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AN EVALUATION OF REGULATED *IFRS and non-IFRS firm performance measures*

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This paper provides empirical evidence on the relative ability of regulated earnings and alternative non-IFRS performance measures to capture firm performance. It also evaluates the appropriateness of the regulatory response to the increasing incidence of non-IFRS performance measures. Our findings suggest that there is no single superior performance measure to regulated earnings and that ASIC's response to the growing incidence of non-IFRS performance measures, RG230, and allowing firms to make such disclosures, was most likely appropriate.

In recent years there has been an escalation in the disclosure of non-IFRS financial performance measures in media releases by companies and anecdotal claims have been made that these best reflect the underlying performance of the firm.¹ The objective of this study is to empirically evaluate whether there are systematic differences in the association of regulated earnings and a range of commonly used non-IFRS performance measures with stock returns that would support these claims. These are evaluated generally, as well as for firms partitioned on the basis of profitability, accruals and growth where there are differences in the incidence of non-IFRS disclosures and where regulated earnings are likely to be less informative about firm performance.

The disclosure and discussion of firm performance has become contentious as performance measures other than regulated earnings determined in accordance with International Financial Reporting Standards (IFRS) are increasingly emphasised in media announcements and annual reports. This is not limited to low-profile firms and a recent KPMG survey, *Underlying Profits Report 2011*, found that 84 per cent of S&P/ASX 100 companies used performance measures other than IFRS earnings to discuss firm performance. The justification for these alternative performance measures ranges from information determined subject to IFRS being 'mind-bogglingly complex', to regulated earnings obscuring true or underlying firm performance (King et al. 2012). The use of non-IFRS measures is also claimed to be proof of shortcomings with regulated earnings (Bradshaw and Sloan 2002). No empirical support for these claims has been offered; typically, they are unsubstantiated, relying instead on anecdotes or

personal opinions. However, regulators such as the Australian Securities and Investments Commission (ASIC) have been more circumspect about the increasing use of non-IFRS performance measures² and a consequence of this was the issuance of *RG 230: Disclosing non-IFRS information*. Among other things it allows the use of non-IFRS performance measures but prescribes the inclusion of a reconciliation with regulated earnings. This reflects the concern that diverse performance measures, and uncertainty as to how they are calculated, might be misleading.

Accordingly, the primary motivation for this study is to provide empirical evidence on the relative ability of regulated earnings and alternative non-IFRS performance measures to capture firm performance. There are also circumstances in which regulated earnings are relatively less informative and alternative non-IFRS performance measures are relatively more informative about firm performance. This includes situations where firms are loss making, have high levels of accruals relative to cash flows and high levels of growth. The proliferation of non-regulated disclosures is seen as problematic by regulators and capital markets generally and is considered to be an international phenomena (Bradshaw and Sloan 2002; Bhattacharya et al. 2003; Bhattacharya et al. 2007; Fenton-Jones 2011; King et al. 2012). Hence, this problem is not predicated on any particular national accounting practices. As such, our findings are likely to be relevant to the evaluation of financial performance by firms generally and not just by Australian firms.

Evidence is provided that for the full sample of firms, the association of stock returns with regulated earnings and non-IFRS performance measures is poor, and all models lack explanatory power. When

firms are partitioned on the basis of profitability it is notable that, for profitable firms, the association of stock returns with regulated earnings increases and the explanatory power of these models is at least as high as that of any of the alternative non-IFRS performance measures. For loss-making firms, there is no evidence that either regulated earnings or non-IFRS performance measures are relevant for the evaluation of firm performance, with all of the models lacking explanatory power and the coefficient on performance often having the wrong (negative) sign. When firms are further partitioned on the basis of the relative magnitude of accruals to cash flow, for profitable firms the explanatory power of models based on regulated earnings is at least as high as that of any alternative non-IFRS performance measures. For loss-making firms, there remains no evidence of reliable measures of firm performance across any of the partitions and all models lack explanatory power. Finally, with firms partitioned on the basis of growth, for profitable firms, the association of stock returns with regulated earnings is at least as strong as that of any of the alternative non-IFRS performance measures. Interestingly, for the loss-making firms the association of stock returns with regulated earnings is significant and the models have relatively high explanatory power, but the coefficients on regulated earnings performance are negative. This likely reflects these high-growth firms having identifiable future profitability and, hence, they are able to raise finance and sustain short-term losses. Arguably, in these circumstances non-IFRS performance measures should perform better, however, there is no evidence of this.

