

INCIDENCE AND INCENTIVES FOR THE VOLUNTARY DISCLOSURE OF EMPLOYEE ENTITLEMENT INFORMATION ENCOURAGED UNDER AASB 1028

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Abstract

This paper examines the determinants of voluntary disclosure by firms of employee entitlement actuarial assumptions under AASB 1028. It draws on proprietary costs of information and stakeholder theory to make predictions about factors, which influences the disclosure of the actuarial assumptions. This framework is chosen after a review of alternative theories used to investigate voluntary disclosure. It is found that disclosure is negatively related to the power of firms' employees, and firm economic performance. Disclosures are weakly, positively related to firm size in the multivariate model.

Key Words: Voluntary Disclosures, Proprietary Costs, Superannuation

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Introduction

'AASB 1028 - Accounting for Employee Entitlements' was released by the Australian Accounting Standards Board in March 1994 and had effect from 30 June 1995. It mandates disclosure of employee entitlement information, such as accrued long service leave, accrued sick leave, superannuation entitlements and other post retirement benefits (paragraph 14). The standard specified present value as the preferred means of disclosing liabilities for employee entitlements (paragraph 12). Present value is calculated using a discount rate equal to the national government guaranteed security rate on the securities which have terms to maturity that match, as closely as possible, the terms of the related liabilities (paragraph 13).

The standard encourages disclosure of the actuarial assumptions, which are necessary for calculations of the present value of these entitlements (commentary xlv). This is because users of the financial statements find the present values of employee entitlements more understandable if actuarial assumptions are disclosed (commentary xlv). However, the actuarial assumptions used to compute the present value of employee entitlements (discount rate, term to maturity of the liabilities and assumed increase in employee entitlements to the date of maturity) do not have to be disclosed (see endnote 1).

Stakeholders interested in the ultimate entitlement accruing to employees are interested in the actuarial assumptions. Previous research indicates that Defined Benefit Superannuation Plan valuations (a subset of

employee entitlements) are found to be sensitive to changes in actuarial assumptions and disclosures of the existence of the plans is found to be value relevant (Barth, 1991). Research also indicates that potential proprietary costs are related to lower disclosures of pension information (Scott, 1994).

The research problems identified in this study are to determine the level of voluntary disclosures of actuarial assumptions and predict the characteristics of firms that provide these disclosures. Voluntary disclosure of employee entitlement data is an interesting phenomenon to study for several reasons. First, the Australian Accounting Standards Board in the preface to AASB 1028 notified users of the standards that it would be reviewing and amending the standard's mandated disclosures relating to superannuation entitlements. Amendments to the superannuation entitlement provisions could be extended to all employee entitlements in the standard.

Second, an investigation of the motivation for firms' voluntary disclosure provides information to regulators, which is useful in developing amendments to the standard. Third, previous research has tended to focus on mandated disclosures and neglected voluntary disclosures as a source of information between managers and external parties (Verrecchia, 1990).

This study extends voluntary disclosure research by focusing on the proprietary costs of disclosing actuarial assumptions to the relevant interested stakeholders. Firms with higher proprietary costs associated with actuarial assumptions are less likely to disclose.

This paper is arranged as follows. Section two considers relevant research areas applicable to the voluntary disclosures investigated in this study and developed testable hypotheses about the characteristics of firms voluntarily disclosing the actuarial assumptions used to compute the present value of employee entitlements. Section three describes data collection while section four reports the results of univariate and multivariate statistical tests. Finally, section five concludes with a discussion of the limitations of the paper and suggestions for future research.

2. Development of Hypotheses

It is generally accepted that managers disclose non-mandated information after analysing a trade off between costs and benefits to the firm and/or the manager. Relevant costs and benefits must then be identified. Apparent costs of voluntary disclosure include the preparation and dissemination costs associated with disclosure to external parties (Foster, 1986).

Earlier theories of voluntary disclosure focus on management's concern with market valuation of the firm. Firms with favourable private information have an incentive to disclose this information to increase market value. These theories also rely on the reasoning that rational investors know that firms hold private information and have an incentive to disclose favourable information. Thus, rational investors interpret non-disclosure as the firm withholding the most unfavourable information possible. Market value of these nondisclosing firms is therefore expected to decrease. Rationally, firm should disclose all relevant information that is not the worst possible outcome (Grossman, 1981; Milgrom, 1981).

