

Economic recession, corporate distress and income increasing accounting policy choice

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Abstract

In late 1997 much of the Asian region experienced a major economic downturn. Such economic conditions can give rise to external pressure on corporate managers, so that they react to this pressure by changing accounting policy choice.

The present paper is set in a time period in Australian corporate history when there was also a substantial economic downturn. In that context, the present study examines the use of income increasing policy choice by stock exchange listed companies. In particular, we look at whether companies experiencing financial distress are more inclined to use income increasing policy choice than 'healthy' companies. Prior research supports the view that managers of 'financially troubled' firms try to lift reported income, thereby disclosing more favourable performance measurements and avoiding default of loan agreements and/or enhancing their own wealth.

The results show the use of income increasing policy choice does not increase monotonically with the level of financial distress. In particular, we show that firms classified as 'distressed' which do not subsequently fail in the short term, show a significant tendency to increase reported income using changes in accounting policy. However, firms which subsequently fail within the short term do not select income increasing techniques more frequently than 'healthy' firms.

One reason why firms that fail in the short term may not engage in income increasing policy choice is the clear prospect of imminent *ex post* settling up (including litigation against former directors, auditors and others) which can occur following corporate failure. Such costs are not widely recognized in the tests of accounting policy choice which rely on indicators of financial health such as leverage or interest coverage.

Introduction

The effects of the most recent downturn in activity in Asian economies have been both profound and widespread. These effects included pressures on the worth and performance of major companies in several Asian

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economies, and increased the motivation for management's opportunistic use of discretionary accounting policy choice options, so as to portray their company in a more favourable light than is actually the case (e.g., Burgstahler and Dichev, 1997).

The most recent economic downturn in Asia is one of many over the past few decades in many parts of the world. In the late 1980s in a number of economies, including Australia, a serious downturn occurred after a major revision in stock market prices (October 1987). This downward pressure resulted in financial pressure being placed on companies. This pressure results in an elevated level of corporate failures in the late 1980s and, more particularly, the early 1990s.

The purpose of this paper is to examine if (1) corporate distress and (2) proximity to corporate failure can explain corporate managements' use of accounting policy choice to portray a favourable view of the financial performance of their accounting entities.

The paper examines one important aspect of accounting policy choice—that which relates to income increasing accounting methods (including changes to depreciation and other expense recognition and measurement issues). In doing so we seek to observe if both distress and imminent failure of a company can explain the presence (and extent) of the use of income increasing policy choices.

The primary hypothesis is that a measure of financial distress by itself may be insufficient in explaining the adoption of discretionary income increasing accounting methods. In the face of imminent failure we argue that managers of companies may not engage in accounting income increasing policy choice¹ as they may face additional penalties (*ex post* settling up costs) arising from the adoption of such accounting policies. We label such companies as 'failing'. In contrast, financially troubled firms which avert imminent failure (labelled 'distressed' companies) may engage in income increasing policy choice so as to benefit either from efficiently avoiding technical violations by adopting these (or possibly other) accounting techniques or benefit in an opportunistic way from masking some characteristics of their distressed state. Therefore, we hypothesise substantially different behaviour between failing and distressed firms in respect of accounting policy choice.

Financial distress can be defined in many ways. Most commonly,

¹ Our study only examines accounting policy choices that are observable from published accounting reports—they do not (and can not) include those choices which have unintentionally or intentionally not been disclosed. Such policy choices involving deliberate deception, including fraud, are not included. This has the effect of understating the amount of income increasing policy choice and is a limitation to our results since the extent of this type of policy choice is likely not to be the same for the three groups of companies used in the study.

accounting researchers using the costly-contracting paradigm have relied on the extent of leverage as an indicator of probable default. The 'leverage hypothesis', as it has become known, is widely supported in the literature, whereby firms with relatively high leverage are more likely to favour income increasing accounting techniques (Christie, 1990).

Begley (1990) reviews the assumptions underlying tests of the 'leverage hypothesis'. However, her principal focus is on the appropriateness of competing leverage measures as proxies for firms' proximity to their borrowing limitations (i.e., 'potential' financial distress). In contrast, we are primarily concerned with the assumption that the net benefit of adopting income increasing accounting methods is related to the level of financial distress. Where the net expected benefits of switching accounting methods is actually non-monotonic, then cross-sectional variation in the level of 'true' financial distress may reduce the probability of observing a significant relationship between proxies for financial distress and the selection of income-increasing accounting methods.