This paper contributes to the debate surrounding the use of non-IFRS performance measures by firms. First, there is no systemic evidence that non-IFRS performance measures are superior to regulated earnings in capturing performance. While there may be firm-specific circumstances where an alternative performance measure may be appropriate (e.g. Bhattacharya et al. 2003), a generally applicable alternative performance measure is not identified. This is relevant for financial statement users and regulators generally. Second, the regulatory response of continuing to allow non-IFRS performance measures and requiring reconciliation with regulated earnings is probably appropriate. Because there may be firm-specific circumstances when adjustment of earnings is appropriate, this suggests continuing to allow non-IFRS disclosures. There is also evidence that sophisticated investors are able to appropriately evaluate the adjustments to earnings (Fredrickson and Miller 2004) and, hence, a reconciliation of IFRS earnings to non-IFRS performance measures is supported. However, there must be a residual concern that unsophisticated investors will be misled (Elliott 2006).

Review of literature and hypothesis development

Accounting regulators generally maintain that earnings and its components are relevant and reliable indicators of firm performance and, consequently, they are suitable for use by capital markets in efficiently setting stock prices.³ Empirical evidence evaluating the relation between stock returns and earnings supports this (e.g. Ball and Brown 1968; Easton and Harris 1991; Ball et al. 2000; Jorgensen et al. 2012). It has also been suggested that earnings are relevant for the evaluation of managerial performance for the purpose of determining management compensation (e.g. Jensen and Meckling 1976). Critically, these studies identify the role of earnings in capturing firm performance, and the incentive to manipulate performance measures (e.g. earnings) to reflect favourably on management.

The consequences of earnings manipulation are recognised in a substantial literature considering how managers might attempt to mask actual firm performance for their own benefit. Initially, attention was focused on the management of earnings through strategies such as accruals management (e.g. Healy 1985; Jones 1991) and the manipulation of economic activities (e.g. Roychowdhury 2006). However, both strategies come at significant cost to managers. More recently, attention has been directed at the practice of developing and emphasising alternative measures of firm performance which are generally labelled non-IFRS performance measures. Undoubtedly, this shift in focus has been motivated by an increasing incidence of these disclosures, and the recognition that there are few constraints on the determination of such measures. It is a relatively less costly strategy for altering perceptions of firm performance. Consistent with this view, Bhattacharya et al. (2003) and Bowen et al. (2005) provide evidence that firms recording losses are more likely to disclose non-IFRS performance measures, and these non-IFRS performance measures indicate better performance than regulated earnings. This is recognised by regulators in Australia and internationally who have expressed concerns that financial statement users might be misled by these disclosures (King et al. 2012).

In contrast, proponents of non-IFRS performance measures argue that the adjustments made to regulated earnings better identify firm performance and aid the determination of what is commonly referred to a 'core earnings'. Supporting this, Bhattacharya et al. (2003) find that non-IFRS performance measures are more persistent and informative than earnings. However, a limitation of this study is that it was not based on a comparison of earnings with consistent non-IFRS performance measures (i.e. different non-IFRS performance measures for different firms) and, most likely, this

contributed to the result. Ameliorating this concern, there is evidence that sophisticated investors are able to critically evaluate the adjustments made to regulated earnings (Fredrickson and Miller 2004). However, the issue of unsophisticated investors remains and there is evidence that they are influenced by non-IFRS performance measures (Bhattacharya et al. 2007). There is also the issue that non-IFRS performance measures will undermine comparability (both across firms and over time) and understandability. Both are fundamental objectives of financial reporting regulation.

It is for these reasons that regulators such as ASIC are concerned with the prevalence of non-IFRS performance measures, and this has led to the issuance of *RG230: Disclosing non-IFRS financial information*. This permits the disclosure and use of non-IFRS performance measures and tries to address the concern that they could be misleading by requiring a reconciliation of such measures with regulated earnings. This recognises that there may be measures that are relevant for particular firms (Bhattacharya et al. 2003), or circumstances where regulated earnings have relatively low informativeness (Lougee and Marquardt 2004), suggesting the necessity for alternative measures. To provide insights into the appropriateness of the regulatory response, this study evaluates the association of stock returns with regulated earnings and a range of measures of firm performance that are representative of non-IFRS performance measures. Separate analysis is also undertaken of the relevance of non-IFRS performance measures in circumstances where regulated earnings are less likely to be reflective of true firm performance. This would include firms that are loss making, have high accruals, or have high growth.

Research methodology

The relevance of regulated earnings and non-IFRS performance measures is assessed by the association each measure has with stock returns. This follows the approach adopted by Lev (1989), which is as follows:

$$R_{it} = \alpha_0 + \alpha_1 X_{it} + \varepsilon_{it} \quad (1)$$

where:

R_{it} Annual buy and hold stock return for firm i over period t , where t is the period beginning three months after the year end $t-1$ and ending three months after financial year end t .

X_{it} Performance measure disclosed for firm i over annual performance intervals and scaled by beginning period price (i.e. $t-1$).