However, firms did not in practice reach this level of disclosure because the costs to firms of disclosing all relevant information are inherently high. General explanations for voluntary disclosures have been investigated using a number of frameworks including proprietary costs (Verrecchia, 1983), political costs (Watts and Zimmerman, 1978), information costs (Diamond, 1985), legitimacy theory (Patten, 1992) and stakeholder theory (Freeman, 1983, 1984). Interested stakeholders and the proprietary nature of the information and its impact on the firms are identified in this study to predict the characteristics of firms that voluntarily disclose the actuarial assumptions. Actuarial assumptions are expected to have higher proprietary costs of disclosure depending on the power of stakeholders most interested in this information. This study uses stakeholder theory to identify interested parties so that appropriate measures of proprietary costs are identified.

Proprietary costs are imposed by a variety of disclosures because the information is 'useful to competitors, shareholders, or employees in a way which is harmful to the firm's prospects even if (or perhaps because) the information is favourable (sic)'

(Verrecchia, 1983, 182). Proprietary costs are a function of the information observed by the manager (Verrecchia, 1983). Managers when estimating proprietary costs of information identify specific stakeholders most interested in the information.

Freeman defined the concept of stakeholders as those who can affect, or are affected by, the accomplishment of the organisational purpose. The term is not technical or restricted and applied to many groups in society. Amongst these groups Freeman (1984) includes owners, customers, employees, suppliers, governments, competitors, consumer advocates, environmentalists, special interest groups and the media. A means of identifying stakeholders associated with higher proprietary costs in a voluntary disclosure context is identifying the directness of their interest in the disclosure under scrutiny. The group of stakeholders with the most direct interest in the actuarial assumptions used by the firms in reaching a present value amount for the employee entitlements is employees of the particular firms. They are interested in these data because this knowledge allows them to calculate their likely benefits at maturity more accurately.

All other stakeholders appeared to have only varying degrees of indirect interest in the information under scrutiny in this study. They are not interested in the disclosures per se, but are interested in the reaction of the employees to the information disclosed. These stakeholders do not interpret non-disclosure of actuarial assumptions as necessarily unfavourable information because they are aware of the potential proprietary costs associated with the disclosures.

Three key stakeholders are included in this grouping. First, shareholders are concerned about the value of their investment if the employees take industrial action over amounts of employee entitlements disclosed. Second, regulators are asked to adjudicate on any such dispute. Finally, creditors are likely to perceive their investment under threat if the employees or regulators take actions, which drive the firm into liquidation. It is rational for firms to control their relationships with the indirect stakeholders by controlling their relationships with each of the stakeholders with direct interests. In this way, firms are able to avoid costly actions with all their stakeholders by avoiding actions which cause the stakeholders who are directly interested in the disclosure under study to impose costs on the firm.

Direct stakeholders for this study are employees and employee groups. The power of these stakeholders is identified as the key determinant for disclosures. Actuarial assumptions are sensitive to higher proprietary costs and political pressures from employee stakeholders because employees are likely to question the actuarial assumptions adopted in determining employee entitlements. It is hypothesised that firms with more powerful employee stakeholders are less likely to disclose actuarial assumptions regardless of the recommendations of AASB 1028.

Higher proprietary costs of disclosure indicated by stakeholder power held by employees are proxied in this study in four ways. First, it is represented by the level of unionisation of the workforce. Unions are collective bargaining organisations, designed to increase the power of employees by aggregating their demands. The rationale behind this aggregation is that the employees combined have more bargaining power than single employees do.

Employees have the ability to impose costs on the firm in a collective and organised manner.

This can be done via strikes, picket lines and other industrial action. Firms are less likely to disclose actuarial assumptions to all employees in annual reports when firms are more highly unionised. Therefore, it is hypothesised that:

H1: Firms with more highly unionised workforces are less likely to voluntarily disclose employee entitlement actuarial assumptions than firms with less unionised workforces.

The second proxy for employee stakeholder power is used as a test of robustness of unionisation and also as a way to overcome difficulties in the collection of the first proxy. Labour intensity is used as a variable to measure the extent to which a firm relies on labour to produce wealth, in much the same way as capital intensity measures the proportion of a firm's wealth created in reliance on fixed assets (Jackson and McConnell, 1980). Deegan and Hallam (1991) proposed that higher levels of this variable render a firm more vulnerable to union and/or employee action. Firms more reliant on labour, are more damaged by any action taken by employees or their organising groups and therefore, the less likely the firm is to disclose sensitive employee information. Thus it is hypothesised that:

H2: Firms with lower levels of labour intensity are more likely to voluntarily disclose employee entitlement actuarial assumptions than firms with higher levels of labour intensity.