An alternative approach to the use of leverage as a proxy for the expected cost of financial distress is to apply a multi-dimensional measure. Distress prediction models provide such a measure, incorporating several key indicators which are statistically associated with ultimate failure.² We use such a measure of financial distress, rather than simply leverage or dividend reductions.

Given that the companies under investigation use private rather than public debt, following Gilson (1989), we expect relatively close monitoring of accounting policy choice. In these circumstances, it is possible that key lenders and management may work in collaboration to ensure survival of the firm. In this case, selection of income increasing accounting techniques and/or renegotiation of restrictive covenants may minimise expected costs of financial distress to all parties. However, renegotiation may require unanimous approval by a lending syndicate, whereas accounting technique changes may prove less difficult. An exception would be the case of failing firms, where *ex post* settling-up may impose additional costs on managers found to have arbitrarily increased reported income by the opportunistic choice of accounting policies. Hence, the distinction between failed and distressed firms should be important in predicting the extent to which management selects income increasing accounting methods.

² Discussion of the model used is deferred until Section 3 of the paper. However, the notion of a generalized model which is sensitive to many cues signalling corporate financial distress is not new to the literature and has been discussed in some length in the U.S. (see Altman, 1968), the U.K. (see Taffler, 1982) and in Australia (see Castagna and Matolcsy, 1981).

The inferences in this paper contribute to the increasing body of evidence about accounting policy choice by examining the choice of accounting methods against some neutral benchmark—in this case healthy firms. Hence, our comparison provides a (partial) separation between those methods generally used and those whose choice is motivated by a specific consideration. While a simple comparison of distressed and healthy firms might appear to achieve this objective, we also separately identify distressed firms which subsequently fail in the short term, expecting that the factors motivating accounting policy choice may differ from firms which, although distressed, continue to survive for at least one further accounting period.

In the following section we briefly review prior investigations of the relationship between financial distress and accounting policy choice. Whereas prior research focuses on specific contracts and distress indicators, our approach utilizes a more 'generalized' indicator via application of a model of financial distress. In Section 3, the data sources and research method are explained and our results are described in Section 4. Section 5 presents the results of some additional analyses, while Section 6 summarises our conclusions as well as some potential extensions to this work.

Development of research issue

Prior research indicates that financial distress (as measured in several different ways) can create an incentive to select income increasing accounting techniques. Earlier studies document a consistent positive relationship between leverage and accounting method choice (Christie, 1990). However, Begley (1990) notes that studies of this type have several limiting assumptions: first, they assume that leverage is linearly related to the probability of violating restrictive covenants contained in debt agreements; second, they assume that all firms face the same leverage restrictions; and third, the net benefit of changing accounting technique is assumed to be monotonically related to the probability of covenant violations. More recent research (e.g., Press and Weintrop, 1990) casts doubt on these assumptions showing that the extent and type of restrictive covenants are not constant across firms. It is also apparent that leverage ratios can be significantly associated with the choice of income increasing accounting methods, even in the absence of any explicit restrictive covenants. However, there is a paucity of evidence addressing the extent to which the net expected benefit of 'optimistic' accounting is related to leverage, specific covenants or financial distress generally.

In addition to the studies cited above, further evidence of accounting policy choice being motivated by concerns with the costs of financial

distress comes from studies which identify industry-based financial problems. These studies have an advantage in isolating a context-specific accounting choice among a group of otherwise highly similar firms. Two examples are accounting choices by commercial banks (Moyer, 1990) and by insurance firms (Petroni, 1992). Moyer's (1990) findings suggest that banks select income increasing accounting methods consistent with a desire to avoid violating capital adequacy requirements; Petroni (1992) finds that insurers who are 'financially weak' bias their estimates of loan losses downwards, behaviour which is particularly marked for insurers who are close to receiving regulatory attention. In both studies, the motivation for adopting optimistic accounting methods is concern over the costs of financial distress. While regulatory intervention is obviously an important consideration, other factors, such as higher costs of funds, also underlie managers' actions. While studies of this type do not necessarily establish the direct linkage that is evident in studies based on loan covenant details, the broader concept of financially distressed firms or 'poor performers' may represent a richer motivation for the adoption of optimistic accounting methods than those based more narrowly on borrowing constraints.

