174 million. This included \$169 million of cash and trading securities.¹⁶⁵

¹⁶² ASX Press Release – 1 June 1999.

¹⁶³ House of Representatives, Main Committee, *Official Hansard*, 27 November 1997, p. 11,555.

¹⁶⁴ Hogan Stokes Pty Limited (1996), "Report on future governance of the Australian Stock Exchange".

¹⁶⁵ Australian Stock Exchange Annual Report (1998).

Interestingly, ASX has launched two new index option contracts to counter the threat of the SFE drawing custom away. One of the index contracts is in the form of a low exercise price option and, hence, will directly compete with the SFE's share price index ('SPI') futures contract. Both new derivative products are aimed towards the retail investors.¹⁶⁶ ASX has also established an interest rate market that is accessible to both institutional and retail investors.¹⁶⁷ There are four different classes of securities: Commonwealth government securities, semi-government securities, corporate bonds and other debt securities. In ASX's 1999 Annual Report, it is stated that one of the reasons for the establishment of the interest rate market is to exploit the growing interest that "large AAA-rated international borrowers have shown in 'kangaroo bonds'¹⁶⁸ ... that are currently traded over the counter". At the same time, this initiative will give retail investors "a convenient and economical way to diversify into liquid fixed-interest securities".¹⁶⁹

7.5 Future Direction of the Stockbroking Industry

The role of stockbrokers is changing rapidly. The Internet revolution, technological changes and demutualisation of stock exchanges have all contributed to the transformation of the stockbroking industry. Deutsche Bank Securities estimate that by the end of 2002, 51% of all stock trading will be online. Moreover, Semaan (1999) predicts that up to 80% of trading in Australia and the US will be done via internet by 2004. The transition from the traditional stockbroker to on-line services has heightened competition and reduced margins for trade related brokerage services.¹⁷⁰

All former members who were interviewed stated that transaction revenues (e.g., commissions) and assets driven revenues (e.g., funds management and custody) are becoming highly commoditised. Each former member predicted that the successful stockbroking organisations in Australia would follow a similar model to Charles Schwab & Co.¹⁷¹ Not only would stockbroking organisations offer services and advice in connection with equities but also banking, insurance, superannuation, and debt instruments through multiple channels (i.e.,

¹⁶⁶ "ASX makes new tilt at derivatives", *The Australian*, 8 November 1999, p. 41.

¹⁶⁷ ASX Press Release – 1 June 1999.

¹⁶⁸ 'Kangaroo bonds' refer to Australian dollar borrowings in parcels greater than \$500,000.

¹⁶⁹ Australian Stock Exchange Annual Report (1999).

¹⁷⁰ For example, Green Line has lowered its standard on-line brokerage rate to \$28 per trade in response to changes made by other Internet stockbrokers. New entrant Tradewise is charging \$24.95 per trade. Other cheap stockbrokers include Commonwealth Securities which charges \$29 for a basic trade and Sanford \$28.95. Etrade recently dropped its lead rate from \$49.50 to \$39.50.

¹⁷¹ Charles Schwab & Co serves 6.1 million active accounts with US\$564 billion in customer assets. Almost 50% of the customers have active Internet accounts. The company provides full service investment services

traditional and on-line). In Japan, casualty insurers and discount travel agencies are investigating the possibility of adding on-line stockbroking to their business. For example, insurer Tokio Marine & Fire is in the process of establishing an agreement with Charles Schwab and Co.¹⁷²

The same former members also expect that stockbrokers will soon be paid based on the level of funds under management rather than on the number of transactions undertaken. One of the leading stockbroking organisations in the US, Merrill Lynch, has already adopted this approach. For an annual fee, a client can receive financial advice and the ability to trade on-line. This new style of account has attracted between US\$1 billion and US\$1.5 billion per week.¹⁷³ Approximately 20% of the money is new to the company with the remaining 80% being transferred from other Merrill Lynch accounts.

One former member had a more extreme view. He predicted that in the future, execution of trades would be undertaken free of charge in an attempt to gain greater order flow. In support, American Express already offers free on-line execution of trades to customers with more than US\$100,000 in their brokerage account. Similarly, another on-line stockbroking organisation, Web Street, offers free on-line trades in companies listed on NASDAQ for any order greater than 1,000 shares.¹⁷⁴

In a report commissioned by the SEHK, Weil (1998) states several trends will combine to reinforce the changes that are transpiring in the stockbroking industry. The author emphasises the continued penetration of personal computers throughout the world and that concerns about the security and reliability of on-line services will prove to be unfounded. He also believes that the convergence of telecommunications, cable and satellite television and intense competition will drive down the cost of on-line access.

However, there is empirical evidence to suggest that the volume of on-line trading may not increase at a rate expected by many commentators. Barber and Odean (1999) examine the changes in stock trading behaviour and trading performance of a sample of 1,607 investors

through the Internet, over 300 branches, speech recognition, touch phone technologies, multilingual and international technologies and direct access to professionals 24 hours a day.

¹⁷² "On-line trading surge rattles Japanese brokers", *The Australian*, 4 October 1999, p. 30.

¹⁷³ "Merrill Lynch reaps the benefits of on-line charge", *The Sydney Morning Herald*, 29 September 1999, p. 26.

¹⁷⁴ "Free trading spells end of party for Net brokers", *The Sydney Morning Herald*, 20 November 1999, p. 104.

who switch from phone-based trading to on-line trading during the period of 1991 to 1996. Using a control sample of 1,607 investors who do not trade on-line,¹⁷⁵ the authors find that investors who switch to on-line trading are more active and undertake more risks. More importantly, those who switch to on-line trading perform poorly. Prior to switching to on-line trading the sample of investors, on average, outperform the market by 2.4% annually and the matched pair group by 1.7% annually.¹⁷⁶ In the years after the change to on-line trading the sample of investors experiences a decline in performance both relative to the market (-4%) and the control group (-1.6%). It is argued that these results are due to overconfidence that is enhanced by self-attribution bias, the illusion of knowledge and the illusion of control.

There are other instances of how technology may affect the way stockbroking will be conducted in Australia in the future. For example, in Singapore retail investors have the ability to trade shares, transfer funds, apply for initial public offerings and check their share allotments via a bank's automated teller machine. Another example is the new wireless investment services produced by Reuters. It provides wireless access to real time quotes, company fundamentals, market alerts, charts (both historical and intraday) and news headlines [Weil (1998)]. How will the stockbroking organisations react to such changes? Rob Thomas stated that many stockbroking organisations would follow the US and establish formal partnerships with a number of different market participants. He said that the institutional banks will have an active interest in discount stockbroking, Internet and technology companies and other alternative trading systems such as POSIT and Insitnet. These arrangements would allow companies to cope more easily with 24-hour trading and take advantage of further advances in technology.

The question arises – what role has demutualisation had in the changing nature of the stockbroking industry? Many of the former members believe that change in the industry has been partly a result of the demutualisation process and partly due to technological advancements and globalisation of world markets. As one former member said, “it was a bit of a wake up call for most of the stockbroking organisations. In the past, ASX subsidised its services for the benefit of its (corporate) members. However, as a for-profit organisation

¹⁷⁵ Using the matched pair design, each on-line investor is matched to an investor that has a market value of common stock positions closest to that of the on-line investor. The size matching is carried out in the month prior to the on-line investor's first on-line trade. The matching investor is selected from 78,000 investors with brokerage accounts at a large discount stockbroking organisation.

¹⁷⁶ All performance related results are reported net of transaction costs.

ASX's priority is to improve shareholder wealth. This will mean that proposals will only be implemented if they benefit ASX as a business". Under the mutual structure, members were able to resist innovations that would reduce their own profitability. As one ASX director stated "the members did not like change. They usually felt that change would mean that they would have to outlay some capital".

Over the last three years, the ASX have announced a number of initiatives that may affect the direction and/or the profitability of stockbroking organizations. In particular, the broadening of the range of products and services offered, and the introduction of third party clearing will have profound implications on stockbroking organizations."

In May 1999, changes to the rules of ASX and Securities Clearing House ('SCH') were introduced to separate the trading and settlement functions. As a result of the changes, stock market participants will now have a number of choices. They will provide the full range of services including trading, settlement and clearing or offer specialised services in either execution or clearing. It is proposed that qualified corporations or individuals will be able to bypass stockbrokers and transact directly in the market.¹⁷⁷

Smith (1999) postulates that the introduction of third party clearing will increase the number of stockbroking organisations and specialist companies. He states that investors will benefit from lower dealing costs and a wider range of products. The author also believes that this initiative will make the Australian market more attractive for market participants to enter. For example, a stockbroking organisation will no longer be required to maintain capital for the purpose of clearing and counter-party risk.¹⁷⁸ In addition, clearing companies are likely to have an information technology background that would not have normally been described as a stockbroking organisation. Smith argues that this boost to the market should increase turnover and liquidity. From the industry perspective, it is expected that the smaller organisations will attempt to gain a niche market in a specific financial product. It is unlikely that the smaller companies will be able to offer all services – trading, clearing and settlement. The author argues that any stockbroking organisation that is slow to react to the changes may encounter serious financial difficulties.

¹⁷⁷ "Demutualising the Australian Stock Exchange", Address by Richard Humphry to Australian Corporate Lawyers Association and City of Sydney Law Society, 14 May 1999.

Interestingly, the demutualisation of the SSE may have affected the profitability of local stockbroking organisations in Sweden. Following the change in organisational structure, the exchange was able to introduce initiatives such as direct electronic entry for institutional investors and remote cross-border access. The local members were unable to block the proposal as they no longer had a controlling interest [Domowitz and Steil (1998)]. Anecdotal evidence suggests that the Swedish stockbroking organisations suffered from the entry of the remote cross-border stockbroking organisations. In 1999, 20 out of the total of 53 stockbroking companies in Sweden were remote members of the SSE. Between 1995 and 1998 the remote members gained a 12.1% market share of turnover. At the same time, the local Swedish stockbrokers market share declined from 66.8% to 53.9%.¹⁷⁹

8.0 Conclusion

8.1 Summary of Main Findings

The 1990s have been characterised by technological advances, the Internet revolution and improved capital mobility. Each of these factors has made a significant contribution to the globalisation of the world's equity markets. Consequently, exchanges are now forced to compete against each other for trading volume and company listings. In response to the changes, the members of ASX ratified a special resolution on 18 October 1996 that allowed ASX to change from a mutual organisation to a stock-based company. On 14 October 1998, ASX became the first stock exchange in the world to list on its own market.