The third proxy used to represent employee stakeholder power is the number of employees employed by the firm, scaled by the firm's total assets. This proxy represents the reliance placed upon labour by the firm, relative to the firm's size. In this way it is a measure of employee power not unlike labour intensity. It is hypothesised that:

H3: Firms with higher ratios of number of employees to total assets are less likely to voluntarily disclose employee entitlement actuarial assumptions than firms with lower ratios of numbers of employees to total assets.

A further measure of stakeholder employee power is proxied by the per capita employee entitlement. That is, the employee entitlement as disclosed divided by the number of employees in the firm. The greater this amount, the less likely is the firm to disclose. The firm has greater entitlements such as sick leave, long service leave and superannuation. A limitation of this measure of stakeholder power and related proprietary costs is that home firms are likely to allow only the

employment award mandated entitlements to most employees. Use of the variable is possibly also confounded if any variation in the figure is caused by differences in the mix of types of employee (for example, skilled versus unskilled labour) in the firms. This results in differences because of the alternative staffing structures and not differences in employee power. Matching firms in the sample on the basis of industry partly solves the problem. Firms in the same industry are more likely to have the same overall staffing structures.

It is expected that, all else being equal, some variation exists between firms on this measure that relate to differences other than differences in the award and staffing structures. These differences indicate true variations in stakeholder power and the decision by management to disclose actuarial assumptions. Thus the following is hypothesised.

H4: Firms with lower average employee entitlement obligations per employee are more likely to voluntarily disclose employee entitlement actuarial assumptions than firms with higher average employee entitlement obligations per employee.

Further explanations for disclosure other than power of employees are sought to explain the disclosure/non disclosures of actuarial assumptions. The potential for increased proprietary costs imposed through increased demands for employee entitlement are higher when there are large reported profits and higher economic performance (Watts and Zimmerman, 1978). Actuarial assumptions are more sensitive to employee discontent and calls for reassessment of employee entitlements when the firm has good economic performance. Therefore, it is expected that firms with higher economic performance are less likely to disclose actuarial assumptions. This led to hypothesis five as follows.

H5: Firms with higher economic performance are less likely to voluntarily disclose employee entitlement actuarial assumptions than firms with lower economic performance.

Past studies in the area of voluntary disclosure have consistently found that the size of firms is positively related to their levels of voluntary disclosure (Ball and Foster, 1982). Given that the present study identifies employees as the relevant stakeholders and the power of these stakeholders should be proxied adequately by the above variables, size should not necessarily be a significant explanation of disclosure. However, past studies have consistently shown size to be an explanation for voluntary disclosure. Size is included as a variable to be measured in the study.

3. Data Collection

3.1 Sample Selection

The dependent variable in this study is disclosure of employee entitlement actuarial assumptions as detailed in commentary xlvi of AASB 1028. The theoretical population of potential disclosers is defined

for the purposes of this study to be those firms contained on the Connect 4 CD-ROM database of the Australian Top 500 firms for the first annual report date on or after 30 June 1995 (the date the standard came into force).

This population is chosen for two reasons. First, historically larger firms are more likely to disclose sensitive information. Therefore, this population provides the best opportunity to find a high proportion of disclosing firms. Second, the Connect 4 database has a text search capability, allowing easy identification of disclosing firms. Those firms disclosing are found by a search, limited to the 1995 and 1996 years. This search found 19 firms amongst the Top 500, which disclosed the actuarial assumptions in the first year, ended on or after 30 June 1995 (the date of effect of the standard). Two control firms are sought in the same industry, matched as closely as possible on number of employees² to ensure some similarity of size for each of these disclosing firms. These requirements are not possible for some disclosing firms, in which case only one control firm is obtained.

Firms are excluded because financial statements are prepared in accordance with the accounting requirements of the United States and in US dollars (one firm), because employee numbers could not be discovered from any source (one firm) and because annual reports are not available in the Connect 4, AGSM data bases or kept in hard copy form at the University of Queensland Economics Library (three firms). This led to a sample size of 46 firms (18 disclosers and 28 non-disclosers) for which public information is available. Each of these firms is sent a questionnaire asking for details regarding the number of employees engaged in Australia, the unionisation levels of these employees and the number of unions active in the firms' workplace. A second mailing in four weeks is made to increase the response rate. This led to 31 responses (11 disclosers and 20 non-disclosers) representing a response rate of 67 per cent.