This potentially richer approach is used by Christie and Zimmerman (1994), who examine the frequency with which poor performers use opportunistic income increasing accounting techniques, relating to depreciation, inventory valuation and investment tax credits. Poor performers are identified as firms subject to hostile takeover or other forms of control action, based on the belief that such action is a response to poor managerial (and hence, financial) performance. There is evidence that these firms make more frequent use of income increasing accounting methods, even after controlling for choices made by similar firms not subject to hostile control actions. However, it is noteworthy that income increasing accounting policy choices were typically found to be used for some time prior to the initial control action. This finding reinforces the possibility that studies which focus on changes in accounting techniques may be a powerful test of the impact of financial distress.

Another definition of financially distressed firms is provided by De Angelo, De Angelo and Skinner (1994). They find that, if anything, these firms tend to decrease reported income (relative to estimated cash flow) during such a period, a result contrary to most extant literature.³ However, De Angelo et al. identify other material economic circumstances

³ Indirect support for De Angelo et al. (1994) is offered by Healy and Palepu (1990), who examine the effectiveness of dividend-based constraints. They find no evidence of firms considered most in danger of violating these constraints having adopted systematically income-increasing accounting methods. However, their sample selection criteria is very different from De Angelo et al. (1994).

which may significantly alter managers' incentive structures with respect to accounting policy choices.

These include lender and/or union negotiations, governmental lobbying and top management changes. More generally, we suggest that, for firms in genuine financial distress, imminent *ex post* settling up via voluntary or imposed liquidation may also significantly restrict managers' incentives to select income increasing accounting methods.

Our study differs from, and contributes to, the existing literature in several ways:

- (1) by recognizing that the relationship between the extent of accounting income increasing policy choice and the extent of distress is more subtle than a simple linear association between the two. While companies experiencing a moderate level of distress may have an incentive to adopt accounting income increasing techniques, those firms which experience levels of distress leading to imminent failure will have no such incentive. Such incentives may be based on either self-interest or opportunistic behavior on the one hand, or on motives to do with efficient contracting by the company. However, we expect that because of the presence of *ex post* settling up, commonly resulting from litigation against former directors and auditors, there is a self-interest based disincentive for management of failing firms to engage in such practices;
- (2) the measure of distress used in the present study is neither industry specific nor limited to any one 'symptom' of distress. Indeed, the measure used was developed for the principal corporate regulator in the region (the Australian Securities Commission, ASC); and
- (3) the nature of the accounting policy choice we examine is based on a conscious choice and exhibited by way of policy change and not simply an observation of policies (income increasing or otherwise) in place. This is arguably a more powerful test of context-specific accounting policy choice than simply distinguishing practice cross-sectionally.
- (4) the economic context in which we measure policy choice is of a particular type, i.e., economic downturn and recession.

In respect of point (2), we use an alternative (and, it is argued, superior) definition of financial distress from other studies. One widely accepted means of identifying financial distress is use of a failure prediction model, which ranks firms on the basis of a summary score. Failure prediction models are typically multivariate, incorporating a range of information cues to discriminate between financially distressed and non-distressed businesses. Prediction models of this type have as their objective the anticipation of serious corporate distress and failure. Such mod-

els incorporate variables which, in theory, are indicators of corporate distress. These variables typically include leverage, liquidity, cash flow, and profitability, as well as other variables reflecting industry, geographic or regulatory factors where relevant. Hence, use of a prediction model provides a convenient summary of the probability of incurring costs of financial distress. In this way, accounting choice can initially be measured against the *expected* cost of financial distress, as compared to the methods summarized above, all of which rely on *ex post* means of identifying likely candidates for the opportunistic use of income increasing accounting techniques.

