

Working Paper

**The Costs of Financial Services Regulation in Australia: The Price of
Consuming Regulation?
Stage One⁺**

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Abstract: This paper examines the changes in the regulation of corporations in Australia from two perspectives. It examines the theory of regulation and presents a case study using Australian listed financial services companies. Our study demonstrates that the cost of this new regulation, in terms of compliance costs, has been increasing. Using cost ratios constructed for the purposes of our study, we demonstrate a steady increase in the compliance costs associated with the amendments to the Corporations Act. The implications of this increase in costs are serious, if this increase in costs is indicative of compliance challenges across the financial services sector. Our analysis has shown increases of around three percentage points in firms' expense ratios in a single year. Using the median asset value of a listed management investment company of \$137 million, this is an approximate cost increase of \$4 million in a single year for a typical company.

Keywords: Regulation, Corporations Law, Compliance Costs

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1. Introduction

The aim of this project is to analyse the effects of recent changes to the regulation of the Australian financial services industry starting with listed financial services companies. In particular, to quantify the impact of regulation on firms' cost ratios as observed in a detailed empirical analysis. In part A we consider the theory of regulation and the regulatory environment in Australia. Section 2 briefly reviews the literature while section 3 provides an outline of the relevant regulatory changes considered in the analysis. Part B presents the case study. An outline of the methodology and the data is provided in sections 4 and 5 respectively. The analysis and results are presented in sections 6 and 7; and suggestions for further research and a conclusion are contained in Sections 8 and 9.

Up till the mid 1990s managed funds and their operators were regulated as part of the securities markets. From 2001, funds managers have come to be regulated very much as service providers, the law governing their products and operations were much more aligned in a regulatory sense with wealth management products (insurance, investments and superannuation) rather than the law of securities and securities dealers. The pace, volume and cost of regulatory change over the last ten years have been enormous. [Fifty Years of Managed Funds in Australia, KPMG/Centre for Corporate Law and Securities Regulation, p116-7]. With this regulation has come significant cost. In addition, the PWC Australian Investment Management Survey 2005 lists "Breaches of FSR legislation" as being the biggest risk management issue facing the surveyed firms. (p4)

Part A – Theoretical and Regulatory Overview

2. Literature Review

Economists argue that the majority of markets perform well without government intervention. Indeed, markets are recognised as providing the most efficient outcome with respect to both allocative and productive criteria of efficiency: any disturbance to such an outcome will only be detrimental for consumers. The market for financial services is one that, on the surface, appears to be an exception to this general rule, as around the globe the financial services industry is laden with regulation. Benston (2003) considers this apparent contradiction, and explicitly enquires as to why government would (should) regulate the financial services sector, and how much of this regulation is actually desirable. He notes that most arguments in favour of regulation in financial markets “do not hold water”, however he also concludes that some regulation is desirable.

The Economic Theory of Regulation (hereafter ETR), first proposed by Stigler (1973), is premised on an objective function of government aimed at maximising political gain from supplying regulation. Furthermore, the ETR models an industry as demanding regulation that will benefit the firms within the industry. Thus the ETR is a theory built on fundamental economic principles (supply and demand).¹ While the ETR suggests that regulation will advance the interests of regulated firms, it cannot be denied that regulation also imposes costs. Compliance costs can be particularly onerous, and will generally increase as the degree of regulation also increases (see Hail and Leuz, 2006). Yet, it is not necessarily the case that costly regulation contradicts the ETR and therefore opposes the interests of regulated firms: it is

¹ Important extensions on the basic ETR were made by Posner (1971), Peltzman (1976), and also Becker (1983).

dependent upon how these compliance costs affect *incumbent firms*. High compliance costs might act as a barrier to entry that becomes useful for the regulated industry. Indeed, it may limit new entrants, while also generating rents for established firms that run programs aimed at “certifying” new entrants. In short, the balance between increased compliance costs on one hand, and level of industry protection on the other, is the concern for the regulated industry.

The aim of this project is to analyse the effects of recent changes to the regulation of the Australian financial services companies. Recognising the insights of the ETR is an important acknowledgment that regulation may actually advance the interests of the financial services industry, i.e. the government is not simply imposing unwelcome restraints on a reluctant conformist: such views present a naïve analysis of government behaviour.² On the other hand, it is equally misguided to assume that the regulation did not represent a problematic new cost for many existing funds. We aim to consider the impact of regulation on fund’s cost ratios as observed in detailed empirical analysis. As we explain below, we expect this project to be a highly significant addition to the literature, and act as an important reference for future studies of financial services regulation, both in Australia and abroad.

Applications of the ETR to the financial services sector are surprisingly few, and the literature demonstrates a small number of contributions that have actually extended the insights of Stigler-Posner-Peltzman-Becker.³ Kroszner and Strahan (1999) emphasise the relative political strength of the “winners” and “losers” to explain the

² This “naïve” view of government activity stems from the work of Pigou who explained government action as that of the “benevolent dictator”.

³ In a contribution by Heinemann and Schuler (2004), to which we will refer further below, the authors also note the lack of efforts to apply these insights throughout the financial sector: “To our knowledge, this view on regulation has so far not been applied to banking supervision. However, there is a closely related literature on the political economy of banking market entry regulation with empirical application to the U.S. The guiding question of this strand of literature is whether the private interest view on regulation helps to understand the liberalisation steps that had been taken in the U.S. since the seventies” (Heinemann and Schuler, 2004: 101).

timing of changes in bank regulation across different US states. In a 2000 contribution the same authors demonstrate a correlation between an individual parliamentary representative's vote on financial regulation, and the financial structure of that representative's constituency. Ramirez (2002) considers the effect of changes to the Glass-Steagall Act of 1933 to find that favours from the regulated industry impact upon the behaviour of legislators, while Barth, Caprio and Levine (2002) present cross-country analysis pointing to deliberate inefficient regulation regimes that benefit favoured constituents. Another important application to the financial services area comes from Stratmann (2002), who shows that congressional votes seem to be determined by the special interests within the financial services sector. More specifically, campaign contributions from agents within the financial services sector will acquire the voting support of legislators for the interests of those service providers.

While all these valuable studies emphasise the role of government in attempting to appease the regulated industry, it is important to enquire as to whether the industry itself actually gets what it wants. Indeed, the satisfaction of the regulated industry would appear to be an important result of the ETR. On this point we turn to the single work on this issue, and from which our own analysis will extend. Heinemann and Schuler (2004) test the preferences of a regulated industry. They consider what outcomes the banking industry would prefer to obtain from the regulators, finding that the banking sector seems to demonstrate a "preference for laxity" rather than the construction of genuine barriers to entry. This would suggest that the banking industry values low compliance costs ahead of protection from new entrants.

Why would the regulated industry demand regulation that is loose? As we will explain below, we believe that the cost of regulation is most appropriately modeled as the

“price” of “consuming” it, and that firms would prefer to consume regulation at a low price (low cost). Analysis of the cost of regulation does demonstrate that regulation increases costs, and that these costs are not always the same for all firms. Hail and Leuz (2006) have recently shown that the degree of regulation in securities markets has a significant positive relationship to the cost of equity capital. Furthermore, changes to such regulation generate uncertainty among financial institutions. In the United States, the most significant change to financial services regulation has been the *Gramm-Leach-Bliley Act*. This Act of the United States Congress essentially relaxed some of the regulatory constraints imposed upon financial institutions.⁴ Recent papers by Al Mamun, Hassan, and Lai (2004) and Carrow and Heron (2002) both suggest that this piece of deregulation generated a mixed reaction from firms within the financial services industry, i.e., the value of some firms increased, while other types of institutions realised a decrease in value.⁵

This project represents an application of both the insights of the ETR, and also examination of the cost of regulation to the financial services industry. In other words, the project investigates the costs of financial regulation change in Australia from the economic perspective of the financial industry itself. Our central theoretical premise is, if we take the insights of the ETR seriously, we must treat the compliance costs of the regulation as the “price” that the financial services industry “pays” for

⁴ The *Gramm-Leach-Bliley Act*, also known as the *Gramm-Leach-Bliley Financial Services Modernization Act*, Pub. L. No. 106-102, 113 Stat. 1338 ([November 12, 1999](#)), is an [Act](#) of the [United States Congress](#) which repealed the [Glass-Steagall Act](#), opening up competition among [banks](#), [securities](#) companies and [insurance](#) companies. The *Glass-Steagall Act* prohibited a bank from offering [investment](#), [commercial banking](#), and [insurance](#) services. The *Gramm-Leach-Bliley Act (GLBA)* allowed commercial and investment banks to consolidate.