3.2 Dependent Variable Specification and Collection

AASB 1028 encouraged firms to disclose three assumptions: the term to settlement of the liabilities, the assumed discount rate and the assumed increase in employees' entitlements up to the time of settlement of the liabilities. If any of these disclosures is made, the dependent variable is coded as 1. Non-disclosers are coded 0. Of the disclosing firms in the sample, only one did not disclose all three assumptions. The disclosure not made is of the assumed discount rate. Interested parties could determine this rate by reference to the figure disclosed by the firm regarding the length of time to the settlement of the liabilities and relating this to the discount rate on the government security which most closely matched this term. The use of a dichotomous variable regarding disclosure could therefore be supported.

3.3 Independent Variable Specification and Collection

Unionisation of the firms' workforces is collected from the questionnaires sent to the firms and thus is only available for the firms that responded to the mail out. The variable is calculated by taking the firm's number of unionised employees as a proportion of all staff employed by the firm.

The second variable used to measure employee stakeholder power and political sensitivity is labour intensity. This variable is derived from capital intensity and measures the extent to which a firm relied on labour to produce wealth. It is calculated, as proposed by Deegan and Hallam (1991), as:

$$1 - (\text{Net Fixed Assets} / \text{Total Assets})$$

Labour intensity is collectable from the annual reports of all firms in the sample. It therefore overcame the problem of the unionisation variable being dependent upon firms responding to the questionnaire.

The third variable used to measure employees' stakeholder power is the number of staff employed, scaled by the size of the firm. The size of a firm's workforce, relative to the firm's overall size, indicates the power of the employees in much the same way as labour intensity. It shows how much reliance the firm put on labour to create wealth. The number of employees working for each firm is first taken from the questionnaire. If this information is not available because the firm did not respond, the number of employees is taken from the firm's listing in the Business Who's Who of Australia (1995). Per capita employee obligations is obtained by taking the employee obligations at their present value (as disclosed in the notes to the accounts) and dividing by the number of employees as determined for the staff variable above. Economic performance could be proxied by either accounting or market based measures. Accounting based measures provided an advantage over market based measures because market based measures reflect investors' estimates of firms' future performance, whereas a more appropriate measure is an estimate of past or current performance (Ullman, 1985). Market based measures also have the disadvantages that the information content of disclosure potentially influence the market price of the firm and that confounding events make measurement of market based returns unreliable. Accounting based measures also have limitations because earnings are frequently manipulated by management (Holthausen, 1990). They may not accurately reflect the firm's true performance. This study uses returns on assets (ROA) in the year of disclosure as a percentage of the industry average ROA to proxy for economic performance. Economic performance is likely to be related to an industry, as opposed to an economic benchmark. Return on assets (ROA) for this purpose is defined to be net profit before tax divided by total assets as disclosed in each firm's financial statements.

The firms' ROAs are expressed as a proportion of industry ROA provided by the Australian Bureau of Statistics (ABS) in Business Operations and Industry Performance (1995). This publication uses the Australian and New Zealand Industry Classifications which are broader categories than the SIC codes and reduces problems in identifying each firm's industry.

Control Variable Size

Research indicates that employee numbers, assets and revenues have been used as measures of size. The measure of size used in this paper is the natural log of total assets disclosed in the firms' annual reports.

4. Results

4.1 Descriptive Statistics

Panel A of Table 1 indicates that variables are approximately normally distributed. Parametric tests have been found to be robust to slight deviations from normality (Burns, 1994). For this reason parametric tests are appropriate. Panel B provides a correlation matrix for the variables. Alternative proxies for employee stakeholder power (unionisation, labour intensity, staff/assets and average employee obligations) are not highly and significantly ($P < 0.10$) correlated with each other with the exception that employee obligations and staff/assets are correlated with $r = .51$ at $p = 0.01$.

Insert table 1

4.2 Univariate Results

The variables are tested in a univariate setting by independent group t-tests, using Disclose as the grouping variable. Non-parametric univariate (Kruskal-Wallis) tests data produce similar results. Table 2 displays these results.