This study uses a unique data source to investigate the reasons for and economic consequences of the demutualisation process. The data source includes ten interviews with individuals involved in the demutualisation process. The interviewees included current and former ASX directors, management and former members. These interviews were supplemented by extensive access to a range of ASX documents and reports.

The results suggest that ASX's reasons for the demutualisation are consistent with prior research on the insurance and banking industries. One of the major reasons identified for the change was the increasing level of international competition. If ASX had remained as a mutual structure, it was believed that ASX would have been unable to respond appropriately

¹⁷⁸ This is over and above the \$100,000 liquid capital that stockbroking organisations need to maintain to cover themselves against operational risk under ASX Business Rule 1A.

to changes in its business environment. However, at this point there is no evidence to indicate that the increasing levels of competition have impacted on ASX's profitability.

The other major reason for the decision to demutualise was the inefficiencies that resulted from the collective decision making process. This problem was exacerbated by the divergence of interests among the members. Since demutualisation, there is some evidence to suggest that ASX has improved its efficiency relative to other international exchanges in the Asia-Pacific. This result is consistent with the agency perspective. This theory suggests that an organisation will change its structure when there are economic efficiency gains to be made.

With regard to corporate governance mechanisms, prior literature provides some guidance as to what mechanisms companies need to establish in order to help maximise shareholder wealth. This study provides strong evidence to suggest that corporate governance mechanisms adapt in ways predicted by the prior literature as a result of changes in organisational structure. However, there is no support for Williamson's (1983) substitution hypothesis. It should also be noted that the changes tend to occur gradually. This was particularly evident for ASX's board composition and board size. This implies that abrupt changes to corporate governance mechanisms are costly to implement. Consistent with this argument, an interview with Maurice Newman revealed "you need to remember that corporate governance mechanisms can't adapt immediately. It takes time to change from one organisational structure to another. Attitudes and culture – it all takes time".

While changes in board composition and board size did not occur until the actual conversion to a stock-based company, an analysis of managerial remuneration indicated that changes occurred much earlier. In the case of executive and managing director remuneration packages, changes actually occurred in the year prior to the decision to demutualise. One interpretation of this result is that mutuals adopt some characteristics of a stock-based company in an attempt to improve their competitiveness and reduce inefficiencies. If this fails, management will then seek to change the organisational structure.

¹⁷⁹ Stockholm Stock Exchange Fact Book (1999).

If ASX is going to provide the ‘demutualisation model’ for other stock exchanges to follow, ASX needs to improve some areas of its corporate governance practices. Specifically, ASX should increase the proportion of its independent directors to above 50%, appoint an independent director as chairman of the nomination committee, link non-executive remuneration with shareholder wealth, and possibly even lobby the government to remove the share ownership limit. In doing so, ASX may create further shareholder wealth and also become a ‘role model’ for other ASX listed companies.

8.2 Directions for Future Research

Several aspects of this study could be developed in future research. Certain results cited in this study are limited due to the short time frame post-demutualisation. A longer time frame would allow for a more comprehensive examination of the effects of the demutualisation on ASX as a business and its stakeholders. While there is some evidence to suggest that ASX has benefited from an improvement in its efficiency, it is not possible to provide conclusive results using the specified time period. The efficiency section could also be improved by including a larger number of international exchanges in the control sample. It is also slightly premature to measure the changes in market efficiency. At this stage, ASX has announced a number of new initiatives which might impact on the market efficiency measures. However, the majority of these initiatives are not being implemented until the next calendar year.

A longer sample period would also allow for a more thorough investigation of ASX’s corporate governance mechanisms. In particular, it would improve the empirical analysis on the pay to performance sensitivity of executives and the Managing Director. Furthermore, this investigation would be enhanced if it were possible to identify the exact amount of the one-off retirement and termination payments. In addition, this study provides evidence to suggest that rapid implementation of new corporate governance mechanisms after a change in organisational structure may prove costly. However, it fails to identify the magnitude or determinants of these costs. This remains an area for future research.

Another potential area for future research is the examination of the impact on shareholder wealth of political interference in the open market. This is an important research question which has not been tested in this study. This is particularly relevant for ASX as it may help ASX management determine the effect of the recent increase in voting power limits and

further identify whether ASX should lobby the government for the complete removal of any limitation.

Finally, if (as expected) a large number of stock exchanges do choose to demutualise, this may create an opportunity to analyse the reasons for and economic consequences of the demutualisation process at an empirical level. Only at this point will it be possible to provide conclusive evidence as to whether or not changing from a mutual organisation to a stock-based company will benefit stock exchanges and their stakeholders.

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Appendix A

Historical Perspective

Table A1 Membership Composition

	Natural Persons	Organisations	Total
Total – 1 April 1987	627	66	693
Admissions	97	69	166
Cessations	202	37	239
Total – 5 July 1996	522	98	620

Table A2 Time Line of Demutualisation Process

Date	Event Description
31 July 1993	ASX's board rejected proposal of floating the exchange.
July 1995	ASX's board decided to re-examine the governance structure. It established a Governance Task Force and Reference Panel to outline the issues and options available. At the same time, the board appointed Hogan Stokes as external consultant.
July 1996	Hogan Stokes' report was completed.
24 September 1996	ASX distributed the Members' Information Package to the members.
18 October 1996	Members voted on a special resolution that sought to alter the Articles of Association. As a result of the vote, Article 83 was inserted giving the board a mandate to approach the government to change the legislation and allow ASX to convert to a stock-based company.
6 August 1997	<i>Corporations Law (ASX) Amendments Bill</i> was released for public comment.
September 1997	An explanatory package concerning the new Articles and Rules of ASX were distributed to the members.
27 November 1997	<i>Corporations Law (ASX) Amendments Bill</i> was approved by parliament.
16 December 1997	Amendments to the <i>Corporations Law (ASX Act 1997)</i> were given the royal assent and came into effect.
28 August 1998	Information Memorandum was distributed.
13 October 1998	ASX demutualised.
14 October 1998	ASX listed on its own market for trading.

Appendix B

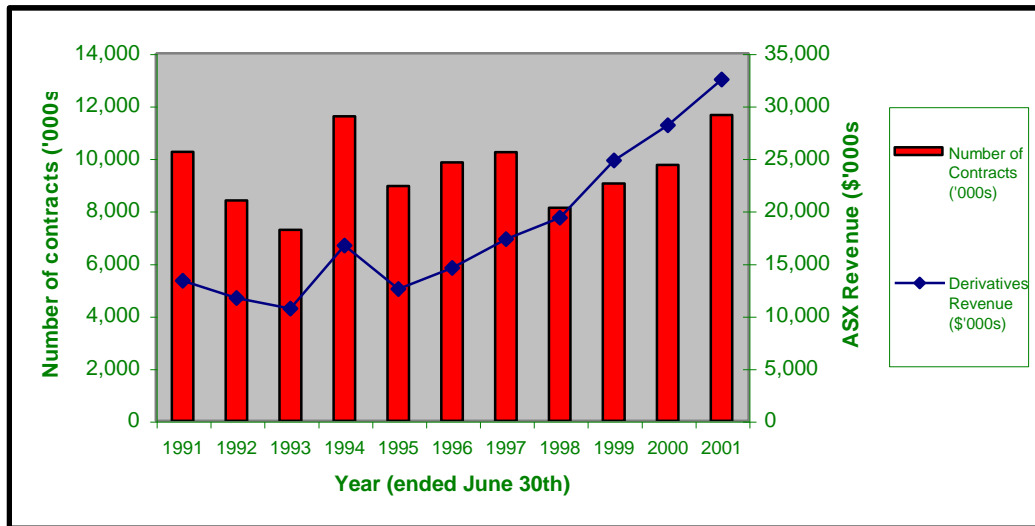
Reasons for and Outcomes of Demutualisation of ASX

Domestic Competition

Table B1 Derivatives Trading and Revenue

Year	Number of Derivatives Contracts Traded (‘000)	Revenue (\$‘000)
1991	10,250	13,332
1992	8,390	11,691
1993	7,270	10,698
1994	11,600	16,681
1995	8,940	12,535
1996	9,850	14,570
1997	10,240	17,312
1998	8,110	19,344
1999	9,043	24,800
2000	9,750	28,159
2001	11,649	32,500

Figure B1 Graphical Analysis of Derivatives Trading and Revenue



International Competition

Table B2 Trading in ASX Listed Companies on Overseas Exchanges

Panel A
(\$'000,000)

<i>Years Ending 31 December</i>	1992	1993	1994	1995	1996	1997	1998	1999(f)	2000	2001
NASDAQ ¹	39	277	414	399	1,573	1,773	1,550	1,000		
NYSE (News Corp) ²	3,500	5,964	3,343	7,354	6,503	8,913	14,500	15,300		
NYSE (Other) ³	500	726	1,109	863	1,002	2,342	1,700	1,700		
LSE ⁴	3,500	5,018	4,284	4,415	4,299	7,497	5,310	4,000		
NZSE ⁵	224	337	230	180	251	590	3,650	3,000		
	7,763	12,322	9,380	13,211	13,628	21,115	26,710	25,000		
Other Exchanges ⁶	500	500	500	500	500	500	500	500		
OTC ⁷	2,000	3,000	3,000	3,000	3,500	4,000	4,000	4,500		
Overseas Turnover	10,263	15,822	12,880	16,711	17,628	25,615	31,210	30,000		
ASX Turnover ⁸	62,248	99,553	129,386	132,795	184,806	229,498	256,471	300,000		
Total Turnover	72,511	115,375	142,266	149,506	202,434	255,113	287,681	330,000		

¹ The 1999 forecast is based on available data received to June 1999. No allowance has been made for new listings of ASX listed Internet stocks in late 1999. All figures have been adjusted for 50% double counting.