Data and method

Our examination of income increasing policy choices is drawn from the West Australian (W.A.) Division of the ASC database. In all, this database contains 463 reporting entities. Of these, 31 relate to non-bank financial institutions. The remaining 432 reporting entities are all companies listed on the Australian Stock Exchange which are also under the monitoring control of the W.A. Division of the ASC. It is this group of 432 companies that comprise the data set relevant to the current study. These companies cover a wide range of industries including: manufacturing, retailing, construction, transportation, consultancy, leisure and tourism, health, farming, investment, mining industries (including mining of all types), research and development, and financial services. Policy changes were identified from annual reports for the reporting year ending within the calendar year 1988.⁴ Of the 432 companies, 49 were removed from the data set as no legible source of data was available to the researchers at the time data was collected. This resulted in a total of 383 firms being included in the data set of accounting policy choices; the data set upon which the ASC corporate failure model was built included all 463 reporting entities.⁵

For the purpose of the ASC prediction process, the construct 'failure' includes companies entering any one of the following states: receivership, voluntary liquidation, compulsory liquidation and provisional liquidation. The models also treated companies that were under formal

⁴ Some might argue that the period 1987–88 may be unusual given the possible effects of the stock market crash in late 1987. The authors know of no theory that would suggest a distortion or bias between the relationship that would otherwise exist between accounting income increasing policy choice and the level of corporate health (or distress). The only exception to this may be that boards of directors may have had heightened sensitivity to the recognition of accounting policies which might elevate the level of policy switching for all companies.

⁵ The model developed is described by Houghton and Smith (1991), though the variable weightings and output of the model are not disclosed, being subject to a legally binding agreement regarding confidentiality between them and the ASC.

ASC/Corporate Affairs or other regulatory or institutional body investigation for non-technical reasons (that is, for substantive concerns relating to the on-going trading of the company) as 'failure'. The definition used is wider than for many other corporate failure prediction models principally through incorporating measures of distress beyond formal legal failure.

Recognition of 'accounting policy choice change' required identification of principal accounting policies for both accounting years 1987 and 1988. In Australia, accounting policy is described within the footnotes to the accounts. Footnotes of all companies were scrutinised for both years to determine accounting policy changes. In some instances companies volunteered the fact that there had been a change in policy; for others this had to be determined from an analysis of the policies in place in each of the two years. Thus, scrutiny of two years' annual reports was necessary to determine if there had been a change in policy.

The 383 companies within the database can be classified into three distinct and mutually exclusive groups.⁶ As at the 1988 point there was one group of companies which, within 12 months of filing the 1988 accounts, experienced failure (as defined above).⁷ This group is labelled the 'failing' companies. As at 1988, 27 companies are within this category, therefore 356 companies are defined as not being imminent failures. Of this group of 356, 141 were designated as 'distressed' based on the ASC distress score. Distress is defined in this data set as being companies which were given a negative score on the ASC corporate failure index but which did not experience failure in the subsequent 12 month period. Therefore, the remaining 215 companies of the 356 non-failure companies were designated as neither failed nor distressed. The term used in this study to describe these companies is 'healthy'. Of the 383 companies under examination a total of 278 policy changes was observed.⁸

Several of these policy changes are of no interest to the present study. Some relate to mandatory changes required by the introduction of vari-

⁶ Note that the groups 'healthy' and 'distressed' are classified using an *ex ante* measure (the 1987 distress scores) while the failing group is an *ex post* measure. It is, however, also true that the failing group are all classed as distressed and amongst them are some of the most 'unhealthy' distress scores. No failing company had a positive distress score.

⁷ The period of 12 months is important since both director and auditors are required to certify as to the 'going concern' (non failure) of the company for a period of one year from the balance date of the accounts.

⁸ Note that these measures do not include policy choices that have an income increasing affect in the 1987-88 year but were put in place at some earlier time. For example, a change in depreciation may have been put into effect in, say 1985, but the impact of it (as an income increasing policy) only came about, or comes about in a substantial way, in the 1987-88 financial year.

ous accounting standards. These changes included the adoption of Australian Accounting Standard (AAS) 17 on accounting for leases, AAS 18 on goodwill, AAS 19 on joint venture arrangements and AAS 20 on foreign exchange. In addition, there were changes which had no income statement effect. One final group of changes which are excluded from our analysis are those policy changes which relate to audit qualifications given in the preceding year. For the purposes of this study these changes are regarded as obligatory rather than discretionary.