Insert table 2

The table shows that unionisation, labour intensity and staff/assets have significant explanatory power of disclosure. All are in the negative direction as predicted. In contrast, employee obligations, industry ROA and size do not provide significant results.

4.3 Logistic Regression Model

A logistic regression model is used to estimate multivariate results in this study because of the dichotomous nature of the dependent variable. The general model is specified as:

$$\text{Disclose} = \beta_0 + \beta_1 \text{ Unionisation} + \beta_2 \text{ Labour Intensity} + \beta_3 \text{ Staff/Assets} + \beta_4 \text{ Employee Obligations} + \beta_5 \text{ ROA vs Industry ROA} + \beta_6 \text{ Size (LogAssets)}$$

The results using the logit model are reproduced in table 3. It can be seen from the table that overall the model is of high explanatory power, with the Chi-

squared statistic significant at less than one percent. Three employee stakeholder power measures are in the negative direction, with staff/assets and employee obligations significant at $p = 0.02$ and unionisation significant at $p = 0.10$. This implies that those firms with more powerful employees are less likely to disclose the actuarial assumptions. Size is positive and weakly significant at $p = 0.10$ in support of the past voluntary disclosure literature, possibly indicating that larger firms are more likely to disclose voluntary information. The economic performance variable is also significant in the negative direction with $p = 0.06$.

Insert table 3

Very few firms voluntarily disclose the actuarial assumptions, given that only 19 of the Top 500 chose to disclose. It is unlikely that many more firms voluntarily disclosed this information over the time of the study, as larger firms are more likely to disclose. Mandatory disclosure appears to be the only solution if regulators consider disclosure of actuarial assumptions necessary for users of financial statements.

4.4 Non-response Analysis

It is important to analyse the data to determine whether there are any significant differences between those firms that responded to the survey and those which did not because some of the variables for this study are collected by means of a questionnaire. This is done to identify any potential non-response bias in order that it could be taken into account when interpreting the results. Table 4, Panel A provides the results of independent samples t-tests for the continuous independent variables, panel B provides chi-squared tests for the categorical variables and Panel C supplies chi square tests for early and late respondents (Oppenheim, 1966) for the unionisation variable.

Insert table 4

The independent samples t-tests in Table 4 shows that the respondents differed significantly from the non-respondents for size. This suggests that smaller firms are less likely to reply because they have a lack of staff designated to process administrative material, including questionnaires. However, this is not a major impediment to the study as size is included as a control variable in the model and the relationship between size and disclosure is not a key issue of the research. The Chi-squared tests in panel B show that there are no significant differences between respondents and non-respondents on disclosure.

It is not possible to compare respondents and non-respondents regarding the unionisation figures because unionisation is not available from any public source. For the purposes of testing it is assumed that later respondents had similar characteristics to non-

respondents (Oppenheim, 1966). To determine whether there is a non-response bias on the variable unionisation, the responses are separated into early and late responses and t-tests are used to compare the two groups. The result reported in panel C, Table 4, shows a weakly significant difference between the early and late respondents. Late respondents had less unionised workforces.

5. Conclusions, Limitations and Suggestions for Future Research

A limitation occurs because of the manner in which the information is disclosed to the interested parties. If the information is relevant to only one group of stakeholders (as here) it is potentially less costly for the firms to disclose the information to that group only. As the method of disclosure in this study is the firm's annual report the sampling would not have identified this private disclosure.

Another limitation of this study is the small sample size. This is because of the lack of firms disclosing the information. An external validity problem also arises because of the use of firms from the Top 500. Doubts are potentially cast upon the extent to which the results of this study are generalisable to the entire population of firms. These problems are of lesser concern given that the study shows that larger firms are more likely to disclose. The small number of disclosures also made it impractical to distinguish the different forms of employee entitlements and therefore added another limitation to the study.

A further limitation is the inability to effectively control for industry in the Australian corporate environment by matching firms. Australian firms are very diversified and attempts to match them on the basis of industry are limited. This problem possibly led to industry being an uncontrolled variable in the model. A firm's industry cannot therefore be completely eliminated as an uncontrolled explanation of the voluntary disclosure of the actuarial assumptions.

The limitation of employee obligations per employee has been noted previously. Construct validity problems arise if it cannot be assumed that firms in the same industry employ approximately the same mix of types of workers and that some firms allow greater than the award mandated entitlements to their employees. In this case, the variable would not measure the proprietary costs of disclosure of firms in the sample. Instead, the variable measures differences in the firms' workforce mix or differences in award structures between firms.