² The 1992 amount is an estimate that was provided by ASX. The 1999 forecast is based on data received to August 1999.

³ The 1992 amount is an estimate that was provided by ASX. The 1999 forecast is based on data received to August 1999. No allowance has been made for the new listings of ASX listed Internet stocks in late 1999.

⁴ The 1992 amount is an estimate that was provided by ASX. The 1999 forecast is based on data received to September 1999. All figures have been adjusted for 100% double counting.

⁵ The 1999 forecast is based on data received to September 1999.

⁶ All figures are estimates provided by ASX.

⁷ All figures are estimates provided by ASX.

⁸ ASX turnover excludes warrant trading.

Panel B

<i>Years Ending 31 December</i>	1992	1993	1994	1995	1996	1997	1998	1999(f)
Overseas Turnover as a % of ASX Turnover	16.5	15.9	10.0	12.6	9.5	11.2	12.2	10.0
Overseas Turnover as a % of Total Turnover	14.2	13.7	9.1	11.2	8.7	10.0	10.8	9.1
% ASX Turnover with International Code ¹	4.5	4.0	3.5	3.7	2.2	2.1	1.4	1.3

¹ This refers to the percentage of trades on ASX that have an overseas condition code. This means that a small percentage of trades are recorded by both ASX and an international exchange. No adjustments have been made to Panel A of Table B2 to take this into account.

Table B3 ASX Trading Revenue as a Percentage of the Value of Shares Traded

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Trading and Settlement (\$'000,000)	14.803	18.043	18.786	28.699	25.905	33.084	40.117	49.674	65.281	90.7	84.4
Value of Trading (\$'000,000)	54,507	63,054	72,691	128,393	117,973	158,802	211,318	243,146	281,890	361,506	417,600
Trading Costs (%)	0.02716	0.02862	0.02584	0.02235	0.02196	0.02083	0.01898	0.02043	0.02316	0.0251	0.0202

Table B4 ASX Trading Revenue per Equity Trade

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Trading and Settlement (\$'000,000)	14.803	18.043	18.786	28.699	25.905	33.084	40.117	49.674	65.281	90.7	84.4
Number of Trades ('000,000)	1.5310	1.9260	1.3150	3.9370	3.0430	3.9740	5.2750	6.3110	8.2940	13.85	12.95
Trading Costs (\$)	9.67	9.37	14.29	7.29	8.51	8.33	7.61	7.87	7.87	6.55	6.52

Graphical Analysis of International Competition

Figure B2 Trading in ASX Listed Companies on Overseas Exchanges

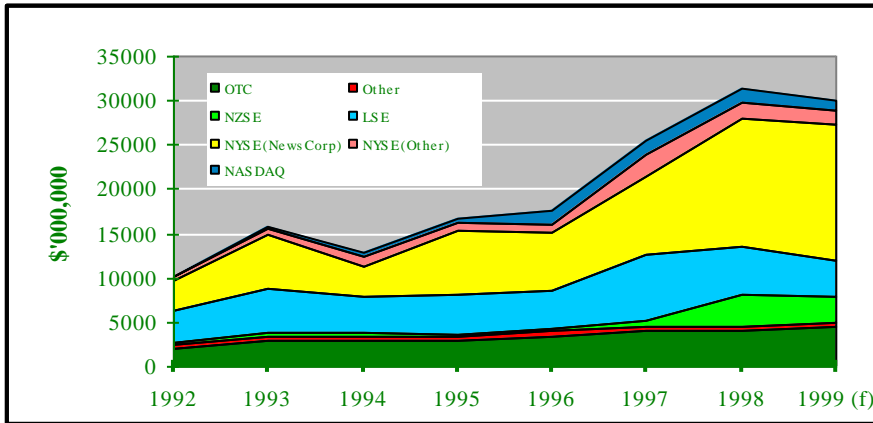


Figure B3 Trading in ASX Listed Companies on ASX and Overseas Exchanges

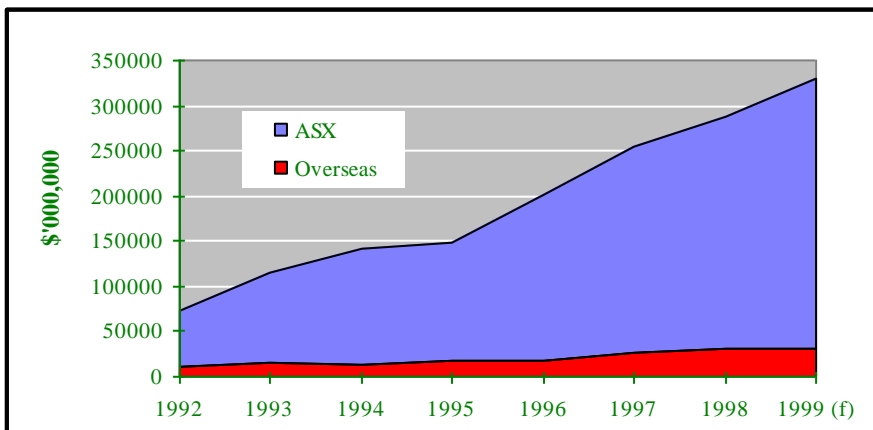
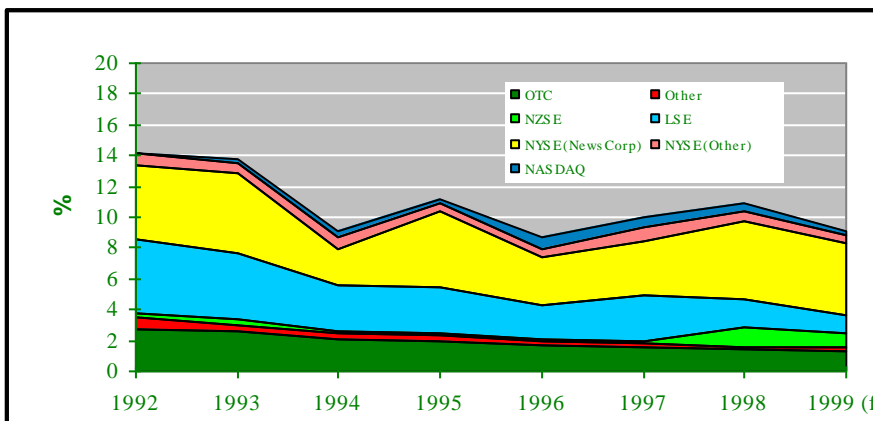


Figure B4 Percentage of Trading in ASX Listed Companies on Overseas Exchanges



Liability of Members

Table B5 Capital Expenditure

Year	Capital Expenditure (\$'000)	Four Year Rolling Average (\$'000)
1989	26,745	-
1990	20,766	-
1991	7,488	-
1992	5,939	15,235
1993	16,937	12,783
1994	22,009	13,093
1995	14,623	14,877
1996	31,271	21,210
1997	32,158	25,015
1998	22,423	25,119
1999	33,037	29,722
2000	25,634	28,313
2001	29,489	27,645

Figure B5 Graphical Analysis of Capital Expenditure

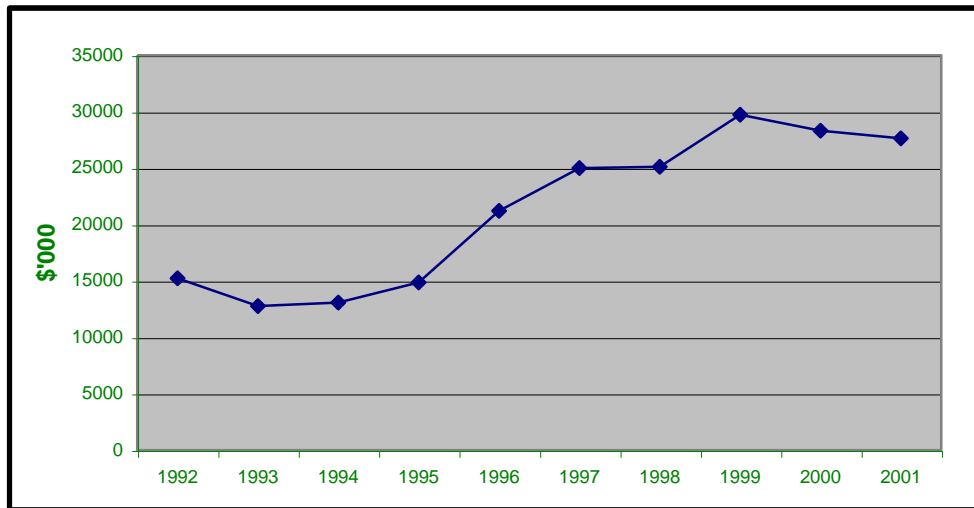


Table B6 Sensitivity of ASX Revenue Drivers

Revenue Driver	1999 Actual	1999 Forecast¹	Change
Number of New Listings	70	65	8%
Number of Listed Companies	1,144	1,230	7%
Equities – Annual Trades ('000)	8,294	6,072	37%
Equities – Fee per Trade (\$)	6.07	6.30	4%
Derivatives – Annual Trades ('000)	9,043	7,590	19%
Derivatives – Fee per Trade (\$)	1.82	1.78	2%
Warrants – Number of New Series	391	220	78%
Warrants – Total Warrant Series	426	400	7%

¹ Information obtained from ASX Listing Memorandum

Table B7 Ten Year Summary of ASX

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
OPAT (\$'000,000)	9.542	-23.736	-8.043	1.809	7.383	24.013	14.647	19.385	15.674	16.669	37.727	53.618	51.018
Equity Trading													
Value (\$'000,000)	49,331	56,728	54,507	63,054	72,691	128,393	117,973	158,802	211,318	243,146	281,890	361,506	417,600
No. Transactions ('000,000)	1.836	1.720	1.531	1.926	2.315	3.937	3.043	3.974	5.275	6.311	8.294	13.85	12.95
Equity Capital Raisings (\$'000,000)	10.960	9.147	6.966	11.975	10.651	22.892	11.801	15.320	16.403	28.843	27.417	36.339	24.451
Listed Companies	1,446	1,318	1,151	1,116	1,067	1,163	1,186	1,184	1,198	1,227	1,226	1,333	1,422
New Listings	73	35	18	169	43	159	68	53	83	83	65	183	156
Derivatives Trading													
Value (\$'000,000)	2,929	3,609	2,764	2,256	1,812	3,700	2,793	3,311	3,919	4,099	6,008	9,433	11,191
Volume ('000,000)	9.502	11.527	10.246	8.389	7.269	11.603	8.943	9.854	10.239	8.110	9.042	9.75	11.649

