

## The significance of proxies for agency costs under different governance approaches

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Received 26 January 2010, revised 10 March 2010, accepted 15 March 2010

### Abstract

This study examines the impact different proxies of agency costs have on companies under different governance approaches. The two specific proxies of agency costs used include: (i) the ratio of operating expenses to annual sales; and (ii) the ratio of annual sales to total assets. Our study is based on earlier works of Ang *et al.* (2000) and Fleming *et al.* (2005). A comparison of results for small unlisted companies both in US and Australia indicate that agency cost measures have statistically: (1) different results under rule-based governance mechanisms; and (2) the same results under principle-based governance mechanisms. Our findings support the view that the effectiveness of different measures of agency cost is dependent on country specific governance factors as well as on the governance approaches adopted. Our results offer insights to both practitioners and policy makers regarding the usefulness of different proxies of agency costs when companies adopt principle-based corporate governance approaches versus rule-based approaches.

*Keywords:* Agency costs, company, governance mechanism, proxy.

### 1. Introduction

Jensen and Meckling (1976) provided the theoretical work that established the existence of agency costs between the owner-manager; other studies undertaken internationally have provided empirical support for this theory. Studies that have attempted to directly measure agency costs include: Ang *et al.* (2000) (hereafter ACL) and Singh and Davidson (2003), McKnight and Weir (2009) and Fleming *et al.* (2005) (hereafter FHM). ACL were one of the first to measure the magnitude of agency cost by using the operating expenses to annual sales ratio and the annual sales to total assets ratio. FHM in their study used the same measures as ACL. McKnight and Weir (2009) on the other hand used the assets to sales ratio, the interaction of free cash flow, growth prospects and the number of companies acquired by a company as proxies for agency costs in their study.

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The choice of an adequate proxy for agency cost is extremely important as it is also influenced by country specific factors such as product and factor markets, political, legal and regulatory frameworks, as well as internal control systems (Dojidge *et al.*, 2004). Craswell *et al.* (1997) using Australian data showed that when nation-specific factors are considered, the impact agency costs have on companies differed from the findings reported using US data. Core *et al.* (1999) reported the existence of high agency problems in US listed companies that applied rule-based governance approaches. Henry (2010) on the other hand reported that the adoption of specific corporate governance approaches had no influence on agency costs in Australian companies.

Therefore, the focus of this study is to determine the optimal measure of agency cost for companies under different governance practices. As a result, the efficiency of proxies of agency costs under principle-based versus rule-based corporate governance approaches is undertaken. By comparing results reported by ACL and FHM we find that there is a statistically significantly different result between the US-based and the Australian-based data. We find that the two measures of agency costs have significantly different results from the US-based data but the same results from the Australian-based data. Moreover, for Australian-based data, we find that the results have the same statistical significance across years.

This paper is structured as follows. Section 2 describes the literature relating to agency costs and provides data description. Section 3 presents and discusses the results of the study and in section 4 some conclusions are drawn.

## 2. Related studies

Agency costs arise when the interest of the firm's manager are not aligned with that of the firm's owners. Managers that do not have any equity stake in the firm tends to have a high preference for job perks, shirking, and making self-interested and entrenched decisions rather than creating wealth for the shareholders. The impact self seeking behaviour have on firms depends on factors such as the nature of monitoring and bonding contracts, the manager's taste for non-pecuniary benefits and the cost of replacing the manager (Jensen and Meckling, 1976; Shleifer and Vishny, 1989).

Prior research have examined both theoretically and empirically the effect agency costs have on financial performance of companies (Ang *et al.*, 2000; Core *et al.*, 1999; Dewenter and Warther, 1998; Fleming *et al.*, 2005; La Porta *et al.*, 2000; McKnight and Weir, 2009; Singh and Davidson III, 2003; Watts and Zimmerman, 1990) and Ang *et al.* (2000) was one of the first to have attempted to measure the magnitude of agency cost. Using a sample drawn from the Federal Reserve Board's National Survey of Small Business Finances (NSSBF), ACL compared the zero agency cost firm postulated by Jensen and Meckling (that is, a firm with a single owner-manager) to firms with different ownership structures. ACL surveyed 4637 unlisted US companies in 1992. Using a sample drawn from the Australian Bureau of Statistics (2002), FHM compared a firm with a single owner-manager to firms with different ownership structures. FHM survey included 7613 companies in 1996-1998, 3820 companies in 1996-1997 and 3793 companies in 1997-1998. FHM did the same analysis as ACL for the two measures of the owner-manager agency costs. The first measure considered the difference in expenses between a firm with a certain ownership and management structure and the no-agency-cost base firm. The second measure considered the difference in the efficiency

ratio, which measures the loss in revenue attributable to inefficient asset utilisation, usually arising from poor investment decisions or management's shirking. It is determined by the ratio of annual sales to total assets. FHM refer this as the asset utilization ratio. Using similar methodology of ACL, Singh and Davidson (2003) analysed listed US companies and McKnight and Weir (2009) examined large listed UK companies.