There is also a group of 30 policy changes which had an indeterminate effect on reported income. These changes are also excluded from our study because the direction of the effect on the income statement is ambiguous. The remaining 142 changes were categorized into two groups:

- | | |
|-------------------------------|--|
| (1) income-reducing changes | (a) operating items—27 changes |
| | (b) extraordinary items—
36 changes |
| and | |
| (2) income-increasing changes | (a) operating items—43 changes |
| | (b) extraordinary items—
36 changes |

The primary analysis is based on the second group of 79 changes. Given that (1) it is primarily income increasing behaviour of firms that is of interest and (2) all manipulations to reported profit, irrespective of their nature, reflect management policy choices.⁹

Coding of the presence and nature of policy changes was independently undertaken by two researchers with two further people being involved with reconciling any disagreements. Of the 383 companies under examination 48 had only one income increasing policy change in 1988, 14 had two policy changes, and one company had three changes. In all but 30 cases, we could determine the direction of the effect on income, but frequently the magnitude of that effect was not reliably available. Therefore, the analysis that follows is based on the presence or absence of a change, not the financial magnitude. Given the application of the relevant accounting standard on materiality one can argue that the presence or absence of a change is, in all cases, the presence or absence of a material (that is, substantive economic) change in accounting policy.

⁹ Examples of income increasing policy changes include: (1) changes in investment valuation procedure resulting in write offs not being made, (2) changes in revenue recognition resulting in revenue being brought forward from future time periods and (3) changes in intangibles that result in deferral of write offs or amortisation.

Table 1 – Companies in data set classified by industry and financial health

<i>Industry</i>	<i>Failed</i>	<i>Not failed</i>	<i>Total (%)</i>
Research and development	5	18	23 (6.0)
Retail	3	43	46 (12.0)
Manufacturing	4	30	34 (8.9)
Consultancy	–	8	8 (2.1)
Investment	8	46	54 (14.0)
Financial services	–	20	20 (5.2)
Leisure and tourism	1	8	9 (2.3)
Construction	1	1	2 (0.5)
Mining	4	174	178 (46.5)
Farming	1	1	2 (0.5)
Transport	–	3	3 (0.8)
Health	–	4	4 (1.0)
	27	356	383

Results

A description of the companies included in the analysis classified by industry and failure/non-failure status can be found in Table 1. Most of the 12 industry groupings have at least one example of a corporate failure within the relevant time period and approximately 7% of all companies experienced failure within the twelve month period defined above. Almost half (46.5%) of these companies can be found within the mining industry, but this is to be expected given the importance of that industry in the Western Australia state economy. The important position of the mining industry can also be observed in Table 2 which describes the incidence of accounting policy change amongst the compa-

Table 2 – Companies classified by industry and accounting policy change (Accounting income increasing policy changes including operating and extraordinary items between 1987 and 1988 reporting years)

	<i>No policy change</i>	<i>One or more policy changes</i>
Research and development	20	3
Retail	37	9
Manufacturing	25	9
Consultancy	6	2
Investment	47	7
Financial services	16	4
Leisure and tourism	6	3
Construction	2	–
Mining	153	25
Farming	2	–
Transport	3	–
Health	3	1
	320	63

nies included in the data set. Of the 63 companies that changed an accounting policy, approximately 40% were from the mining industry.

Given the prominence of the mining industry in this study, the descriptive statistics for 1988 in Table 3 are divided between the mining industry and all other industries and comparisons between those two groupings are made. The statistics contained in Table 3 relate to size, profitability, leverage and dividend policy. All reflect the variables used within existing distress prediction models. Only leverage differs significantly between groups. As might be expected from the finance literature, leverage in the mining companies is lower than that of other industries.

From Table 4, there are no statistically significant differences between the key variables relating to size, performance, leverage and dividend policy in respect of the companies classed as failing and those classed as distressed. However, significant differences can be observed between the companies labelled as healthy and both of the other classes of companies. The fact that there is no statistically significant difference between failing and distressed companies is important and suggests that, *ex ante* there are no obvious financial reasons which might motivate differences in accounting policy choice between these two groups.