To facilitate comparison all financial statement variables are measured on a per share basis and scaled by beginning stock price. As the objective

of this paper is to evaluate the relevance of various disclosures by investors, no inferences about causality are suggested. However, consistent with the literature (e.g. Bowen et al 1986; Wilson 1986; Bowen et al. 1987; Wilson 1987; Lev 1989; Easton and Harris 1991) all of the performance measures are evaluated in the model by considering their explanatory power measured as adjusted R^2 .

Regulated earnings measures

Modern financial statements include multiple earnings numbers and these are necessarily included as the benchmarks to which the various non-IFRS performance measures may be compared. In the interests of brevity, these are limited to three. The first regulated earnings measure used is net profit before tax (NPBT). There is evidence that removal of non-recurring items may improve information about future earnings to investors (e.g. Bradshaw and Sloan 2002; Abarbnell and Lehavy 2007) and this suggests the second earnings measure, net profit before tax adjusted for non-recurring items (NPBT-Adj). Finally, recognising that the appropriate earnings measure may be after tax, our third earnings measure is net profit after tax and adjusted for non-recurring items (NPAT-Adj).

Non-IFRS measures

There is considerable variation in non-IFRS performance measures and there are, by definition, no 'standard' numbers. Accordingly, a range of measures will be included as representative of the broader cross section of non-IFRS performance measures, and these might be loosely classified as cash focused and earnings focused.

The cash-focused measures used are in the first instance focused on the cash flow statement, cash flows from operations (CF-OP), cash flows from investing activities (CF-INV) and cash flow from operations and investing combined as free cash flows (FCF). Finally, recognising problems with the treatment investments in the calculation of free cash flows, we also consider cash flows from operations adjusted for depreciation and amortisation (CF-OPDA).

The earnings-focused measures involve adding back expenses which is common to many non-IFRS performance measures. Most commonly this is interest, and so we consider the earnings before interest and tax (EBIT). Depreciation and amortisation is also commonly added back to earnings, hence we consider earnings before interest, tax, depreciation and amortisation (EBITDA).⁴

Data and descriptive statistics

The analysis in the paper is based upon US listed firms as this provides a greater sample size which increases the power of statistical inferences, ensures availability of sufficient number of firms

for subsequent partitioning, and includes sufficient diversity of economic conditions, none of which would have been possible using only Australian data sources. Furthermore, the use of US data is considered relevant as there is also an increasing incidence of non-GAAP reporting using similar performance measures in the US where financial reporting takes a similar form. There is also significant convergence between US GAAP and IFRS (Barth et al. 2012) and any differences are unlikely to be critical for this study which is primarily concerned with the disclosure of performance. Furthermore, there is evidence in empirical studies that US and Australian financial reporting data exhibit consistent characteristics (e.g. Bailey et al. 2008; Clinch et al. 2012). Accordingly, sample firms for this paper were identified from the annual Compustat US industrial and CRSP files for the period 1970 to 2010. After eliminating firm years where one or more components required for this study are missing this produced a sample of 91,739 firm years. Of these observations, 27,745 are loss-firm years, and 63,994 are profit-firm years. All variables are presented on a per share basis and are scaled by beginning period price to facilitate cross sectional comparison of firm years.⁵ Finally, to address the problem of outliers, all values are winsorised (an averaging method) at the 5 per cent and 95 per cent levels.

Descriptive statistics for variables used in this study are presented in Table 1, with details for the full sample provided in Panel A. The mean (median) values of EBITDA and EBIT are 0.174 (0.137) and 0.094 (0.090), respectively, and this identifies depreciation and amortisation charges as being material for most firms. Furthermore, the difference between EBIT and NPBT (mean 0.035 and median 0.068) also identifies interest expenses as material for most firms. Surprisingly, on average, non-recurring items are income increasing and, when removed, result in lower mean (median) NPBT-Adj of 0.003 (0.046). Mean (median) values of NPAT-Adj of -0.002 (0.045) are consistent with a significant proportion of firms being loss making and skewness with some firms reporting relatively large losses. The mean (median) of CF-OP 0.750 (0.090) shows that firms generally generate positive operating cash flows. However, mean (median) CF-INV of -0.830 (-0.088) is greater and this results in negative FCF -0.055 (0.000). Hence, it is unlikely that FCF will perform well as a performance measure.

Information for profit-firm years (measured by NPBT-Adj) is reported in Panel B and although values are more strongly positive, they are broadly consistent with the full sample. An exception is that the removal of non-recurring items from earnings has a much more material impact on reported performance compared to the full sample. In Panel C the results

for loss firms are reported and this shows that all performance measures are consistently poor. Notably, the impact of non-recurring items is now income decreasing and this is consistent with firms recording as loss taking the opportunity to make additional write-offs (i.e. 'big bath' hypothesis).