⁵ Alfon and Andrews (1999) have outlined guidelines for a Cost-Benefit Analysis of financial services regulation. In their report—on behalf of the Financial Services Authority—they suggest examination and measurement of the costs imposed on financial services sector of compliance with regulation, but also measuring the proposed benefits for consumers. Both these measurements can be obtained with the use of industry surveys. The impacts of regulation identified by Alfon and Andrews are: 1) Direct Costs, 2) Compliance Costs, 3) Quantity of the Good Sold, 4) Quality of the Goods Offered, 5) Variety of the Products Offered, 6) Efficiency of Competition. The authors offer suggested methods as to how to obtain measurements of these respective impacts.

“consuming” the regulation. Therefore, identifying the size of these costs for the firms, and obtaining some information as to whether the price of this regulation is satisfactory, is essential in understanding this aspect of the ETR.

3. Regulation Review

Over the past decade, the Australian financial services industry has experienced extensive regulatory change. The existing regulatory structure is based on the recommendations of the Financial System Inquiry (Wallis Report) that was released in April 1997. The Financial System Inquiry also found that, in 1997, Australia’s regulatory costs were high by international standards, second highest to the United States. Since 1997, the main regulatory changes include the Managed Investments Act 1998, the Financial Services Reform Act 2001 along with changes to superannuation legislation and the Corporations Act.

There is some evidence that these regulatory changes have increased costs for businesses operating in the financial services industry. For example, surveys conducted by the Investment and Financial Services Association (IFSA) indicate that there have been significant increases in cost to industry resulting from regulatory compliance. “The current cost for IFSA member companies to comply with the financial services industry regulation is about 10 to 15% of total operational costs” (IFSA – Towards Better Regulation 23 February 2006).

Surveys of business organisations represent an appropriate method for measuring the costs of regulation for a particular industry or industry sector. For example, in March

2007 KPMG provided a report for the Victorian Competition and Efficiency Commission, *Estimating the Cost to Business of Food Regulation in Victoria (Final Report)*. In a survey, food industry business organisations were asked to identify the current administrative and compliance costs of Victorian food regulations and then identify the activities that they would **not** undertake if the regulatory requirements were removed. As a consequence of limited financial resources, this research project into the costs of regulation for the financial services industry is unable to undertake similar extensive survey based research.

During the 1990s the Australian financial services landscape underwent significant change. It became apparent by the mid-1990s that the complex Australian regulatory system was inhibiting further growth. Inconsistencies were apparent in critical areas such as the way that similar products and services were regulated and in the way that consumer needs were addressed.

In May 1996 the Treasurer announced the Financial System Inquiry to identify the factors likely to drive further change in financial markets, and in particular the factors relevant to international competition and integration of financial markets.

The following year the Government announced the Corporate Law Economic Reform Program (CLERP) to review the key areas of regulation affecting Australian business and investment activities. One focus of CLERP was to determine how best to establish a more favourable regulatory climate for investors and business, to ensure that Australian financial markets respond effectively to developments such as e-commerce.

The Financial System Inquiry produced its recommendations in April 1997 in what is

known as the Wallis Report. Australia's regulatory environment was found to be fragmented to a point where the level of complexity was causing substantial compliance costs for providers of financial services as well as consumer confusion. The Inquiry noted that innovation in the area of financial products was being stifled because of artificial distinctions between certain contracts such as securities and futures contracts. It concluded that Australia's financial service providers seeking to compete in global markets would be disadvantaged by the inconsistencies in the regulatory framework.

Since its release, the Wallis Report has been used as a benchmark by other countries including the UK's Financial Services Authority. Reforms in the US, Canada and Singapore have acknowledged the impact of the Wallis Report on reviews of their regulatory processes. In the years following the Wallis Report the Australian Government initiated an unprecedented level of public enquiry and industry consultation on proposed reforms in the financial services sector.

The *Corporate Law Economic Reform Program Act 1999* implemented key reform initiatives in the area of fund raising, takeovers, directors' duties and corporate governance.

The FSRA reforms represent the last significant chapter in the Wallis recommendations. Financial products that meet one of the three functionality tests, namely making a financial investment, managing a financial risk and making non-cash payments, are embraced by the reforms irrespective of whether they are delivered by telephone, mail, face-to-face or electronic means. The reforms facilitate the provision by a single financial institution of insurance, stockbroking services, investment advice and both wholesale and retail banking facilities.

Australia's corporations as well as the activities of a range of persons such as company directors, auditors, investment advisers, and both securities and futures brokers are nationally regulated by the *Corporations Act 2001*.

The Council of Financial Regulators coordinates the approach to be taken on certain issues by the three agencies responsible for financial regulation within Australia:

- . The Australian Prudential Regulation Authority (APRA). APRA is responsible for prudential supervision of deposit-taking institutions (banks, building societies and credit unions) as well as general and life insurance, superannuation funds and friendly societies.

- . The Australian Securities and Investments Commission (ASIC). ASIC is responsible for market integrity and consumer protection across the financial services sector. In addition to issuing and monitoring licenses to participants in the financial system, it also issues policy and guidance about the laws it administers and provides accurate information about companies and corporate activities. The reforms provide it with a significant role in the monitoring of compliance by financial services providers of the financial services laws as well as the financial products laws. ASIC is also the regulator responsible for basic company law.

- . The Reserve Bank of Australia (RBA). The RBA is responsible for monetary policy and systemic stability of the financial system. It also has a mandate to promote the integrity of the Australian payments system.

Australian prudential regulation has also been significantly reformed in recent years. The *General Insurance Reform Act 2001* introduced a uniform prudential regulation for general insurance combined with a risk-weighted capital adequacy regime that is similar to that in banking. Collectively, the new Prudential Standards represent the complete set of prudential requirements for general insurers. Reviews have also been conducted into the *Life Insurance Act 1995* and the *Managed Investments Act 1998*.

The prudential framework sits side by side with the single unified licensing system for the provision of financial markets, products and services provided by the FSRA. The harmonised framework for licensing, disclosure and conduct for all financial service providers and a streamlined regulatory framework for both financial markets and clearing and settlement facilities is central to the FSRA. The reforms also establish comparable financial product disclosure requirements across all industry segments.

The FSRA reforms extend to individuals, trustees, companies and partnerships providing financial products and services in Australia. Financial intermediaries and traditional financial institutions will be required to either hold a license or in limited circumstances, provide financial services as a representative. Operators of markets and clearing and settlement facilities within Australia must be licensed for such activities.

Taking into account all these reforms, the key pieces of legislation that apply to the financial services industry in Australia are:

- . • *Banking Act 1959*;
- . • *Banking (Foreign Exchange) Regulations 1959*;
- . • *Insurance Act 1973*;
- . • *Insurance Contracts Act 1984*;

- . • *Life Insurance Act 1995*;
- . • *General Insurance Reform Act 2001*;
- . • *Superannuation Industry (Supervision) Act 1993*;
- . • *Retirement Savings Accounts Act 1997*;
- . • *Corporations Act 2001*;
- . • *Financial Services Reform Act 2001*;
- . • *Financial Services Reform (Consequential Provisions) Act 2001*; and
- . • *Australian Securities and Investments Commission Act 2001*.

The comprehensive package of reforms contained in the new Chapter 7 of the *Corporations Act 2001* and the related legislation are designed to provide financial services providers with a regulatory framework that keeps pace with both international and domestic developments in the financial services sector. APRA maintains control over the prudential requirements of the financial services sector, while ASIC regulates financial services, financial products and markets, clearing and settlement facilities and the administration and enforcement of the reforms. ASIC also has responsibility for monitoring and promoting market integrity and protecting consumers of financial products and services.

The three key elements of the FSRA reforms are:

- . licensing of operators of markets and clearing and settlement facilities;
- . licensing of financial services providers; and
- . point of sale and ongoing product disclosure.