Divergence of Members' Interests

Table B8 Distribution of Trading and Voting Power across Member Organisations

	Top Ten Stockbrokers (%)		Other Stockbrokers (%)	
	Market share	Voting Power	Market share	Voting Power
1987	56.0	1.4	44.0	8.1
1996	64.6	1.6	35.4	14.1

**Table B9 Distribution of Members across States
(as at July 1996)**

	Natural Persons	Organisations
Adelaide	45	7
Brisbane	28	8
Hobart	9	3
Melbourne	177	31
Perth	42	10
Sydney	221	38
Total	522	97

Efficiency Ratio Analysis

**Table B10 Value of Trading
(\$'000)**

	1994	1995	1996	1997	1998	1999	2000
ASX	128,016	131,752	185,800	232,224	256,470	306,857	389,986
SES	117,463	90,605	76,648	103,963	94,179	164,139	171,247
SEHK	173,968	133,762	211,607	606,965	340,909	351,535	677,882
NZSE	9,817	12,432	10,083	14,963	22,377	20,917	22,164
KLSE	68,036	74,455	228,899	208,721	40,466	64,844	95,148

**Table B11 Total Market Capitalisation
(\$'000)**

	1994	1995	1996	1997	1998	1999	2000
ASX	279,532	327,303	392,014	453,397	536,285	653,543	670,918
SES	180,134	213,873	193,432	168,614	154,746	198,039	155,126
SEHK	372,294	423,776	571,442	553,361	568,220	609,090	623,398
NZSE	34,532	45,984	35,378	47,733	38,729	27,827	18,197
KLSE	258,068	306,705	395,631	192,833	143,923	139,908	113,155

**Table B12 Asset Utilisation
(%)**

	1994	1995	1996	1997	1998	1999	2000	2001
ASX	50.23	38.11	35.73	33.52	47.26	60.91	74.09	77.40
SES*	37.59	18.97	13.93	12.80	15.76	9.74	3.71	6.14
SEHK*	80.28	54.24	55.82	69.96	71.94	42.79	19.08	16.74
NZSE	117.52	98.55	93.46	122.21	143.67	101.56	118.83	120.17
KLSE*	107.60	49.95	53.21	63.05	21.12	25.19	29.26	11.44

**Table B13 Operating Expenses / Operating Income
(%)**

	1994	1995	1996	1997	1998	1999	2000	2001
ASX	71.46	78.57	78.38	89.82	80.95	70.03	61.17	62.65
SES*	12.82	20.69	22.38	23.98	22.16	34.63	47.10	65.27
SEHK*	46.88	88.09	94.69	63.41	48.29	60.60	57.64	58.85
NZSE	81.63	97.57	98.31	125.22	84.99	91.80	88.39	86.32
KLSE*	23.95	43.86	58.30	46.95	79.07	67.73	56.39	102.86

**Table B14 Management Expenses
(%)**

	1994	1995	1996	1997	1998	1999	2000	2001
ASX	35.90	29.94	28.01	30.11	38.26	42.66	45.32	48.49
SES*	4.82	3.93	3.12	3.07	3.49	2.62	1.75	4.01
SEHK*	37.63	47.78	52.86	44.36	34.74	25.93	11.00	9.85
NZSE	95.94	96.15	91.88	153.03	122.11	93.23	118.83	120.17
KLSE*	25.76	21.91	31.02	29.61	16.70	16.60	16.50	11.77

**Table B15 Fixed Assets / Total Assets
(%)**

	1994	1995	1996	1997	1998	1999	2000	2001
ASX	15.17	21.39	21.11	21.62	20.74	22.05	24.82	30.27
SES*	3.43	2.62	5.62	4.73	5.16	4.66	4.16	8.96
SEHK*	18.57	42.68	38.84	30.31	23.12	22.86	5.77	6.59
NZSE	17.34	14.37	13.16	16.40	12.64	27.78	6.17	5.36
KLSE*	17.04	17.55	16.27	21.19	28.56	27.15	25.73	23.47

**Table B16 Total Staff Costs / Average Number of Employees
(\$'000)**

	1994	1995	1996	1997	1998	1999	2000	2001
ASX	58.88	60.13	63.38	72.46	79.00	80.56	84.33	93.52
SEHK*	68.92	74.26	74.35	97.85	118.72	121.47	121.96	160.71
NZSE	24.78	22.13	20.66	29.16	78.62	83.89	-	-

**Table B17 Operating Income / Average Number of Employees
(\$'000)**

	1994	1995	1996	1997	1998	1999	2000	2001
ASX	179.98	167.77	179.20	183.74	216.87	251.77	333.57	318.7
SES*	269.94	264.09	264.15	263.80	326.06	254.63	183.19	277.27
SEHK*	267.79	168.45	163.45	299.60	534.18	362.65	121.96	160.71
NZSE	192.61	192.12	165.64	197.89	260.16	240.81	-	-

- The 1999 amount is an estimate based of figures received to 31 December 1998.

Graphical Analysis of Efficiency Ratios

Figure B6: Asset Utilisation

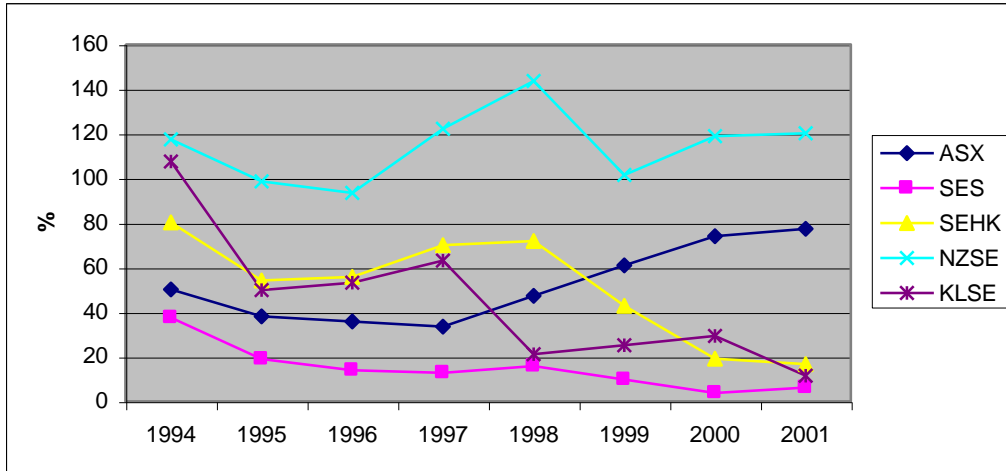


Figure B7 Operating Expenses / Operating Income

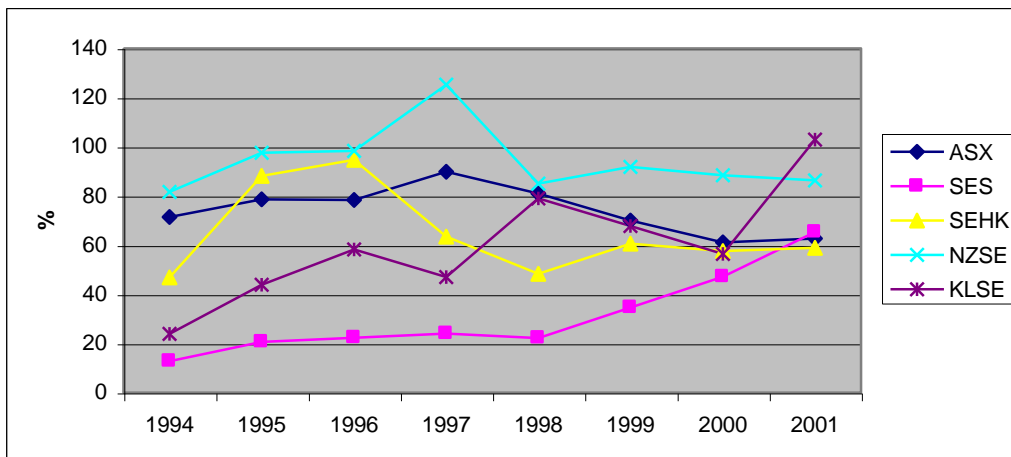


Figure B8 Management Expenses (%)