This study looks at the disclosure by firms in the year in which the standard came into force. It is useful to determine whether firms change their disclosure decisions over time and provide reasons for this change. If it is possible to access greater numbers of firms' annual reports (for example, all firms listed on the Australian Stock Exchange) in a form allowing a

text search (as on the Connect-4 database) the study could be replicated using a larger sample of disclosing firms. However, given the apparent size effect found by this study, it may be questioned whether there would be many disclosers outside the Top 500.)

References

1. Australian Accounting Standards Board. 'AASB 1028 - Accounting for Employee Entitlements', 1994.
2. Australian Bureau of Statistics, Business Operations and Industry Performance, Australia., Australian Bureau of Statistics, 1995.
3. Australian Business Rankings., Riddell Information Services, 1994.
4. Ball R. and G. Foster, 'Corporate Financial Reporting: A Methodological Review of Empirical Research', Journal of Accounting Research, Supplement 1982.
5. Barth M., 'Relative Measurement Errors Among Alternative Asset and Liability Measures', The Accounting Review, July 1991.
6. Burns R., Introduction to Research Methods, Longman Australia, 1994.
7. Business Who's Who of Australia, Riddell Information Services, 1995.
8. Deegan C. and A. Hallam, 'Voluntary Presentation of Value Added Statements - A Political Cost Perspective', Accounting and Finance, June 1991.
9. Diamond D., 'Optimal Release of Information by Firms', The Journal of Finance, September 1985.
10. Foster G., Financial Statement Analysis (2nd ed.), Prentice-Hall, 1986.
11. Freeman R., 'Strategic Management: A Stakeholder Approach', Advances in Strategic Management, 1 1983.
12. _____, Strategic Management: A Stakeholder Approach. Marshfield: Pitman, 1984.
13. Grossman S., 'The Informational Role of Warranties and Private Disclosure about Product Quality', Journal of Law and Economics, December 1981.
14. Holthausen R., 'Accounting Method Choice: Opportunistic Behaviour, Efficient Contracting and Information Perspectives', Journal of Accounting and Economics, January 1990.
15. Jackson J. and C. McConnell, Economics., McGraw-Hill, 1980.
16. Kent P. and K. Ung K., 'The Incentives and Factors that Explain Voluntary Disclosure of Earnings Forecasts in Annual Reports: Australian Evidence', European Accounting Conference, April 1997.
17. McGuire J., A. Sundgren and T. Schneeweis, 'Corporate Social Responsibility and Firm Financial Performance', Academy of Management Journal, December 1988.
18. Milgrom P., 'Good News and Bad News: Representation Theorems and Applications', Bell Journal of Economics, Autumn 1981.
19. Oppenheim A. Questionnaire Design and Attitude Measurement., Heinemann Books, 1966.
20. Patten D., 'Intra-Industry Environmental Disclosures in Response to the Alaskan Oil Spill: A Note on Legitimacy Theory', Accounting Organizations and Society, July 1992.
21. Scott T., 'Incentives and Disincentives for Financial Disclosure: Voluntary Disclosure of Defined Benefit Pension Plan Information by Canadian Firms', The Accounting Review, January 1994.
22. Ullmann A., 'Data in Search of a Theory: A Critical Examination of the Relationships Among Social

- Performance, Social Disclosure and Economic Performance of US Firms', Academy of Management Review, July 1985.
23. Verrecchia R., 'Discretionary Disclosure', Journal of Accounting and Economics, December 1983.
24. Verrecchia, R., 'Endogenous Proprietary Costs Through Firm Interdependence', Journal of Accounting and Economics, January 1990.
25. Watts R. and J. Zimmerman, 'Towards a Positive Theory of the Determination of Accounting Standards', The Accounting Review, January 1978.