An initial analysis of differences between accounting income increasing policy change by failing and non-failing companies is provided in Table 5, Panel A. There is no significant difference between the number of policy changes made by failing companies and those that are non-failing (that is, those classified as either distressed or healthy). However, as can be observed from Panel B of Table 5, dividing the data set between failing and distressed companies on the one hand and healthy companies on the other, results in a statistically significant difference

Table 3 – Descriptive statistics (including means) by grouped industry classifications (Mining versus Other)

	All (1) \$m	Mining (2) \$m	Non- mining (3) \$m	Significance of Difference Between columns (2) and (3)
1. Sales	40.6	25.4	53.7	ns
2. Total assets	73.5	46.5	97.3	ns
3. Operating profit	1.0	0.8	1.2	ns
4. Leverage (TL/TA)	0.40	0.18	0.59	0.001
5. Dividend				
(a) return (dividend/issued capital)	3%	3%	4%	ns
(b) payout (dividend/operating profit)	12%	19%	6%	ns

Table 4 – Comparison of size, performance, leverage and dividend policy by levels of corporate ‘health’

	<i>Failing (1)</i> \$m	<i>Distressed (2)</i> \$m	<i>Healthy (3)</i> \$m
1. Sales	4.5	6.0	67.6
2. Total assets	16.3	20.0	115.4
3. Operating profit	-2.1	-2.8	3.9
4. Leverage (TL/TA)	0.52	0.55	0.29
5. Dividend			
(a) return (dividend/issued capital)	0%	1%	5%
(b) payout (dividend/operating profit)	0%	0%	21%

*Significance of differences**(T-test between means, one tailed test, p value reported)*

<i>Differences between columns above:</i>	<i>(1) v (2)</i>	<i>(1) v (3)</i>	<i>(2) v (3)</i>
1. Sales	ns	.02	.02
2. Total assets	ns	.02	.03
3. Operating profit	ns	.01	.01
4. Leverage	ns	.02	.01
5a. Dividend (a)	ns	.01	.01
5b. Dividend (b)	ns	.01	.01

in the level of change in income increasing accounting policies. In all, some 21% of failing and distressed companies made one or more policy changes, whereas only 13% of those companies classified as healthy engaged in such changes. Thus our results are consistent with the previous literature that finds distressed (or poorly performing) firms engage in higher levels of activity in respect of accounting income increasing policy choices. Re-analysis of this result using leverage rather than the ‘distressed/healthy’ dichotomy provides the same result (after controlling for industry differences in leverage). Higher leveraged companies (relative to their industry average) tend to engage in accounting income increasing policy choice significantly more than below average leveraged companies (Chi Sq = 4.869, DF = 1, sign = 0.0273). Thus, like many other studies, the companies within our data set act in a way consistent with the ‘leverage hypothesis’.

Most importantly, from Panel C of Table 5 it is evident that the principal reason for the differences between healthy companies and the non-healthy companies relates to the frequency of policy changes among distressed companies. Almost 23% of distressed (but not failing) firms made one or more income-increasing policy change between 1987 and 1988. For the other two groups, only 13% of healthy companies, and

Table 5 – Cross tabulation of presence/absence of accounting income increasing policy change (including both operating and extraordinary amounts) by level of company ‘health’

Panel A: Comparison of failing vs non-failing companies

	<i>Failing</i>	<i>Non-failing (healthy and distressed)</i>
No policy change	24 (89%)	296 (83%)
One or more policy changes	3 (11%)	60 (17%)

Chi Sq 0.602 DF = 1 Sign 0.4377.

Panel B: Comparison of distressed and failing companies vs healthy companies.

	<i>Non-healthy (failing and distressed)</i>	<i>Healthy</i>
No policy change	133 (79%)	187 (87%)
One or more policy changes	35 (21%)	28 (13%)

Chi Sq 4.185 DF = 1 Sign 0.0407.

Panel C: Comparison of failing, distressed and healthy companies

	<i>Failing</i>	<i>Distressed</i>	<i>Healthy</i>
No policy change	24 (89%)	109 (77%)	187 (87%)
One or more policy changes	3 (11%)	32 (23%)	28 (13%)

Chi Sq 6.398 DF = 2 Sign. 0.0408.

11% of companies failing within one year, made income increasing policy changes.

Further tests

In addition to the above analysis, three further tests are reported. These relate to alternative measures of profit and income increasing policy choice, an examination of two alternative explanations for the presence/absence of policy change, and an assessment of the relationship between the extent of distress as measured by the magnitude of the distress score and the presence of policy change.