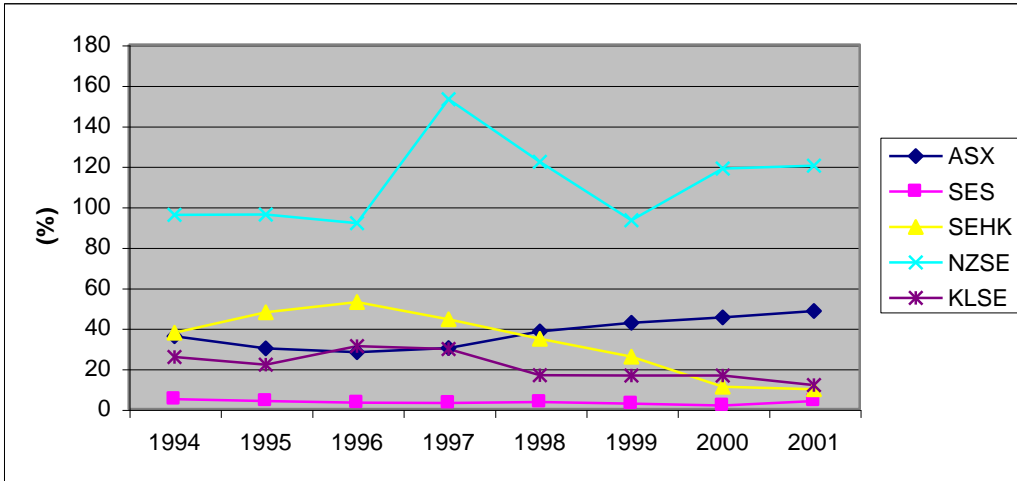


Figure B9 Fixed Assets / Total Assets

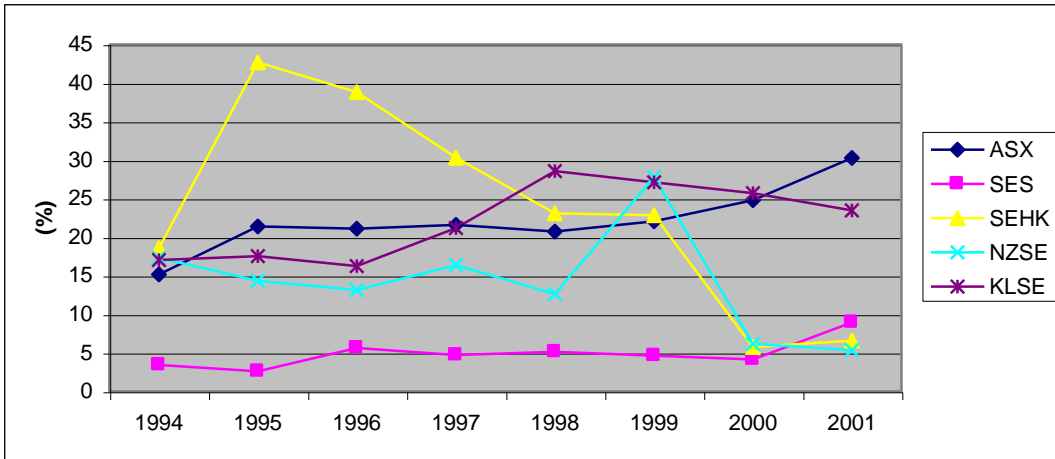


Figure B10 Total Staff Costs / Average Number of Employees

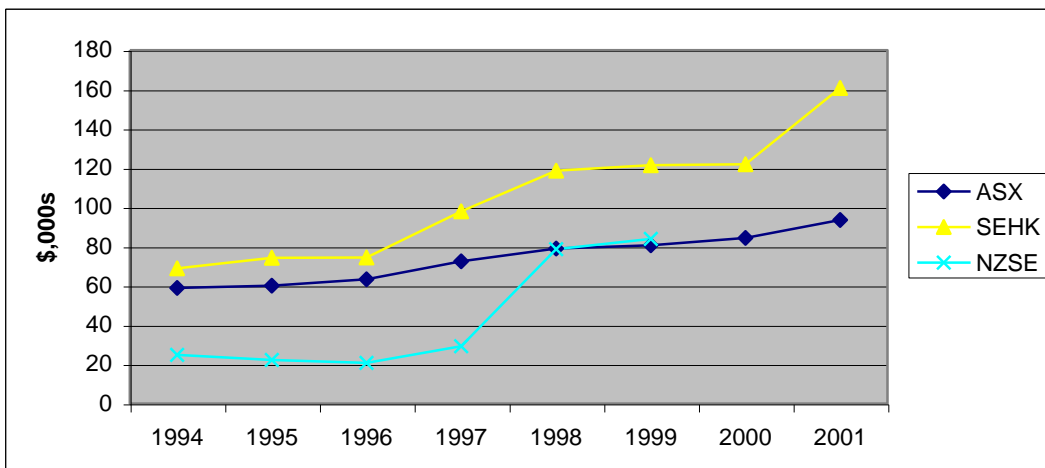


Figure B11 Operating Income / Average Number of Employees

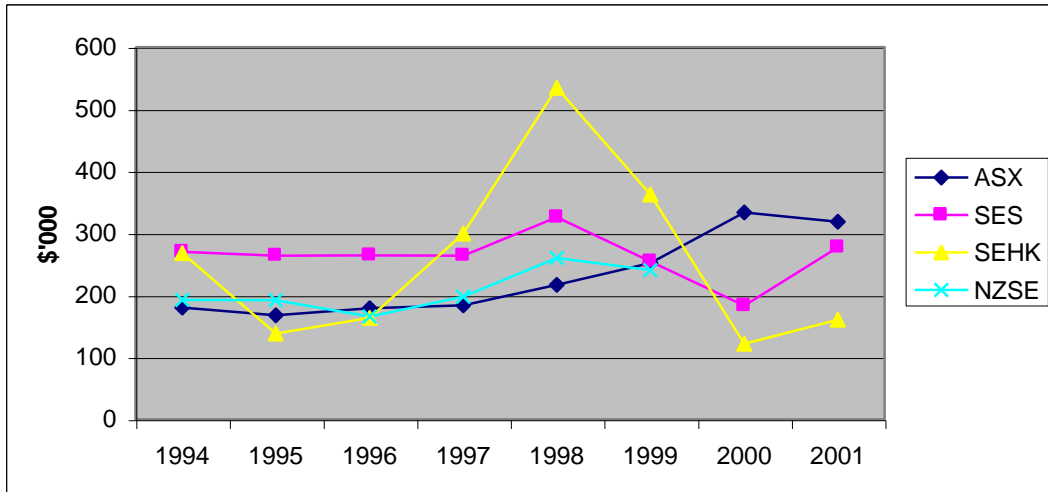


Figure B12 Value of Trading (AUD\$'000s)

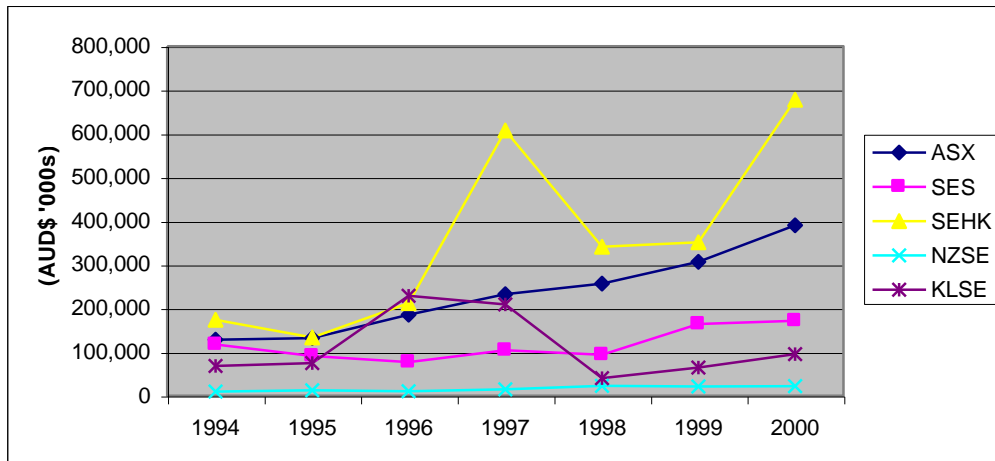
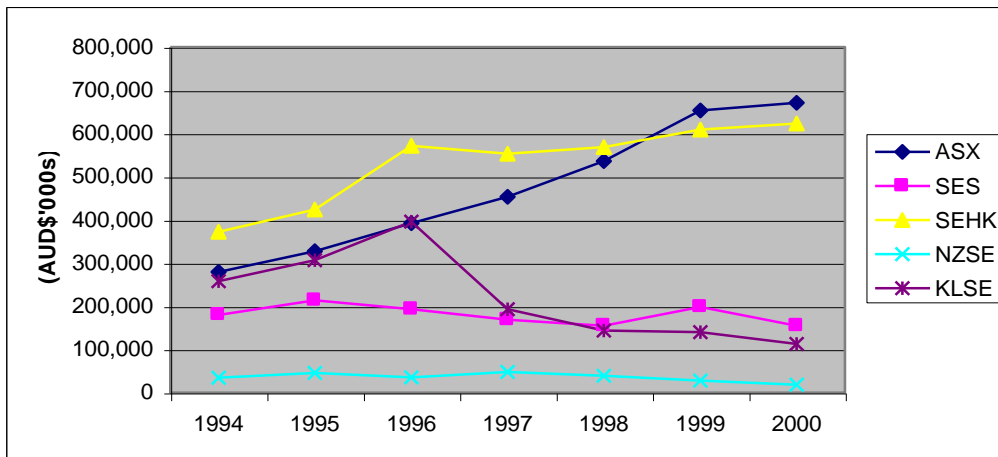


Figure B13 Total Market Capitalisation (AUD\$'000s)



Appendix C

Corporate Governance Mechanisms

Management Remuneration

Table C1 Executive Remuneration

Year	Total Remuneration (\$'000)	Change (%)	Average Executive (\$'000)	Change (%)	Top Three Executives (\$'000)	Change (%)	Number of Executives	EBIT (\$'000)	Change (%)
1990	2,654	-	147.44	-	690	-	18	-13,346	-
1991	3,381	27.39	147.00	-0.30	740	7.25	23	-6,253	-
1992	3,618	7.01	157.30	7.01	770	4.05	23	2,816	-
1993	4,015	10.97	160.60	2.10	840	9.09	25	5,275	87.32
1994 ¹	5,392	34.30	179.73	11.91	1,070	27.38	30	28,498	440.25
1995 ²	4,487	-16.78	160.25	-10.8	860	-19.63	28	15,632	-45.15
1996	2,557	-43.0	232.45	45.06	1,010	17.44	11	15,087	-3.49
1997	3,965	55.06	233.24	0.34	1,220	20.79	17	7,589	-49.70
1998 ³	5,617	41.66	280.85	20.41	1,590	30.3	20	17,996	137.1
1999	5,341	-4.91	296.72	5.65	1,810	13.84	18	45,570	153.22
2000	?	?	?	?	1,855	2.49	?	79,997	75.55
2001	?	?	?	?	2,136	15.15	?	71,700	-10.37

¹ Includes retirement and/or termination payments for seven executives. This included payments to the top three executives.

² Includes retirement and/or termination payments for four executives. None of the executives held any of the top four positions.

³ Includes retirement and/or termination payments for three out of the top four executives.