### 3. Comparison

We compare the results of the two measures of agency costs used by ACL under various conditions. The values of the ratios of the operating expenses to annual sales and the annual sales to total assets are the same as that was reported by ACL and FHM in their studies. Since ACL and FHM have used operating expenses to annual sales ratio and annual sales to total assets ratio as a direct measure of agency costs in their studies, this study also uses the same data source and empirical framework.

To facilitate cross-sectional comparisons, expenses are standardised by annual sales expenses. The data is partitioned based upon the manager type (owner-manager, outsider-manager). To compare, a series of different tests are employed, that is, t-test and Mann-Whitney U-test. The Mann-Whitney U-test is viewed as the nonparametric equivalent of t-test. The major difference between the two tests is regarding the normal distribution of data. Normal distribution of data is not necessary a requirement for Mann Whitney U-test.

The format for tables in this study is similar to that of tables in ACL and FHM. In Tables 3.1, 3.2, 3.3 and 3.4, we denote Operating Expense-to-Annual Sales Ratio as OE/AS and Annual Sales-to-Total Assets Ratio as AS/TA. Tables 3.1, 3.2, 3.3 and 3.4 report the results of a series of different tests, respectively. The first column lists the variable that is being tested. As in the ACL and FHM studies, four variables are used.: (1) an indicator for companies in which the company manager is a shareholder; (2) an indicator for companies in which primary owner owns more than half of the company; (3) an indicator for companies in which one family owns more than half of the company; and (4) an indicator for companies in which no owner or family owns more than half of the company. Table 3.1 provides results of the parametric test approach, t-test, of the US-data and the Australia-data.

**Table 3.1** Parametric approach for agency costs

	Differences (Owner-Manager, Outsider-Manger) in Mean			
	US (by ACL)		AUS (by FHM)	
	OE/AS	AS/TA	OE/AS	AS/TA
All firms	5.0*	-0.41*	1.27*	-52.65*
Primary owner owns 10% of the firm	3.4	-0.57	-0.30	6.45
Primary owner owns >50% of the firm	2.8	-0.59*	-0.22	6.71
A single family owns >50% of the firm	3.9*	-0.33	0.31	-2.42
No owner or family owns > 50% of the firm	7.2*	-0.74	2.15*	-42.80*

\* indicates statistical significance at the 5% level.

The second and third columns report the ratio of operating expenses to annual sales ratio and annual sales to total assets calculated using the US-data. When the entire sample is

employed, the operating expenses to annual sales ratio is significant, however, the annual sales to total assets ratio is not statistically significant at the 5% level. The next subsample analysed is case (1) in which the primary owner owns 100% of the company. In this case, the operating expenses to annual sales ratio and the annual sales to total assets are not significant. The final three samples represent other ownership structures. In case (2), none of the ratio is significant. In case (3) and (4) the operating expenses to annual sales ratio is significant; however, the annual sales to total assets ratio is not significant at the 5% level. The fourth and fifth columns report the ratio of operating expenses to annual sales and the annual sales to total assets calculated using the Australia-data. The statistical significance of the two measures at 5% level is exactly same.

To confirm that our research is robust with respect to sample distributions, we perform nonparametric tests. Table 3.2 present the results from the Mann-Whitney U-test to compare two measures.

**Table 3.2** Nonparametric approach for agency costs

	Difference(Owner-Manager, Outsider-Manger) in Median			
	US(by ACL)		AUS(by FHM)	
	OE/AS	AS/TA	OE/AS	AS/TA
All firms	10.2*	-0.3	1.16*	-52.74*
Primary owner owns 10% of the firm	5.9*	-0.21	0.34	-3.48
Primary owner owns >50% of the firm	6.2	-0.20	0.40	-4.46
A single family owns >50% of the firm	7.3*	-0.12	0.50	-9.87
No owner or family owns >50% of the firm	12.9*	-0.65*	1.43*	-39.04*

\* indicates statistical significance at the 5% level.