The FSRA reforms achieve this by replacing:

- . Chapters 7 and 8 of the *Corporations Act 2001*;
- . the *Insurance (Agents & Brokers) Act 1984*;

- . parts of the *Superannuation Industry (Supervision) Act 1993* and the *Retirement Savings Account Act 1997*, the *Insurance Act 1973*, the *Insurance Contracts Act 1984*; and
- . the *Banking (Foreign Exchange) Regulations 1959*.

Part B – A Case Study Using Australian Listed Firms

4. Cost Measurement

The research methodology adopted in this study was to map the introduction of relevant regulatory changes to the financial services industry in the period from 1997 and then see whether these changes were associated with higher operating costs for businesses. Because of difficulties in obtaining data on unlisted firms in the financial services industry⁶, it was decided to conduct the first stage of the study using data on listed companies classified by the ASX as being in the “Financials” sector. The feasibility of using data from the Osiris database was investigated. The data on total assets was reliable, but that for expenses included losses made on portfolio investments, which was not a suitable measure. We therefore decided to collect data directly from the companies’ annual reports.

The measure of operating costs used in this analysis has is the expense ratio (ER), where

⁶ The MorningStar database is now available and further analysis is being carried out using this data.

$$\text{Expense Ratio} = \frac{\text{Operating Expenses}}{\text{Total Assets}}.$$

This was calculated for all firms where data was available. This measure was chosen because it could be calculated using publicly available data from annual reports.

There are alternative methods for measuring operational costs, and changes in operational costs, for Listed Management Investment trusts (LMIs) and listed financial corporations. For LMI's or managed funds, it was common to calculate the Management Expense Ratio (MER). The MER is a single fee method of disclosing the cost of investing in a managed fund. IFSA publishes Guidance Notes for its members that are considered to be industry best practice in certain areas. IFSA Guidance Note No.18 required Managed Funds to calculate the fund's MER and publish it in their product disclosure statement. (This Guidance Note has since been repealed).

IFSA had encouraged its members to utilise this formula:

$$\text{MER} = \frac{\text{Manager's fee} + \text{Reimbursable expenses} + \text{Other direct expenses}}{\text{Average net asset value of the fund}}$$

- Manager's fee is a percentage of total funds under management (e.g. 1%). It is the fee for managing and marketing the fund. Usually calculated daily and deducted daily, monthly or quarterly in arrears.
- Reimbursable expenses includes certain administrative costs claimed e.g. registry costs, printing costs (prospectuses, annual reports etc).

- Other direct expenses can include overseas custodian charges, audit fees and GST payable on fees.

MER includes profit (part of manager's fee) as well as expenses and can fluctuate depending on factors such as the number of unit-holders, the number of transactions processed during the year, the value of assets under management and changes to investment strategy. The size of MER depends, in part, on the type of fund. The more actively managed the fund and the more complex the investment strategy the higher is MER. For indexed funds it is much lower. MER does not include entry fees, exit fees or buy/sell spread (transaction) costs.

A significant problem with using MER to measure increased regulatory costs for investing in managed funds is that it does not take into account the increased costs for financial planners and advisors. Regulatory changes such as RG146, incorporated into the Financial Services Reform Act, would have its greatest impact on financial advisors rather than the fund managers.

In July 2003, ASIC released Report 23, "A model for fee disclosure in product disclosure statements for investment products". ASIC rejected adopting a single expense measure, such as MER, and presented a good practice model based on principles based guidance in template format. ASIC stated, "We do not believe that a single fee measure can be an effective comparability tool unless it is used by industry participants consistently, applying the same calculation methodology". The ASIC approach was adopted by IFSA in its Guidance Notes with the recommended MER approach repealed.

The Corporations Amendment Regulations 2005 (No. 1) (the enhanced fee disclosure regulations) introduced requirements for disclosure of fees and charges in Product Disclosure Statements and periodic statements for most superannuation and managed investment products. These regulations replaced ASIC's 2003 fee disclosure model.

Regulatory costs are included in the total expenses of a business organisation and this information is available in the audited financial statements of LMIs and listed financial corporations. This research project has adopted a total expense ratio from the audited financial statements. This ratio has been calculated by taking the total non-interest expenses, or operating expenses, expressed as a percentage of the average assets of the LMI or financial corporation.

5. Data Collection

Data for Australian LMIs and other financial firms were collected from annual reports starting in 1990 and ending in 2005. These are listed in Appendix 1. Other financial services firms include all those classified by the ASX in the financial services industry, but excluding the banks and insurance companies. We carried out the analysis both with and without the banks because we believed their cost cutting measures implemented in recent years could overwhelm any increase in costs due to regulation. Insurance companies were excluded because there was only one listed for most of the study period. We had a maximum of 63 listed management trusts (LMIs) and 46 other financial services firms (OFFs), though in most years the number was smaller. Figures on total assets and operating expenses were collected from the annual

reports. The figures on total assets are believed to be reliable; however less confidence can be placed in the expense figures. This is because these figures are not consistently reported even between different years when looking at the same company. For some companies “expenses” can include items such as losses in marking assets to book and trading losses that we would not consider operating expenses. Where possible our expense figures have been adjusted for this.

The data used to calculate market return, used later in the study, was collected from DataStream. Information on whether a firm was in the “Financials” sector and its grouping within this sector was sourced from the ASX website.

The analysis has been carried out using the expense ratio (ER), where

$$\text{Expense Ratio} = \frac{\text{Operating Expenses}}{\text{Total Assets}}.$$

This was calculated for all firms where data was available. The number of firms with data available each year is given in the table below.

Table 1: Firms with available data

Year	No of firms Listed management trusts	Banks	Other financials	Total
1990	4	3	9	16
1991	10	7	11	28
1992	16	10	23	49
1993	18	10	25	53
1994	30	11	26	67
1995	33	11	27	71
1996	36	11	27	74
1997	42	11	27	80
1998	49	11	29	89
1999	57	11	31	99
2000	59	12	33	104
2001	61	12	41	114
2002	62	12	41	115
2003	63	12	41	116
2004	63	12	19	94
2005	63	12	21	96

The table 2 below gives summary statistics for the expense ratios. We find that these figures are very different for LMIs and OFFs. After expenses were adjusted for trading losses and revaluation of assets only one LMI has an expense ratio greater than one⁷, while about 50% of OFFs do. For this reason most of the analysis is carried out on the groups separately.

⁷ LMIs have large investment holdings, giving large asset values. OFFs include companies such as financial advisors which have small asset bases but large staff expenses leading to them having far larger expense ratios than LMIs.

Table 2: Summary statistics for expense ratios

	Listed Management Trusts			Other Financials		Banks
	All	Outlier removed	10% trimmed	All	10% trimmed	All
Mean	0.09451	0.06731	0.04665	0.61695	0.36399	0.02641
Median	0.02258	0.02164	0.01947	0.25708	0.23307	0.02384
Max	2.2294	0.74713	0.38540	76.847	2.89085	0.09034
Min	0.00076	0.00076	0.00076	0.00163	0.00163	0.01067
Std Dev	0.2020	0.11775	0.07171	3.4815	0.42952	0.01209
Skew	4.785	2.977	2.493	20.89	2.545	2.618
Kurtosis	34.84	12.75	9.027	457.0	11.35	11.83
JB stat	31472	3627.2	15365	4374270	1808.3	737.33
p-value	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
n	683	667	603	505	454	168

For the analysis of LMIs it was decided to leave out the firm with the expense ratio greater than one. It was Charter Pacific Corporation Limited and the increase in the expense ratio was caused by a dramatic fall in total assets, rather than an increase in expenses. The remaining firms were all used and the maximum expense ratio was 0.747. As a robustness check the analysis was repeated after removing the 10% of firms with highest expense ratios. This left a maximum expense ratio of 0.385.

As LMIs are a diverse group of companies, we also considered looking at the industry groupings. The number of firms in each group is given in Table 3 below. The two groups, diversified financials and real estate, are both large compared with the others that have at most three firms. In the more detailed analysis that follows we have used the groupings diversified financials, real estate and others.