Critically, these descriptive statistics show there is considerable diversity in the various measures of performance. This is interesting because it demonstrates that although non-IFRS performance measures are sometimes considered surrogates for regulated earnings, they appear to be capturing different phenomena. Hence, it is possible that they are capturing different aspects of firm performance and there may be differences in their association with stock returns.

Results

The associations between performance measures and stock returns generally are evaluated in Table 2 and presented in Panel A for the full sample of firms. Critically, irrespective of the performance measure used, the model has a very low explanatory power measured by adjusted R^2 . The model has the greatest explanatory power when EBITDA is the performance measure but this is only 2.8 per cent. When the performance measures are NPAT-Adj and NPBT-Adj the model has the weakest explanatory power (0.4 per cent). Significantly, across the table, all the non-IFRS numbers provide more explanatory power than regulated earnings, but caution is necessary as this is simply 'best of a bad bunch'.

Undoubtedly, the high incidence of loss firms (i.e. 30.22 per cent of the full sample) affects these results and contributes to poor explanatory power that is weaker than prior similarly designed studies.⁶ This may be the result of the inclusion of more recent data containing a larger percentage of loss firms and the very limiting screening procedures in the sample selection (Basu 1997; Ball and Shivakumar 2006). Accordingly, the sample is separated into profit and loss-firm year observations.

Panel B presents the results from an evaluation of a sub-sample containing only profit firms. As expected, the explanatory power of all the models is considerably stronger. Critically, the explanatory power for the models using regulated earnings is generally higher than those models using the non-IFRS performance measures. In particular, the explanatory power of the model using NPBT, NPBT-Adj and NPAT-Adj is 9.0 per cent, 11.7 per cent and 8.7 per cent, respectively. Of the non-IFRS performance measures EBITDA has the highest explanatory power (9.4 per cent) and this is comparable to the poorer performing models using regulated earnings measures. The models relying on cash flow based measures of performance are more

problematic. The explanatory power of FCF is only 0.4 per cent, and CF-OP 3.2 per cent. Interestingly, when the performance measure is CF-INV the explanatory power increases to 3.2 per cent, and the coefficient is negative. This suggests there is information in firm investment decisions.

Panel C presents the results for the sub-sample of loss-firm year observations. None of the models using either regulated earnings or non-IFRS performance measures has much explanatory power, with the adjusted R^2 ranging from 0.1 per cent to 2.9 per cent. While the explanatory power of the models using regulated earnings is higher, it is notable that the coefficients are all negative, which is inconsistent with expectation.

Recognising that non-IFRS earnings may be more informative when regulated earnings have less relevance, sample firms are partitioned into quintiles on the basis of the magnitude of accruals relative to cash flows. This is considered appropriate as earnings with greater accrual components may be less relevant (Sloan 1996). The results for profit-firm years are presented in Table 3, Panel A. The explanatory power of the models using regulated earnings are within the range of 9.0 per cent (NPAT-Adj, portfolio 3) to 14.7 per cent (NPBT-Adj, portfolio 3), and the values across the high-accrual and low-accrual portfolios are comparable (e.g. NPBT-Adj 12.2 per cent to 14.7 per cent). In comparison, the explanatory power of the model using EBITDA is in the range 9.1 per cent to 11.1 per cent which, although less, is broadly comparable. Critically, none of the models using cash flow based non-IFRS performance show much explanatory power (0.3 per cent to 2.7 per cent). This result is consistent with the results reported in Dechow (1994).

Panel B provides an evaluation of the sub-sample of loss-firm year observations. Consistent the previous Table 2, there is little explanatory power in any of the models. Furthermore, in many instances the coefficient on the performance measure is negative.

It is often claimed that regulated earnings are less relevant for evaluating the performance of growth firms. Recognising this, firms are partitioned into quintiles on the basis of growth and it is expected that non-IFRS performance measures may be more relevant for high-growth firms. The results are presented in Table 4. In Panel A the results are reported for profit-firm year observations and this shows the models using regulated earnings have the greatest explanatory power in the quintiles with the greatest (and the least) growth. The explanatory power of the model using NBPT-Adj is consistently the highest, and is 16.9 per cent in the high-growth portfolio. The non-IFRS performance measure having the best explanatory power is

EBITDA (11.8 per cent) while the explanatory power of the models using cash flow based measures are poor and for CF-OP the adjusted R^2 is only 3.7 per cent. For loss firms, Panel B shows there is little evidence of any of the performance measures having meaningful explanatory power across any of the portfolios.