The second and third columns report the ratio of operating expenses to annual sales ratio and the ratio of annual sales to total assets calculated using the US-data. The fourth and fifth columns report the ratio of operating expenses to annual sales and the annual sales to total assets calculated using the Australia-data. For the full sample, displayed in line 1, from the US-data, the operating expenses to annual sales ratio is significant at the 5% level, however, the annual sales to total assets ratio is not significant at the 5% level. On the other hand, from the Australian-data, we find that the ratio is all significant at the 5% level. For case (1) and (3), displayed in line 2 and 4, we find that the operating expenses to annual sales ratio from US-data is statistically significant at the 5% level, however, the annual sales to total assets ratio is not significant at the 5% level. On the other hand, from the Australian-data, we find that none of the ratio is significant at the 5% level. For case (2), displayed in line 3, we find that two measures from US-data are not statistically significant at the 5% level, and the two measures from the Australian-data are not statistically significant at the 5% level. For case (4), displayed in line 5, we find that two measures from the US-data are statistically significant at the 5% level, and the two measures from the Australian-data are statistically significant at the 5% level, too. In the US-data, both the operating expenses ratio and the assets ratio (efficiency) showed different results, however, in the Australian-data, both ratios had the same results. In conclusion, the results reported in Tables 3.1 and 3.2 show that the two measures have different statistical significances depending on the

country.

In an attempt to further analyse the Australian-data, we conduct an additional series of comparison. Table 3.3 and Table 3.4 are the results of the parametric, nonparametric approach of across year data, respectively. Table 3.3 reports the results of across years of analysis of the difference in mean of measures using the Australian-data. The results from 1996-1997 data are listed in the second and third columns and the results from 1997-1998 data are listed in the fourth and fifth columns in Table 3.3. The second and fourth column describes the results for the ratio of operating expenses to annual sales. The third and fifth column describe the results from the ratio of annual sales to total assets.

**Table 3.3** Parametric approach for Australian agency costs

	Difference (Owner-Manager, Outsider-Manger) in Mean			
	1996-1997(by Fleming-2005)		1997-1998(by Fleming-2005)	
	Operating-Sales	Sales-Assets	Operating-Sales	Sales-Assets
All firms	1.25*	-51.94*	1.27*	-52.65*
Primary owner owns 10% of the firm	-0.59	-3.14	-0.30	6.45
Primary owner owns >50% of the firm	-0.06	-0.33	-0.22	6.71
A single family owns >50% of the firm	-0.92	0.18	0.31	-2.42
No owner or family owns> 50% of the firm	2.49*	-44.66*	2.15*	-42.80*

\* indicates statistical significance at the 5% level

Table 3.4 present the results from the Mann-Whitney U-test to compare our two measures, the ratio of operating expenses to annual sales and the annual sales to total assets. The results from 1996-1997 data are listed in the second and third columns and the results from 1997-1998 data are listed in the fourth and fifth columns in Table 3.4. The second and fourth columns describe the results from the ratio of operating expenses to annual sales. The third and fifth column describe the results from the ratio of annual sales to total assets.

**Table 3.4** Nonparametric approach for Australian agency costs

	Difference(Owner Manager, Outsider manger) in Median			
	1996-1997(by Fleming-2005)		1997-1998(by Fleming-2005)	
	Operating-Sales	Sales-Assets	Operating-Sales	Sales-Assets
All firms	1.82*	-47.84*	1.16*	-52.74*
Primary owner owns 10% of the firm	-1.33	-28.09	0.34	-3.48
Primary owner owns >50% of the firm	-0.64	-23.07	0.40	-4.46
A single family owns >50% of the firm	-1.15	-17.63	0.50	-19.87
No owner or family owns> 50% of the firm	2.46*	-31.57*	1.43*	-39.04*

\* indicates statistical significance at the 5% level

The results reported in Tables 3.3 and 3.4 shows that the two measures of agency costs, that is, the ratio of operating expenses to annual sales and the annual sales to total assets,

have the same statistical significance results across the years.

The results reported in Tables 3.1, 3.2, 3.3 and 3.4, for the US-data show that the two measures of agency costs have different results. For the Australian-data, results for both measures of agency costs have the same results. Therefore, based on these findings it is concluded that country specific factors and the governance approach that a country adopts has an effect on the significance of two alternative measures of agency costs.

#### 4. Discussion

To apply agency theory to a wide range of low to high agency cost organisational and management structures, the choice of adequate measure of agency costs is extremely important. This study has examined the efficiency of measures under different corporate governance approaches, that is, rule-based versus principle-based.

Our findings indicate that the results are sensitive to country specific factors as well as to the specific corporate governance approaches adopted. The results provided in Tables 3.1, 3.2, 3.3 and 3.4 suggest that both proxies for agency costs, that is, operating expenses and the assets utilisation ratios are effective measures for small corporations in the US. However, only one proxy for agency cost is effective for small corporations in Australia. Our findings are useful for determining the appropriate measure of agency costs for studies involving different countries and governance approaches. However, one should be careful in generalising the implications of the results because, in this study, we looked at small unlisted US and Australian companies. In further studies we intend to extend our research to large and listed companies and include more countries.

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