Alternative measures of profit

As noted above, income can be defined as operating profit or net profit including extraordinary items. Further, the analysis can be based on the

presence or absence of policy change in companies, or the extent of the impact on income (dollar value or number of changes). For the reasons explained above, measurements based on dollar values were not reliable and universally measurable. However, two further tests, reflecting the differing measurements noted above, are provided.

First, our general conclusion that income increasing accounting policy change is more common for distressed (but not failing) companies than for either failing or healthy firms holds true, irrespective of whether we measure the presence or absence of change or the extent of change (1, 2 or more policy changes in a given year). Further, this conclusion is valid regardless of whether the focus is on policy changes above the line (that is, calculations up to and including the determination of operating profit) or whether it includes both operating and extraordinary items (Chi sq = 6.142, DF = 2, sign = 0.0410).

Alternative explanations of presence/absence of policy changes

One alternative explanation for our results is that management of distressed companies is, as a group, much more active in all matters relating to the calculation of profit than for other companies. The management of healthy companies may have no need to be as active and alert to such matters (i.e., things will 'wash out' over several accounting periods) and the management of failing companies are faced with more pressing matters. This proposition was tested by examining the extent of accounting income decreasing policy choices made by the same 383 companies during the same time period.

In all there are 54 such policy changes, over 51 companies, covering both operating and extraordinary items. From Table 6, Panel A, a difference (although not statistically significant) can be observed between the three groups of companies. The source of the difference lies predominantly with the distressed group which is significantly different from healthy companies in respect of the extent of income decreasing accounting policy changes (Chi sq = 5.59, DF = 1, sign. >0.018).

This result suggests that the distressed group is engaging in significantly elevated levels of income increasing and decreasing policy changes. However, inspection of specific policy changes reveals that this result is largely driven by one type of policy change, namely the writing off of otherwise depreciable assets. Isolation of this set of income decreasing policy changes (see Table 6, Panel B) shows the distressed companies group is highly significantly different to the healthy group in respect of policy changes (Chi sq = 7.738, DF = 1, sign. = 0.005). For all other income decreasing changes (Table 6, Panel C) there is no between-group difference.

Table 6 – Cross tabulation of presence/absence of accounting income decreasing policy change (including both operating and extraordinary amounts) by level of company ‘health’

Panel A: All income decreasing policy changes

	<i>Failing</i>	<i>Distressed</i>	<i>Healthy</i>
No policy changes	23 (85%)	115 (82%)	194 (90%)
One or more policy changes	4 (15%)	26 (18%)	21 (10%)

Chi Sq 5.604, DF = 2, Sign. = 0.061.

Panel B: Depreciated asset write off policy changes

	Failing	Distressed	Healthy
No policy changes	25 (93%)	123 (87%)	205 (95%)
One or more policy changes	2 (7%)	18 (13%)	10 (5%)

Chi Sq 7.774, DF = 2, Sign. = 0.021.

Panel C: All other income decreasing policy changes

	Failing	Distressed	Healthy
No policy changes	25 (93%)	130 (92%)	203 (94%)
One or more policy changes	2 (7%)	11 (8%)	12 (6%)

Chi Sq 0.725, DF = 2, Sign. = 0.696.

Moreover, while writing off depreciable assets is income decreasing in the year in which it is done, it has the consequential effect of being an accounting income increasing change in subsequent accounting periods. This is because of the reduced depreciation or amortization costs in years beyond the year of the write off. Therefore, we argue that this is supporting evidence of distressed companies engaging in techniques that have the effect of (subsequently) elevating accounting income, rather than simply undertaking more accounting policy changes.¹⁰

A second alternative explanation is that companies in the failing category do not engage in high levels of income increasing accounting policy changes because they have few, if any, such choices left. Examination

¹⁰ In addition, the authors tested for the *net* of income decreasing policy changes (other than the depreciation adjustment noted above) and income increasing changes. The overall results was a Chi Sq = 5.635, DF = 2, sign = 0.059, only marginally different to the result reported in Panel B of Table 5.

of the financial reports of 27 failing companies provides no evidence that the opportunities for income increasing policy change have been exhausted. A third alternative is that firms on the verge of failing take their policy changes 'underground'. That is, they may decline to disclose the nature and extent of income increasing policy changes as failure becomes more probable. However, given the presence of formal (and rigorous) accounting standards and the incentives for auditors to ensure that such matters (if material) are disclosed, we argue that this should not be a substantial explanation for the absence of policy changes for the failing group of companies.