In summary, across all the tables there is no systematic evidence of any non-IFRS performance measure being more relevant to assess performance than regulated earnings for profitable firms. Of the non-IFRS measures, EBITDA has the most relevance, although it is at best, no more relevant. None of the cash flow based measures are particularly relevant. For loss-making firm year observations, there is no evidence that either the regulated earnings or the non-IFRS performance measures are relevant measures of performance. These results are robust for firms with high accruals and high growth.

Conclusion

The objective of this paper was to evaluate whether there are systematic differences in the association of regulated earnings and a range of commonly used non-IFRS performance measures with stock returns. This is undertaken to identify alternative performance measures which might be relevant to financial statement users and to evaluate the appropriateness of the regulatory response to the increasing incidence of non-IFRS performance measures.

Evidence is provided that, for profitable firms, regulated earnings are at least as good as the best non-IFRS performance measure (i.e. EBITDA). For most non-IFRS performance measures, the association with stock returns is weak and these are unlikely to be relevant for evaluating performance. For unprofitable firms there is no evidence that the non-IFRS performance measures are better than regulated earnings. In fact, none of the measures is particularly relevant.

While there is some evidence that non-IFRS performance measures may better capture firm performance (e.g. Bhattacharya et al. 2003a), a feature of these studies is that they allow different measures for each firm (i.e. customised reporting). These results suggest that there is not a single superior performance measure to regulated earnings. Accordingly, ASIC's response to the growing incidence of non-IFRS performance measures, RG230, and allowing firms to make such disclosures was most likely appropriate. There is also evidence that sophisticated users are able to appropriately evaluate the adjustments to earnings (e.g. Fredrickson and Miller 2004) and hence the requirement to reconcile regulated earnings and non-IFRS disclosures is also likely appropriate. ■

TABLE 1: Descriptive statistics

VARIABLE	OBS.	MEAN	STD. DEV.	MIN.	5%	MEDIAN	95%	MAX.
Panel A: Full Sample								
EBITDA	91739	0.174	0.230	-0.215	-0.215	0.137	0.742	0.742
EBIT	91739	0.094	0.191	-0.311	-0.311	0.090	0.516	0.516
NPBT	91739	0.035	0.210	-0.524	-0.524	0.068	0.389	0.389
NPBT-Adj	91739	0.003	0.171	-0.498	-0.498	0.046	0.233	0.233
NPAT-Adj	91739	-0.002	0.182	-0.539	-0.539	0.045	0.243	0.243
CF-OP	91739	0.750	1.616	-0.363	-0.363	0.090	6.396	6.397
CF-INV	91739	-0.830	1.812	-7.229	-7.229	-0.088	0.224	0.224
FCF	91739	-0.055	1.006	-2.935	-2.935	0.000	2.253	2.253
CF-OPDA	91739	0.637	1.570	-0.620	-0.620	0.032	6.116	6.116
Panel B: Profit Firms								
EBITDA	63994	0.244	0.197	-0.215	0.034	0.182	0.742	0.742
EBIT	63994	0.171	0.143	-0.311	0.015	0.130	0.516	0.516
NPBT	63994	0.140	0.108	-0.524	0.015	0.109	0.389	0.389
NPBT-Adj	63994	0.089	0.064	0.000	0.011	0.072	0.233	0.233
NPAT-Adj	63994	0.086	0.076	-0.539	0.007	0.071	0.243	0.243
CF-OP	63994	0.669	1.441	-0.363	-0.225	0.106	4.322	6.397
CF-INV	63994	-0.702	1.604	-7.229	-4.822	-0.086	0.175	0.224
FCF	63994	-0.016	0.909	-2.935	-1.997	0.000	1.742	2.253
CF-OPDA	63994	0.570	1.402	-0.620	-0.411	0.048	4.148	6.116
Panel C: Loss Firms								
EBITDA	27745	0.012	0.218	-0.215	-0.215	-0.027	0.504	0.742
EBIT	27745	-0.082	0.168	-0.311	-0.311	-0.073	0.198	0.516
NPBT	27745	-0.208	0.185	-0.524	-0.524	-0.140	-0.006	0.389
NPBT-Adj	27745	-0.196	0.174	-0.498	-0.498	-0.131	-0.009	0.000
NPAT-Adj	27745	-0.205	0.193	-0.539	-0.539	-0.136	-0.006	0.243
CF-OP	27745	0.938	1.947	-0.363	-0.363	0.058	6.397	6.397
CF-INV	27745	-1.124	2.191	-7.229	-7.229	-0.096	0.224	0.224
FCF	27745	-0.147	1.194	-2.935	-2.935	-0.010	2.253	2.253
CF-OPDA	27745	0.792	1.894	-0.620	-0.620	0.005	6.116	6.116

All financial statement variables are calculated per share and scaled lagged price. Observations are made annually from 1970 to 2010. where:

EBITDA = Earnings before interest, tax, depreciation and amortisation

EBIT = Earnings before interest and tax

NPAT-Adj = Net profit after tax and non-recurring items

NPBT-Adj = Net profit before tax and non-recurring items

NPBT = Net profit before tax

CF-OP = Cash flows from operations

CFINV = Cash Flows from investing

CF-OPDA = Cash flows from operations before depreciation and amortisation

TABLE 2: Evaluation of regulated earnings and non-IFRS performance measures

	OBS.	CONSTANT	t-STAT.	β	t-STAT.	ADJ. R ²
Panel A: Full Sample						
EBITDA	91739	0.031	23.019 ***	0.126	46.984 ***	0.028
EBIT	91739	0.050	39.107 ***	0.086	26.674 ***	0.012
NPBT	91739	0.060	50.087 ***	0.028	9.653 ***	0.005
NPBT-Adj	91739	0.062	52.227 ***	0.006	1.586	0.004
NPAT-Adj	91739	0.062	52.220 ***	0.013	3.876 ***	0.004
CF-OP	91739	0.047	38.120 ***	0.016	41.459 ***	0.023
CF-INV	91739	0.048	38.899 ***	-0.015	-43.474 ***	0.024
FCF	91739	0.062	52.374 ***	-0.007	-11.038 ***	0.006
CF-OPDA	91739	0.051	41.588 ***	0.014	34.985 ***	0.017
Panel B: Profit Firms						
EBITDA	63994	-0.021	-14.604 ***	0.238	80.141 ***	0.094
EBIT	63994	-0.010	-6.776 ***	0.287	69.780 ***	0.073
NPBT	63994	-0.024	-15.992 ***	0.427	78.463 ***	0.090
NPBT-Adj	63994	-0.036	-24.500 ***	0.817	90.974 ***	0.117
NPAT-Adj	63994	-0.008	-5.542 ***	0.582	76.812 ***	0.087
CF-OP	63994	0.039	32.383 ***	0.018	44.396 ***	0.032
CF-INV	63994	0.040	34.023 ***	-0.017	-46.676 ***	0.035
FCF	63994	0.056	48.876 ***	-0.007	-10.986 ***	0.004
CF-OPDA	63994	0.043	35.986 ***	0.016	38.064 ***	0.025
Panel C: Loss Firms						
EBITDA	27745	0.039	25.849 ***	0.029	4.316 ***	0.001
EBIT	27745	0.031	18.549 ***	-0.100	-11.324 ***	0.005
NPBT	27745	-0.006	-2.557 **	-0.215	-27.001 ***	0.026
NPBT-Adj	27745	-0.009	-4.141 ***	-0.245	-29.046 ***	0.029
NPAT-Adj	27745	0.001	0.568	-0.184	-24.056 ***	0.020
CF-OP	27745	0.026	15.954 ***	0.014	17.791 ***	0.011
CF-INV	27745	0.025	14.935 ***	-0.013	-18.533 ***	0.012
FCF	27745	0.038	25.344 ***	-0.006	-4.922 ***	0.001
CF-OPDA	27745	0.030	18.574 ***	0.011	14.589 ***	0.008

* *t*-test significant at 1% level; ** *t*-test significant at 5% level; *** *t*-test significant at 10% level.

$$R_{it} = \alpha_0 + \beta_1 X_{it} + \varepsilon_{it}$$

where:

R_{it} = annual buy and hold stock return for firm *i* over period *t*, where *t* is the period beginning 3 months after the year end *t-1* and ending 3 months after financial year end *t*

X_{it} = summary performance measures described in Table 1 and disclosed for firm *i* over annual performance intervals and scaled by beginning period price (i.e. *t-1*)

TABLE 3: Evaluation of regulated earnings and non-IFRS performance measures: Accruals partitions