Table 3: Industry groupings for LMIs

GSIC Industry Group	No of Firms
Diversified Financials	29
Real Estate	22
Pharmaceuticals, Biotechnology & Life Sciences	3
Transportation	3
Utilities	2
Consumer Services	2
Commercial Services & Supplies	1
GICS Sector Code Not Applicable	2
Total	64

For the OFFs the picture is rather different. Many of the firms had expense ratios greater than one and one firm, First Capital Group, had an expense ratio of 76.8. As this seemed likely to be an error it was investigated more carefully. The expenses had not changed dramatically but the total assets had dropped from over \$9 million in 2003 to \$24,000 in 2005. There was a corresponding drop in the share price over the period. For consistency with the LMI analysis it was decided to exclude the 10% of firms with the highest expense ratios. This gave a maximum expense ratio of 2.89. We did not divide the OFFs into subgroups as there were insufficient observations in any one category.

The banks did not show the same amount of variation in expense ratios as either of the other two classifications. As this is a more homogenous group of companies, it is not surprising. When the values of skewness and kurtosis are compared to those for the 10% trimmed values for the other groups, the values are similar. It was therefore decided not to do any trimming of the bank data.

6. Analysis

The first step in the analysis was to calculate mean expense ratios for each year. For the LMIs it was evident that there was a sharp increase in 1999. This was still evident when the top 10% of firms were trimmed, but the effect was not as strong. For the OFFs there was a rise one year later in 2000 after a consistent decline in expense ratio since the beginning of the sample. The effect was not as large as for the LMIs. The mean expense ratio is shown in Figures 1 to 3 below. Figure 4 shows the mean expense ratio for banks. This has a decreasing nonlinear trend over the whole period.

Figure 1: Mean Expense Ratios for LMIs

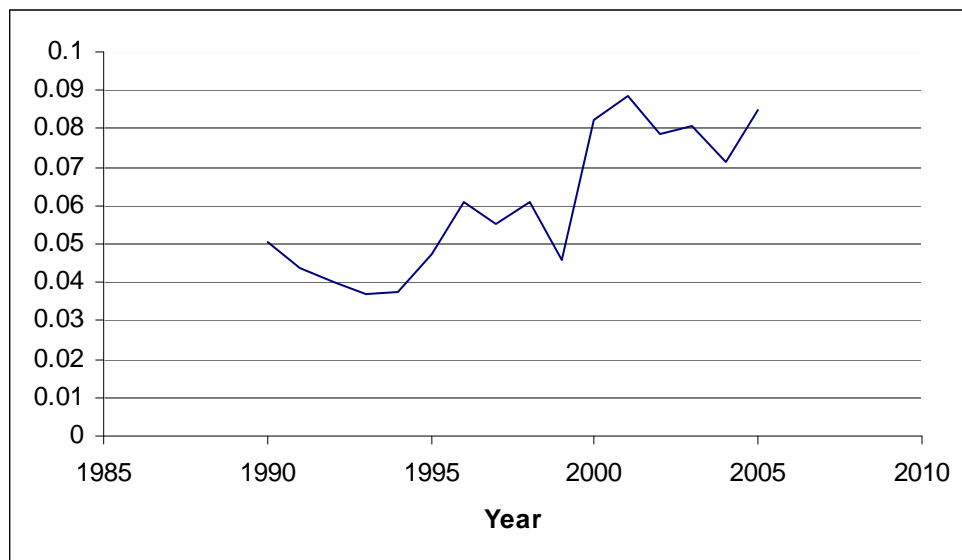


Figure 2: Mean Expense Ratios for LMIs with top 10% trimmed

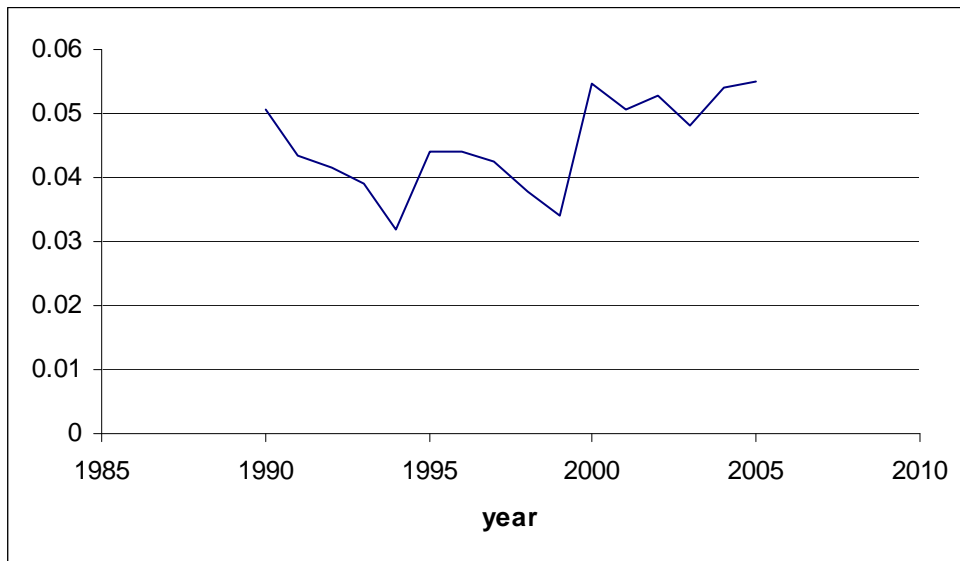


Figure 3: Expense Ratios for OFFs with top 10% trimmed

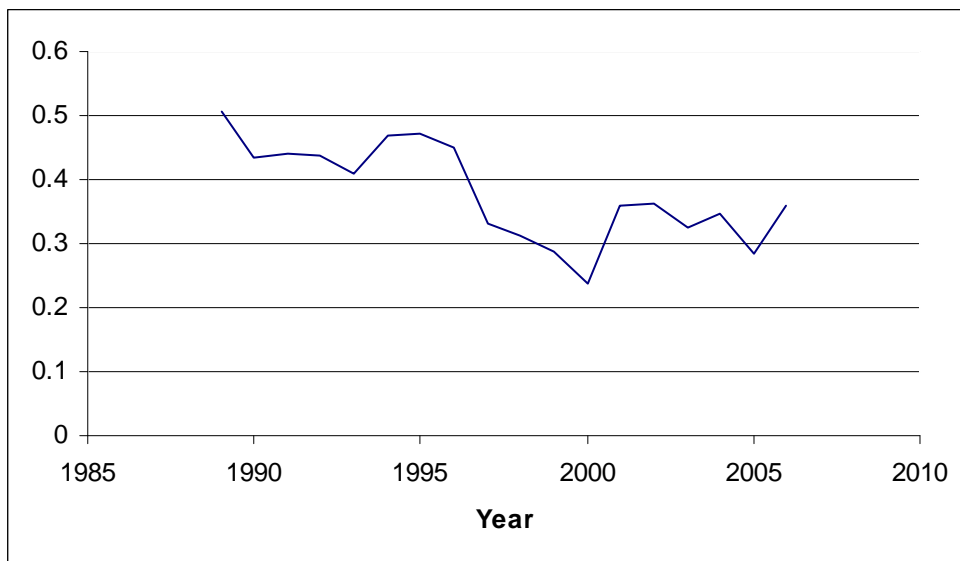
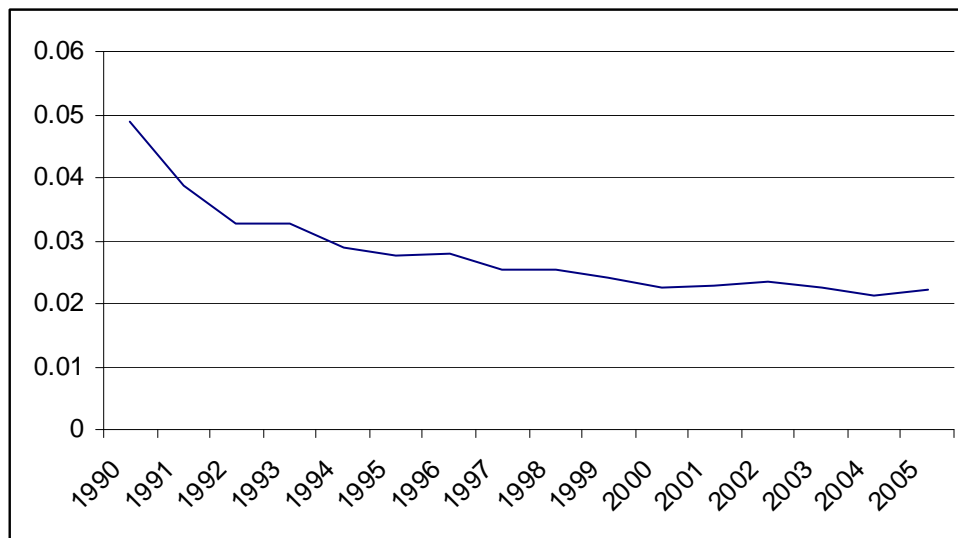