Appendices

Table 1. Panel A - Descriptive Statistics of Data

Variable	Min	Max	Mean	Std Dev.	Skew-ness	Kurtosis
Unionisation	0.00	0.80	0.22	0.22	0.89	-0.25
Labour Intensity	0.08	0.99	0.36	0.24	0.85	-0.15
Staff/ Assets	1.00	12.23	4.72	3.66	0.94	-0.59
Employee Obligations	0.00	0.01	0.01	0.01	1.13	0.25
ROA vs Industry	-1.45	4.31	1.38	1.35	0.38	0.10
Size (Log Assets)	2.86	7.95	5.09	1.17	0.31	-0.15

Panel B - Pearson Correlation Matrix

	Disclose	Unionisation	Labour Intensity	Staff/ Assets	Employee Obligations	ROA vs Industry	Size (Log Assets)
Disclose	1						
Unionisation	-0.24 (0.19)	1					
Labour Intensity	-0.26 (0.14)	-0.04 (0.79)	1				
Staff/ Assets	-0.44 (0.013)	0.04 (0.81)	0.28 (0.11)	1			
Employee Obligations	-0.05 (0.78)	0.26 (0.15)	0.01 (0.93)	-0.51 (0.01)	1		
ROA vs Industry	-0.26 (0.15)	0.16 (0.36)	-0.08 (0.65)	-0.01 (0.97)	-0.06 (0.72)	1	
Size (Log Assets)	0.02 (0.89)	0.58 (0.00)	-0.24 (0.18)	-0.07 (0.67)	0.43 (0.01)	-0.08 (0.65)	1

Table 2. T Test Results for Disclosers and Non Disclosers

Independent samples t-tests.

Disclose:	Yes		No		t	p one tailed
	Mean	Std Dev.	Mean	Std Dev.		
Unionisation	0.15	0.18	0.26	0.24	-1.33	0.09
Labour Intensity	0.29	0.19	0.38	0.24	-1.36	0.09
Staff/Assets	2.58	1.57	5.28	4.16	-2.62	0.006
Employee Obligations	0.007	0.004	0.006	0.006	1.05	0.14
ROA vs Industry	1.09	1.38	1.52	1.69	-0.89	0.18
Size (Log Assets)	5.55	1.43	5.29	1.33	0.64	0.52*

* two tailed

Table 3. Logistic Regression Model Predicting Disclosure of Actuarial Assumptions

Variable	Coefficient	Standard Error	t	p one tailed
Constant	-0.86	3.67	-0.23	0.81*
Unionisation	-5.03	3.93	-1.28	0.10
Labour Intensity	-0.07	3.41	-0.02	0.49
Staff/ Assets	-0.95	0.44	-2.15	0.02
Employee Obligations	-467.60	225.31	-2.07	0.02
ROA vs Industry	-0.91	0.58	-1.55	0.06
Size (Log Assets)	1.65	1.00	1.65	0.10*

$\chi^2 = 19.31$ p = 0.004

* Two tailed test

Table 4. Panel A - Non-Response Analysis - Independent Samples t-tests

Respond:	Yes		No		t	p two tailed
	Mean	Std Dev.	Mean	Std Dev.		
Labour Intensity	0.36	0.24	0.31	0.18	0.73	0.46
Staff/Assets	4.72	3.66	3.18	3.43	1.36	0.17
Employee Obligations	0.006	0.005	0.007	0.005	-0.99	0.32
ROA vs Industry	1.38	1.35	1.28	2.02	0.19	0.84
ln (Size Assets)	5.09	1.17	6.03	1.54	-2.29	0.02

Panel B - Chi-Squared Goodness of Fit Tests

Respond vs Disclosure

Disclosure:	Yes	No	Total
Respond: Yes	11	20	31
No	7	8	15
Total	18	28	46

$\chi^2 = 0.53$ p = 0.46

Panel C - Unionisation Variable for Early and Late Respondents

Response Time	Early		Late		t	p two tailed
	Mean	Std Dev.	Mean	Std Dev.		
Unionisation	0.29	0.27	0.15	0.14	1.71	0.09

Endnotes

1 Commentary xlvii of AASB 1028, while not mandating disclosure, encouraged reporting entities to disclose:

“the weighted average of each of :

- (a) the assumed rates of increase in the annual employee entitlements of persons who are employees at the reporting date, over the periods to the settlement of the liabilities;
- (b) the discount rates used to measure liabilities at their present value; and
- (c) the terms to settlement of the liabilities.”

2 Disclosed by Australian Business Rankings (1994)

3 The variance inflation factor for each independent variable is calculated to determine whether multicollinearity is likely to affect the results of any multiple regression testing. Each independent variable is regressed against all of the other variables using the multiple ordinary least squares regression model. None of the variables is correlated with the others to an extent that is likely to invalidate results.