Association between magnitude of distress score and policy change

While an association between the three groups of companies and accounting income increasing policy changes may have been established, this does not provide direct evidence of an association between the extent of distress and the presence of income increasing policy change. The extent of apparent distress was measured by use of the ASC model's score. The higher the negative score, the higher the presumed level of distress; the higher the positive score the healthier the company is presumed to be. The correlation between the presence or absence of income increasing policy change and distress score as measured within each of the distressed and healthy company groups and across both groups is not significant (correlations between distress score and presence of changes for distressed and healthy companies are 0.0567 (ns); distressed 0.0245 (ns) healthy 0.0377 (ns)). This result has two implications. Firstly, it suggests that the distress score itself does not predict the extent of policy change over a wide range of companies. Second, it suggests that within their respective groups, the level of distress does not influence the extent of policy change. This implies that it is timing, not extent of distress (as measured by a distress score) that appears to influence the presence of income policy changes of non-healthy companies.

Summary and conclusion

The research described above provides a further investigation of the relationship between financial distress and the demand for income-increasing accounting techniques. However, unlike prior research, we use a general model of financial distress to distinguish healthy and distressed firms. Initially, and consistent with earlier research, we observe a difference between the two groups (failing and distressed on the one hand and healthy on the other) with respect to switches in accounting techniques. However, the separate identification of firms which fail

within one year significantly enriches this initial result. It is apparent that only those distressed firms which are not faced with imminent failure switch accounting policies to relatively more optimistic methods. The conclusion we reach is, therefore, that the relationship between the financial health of a company and accounting income increasing behavior is complex.

This result is consistent with substantial costs being imposed on managers who attempt to present the position of firms optimistically, although they subsequently fail. Given the elevated levels of failure in times of economic downturn, we expect these costs to be uppermost in managers' minds. It is also consistent with private lenders being prepared to accept such technique switches when failure can be averted, but not when it is imminent. One possible explanation is that statutory costs of default are avoided, and that private lenders can impose their wishes more efficiently via private negotiation and 'recontracting'.

Given explanations from both the efficient contracting and opportunistic behavior branches of the costly contracting literature, the presence of significantly more income increasing policy changes for distressed (but not failing) companies is not unexpected. Either because of self interest or for reasons relating to efficient contracting costs, firms in this group engage in such policy changes. Some would argue, perhaps cynically, that the more likely or dominant motivation for engaging in these policy changes is to 'inflate' profits to give the pretence of a company that is not distressed. It might be believed that such a portrayal avoids (a) 'firms' costs such as loan renegotiations, higher interest rates on borrowings, adjustments to contracts with either or both clients' customers or suppliers, the increase in the possibility of takeover and the like, and (b) management costs of employment termination or downward remuneration adjustments.

This type of income increasing behaviour is among the activities that have been labelled as 'creative accounting'. Our results show that this 'creative' behaviour is particularly apparent when a company is distressed but comes to an end when company failure is imminent.¹¹ The motivation for this behaviour, one could argue, is derived from the opportunistic behaviour of either management and/or auditors who seek to avoid the costs that occur upon company failure and which are often borne by such parties. Such *ex post* settling up costs are not trivial,

¹¹ A further theory relates to the causality of this relationship. It may be that the lack of increasing policy choice causes the imminent failure and not the other way around as has been implied in the present study. A sample of 12 of the 27 failing firms was traced back one year and in ten cases at least one income increasing policy choice was present in that year.

and one might argue that the prospect of having to face them is an onerous disincentive to engage in practices seen as 'creative'.

More importantly, such costs imply that tests of the 'leverage hypothesis' may be confounded by a non-monotonic relationship between leverage and the expected net benefit of opportunistically increasing reported income. While prior research has focused on the relationship between leverage and the closeness to actual debt constraint, relatively little attention has been paid to the broader concept of financial distress and its implications for accounting policy choice.

It would be of interest to observe the accounting policy choice decisions currently being taken in Asian economies post the economic downturn of late 1997. Even with the limitation that our results are Australia-specific, and even West Australia specific, it is our expectation that, for the reasons outlined above, they will be sufficiently generalisable for income increasing policy choice to be more, rather than less, common in companies in these economies.

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