Figure 4: Mean Expense Ratios for banks



The next stage of the analysis was to determine the effect of firm size on the expense ratio and account for this. We would expect that as firm size increased the expense ratio would decrease, due to economies of scale. The effect of firm size and year effects were measured simultaneously using panel data models, with fixed effects for the years. The model used was:

$$ER_{it} = \alpha_0 + \alpha_t + \beta_1 \log(TA_{it}) + u_{it}, \quad (1)$$

where ER_{it} is the expense ratio at time t for company i , TA is total assets and α_t is the fixed effect at time t . This effect measures the difference in the expense ratio between different periods and is equivalent to using a different intercept in the model for each year. These fixed effects are normalised to sum to zero. The effect of firm size is assumed to remain constant over time. The estimation results for this model are shown in Table 4 below and the fixed effects are plotted in Figures 5 to 8. These show the differences between the years, once firm size has been taken into account. The results are consistent with those from plotting the mean expense ratios.

Table 4: Estimation Results for Model 1.

	Coefficient	Std Error	p-value	R²
LMIs – all firms included				
α_0	0.2045	0.0465	0.0000	
β_1	-0.007285	0.002458	0.0032	0.0336
LMIs – top 10% trimmed				
α_0	0.1415	0.0297	0.0000	
β_1	-0.005019	0.001567	0.0014	0.0278
OFFs – top 10% trimmed				
α_0	0.8934	0.1757	0.0000	
β_1	-0.03248	0.01071	0.0026	0.0466
Banks				
α_0	0.05001	0.00842	0.0000	
β_1	-0.001017	0.000361	0.0055	0.2336

As expected there is a negative and significant relationship between the expense ratio and the company size. Except for the banks, the R²s are small, but the p-value shows the relationship to be significant.

Figure 5: Fixed effects for model 1 using all LMIs.

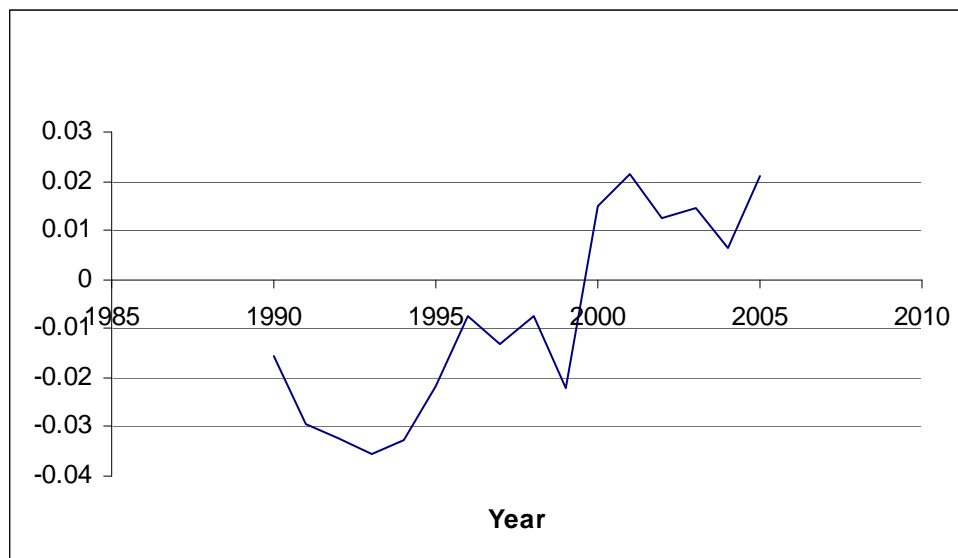


Figure 6: Fixed effects for model 1 using LMIs with top 10% trimmed.

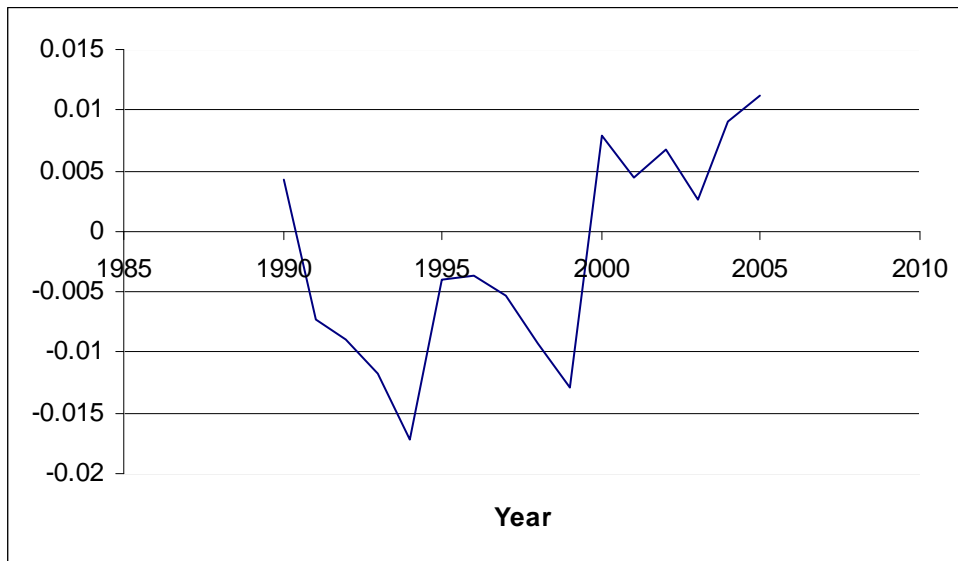


Figure 7: Fixed effects for model 1 using OFFs with top 10% trimmed.

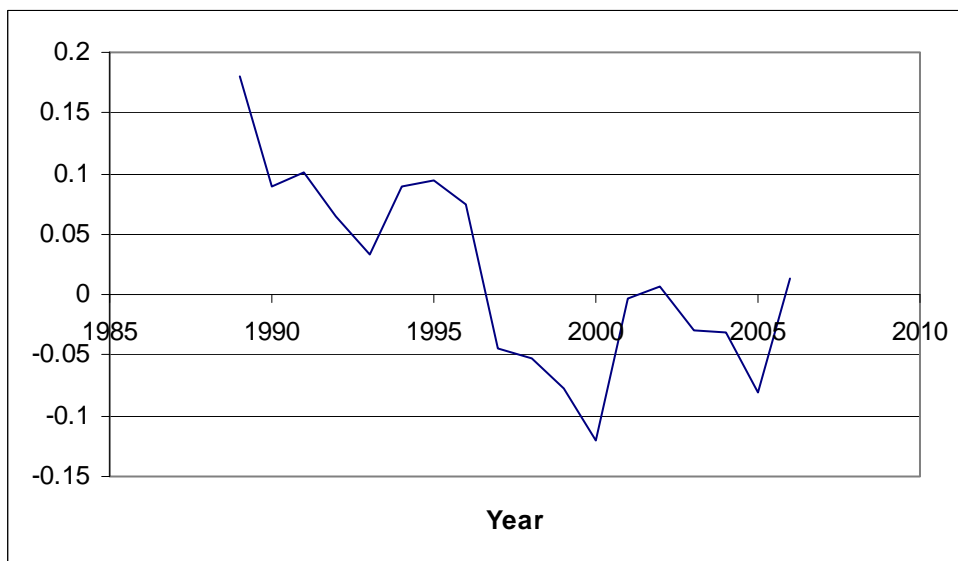
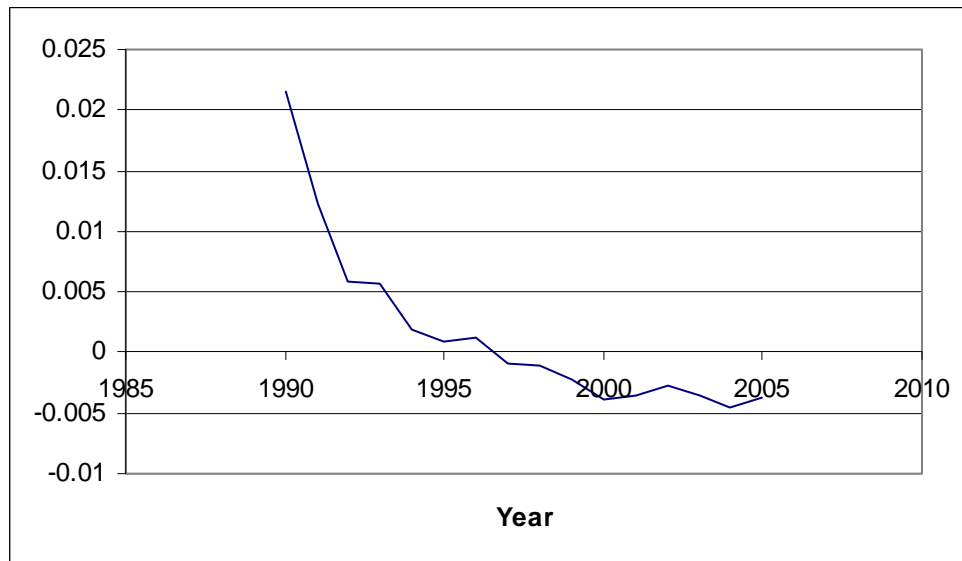


