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# Earnings quality, valuation and equity portfolios

By Mark Arnold, Fund Manager, Hyperion Asset Management and Dr Irene Tutticci, Lecturer, The University of Queensland Business School

*Valuation is a key element of constructing equity portfolios. The more accurate the valuation of stocks considered, the higher the probability of the portfolio outperforming its benchmark. Fundamental to accurate equity valuations are accurate cash flow forecasts, and to produce these requires an understanding of the primary activities of the business. Historical financial accounts of a business provide a summarised version of the economic implications of key activities. Understanding the factors that enabled the business to produce its historical financial results, and the likely persistence of those factors, is an essential part of producing accurate cash flow forecasts. This paper asks "What does earnings quality mean and how important is it for equity valuation and portfolio construction?"*

General investor interest in the relationship between accounting information, valuation and portfolio construction has tended to change significantly through time. The late 1990s saw one of the largest speculative equity market bubbles in history. Years of strong share price performances and the emergence of the technology mania resulted in market participants de-emphasising the importance of earnings quality. It was seen as a new era where novel business models and theoretical products (little more than concepts) took centre stage in the equity markets. New valuation paradigms were invented because many of the new era companies had no historical profits. Historical losses were even seen positively in valuation models based on cash burn ratios. Thus, during the latter stages of the bull market, many market participants became less focused on analysing historical accounts. This lack of focus on earnings quality allowed corporate management to manipulate earnings and inflate share prices.

However, as the global bear market progressed through 2001/02, it became clear that the sustainability and persistence of reported earnings had deteriorated during the late 1990s boom. As Enron and Worldcom hit the headlines, investors, accountants, auditors and regulators began to re-focus on the importance of historical accounts, and the concept of earnings quality came back into vogue. However, earnings quality has a wide range of potential interpretations, and tends to be context- and user-specific.

## The accounting perspective

The key source of historical earnings for an equity investor is the audited financial accounts. Accounting standards governing the preparation of these for Australian corporations are issued by the Australian Accounting Standards Board (AASB). The content is now equivalent to the International Financial Reporting Standards (IFRS) prepared by the International Accounting Standards Board. Key qualitative characteristics of financial information are contained in the AASB's Framework for the Preparation and Presentation of Financial Statements. It sets out the concepts that underlie the preparation of financial statements, and provides guidance for standard setters and preparers of financial statements. In particular, the AASB's framework requires that accounting policies have the characteristics of reliability and relevance. These attributes represent a good starting point in our quest to understand the concept of earnings quality.

- Financial information is **reliable** if it faithfully conveys to users the underlying transactions and other events that have occurred in a business. That requires that the substance rather than the form of a transaction or event be reported, which in turn requires that the financial information reflects the underlying economic effect.
- Financial information is **relevant** if it assists users in making decisions about the allocation of scarce resources. Relevant information helps users make predictions about future situations or plays a role in confirming of past evaluations.

Often, accounting decisions require a trade-off between reliability and relevance. A number considered to be reliable because it involves little estimation or judgment and accurately reflects underlying economic performance may not be relevant.

## The valuation perspective

### Reliability

At the core of equity valuation, and therefore portfolio construction, is the estimation of the future free cash flows of a business. To accurately forecast this, analysts need to understand the historical economic performance of the business, of which earnings are a key measure. Earnings, when analysed over time and compared with invested capital, provide an indication of whether wealth has been created or destroyed.

The more accurately the reported earnings capture and explain the historical economic performance of a business, the better positioned the analyst is to accurately forecast future cash flows.

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Historical financial accounts provide evidence of the economic performance of a business and will, *inter alia*, provide details of capital invested, return on capital, details of the major elements of the cost structure of the business, and historical growth. Analysts attempt to understand the major factors determining this historical economic performance. To do so, analysis of the firm's competitive position and its industry needs to be undertaken. Analysts then assess whether the key factors are likely to persist in the future – the more stable and persistent the factors determining historical performance, the more accurate the cash flow forecasts are likely to be.

In order to correctly capture and measure the true economic performance of a business, the historical accounts need to accurately reflect its operating performance. Thus, one aspect of earnings quality is that it accurately reflects past performance. This view is strongly aligned with the concept of reliability.

Although reliability is an important aspect of earnings quality, a potential problem is that it is not forwards-looking. For instance, a firm with a highly cyclical business may be viewed as producing high quality earnings because earnings accurately reflect past financial performance. But reported earnings for a particular year may not be reflective of future performance and therefore may not be useful, at least in isolation, in predicting future sustainable cash flows.

**Significant variation in reliability of accounts**

Many investors assume that financial accounts are reliable because they relate to historical periods and have been audited. This is not the case. There can be significant variation in reliability between firms and industries. Historical accounts comprise estimates that involve subjective judgments by managers. The materiality (relative to earnings) and predictability of these estimates can vary dramatically. A set of accounts based on material estimates of difficult-to-predict future events are unlikely to be considered reliable.

This is particularly true when historical accounts only cover a short period relative to the firm's operating and investing cycles. As the time covered increases, reliability should also improve because the accuracy of the estimates underlying the accounts in each sub-period becomes more obvious. Thus, a set of accounts for a single year may be considered unreliable because of the materiality of the estimates relative to the reported earnings and the level of difficulty involved in the estimates. But examining several years of accounts together can significantly improve the reliability of the accounts for the combined period.