Table C2 Managing Director Remuneration

Year	Total Remuneration (\$'000)	Change (%)	EBIT (\$'000)	Change (%)
1990	280	-	-13,346	-
1991	290	3.57	-6,253	-
1992	300	3.45	2,816	-
1993	310	3.33	5,275	87.32
1994 ¹	380	22.58	28,498	440.25
1995	340	-10.53	15,632	-45.15
1996	420	23.53	15,087	-3.49
1997	520	23.81	7,589	-49.70
1998	600	15.38	17,996	137.13
1999	850	41.67	45,570	153.22
2000	1027	20.80	79997	76.55
2001	1117	8.76	71700	-10.37

¹ Includes retirement payment for the Managing Director.

Table C3 Director Remuneration

Year	Total Remuneration (\$'000)	Change (%)	Average Director (\$'000)	Change (%)	Top Three Directors (\$'000)	Change (%)	Number of Directors	EBIT (\$'000)	Change (%)
1990	809	-	44.94	-	310	-	18	-13,346	-
1991	938	15.95	49.37	9.84	370	19.35	19	-6,253	-
1992	1,112	18.55	69.50	40.78	420	13.51	16	2,816	-
1993	1,267	13.94	70.39	1.28	440	4.76	18	5,275	87.32
1994 ¹	1,517	19.7	89.24	26.77	570	29.55	17	28,498	440.25
1995	1,388	-8.50	77.11	-13.59	510	-10.53	18	15,632	-45.15
1996	1,409	1.51	78.28	1.51	650	27.45	18	15,087	-3.49
1997	1,632	15.83	102.00	30.31	780	20.00	16	7,589	-49.70
1998	1,714	5.02	114.27	12.03	860	10.26	15	17,996	137.13
1999 ²	1,870	9.10	170.00	48.77	1,090	26.74	11	45,570	153.22
2000	1,793	-4.12	162.99	-4.12	1,292	18.56	11	79,997	76.55
2001	1,898	5.85	210.86	29.37	1,430	10.63	9	71,700	-10.37

¹ Includes retirement payment for the Managing Director.

² Includes payment for services rendered for four non-executive directors who resigned during the year. The results are qualitatively the same when these payments are excluded from the analysis.

Table C4 Non-Executive Director Remuneration

Year	Total Remuneration (\$'000)	Change (%)	Average Director (\$'000)	Change (%)	Top Three Directors (\$'000)	Change (%)	Number of Directors	EBIT (\$'000)	Change (%)
1990	529	-	31.12	-	50	-	17	-13,346	-
1991	648	22.50	36.00	15.69	100	100.00	18	-6,253	-
1992	812	25.31	54.13	50.37	150	50.00	15	2,816	-
1993	957	17.86	56.29	3.99	160	6.67	17	5,275	87.32
1994	1,137	18.81	71.06	26.2	270	68.7	16	28,498	440.2
1995	1,048	-7.8	61.65	-13.25	220	-18.52	17	15,632	-45.15
1996	989	-5.63	58.18	-5.63	330	50.00	17	15,087	-3.49
1997	1,112	12.44	74.13	27.43	340	3.0	15	7,589	-49.7
1998	1,114	0.18	79.57	7.34	340	0.00	14	17,996	137.13
1999 ¹	1,020	-8.44	102.00	28.19	330	-2.94	10	45,570	153.22
2000	766	-24.89	76.61	-24.89	353	6.84	10	79997	76.55
2001	781	1.95	97.63	27.43	414	17.29	8	71700	-10.37

¹ Includes payment for services rendered for four non-executive directors who resigned during the year. The results are qualitatively the same when these payments are excluded from the analysis.

Table C5(i) Executive Remuneration for 1999
(\$)

Executive Name	Base Remuneration	Bonuses	Non-cash Benefits	Super-annuation	Total
R Nottle	262,600	148,000	5,678	70,625	486,903
A Richards	263,868	135,000	11,147	69,357	479,372
M Costello	326,591	133,000	14,930	6,634	481,155
C Scully	223,831	40,000	11,147	13,008	287,986
M Roche	190,482	80,000	5,850	7,296	283,628

Table C5(ii) Executive Remuneration for 2000
(\$)

Executive Name	Base Remuneration	Bonuses	Non-cash Benefits	Super-annuation	Total
C Hamilton	231,515	63,500	-	11,293	306,308
J Hayes	237,681	50,000	2,097	61,732	351,510
J McMurtrie	277,804	-	-	6,523	284,327
A Richards	291,515	100,000	-	74,624	466,139
C Scully	297,514	50,000	-	14,170	361,684

Table C5(iii) Executive Remuneration for 2001
(\$)

Executive Name	Base Remuneration	Bonuses	Total
J Hayes	387,201	100,000	487,201
J McMurtrie	386,684	100,000	486,684
A Richards	411,684	120,000	531,684
M Roche	300,000	75,000	375,000
C Scully	386,684	100,000	486,684

Table C6(i) Director Remuneration for 1999 (\$)

Director Name	Base Remuneration	Bonuses	Non-cash Benefits	Super-annuation	Total
M Newman	125,858	-	-	6,856	132,714
R Humphry	540,932	289,500	13,322	6,634	850,388
C Batronev	88,143	-	1,517	1,501	91,161
M Shepherd	58,036	-	11,147	47,670	116,853
B Egan	53,775	-	1,711	3,710	59,196
M Fowles	51,421	-	3,716	3,549	58,686
J Fraser	17,583	-	-	29,444	47,027
J Kennedy	39,738	-	194	2,731	42,663
J Parncutt	40,867	-	-	3,222	44,089
M Sharpe	68,049	-	-	22,173	90,222
C Walter	47,805	-	-	3,287	51,092
P Chisholm*	27,196	-	-	1,881	29,077
T Lewis*	11,682	-	1,979	818	14,479
R Petfied*	14,786	-	-	1,631	16,417
P Schudmak*	-	-	-	17,000	17,000

* Resigned during the year.

Table C6(ii) Director Remuneration for 2000 (\$)

Director Name	Base Remuneration	Bonuses	Non-cash Benefits	Super-annuation	Total
M Newman	131,000	-	-	7,068	138,068
R Humphry	624,353	325,500	2,184	75,276	1,026,813
C Batronev	69,083	-	-	6,153	75,236
M Shepherd	121,144	-	-	6,308	127,452
B Egan*	17,500	-	1,194	41,145	59,839
M Fowles	51,833	-	-	3,358	54,691
J Fraser	54,833	-	-	3,587	58,420
J Kennedy	49,000	-	-	3,206	52,206
J Parncutt	51,875	-	-	777	52,652
M Sharpe	81,136	-	-	6,212	87,348
C Walter	56,500	-	-	3,969	60,196

* Resigned during the year.

Table C6(iii) Director Remuneration for 2001 (\$)

Director Name	Base Remuneration	Bonuses	Total
M Newman	178,201	-	178,535
R Humphry	766,728	350,000	1,116,728

C Batroney	100,641	-	100,641
M Shepherd	134,447	-	134,447
M Fowles	66,056	-	66,056
J Fraser	71,426	-	71,426
J Kennedy	63,370	-	63,370
M Sharpe	95,126	-	95,126
C Walter	71,426	-	71,426

* Resigned during the year.

Table C7(i) Director Share Ownership

Director Name	Initial Holding	Purchases	Sales	Holding at 30 June 1999
M Newman	166,000	-	41,000	125,000
R Humphry	-	-	-	-
C Batronev	166,000	-	-	166,000
M Shepherd	166,000	-	36,000	130,000
B Egan	166,000	-	7,500	158,500
M Fowles	166,000	-	149,500	16,500
J Fraser	-	-	-	-
J Kennedy	-	10,000	9,000	1,000
J Parncutt	166,000	-	40,000	126,000
M Sharpe	-	-	-	-
C Walter	-	-	-	-

Table C7(ii) Director Share Ownership for 2000

Director Name	Initial Holding	Purchases	Allocations	Sales	Holding at 30 June 1999
M Newman	125,000	-	-	42,000	83,000
R Humphry	-	-	55,333	-	-
C Batronev	166,000	-	-	46,000	53,333
M Shepherd	130,000	-	-	70,000	120,000
B Egan	16,000	-	-	-	60,000
M Fowles	166,000	-	-	-	16,500
J Fraser	-	2,000	-	-	2,000
J Kennedy	1,000	-	-	-	1,000
M Sharpe	-	2,000	-	-	2,000
C Walter	-	1,000	-	-	1,000

Table C7(iii) Director Share Ownership for 2001

Director Name	Initial Holding	Purchases	Allocations	Sales	Holding at 30 June 1999
M Newman	83,000	-	-	-	83,000
R Humphry	53,333	-	55,333	-	110,666
C Batronev	120,000	-	-	40,000	80,000
M Shepherd	60,000	-	-	-	60,000
M Fowles	16,500	-	-	-	16,500
J Fraser	2,000	-	-	-	2,000
J Kennedy	1,000	-	-	-	1,000
M Sharpe	2,000	-	-	-	2,000
C Walter	1,000	2,000	-	-	3,000