Partition		1			2			3			4			5		
Obs.	β	<i>t</i> -stat.	Adj. R ²	β	<i>t</i> -stat.	Adj. R ²	β	<i>t</i> -stat.	Adj. R ²	β	<i>t</i> -stat.	Adj. R ²	β	<i>t</i> -stat.	Adj. R ²	
Panel A: Profit Firms																
EBITDA	12798	0.196	37.539***	0.099	0.238	37.102***	0.097	0.308	37.021***	0.097	0.210	35.721***	0.091	0.200	40.009***	0.111
EBIT	12798	0.240	32.941***	0.078	0.301	33.923***	0.082	0.375	32.381***	0.076	0.266	32.478***	0.076	0.247	35.408***	0.089
NPBT	12798	0.364	38.536***	0.104	0.419	35.779***	0.091	0.657	41.067***	0.116	0.383	36.004***	0.092	0.363	40.239***	0.112
NPBT-Adj	12798	0.677	42.726***	0.125	0.821	41.808***	0.120	1.210	46.984***	0.147	0.760	42.607***	0.124	0.659	43.748***	0.130
NPAT-Adj	12798	0.532	38.081***	0.102	0.618	36.866***	0.096	0.717	35.543***	0.090	0.596	38.185***	0.102	0.499	37.280***	0.098
CF-OP	12798	0.023	13.956***	0.015	0.017	15.400***	0.018	0.015	19.354***	0.028	0.020	18.815***	0.027	0.024	16.034***	0.020
CF-INV	12798	-0.022	-15.683***	0.019	-0.017	-17.538***	0.023	-0.014	-20.483***	0.032	-0.016	-17.111***	0.022	-0.024	-18.714***	0.027
FCF	12798	-0.014	-5.827***	0.003	-0.015	-9.255***	0.007	-0.004	-3.816***	0.001	-0.004	-2.304**	0.000	-0.009	-4.144***	0.001
CF-OPDA	12798	0.010	6.004***	0.003	0.014	12.328***	0.012	0.014	17.562***	0.023	0.017	15.152***	0.018	0.016	10.046***	0.008
Panel B: Loss Firms																
EBITDA	5549	0.025	1.875*	0.000	0.035	2.207**	0.001	0.009	0.522	0.000	0.028	1.733*	0.000	0.043	3.177***	0.002
EBIT	5549	-0.093	-5.227***	0.005	-0.085	-4.246***	0.003	-0.182	-7.949***	0.011	-0.109	-5.274***	0.005	-0.067	-3.835***	0.002
NPBT	5549	-0.174	-10.858***	0.021	-0.233	-12.721***	0.028	-0.358	-16.748***	0.048	-0.276	-14.568***	0.037	-0.174	-10.957***	0.021
NPBT-Adj	5549	-0.201	-11.756***	0.024	-0.262	-13.541***	0.032	-0.396	-17.647***	0.053	-0.311	-15.453***	0.041	-0.198	-11.744***	0.024
NPAT-Adj	5549	-0.149	-9.631***	0.016	-0.198	-11.236***	0.022	-0.298	-14.762***	0.038	-0.230	-12.611***	0.028	-0.149	-9.792***	0.017
CF-OP	5549	0.029	9.104***	0.015	0.015	7.795***	0.011	0.010	7.725***	0.010	0.011	5.911***	0.006	0.025	8.570***	0.013
CF-INV	5549	-0.029	-11.166***	0.022	-0.014	-8.009***	0.011	-0.008	-6.368***	0.007	-0.013	-8.084***	0.011	-0.020	-8.067***	0.011
FCF	5549	-0.020	-4.396***	0.003	-0.003	-0.961	0.000	0.000	-0.106	0.000	-0.017	-6.089***	0.006	-0.004	-0.933	0.000
CF-OPDA	5549	0.015	4.649***	0.004	0.012	6.287***	0.007	0.010	7.217***	0.009	0.090	4.746***	0.004	0.015	4.944***	0.004

Firms are partitioned into quintiles based on the size of their increasing magnitude of accruals-to-cash flows. This results in firms in quintile 1 comprising the smallest mean, and firms in quintile 5 comprising the largest mean. * *t*-test significant at 1% level; ** *t*-test significant at 5% level; *** *t*-test significant at 10% level. Equation and variables as per Table 2.

TABLE 4: Evaluation of regulated earnings and non-IFRS performance measures: Growth partitions