Figure 8: Fixed effects for Banks using Model 1



Based on the values of the mean expense ratios we have assumed that the models were likely to be different for each group and therefore estimated three different models. As a test of this assumption we fitted model 2 below;

$$ER_{it} = \alpha_0 + \alpha_t + \beta_1 \log(TA_{it}) + \beta_2 LMI_i + \beta_3 Bank_i + \beta_4 LMI_i \log(TA_{it}) + \beta_5 Bank_i \log(TA_{it}) + u_{it}, \quad (2)$$

where *LMI* is a dummy variable that is one if the company is a listed managed investment trust and zero otherwise and *Bank* is the corresponding dummy variable for banks.

Table 5: Estimation Results for Model 2.

	Coefficient	Std Error	p-value	R²
α_0	0.9111	0.1087	0.0000	
β_1	-0.007285	0.002458	0.0032	
β_2	-0.7349	0.1509	0.0000	
β_3	-0.8746	0.2274	0.0001	
β_4	0.02822	0.00865	0.0011	
β_5	0.03332	0.01083	0.0021	0.2509
Wald Test for Coefficient Restrictions				
	Value	Std Error	p-value	
$\beta_2 - \beta_3 = 0$	-0.1366	0.2256	0.5359	
$\beta_4 - \beta_5 = 0$	0.005098	0.01019	0.6170	
	F-Statistic	p-value		
Both	0.5267	0.5907		

The results for the dummy variables show that both the slope and intercept of the OFFs are different from both the LMIs and the banks. Wald tests on the dummy variable coefficients show there is no significant difference between the intercept or slopes for the banks and LMIs. There is a very different pattern between the fixed effects for the two groups though, so for the remainder of the analysis we have treated the three groups separately.

It is possible that market returns could have an impact on the expense ratio. A company investing in shares would have its total assets increase but not its expenses when share prices rose, thus causing a decrease in the expense ratio. As market returns are the same for all firms in all years they cannot be included directly into the panel data as they would cause confounding with the yearly fixed effects. To provide some insight into this the fixed effects were regressed against market returns and correlations between returns and the fixed effects were calculated. The results are given in Table 6 below.

Table 6: Results for regression of fixed effects on market returns and correlations.

	Coefficient	Std Error	p-value	Correlation
	LMIs – all firms included			
<i>Intercept</i>	-0.006078	0.008615	0.4906	
<i>Slope</i>	-0.007910	0.08369	0.9259	-0.0236
	OFFs – top 10% trimmed			
<i>Intercept</i>	0.04034	0.02322	0.1016	
<i>Slope</i>	-0.3522	0.2255	0.1380	-0.3636
	Banks			
<i>Intercept</i>	0.002925	0.002326	0.2292	
<i>Slope</i>	-0.02281	0.02345	0.3473	-0.2515

Although the relationship was negative, as predicted, all the estimated correlation were weak and no significant relationship was found between market returns and any of the fixed effects.

A more detailed analysis was then carried out for the LMIs. Of the 64 companies examined, 29 are classified as “diversified financials” and 22 as “real estate”. The remaining 13 are spread over five categories with two being unclassified. Based on this, dummy variables for “diversified financials” and “real estate” were used leaving the remaining firms as the base case in a broad “others” category. The following model was estimated:

$$ER_{it} = \alpha_0 + \alpha_i + \beta_1 \log(TA_{it}) + \beta_2 DF_i + \beta_3 RE_i + \beta_4 DF_i \log(TA_{it}) + \beta_5 RE_i \log(TA_{it}) + u_{it}, \quad (3)$$

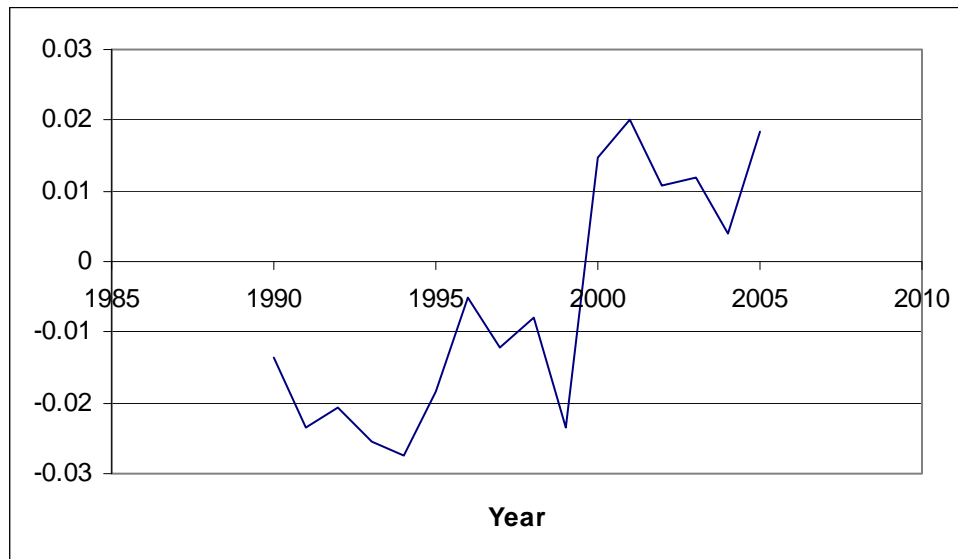
where DF is a dummy variable that is one if the company is classified as diversified financial and zero otherwise and RE is the corresponding dummy variable for real estate trusts. The results are given in Table 7 below.

Table 7: Estimation Results for Model 3.

	Coefficient	Std Error	p-value	R²
α_0	0.3532	0.0836	0.0000	
β_1	-0.01510	0.00455	0.0010	
β_2	0.04008	0.1132	0.7235	
β_3	-0.3462	0.1369	0.0117	
β_4	-0.003430	0.006164	0.5780	
β_5	0.01887	0.00705	0.0077	0.0782
F-test for Redundant Variables				
	F-Statistic	p-value		
$\beta_2 = \beta_4 = 0$	1.5694	0.2090		
Wald Test for Coefficient Restrictions				
	Value	Std Error	p-value	
$\beta_2 - \beta_3 = 0$	0.3863	0.1328	0.0036	
$\beta_4 - \beta_5 = 0$	-0.02230	0.00682	0.0011	
	F-Statistic	p-value		
Both	13.423	0.0000		

The results show that there is no significant difference between the estimated equations between the diversified financials and the others category, but the real estate category differs from both the diversified financials and the others. The real estate companies may have lower expense ratios when the companies are relatively small, but this effect decreases as firm size increases.