Graphical Analysis of Management Remuneration

Figure C1 Executive Remuneration

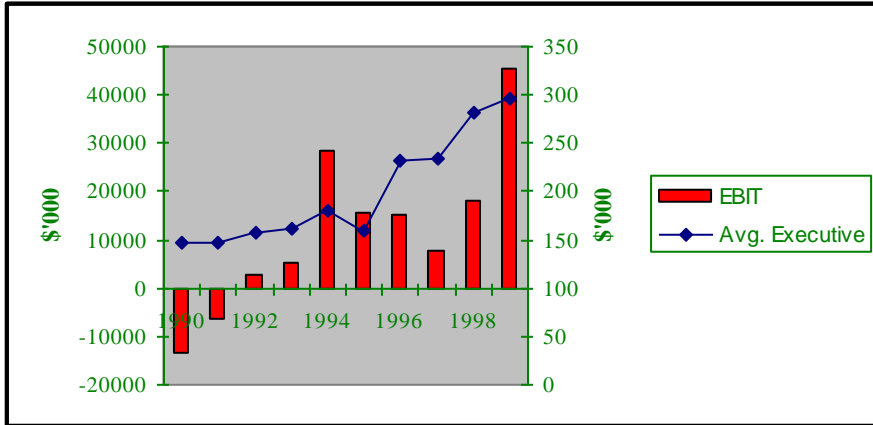


Figure C2 Managing Director Remuneration

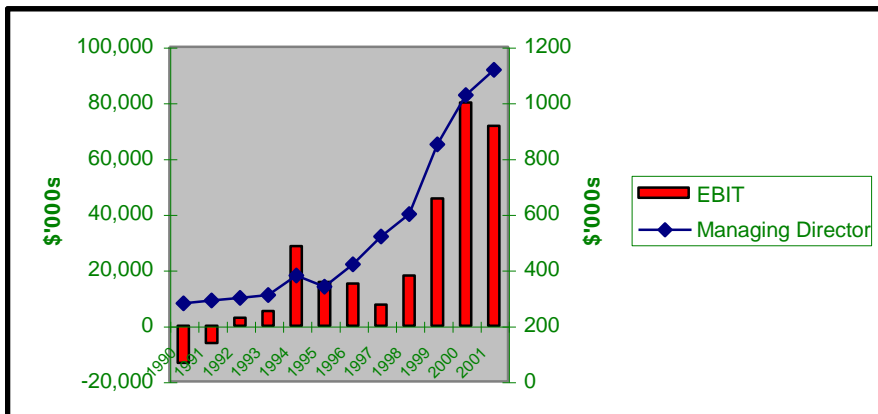


Figure C3 Director Remuneration

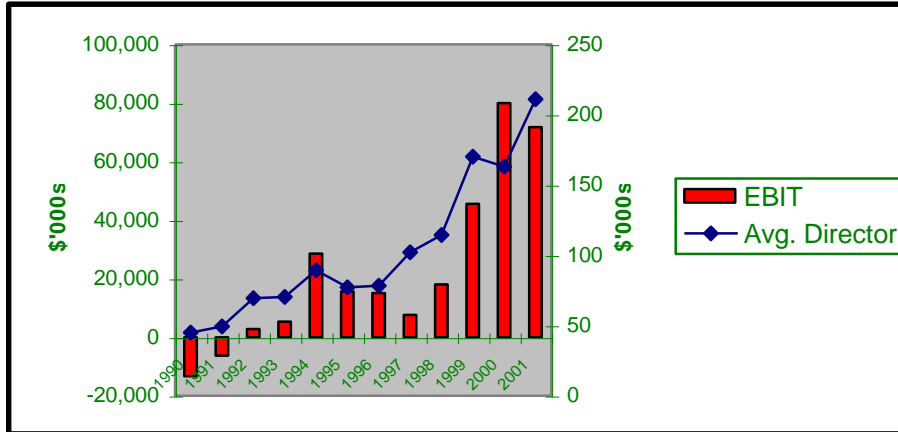
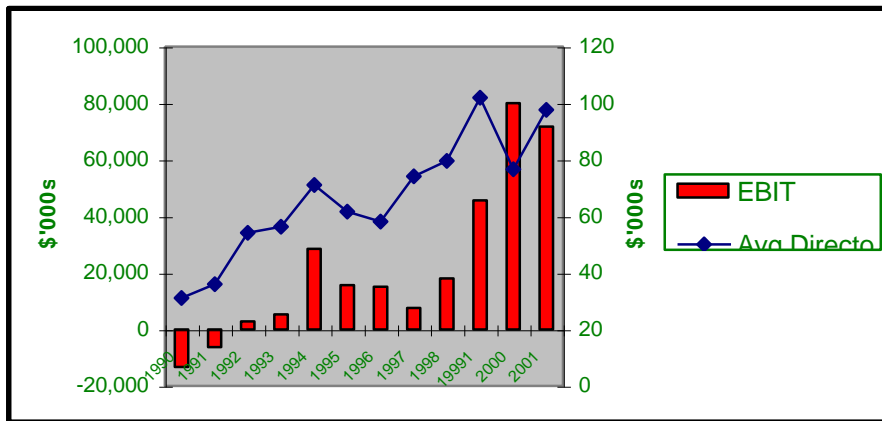


Figure C4 Non-Executive Director Remuneration



Monitoring Management

Table C8(i) List of 20 Largest Shareholders (as at 23 August 1999)

Name of Company	Number of Ordinary Shares Held	Percentage of Total Issued Shares (%)
Permanent Trustee Australia Ltd	4,062,796	4.03
Chase Manhattan Nominees	3,078,949	3.05
AMP Nominees Pty Limited	2,089,351	2.07
AMP Life Limited	1,832,014	1.82
National Nominees	1,463,961	1.45
AXA Nominees	1,129,841	1.12
Westpac Custodian Nominees	848,675	0.84
Commonwealth Securities	498,000	0.49
Warnford Nominees Pty Limited	488,806	0.48
BT Custodial Services Limited	401,808	0.40
Commonwealth Custodial Services	382,975	0.38
CSS Board	348,177	0.35
ANZ Nominees Limited	341,320	0.34
Citicorp Nominees Pty Limited	306,730	0.30
Queensland Local Government	300,571	0.30
Colonial Portfolio Services Ltd	274,390	0.27
Calex Nominees Pty Limited	267,903	0.27
ASX Operations Pty Limited	246,834	0.24
Perpetual Trustees Australia Ltd	245,782	0.24
Transport Accident Commission	244,111	0.24
Total	18,852,994	18.68

Table C8(ii) List of 20 Largest Shareholders (as at 23 August 2000)

Name of Company	Number of Ordinary Shares Held	Percentage of Total Issued Shares (%)
Permanent Trustee Australia Ltd	4,195,903	4.15
Chase Manhattan Nominees	3,566,890	3.52
Perpetual Nominees Ltd	2,543,951	2.51
National Nominees	2,436,445	2.41
AMP Life Limited	2,364,683	2.34
Westpac Custodian Nominees	1,328,453	1.31
AMP Nominees Pty Ltd	1,242,995	1.23
Commonwealth Custodial Services	1,212,903	1.20
Citicorp Nominees Pty Limited	635,320	0.63
Bainpro Nominees Pty Ltd	604,727	0.60
CSS Board	415,247	0.42
ASX Operations Pty Limited	352,722	0.35
Perpetual Trustees Australia Ltd	309,497	0.31
BT Custodial Services Pty Ltd	309,208	0.31

Caltex Nominees Pty Ltd	305,118	0.30
Permanent Trustee Company Ltd	301,015	0.30
PSS Board	293,020	0.29
Bond Street Custodians	280,934	0.28
ANZ Nominees Limited	245,293	0.24
Transport Accident Commission	240,409	0.24
Total	23,184,733	22.93

Table C8(iii) List of 20 Largest Shareholders (as at 23 August 2001)

Name of Company	Number of Ordinary Shares Held	Percentage of Total Issued Shares (%)
Chase Manhattan Nominees	6,956,584	6.68
National Nominees	3,591,646	3.54
AMP Life Limited	2,582,440	2.55
Westpac Custodian Nominees	2,138,083	2.11
Citicorp Nominees Pty Limited	2,096,681	2.07
RBC Glob. Services Aust Nominees Pty Ltd	1,845,497	1.82
Citicorp Nominees Pty Limited	1,300,023	1.28
Citicorp Nominees Pty Limited	1,256,973	1.24
Cogent Nominees Pty Limited	978,717	0.97
ANZ Nominees Limited	843,774	0.83
Commonwealth Custodial Services	749,023	0.74
Cogent Nominees Pty Limited	659,729	0.65
ASX Operations Pty Limited	429,220	0.49
Commonwealth Custodial Services	434,963	0.43
Citicorp Nominees Pty Limited	407,517	0.40
MLC Limited	285,957	0.28
CSS Board	281,747	0.28
Commonwealth Custodial Services	277,531	0.27
RBC Glob. Services Aust Nominees Pty Ltd	276,520	0.27
Citicorp Nominees Pty Limited	250,510	0.25
Total	27,706,135	27.33

Appendix D

ASX Stakeholders and Demutualisation

Members

Figure D1 Comparative Buy and Hold Returns



Buy and hold abnormal returns (BHAR) are calculated using the daily closing price for ASX between 14 October 1998 and 30 June 1999 (or 178 days of trading). The accumulated All Ordinaries index is used as the market benchmark. This is compared to the average BHAR for all other demutualisations that have occurred in Australia resulting in a market listing. The sample consists of AMP, National Mutual Holdings, St George Bank, Colonial, Adelaide Bank, Bank of Melbourne, Challenger Bank, Advance Bank and Metway Bank. For each company, the return calculation is based on the daily closing price for the first 178 days of trading on ASX's market.

Listed Companies

Table D1 Listing Fees for ASX Market

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Listing Fee Revenue (\$'000)	20,033	18,782	21,364	21,364	30,436	26,513	27,474	29,289	34,274	32,508	36,502	34,052
Number of Listed Companies	1,254	1,096	1,116	1,067	1,163	1,186	1,184	1,198	1,227	1,226	1,381	1,499
Revenue per Listed Company (\$'000)	15.98	17.14	19.14	20.02	26.17	22.35	23.20	24.45	27.93	26.52	26.43	22.72

Table D2 Listing Fees for ASX and Overseas Exchanges Pre-Demutualisation

	ASX	NZSE	NYSE	NASDAQ	TSE	CSE	LSE	SSE
Listing Fee Revenue (\$'000)	27,474	1,731	291,042	216,375	37,041	4,125	52,947	14,257
Number of Listed Companies	1,184	191	2,476	5,556	1,323	249	2,494	229
Revenue per Listed Company (\$'000)	23.20	9.06	117.55	38.94	28.00	16.57	21.2	62.26

Table D3 Listing Fees for ASX and Overseas Exchanges Post-Demutualisation

	ASX	NZSE	NYSE	NASDAQ	TSE	CSE	LSE	SSE	Tokyo ¹	SEHK ²
Listing Fee Revenue (\$'000)	32,508	1,702	485,760	360,601	40,098	5,978	75,760	23,048	115,411	41,677
Number of listed Companies	1,226	214	3,114	5,968	1,433	254	2,370	276	1,890	680
Revenue per Listed Company (\$'000)	26.52	7.95	155.99	60.42	27.98	23.53	31.97	83.51	61.06	61.29

¹ The Tokyo Stock Exchange 1996 Annual Report was unavailable.