Partition	1			2			3			4			5			
	Obs.	β	<i>t</i> -stat.	Adj. R ²	β	<i>t</i> -stat.	Adj. R ²	β	<i>t</i> -stat.	Adj. R ²	β	<i>t</i> -stat.	Adj. R ²	β	<i>t</i> -stat.	Adj. R ²
Panel A: Profit Firms																
EBITDA	12798	0.287	44.564***	0.134	0.200	34.656***	0.086	0.177	32.164***	0.075	0.204	33.746***	0.082	0.326	41.332***	0.118
EBIT	12798	0.350	38.423***	0.103	0.243	30.069***	0.066	0.205	26.580***	0.052	0.243	29.609***	0.064	0.397	36.933***	0.096
NPBT	12798	0.566	44.184***	0.132	0.353	32.634***	0.077	0.285	28.836***	0.061	0.319	30.294***	0.067	0.597	43.834***	0.130
NPBT-Adj	12798	0.991	46.542***	0.145	0.675	37.334***	0.098	0.581	34.484***	0.085	0.651	36.823***	0.096	1.123	51.079***	0.169
NPAT-Adj	12798	0.427	29.933***	0.065	0.598	35.501***	0.090	0.500	31.727***	0.073	0.605	36.066***	0.092	0.988	48.072***	0.153
CF-OP	12798	0.021	21.799***	0.036	0.016	18.253***	0.025	0.015	18.703***	0.027	0.017	19.887***	0.030	0.023	22.304***	0.037
CF-INV	12798	-0.016	-18.777***	0.027	-0.015	-19.757***	0.030	-0.015	-20.444***	0.032	-0.017	-21.996***	0.036	-0.023	-24.887***	0.046
FCF	12798	-0.002	-1.034	0.000	-0.006	-4.554***	0.002	-0.006	-4.641***	0.002	-0.007	-5.519***	0.002	-0.012	-7.290***	0.004
CF-OPDA	12798	0.017	17.866***	0.024	0.013	15.266***	0.018	0.013	16.549***	0.021	0.015	17.901***	0.024	0.020	19.380***	0.028
Panel B: Loss Firms																
EBITDA	5549	0.047	2.583***	0.001	0.052	3.539***	0.002	0.053	4.238***	0.003	0.050	3.725***	0.002	-0.144	-6.692***	0.008
EBIT	5549	-0.102	-4.499***	0.003	-0.125	-6.348***	0.007	-0.059	-3.508***	0.002	-0.052	-2.909***	0.001	-0.448	-17.510***	0.052
NPBT	5549	-0.248	-12.928***	0.029	-0.266	-14.849***	0.038	-0.233	-13.648***	0.032	-0.255	-14.556***	0.037	-0.552	-26.036***	0.109
NPBT-Adj	5549	-0.266	-13.040***	0.030	-0.304	-15.933***	0.044	-0.278	-15.219***	0.040	-0.323	-16.912***	0.049	-0.614	-27.579***	0.120
NPAT-Adj	5549	-0.164	-9.092***	0.015	-0.230	-13.309***	0.031	-0.233	-13.803***	0.033	-0.247	-14.027***	0.034	-0.521	-25.663***	0.106
CF-OP	5549	0.015	8.868***	0.014	0.010	6.139***	0.007	0.009	5.880***	0.006	0.015	9.810***	0.017	0.023	11.745***	0.024
CF-INV	5549	-0.014	-9.784***	0.017	-0.011	-7.535***	0.010	-0.009	-6.418***	0.007	-0.012	-8.582***	0.013	-0.020	-11.576***	0.023
FCF	5549	-0.007	-2.541**	0.001	-0.010	-3.799***	0.002	-0.007	-2.574***	0.001	0.002	0.848	0.000	-0.009	-2.680***	0.001
CF-OPDA	5549	0.013	7.694***	0.010	0.008	4.647***	0.004	0.007	4.586***	0.004	0.013	7.955***	0.011	0.020	9.885***	0.017

Firms are partitioned into quintiles based on the size of their increasing change in Growth. This results in firms in quintile 1 comprising the smallest growth, and firms in quintile 5 comprising the largest growth. * *t*-test significant at 1% level, ** *t*-test significant at 5% level, *** *t*-test significant at 10% level. Equation and variables as per Table 2.

Notes

1. 'It has become increasingly common for entities to present alternative performance measures such as 'underlying profit' or 'normalised profit', the FMA said ... This month the FMA began discussions with market participants with the aim of issuing a draft guide for public consultation next year ... While the FMA supports IFRS, it is concerned NCFI can potentially mislead investors even though the information can be useful', (Fenton-Jones 2011).
2. 'It has become increasingly common for entities to disclose non-IFRS profit information in addition to their IFRS profit ... While ASIC agrees that non-IFRS profit information can be useful to users of financial reports, it also has the potential to be misleading if it is not presented clearly and appropriately. Investors may become confused or misled if more than one profit figure is presented. Inappropriately used, it can provide a distorted view of the actual performance of an entity, for example, by omitting 'bad news'', issued December 2011.
3. See, for example, the AASB's Framework for the presentation of financial statements, para 12: 'The objective of financial statements is to provide information about the financial position, financial performance and cash flows of an entity that is useful to a wide range of users in making economic decisions'.
4. The authors acknowledge that interest, depreciation and amortisation would be disclosed in financial statements prepared under IFRS. Hence, it could be argued that there would be sufficient disclosure for EBITDA to be considered as a regulated disclosure. Conversely, we argue here that EBITDA is not a regulated disclosure under IFRS and is subject to being called upon as a disclosure by management that may be used mask losses occurring in the 'bottom line' disclosures.
5. Scaling effects were considered in Barth and Kallapur (1996) where it was shown that the deflation may introduce bias into regression coefficients. However, this is not an investigation into possible scaling error. Subsequently, as all items use the same scalar this should not have any differential bias effect on components in this investigation.
6. For example, the adjusted R^2 reported for annual earnings to returns is typically 5 per cent to 7 per cent (Lev 1989) and has been reported as high as 16.2 per cent (Dechow 1994).

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