Figure 9: Fixed effects for LMIs when sector and size effects are excluded.



The graph of the fixed effects shows a very large increase in the expense ratio in 1999. As a check on the robustness of these results the model was re-estimated with the firms with the 10% highest expense ratios excluded. The results are given in Table 8 below:

Table 8: Estimation Results for Model 3 with top 10% of firms excluded.

	Coefficient	Std Error	p-value	R ²
α_0	0.1643	0.0537	0.0023	
β_1	-0.005981	0.002280	0.0383	
β_2	0.1573	0.0709	0.0268	
β_3	-0.09797	0.08956	0.2744	
β_4	-0.009602	0.003820	0.0122	
β_5	0.005689	0.004566	0.2134	0.1005
F-test for Redundant Variables				
	F-Statistic	p-value		
$\beta_3 = \beta_5 = 0$	1.6465	0.1936		
Wald Test for Coefficient Restrictions				
	Value	Std Error	p-value	
$\beta_2 - \beta_3 = 0$	0.2553	0.08539	0.0028	
$\beta_4 - \beta_5 = 0$	-0.01529	0.00436	0.0004	
	F-Statistic	p-value		
Both	23.227	0.0000		

The results show that there is no significant difference between the estimated equations between the real estate and the others category, but the diversified financials category differs from both the real estate and the others. The results on significance are different to those found when all LMIs are used when the top 10% of firms are trimmed. This is unsurprising as the sample sizes in each subcategory are small. It is clear though that differences exist between the categories. As a result separate models were estimated for the diversified financials and the real estate category. This was not done for the others because the sample size of thirteen was considered to be too small.

Table 9: Estimation Results for Model 1 for LMI categories.

	Coefficient	Std Error	p-value	R²
	Diversified Financials			
α_0	0.3857	0.0665	0.0000	
β_1	-0.01826	0.00363	0.0000	0.0853
	Real Estate			
α_0	0.02660	0.1389	0.8483	
β_1	0.02866	0.00691	0.4148	0.0241

A surprising result is that when the real estate investment trusts are considered separately there is no evidence of any economies of scale as the coefficient of the size variable is insignificant and positive. The fixed effects for the two sectors are shown in Figures 10 and 11 below. The fixed effects for the diversified financials show the same strong increase in 1999. The real estate companies behave rather differently. Their fixed effects are generally increasing over time except for the period 1996 to 1999, when there is an overall decrease.

Figure 10: Fixed Effects for Diversified Financials

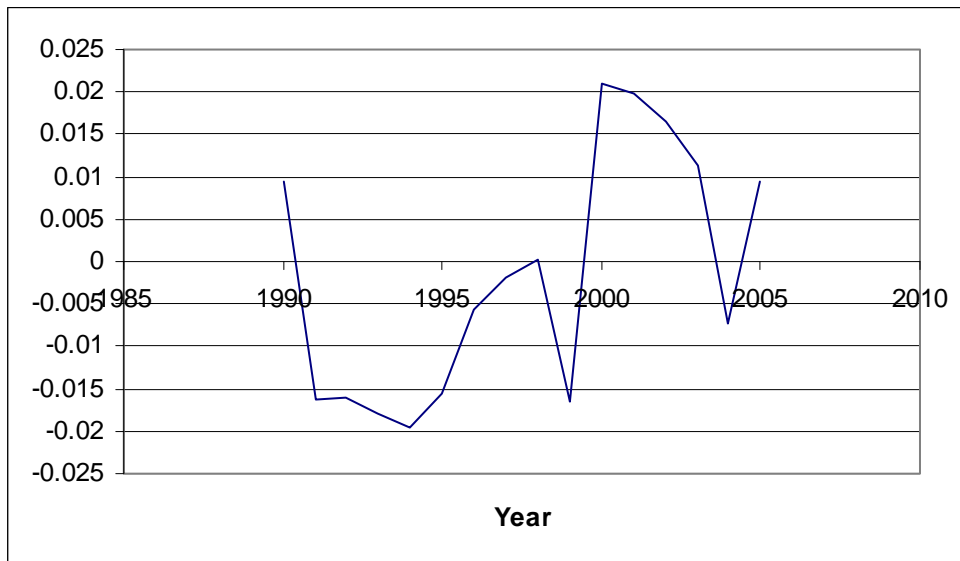
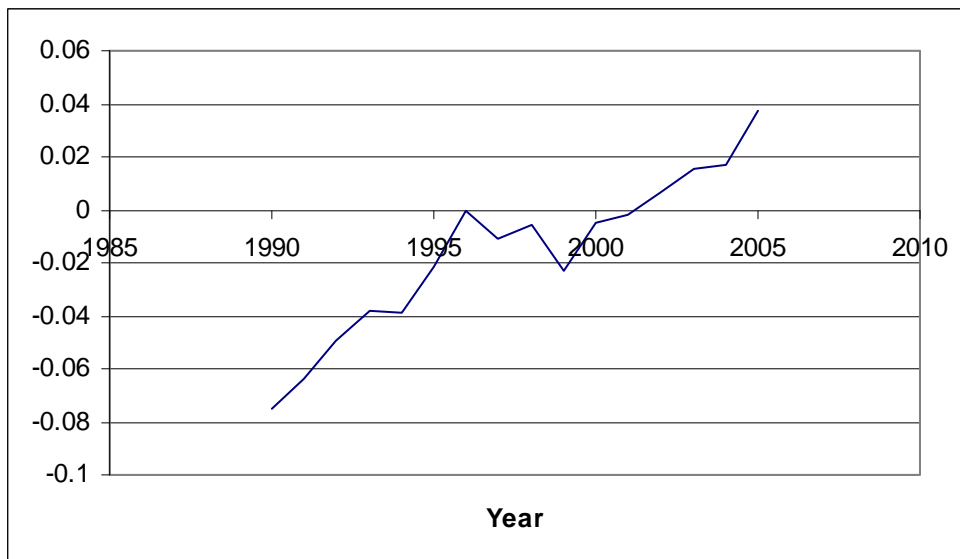


Figure 11: Fixed Effects for Real Estate



7. Results

The results contained in this paper represent stage one of an ongoing study. This stage reports the results for the base case i.e. it covers those firms (LMIs) not affected by the identified regulation yet the analysis indicates that their costs have increased over the period 1997 – 2005. All firms show changes in their expense ratios over the time period analysed in this report.

OFFs and LMIs show sudden increases in the mean expense ratio in 2000 and 1999 respectively. The underlying reason for this phenomenon needs further analysis. The mean expense ratio for the banks exhibited a decreasing non linear trend over the entire period.

The analysis then examined the effect of firm size on the expense ratio. The result was that once firm size has been taken into account, the results are still consistent with the observations obtained with regards the mean expense ratios.

The relationship between market returns and the impact on the expense ratio was analysed. The results were that although the relationship was negative all of the estimated correlations were weak and the conclusion is that no significant relationship was found between returns and any of the fixed effects.

Our analysis has shown increases of around three percentage points in firms' expense ratios in a single year. Using the median asset value of a listed management investment company of \$137 million, this is an approximate cost increase of \$4 million in a single year for a typical firm.

8. Further Research

This Working Paper represents stage one of an ongoing project to examine the costs of regulation in the financial services industry. Data for this analysis has been extracted from annual reports for the identified LMIs.

Further work to identify the possible causes of the results contained in this Working Paper has been identified as the next stage of this project.

Stage two of this project will involve replicating this study but using the data from the MorningStar data base. The benefit of this approach is that the firms incorporated in the study will be expanded to include some 1600 firms.

9. Conclusion

The results of this study have concluded that around 2000 the firms in this study have experienced substantial increases in their costs and as a result their expense ratios.

This has occurred at the same time that significant changes were introduced in the financial services sector. Although the legislation considered does not directly impact on the firms considered, no other factor has been determined that explains this phenomenon.