² Due to the unavailability of the 1999 Annual Report, the SEHK figures have been adjusted using interim financial reports. The figures are now based on a 31 December 1998 balance date. Also, the necessary information from the 1996 Annual Report was unavailable.

Graphical Analysis of Listing Fees

Figure D2 ASX and Overseas Exchanges Pre-Demutualisation

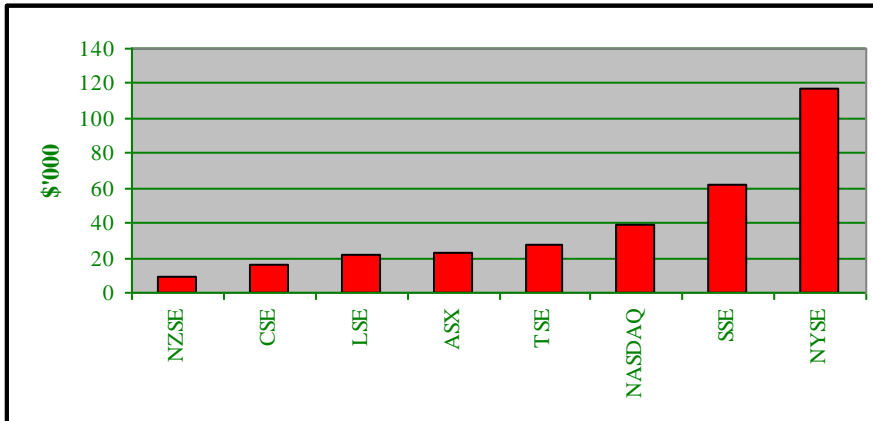
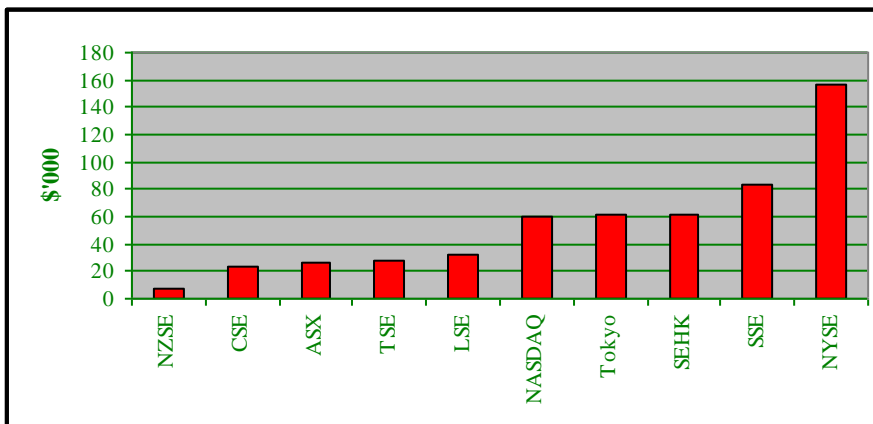


Figure D3 ASX and Overseas Exchanges Post-Demutualisation



Graphical Analysis of Market Efficiency

Figure D4 Liquidity for Entire Sample Period

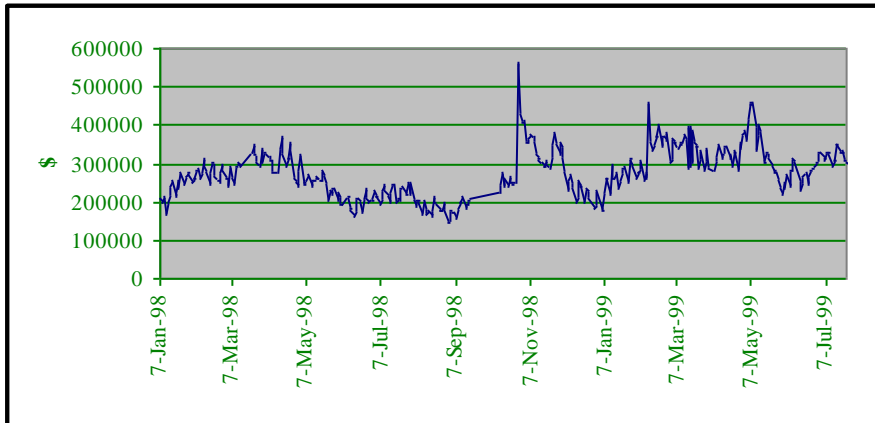


Figure D5 Liquidity for Pre-Demutualisation Period

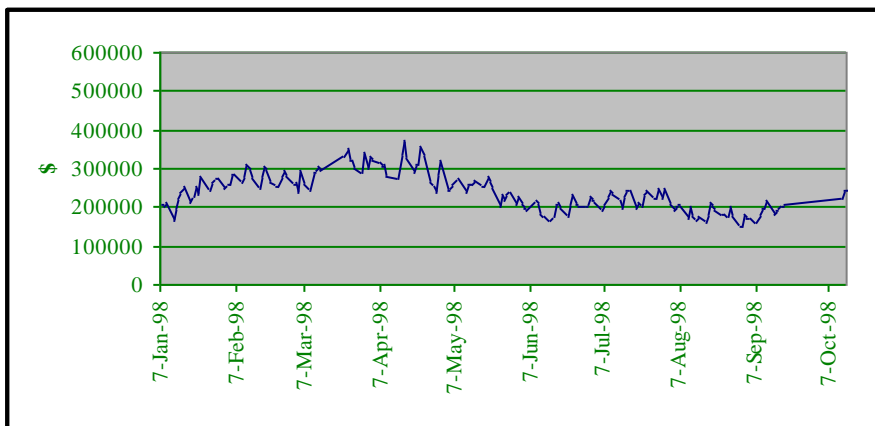


Figure D6 Liquidity for Post-Demutualisation Period

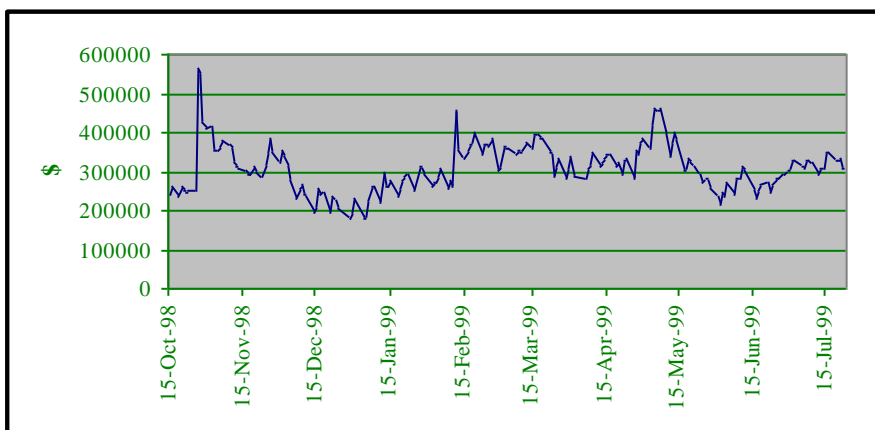


Figure D7 Relative Spread for Entire Sample Period

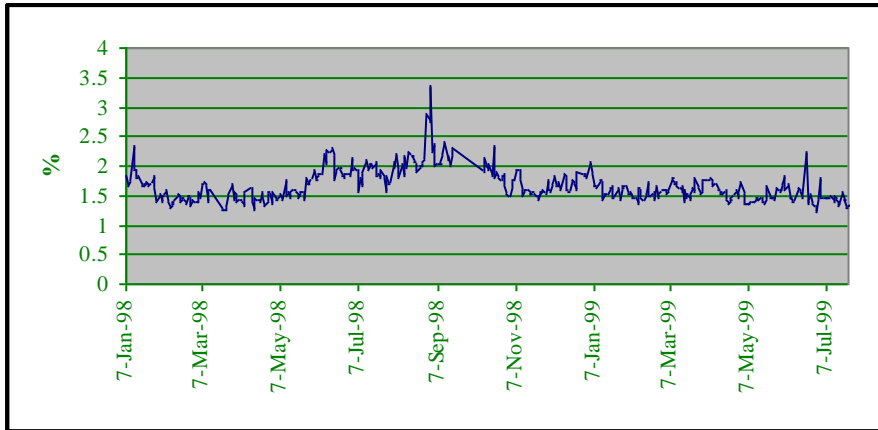


Figure D8 Relative Spread for Pre-Demutualisation Period

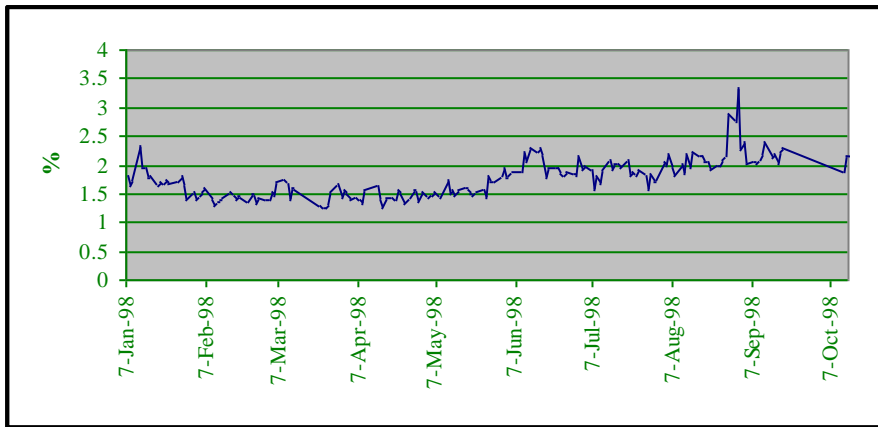


Figure D9 Relative Spread for Post-Demutualisation Period