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Appendix 1 – Listed Firms Classified as Financials

	Listed Managed Investments (LMIs)	Listing date	Code
1	ABERDEEN LEADERS LIMITED	1987	ALR
2	ARGO INVESTMENTS LIMITED	1946	ARG
3	AUSTRALIAN FOUNDATION INVESTMENT COMPANY LIMITED	1962	AFI
4	AUSTRALIAN UNITED INVESTMENT COMPANY LIMITED	1974	AUI
5	CARLTON INVESTMENTS LIMITED	1970	CIN
6	CHOISEUL INVESTMENTS LIMITED	1971	CHO
7	DIVERSIFIED UNITED INVESTMENT LIMITED	1991	DUI
8	DJERRIWARRH INVESTMENTS LIMITED	1995	DJW
9	HUNTLEY INVESTMENT COMPANY LIMITED	1994	HIC
10	IRONBARK CAPITAL LIMITED	1987	IBC
11	MILTON CORPORATION LIMITED	1962	MLT
12	NEW PRIVATEER HOLDINGS LIMITED	1985	NPH
13	SYLVASTATE LIMITED	1971	SYL
14	WHITEFIELD LIMITED	1971	WHF
15	BENTLEY INTERNATIONAL LIMITED	1986	BEL
16	PLATINUM CAPITAL LIMITED	1994	PMC
17**	TEMPLETON GLOBAL GROWTH FUND LIMITED	1987	TGG
18**	ADVENT LIMITED	1991	ADT
19*	CHARTER PACIFIC CORPORATION LIMITED	1989	CHF
20	COLONIAL FIRST STATE PRIVATE CAPITAL LIMITED	1987	CFI
21	CVC LIMITED	1985	CVC
22	GOWING BROS LIMITED	1962	GOW
23	STRATEGIC POOLED DEVELOPMENT LIMITED	1994	SPD
24	PHOSPHAGENICS LIMITED	1993	POH
25	ASPEN GROUP	1991	APZ
26	GPT GROUP	1971	GPT
27	STOCKLAND	1987	SGP
28	THAKRAL HOLDINGS GROUP	1994	THG
29	CFS RETAIL PROPERTY TRUST	1994	CFX
30**	ESPLANADE PROPERTY FUND	1993	EPF
31	ING INDUSTRIAL FUND	1991	IIF
32	MIRVAC REAL ESTATE INVESTMENT TRUST	1993	MRZ
33	MACQUARIE COUNTRYWIDE TRUST	1995	MCW
34	MACQUARIE OFFICE TRUST	1993	MOF
35	Amcil	1996	AMH
36	International Wine Invest	1996	IWI
37	Macquarie Infrastructure	1996	MIG
38	Transurban Group	1996	TCL
39	Australian Hotel	1996	AHO
40	Carindale Property	1996	CDP
41	Orchid Capital Limited	1997	ORC
42	Australian Infrastructure	1997	AIX
43	Envestra Limited	1997	ENV
44	Odyssey Gaming Limited	1997	ODG
45	Centro Properties Group	1997	CNP
46**	Australand	1997	ALZ
47	Bunnings Warehouse	1998	BWP
48	MTM Entertainment	1998	MME
49**	Babcock & Brown Environmental	1998	BEI
50	Commonwealth Diversified	1998	CDF
51	Macquarie Leisure	1998	MLE

52	Challenger Wine Trust	1999	CWT
53	Commonwealth Property	1999	CPA
54	WAM Capital	1999	WAM
55	Authorised Investment Fund	1999	AIY
56**	Cytophia Limited	1999	CYT
57	First Opportunity Fund	1999	FOF
58	Mariner Bridge Investments	1999	MBR
59	MFS Living and Leisure	1999	MPY
60	Mirvac Group	1999	MGR
61	Australian Pipeline Trust	2000	APA
62	Biotech Capital	2000	BTC
63	ING Office Fund	2000	IOF
64	Investa Property	2000	IPG
	Total LMIs (2000-2005)	64	

*This firm had the highest expense ratio of all LMIs in the study and was excluded from the analysis.

**These firms were identified as having an expense ratio in the 10% highest of the sample and were trimmed from the sample for some of the analysis as a robustness check.

Other Financials – Excluding Banks

1	ALEXANDERS SECURITIES LIMITED	1971	ALE
2**	AUSTRALIAN INSTITUTE OF PROPERTY MANAGEMENT LIMITED	1994	APM
3	BELMONT HOLDINGS LIMITED	1971	BET
4	BISAN LIMITED	1987	BSN
5	CHAPMANS LIMITED	1971	CHP
6	CI RESOURCES LIMITED	1987	CII
7	DKN FINANCIAL GROUP LIMITED	1989	DKN
8	EQUITY TRUSTEES LIMITED	1985	EQT
9	EUROZ LIMITED	1971	EZL
10	HILLCREST LITIGATION SERVICES LIMITED.	1993	HLS
11	LONDON CITY EQUITIES LIMITED	1987	LCE
12	MACARTHURCOOK LIMITED	1991	MCK
13	MARINER FINANCIAL LIMITED	1986	MFI
14	MRI HOLDINGS LIMITED.	1971	MRI
15	MURCHISON HOLDINGS LIMITED	1975	MCH
16	PERPETUAL LIMITED	1988	PPT
17	PUBLIC HOLDINGS (AUSTRALIA) LIMITED	1970	PHA
18	QUEST INVESTMENTS LIMITED	1972	QST
19	RIMCAPITAL LIMITED	1995	RMC
20	SCARBOROUGH EQUITIES LIMITED	1994	SCB
21**	SINO STRATEGIC INTERNATIONAL LIMITED	1987	SSI
22	SNOWBALL GROUP LIMITED	1986	SNO
23	SUNVEST CORPORATION LIMITED	1987	SVS
24**	TASMANIAN PERPETUAL TRUSTEES LIMITED	1986	TPX
25	TOLHURST GROUP LIMITED	1994	TNL
26	TOOTH & COMPANY LIMITED	1961	TTH
27	TREASURY GROUP LIMITED	1987	TRG
28	VERUS INVESTMENTS LIMITED	1989	VIL
29	WASHINGTON H SOUL PATTINSON & COMPANY LIMITED	1962	SOL
30	WHK GROUP LIMITED	1987	WHG
31	ASX LIMITED	1998	ASX
32**	FIRST CAPITAL GROUP LIMITED	1999	FIC
33	INTEGRATED INVESTMENT GROUP LIMITED	1999	IIG
34	IWL LIMITED	1999	IWL
35	ONCARD INTERNATIONAL LIMITED	1999	ONC
36**	PACIFIC ENVIROMIN LIMITED	1999	PEV
37	AEQUS CAPITAL LIMITED	2000	AQE
38	CLIME INVESTMENT MANAGEMENT LTD	2000	CIW
39	COUNT FINANCIAL LIMITED	2000	COU
40	FIDUCIAN PORTFOLIO SERVICES LIMITED	2000	FPS
41	GRANDBRIDGE LIMITED	2000	GBA
42	IFC CAPITAL LIMITED	2000	IFC
43	IMF (AUSTRALIA) LTD	2000	IMF
44	IPERNICA LIMITED	2000	IPR
45	TIDEWATER INVESTMENTS LIMITED	2000	TDI
46	TRANZACT FINANCIAL SERVICES LIMITED	2000	TFS

**These firms were identified as having an expense ratio in the 10% highest of the sample and were excluded from the analysis.

Banks

1	ADELAIDE BANK LIMITED	1992	ADB
2	AUSTRALIA AND NEW ZEALAND BANKING GROUP LIMITED	1969	ANZ
3	BANK OF QUEENSLAND LIMITED.	1971	BOQ
4	BENDIGO BANK LIMITED	1985	BEN
5	COMMONWEALTH BANK OF AUSTRALIA.	1991	CBA
6	ROCK BUILDING SOCIETY LIMITED (THE)	1992	ROK
7	ST GEORGE BANK LIMITED	1992	SGB
8	WESTPAC BANKING CORPORATION	1970	WBC
9	MACKAY PERMANENT BUILDING SOCIETY LIMITED	2000	MPB
10	MACQUARIE BANK LIMITED	1996	MBL
11	NATIONAL AUSTRALIA BANK LIMITED	1974	NAB
12	WIDE BAY AUSTRALIA LTD	1994	WBB

A further three firms were listed as banks on the ASX, but we were unable to obtain sufficient data for them.