**Management manipulation**

In order for historical earnings to accurately reflect operating performance, there needs to be an absence of material manipulation by management[1]. Management manipulation of earnings can reduce both reliability and relevance, by altering the timing and/or the quantum of transactions. Examples include underspending on brand-related marketing, research and development, and/or human resources.

Another way management can manipulate earnings does not involve changing the cash transactions but rather their accounting treatment, creating accruals in certain accounting periods that have the effect of increasing or decreasing reported earnings. Management has the ability to manipulate accruals because many accruals involve estimates of future events. Thus, management can use assumptions that bias accrual estimates to shift earnings from one period to another to suit their own agenda, rather than accurately reflecting the economic performance of the firm. For this reason, many investors believe that cash accounting is more reliable than accrual accounting.

**Cash versus accrual accounting**

Cash accounting records receipts during the period in which they are received and expenses in the period they are paid. Thus, the cash earnings of a firm equal the total cash receipts received during the period less total cash payments. The balance sheet would comprise only cash and shareholders funds.

The statement of cash flows is an example of cash accounting. It is divided into net operating cash flows, investing cash flows, and financing cash flows. The cash earnings can be calculated by subtracting investing cash flows from net operating cash flows. Cash earnings and free cash flow to equity holders are calculated the same way. Free cash flow lies at the core of equity valuation.

**So why do investors focus on earnings?**

Net profit is useful because it is usually less volatile than free cash flow[2]. Net profit is an estimate of the underlying (normalised) net operating cash flows less non-growth related cash capital expenditures. If a business is not investing heavily for future growth, there should be a close relationship between cash earnings or free cash flow and the accounting net profit.

Accrual accounting, on the other hand, measures the performance and position of a company by recognising economic events regardless of when cash transactions occur. It attempts to match revenues and expenses in order to correctly report a profit for a specific time segment. Cash expenditures that are

only expected to provide revenue benefits during the current financial reporting period are expensed both in the income statement and the net operating cash flow. A cash expenditure expected to provide future revenue benefits is capitalised in the balance sheet and only expensed later. A non-cash economic event can also create an asset to reflect future expected cash inflows.

In order to achieve the matching of revenues and expenses in correct time periods, accrual accounting creates assets and liabilities in the balance sheet. Accrual accounting dominates balance sheet accounting as we know it. The only asset on the balance sheet that is not created by accrual accounting is cash. All liabilities on the balance sheet are accruals. Shareholders equity comprises both cash and accruals-based segments.

Earnings are a combination of free cash flow and movements in accruals. The accruals component of earnings can be defined as net income less free cash flow or, alternatively, as the change in net invested capital. Here net invested capital is defined as asset-based accruals less operating liabilities (excluding debt-based accruals). Thus, any increase in net invested capital (net operating accruals) will create an accrual-based shortfall between the free cash flow (cash earnings) and the reported earnings.

**An accruals approach allows manipulation**

The problem with operating accruals is that they are based on estimates of future cash flows and thus they tend to be unreliable.

Empirical evidence indicates that asset-based accruals are the most difficult to estimate and so the most susceptible to manipulation[3]. The asset-based accruals that are most often manipulated are inventory, accounts receivable, property plant and equipment (PPE), and intangibles. Closing inventory can be overstated to artificially boost current period profits by not writing down obsolete stock. Accounts receivable can be used to overstate reported sales growth through channel stacking, including consignment stock in receivables and not writing off uncollectible debts. PPE can be overstated by using low depreciation rates, high expected salvage values, and not writing off obsolete equipment. Intangibles can be overstated as a result of paying too much for an acquisition or failing to write down the original capitalised value despite deteriorating long-term fundamentals of the acquired business. Periodic write-offs to PPE and intangibles (reversals of original asset-based accruals) are subjective and thus also open to manipulation by management.

**Earnings sensitivity to accruals**

Factors that increase the likelihood of accruals being a large component of earnings include high financial gearing, low returns on capital, and rapid growth in net invested capital (net operating accruals). The latter automatically results in accruals flowing through earnings – the higher the rate of growth in net invested capital, the more accruals that will flow through earnings.

However, empirical research suggests that accruals associated with sales growth tend to be of higher quality than those that are not. That is, accruals resulting from growth in invested capital where capital turnover is declining are associated with lower quality earnings.

**The institutional setting and reliability**

Confidence in the reliability of historical earnings comes both from the institutional setting in which financial statements are prepared, as well as from an understanding of the business and how its activities are reflected in accrual accounting.

The institutional setting contributes to the reliability of accounting numbers by requiring that information in annual financial reports be prepared in accordance with AASB standards and other regulations. The Corporations Act 2001 requires that the financial statements be audited by an independent auditor, and that the auditor and directors attest to the truth and fairness of information contained in the financial statements.

To provide further assurance that a firm is reporting reliable information, firms disclose in corporate governance statements the existence of various internal controls to protect stakeholders' interests. There has been significant focus on good corporate governance practices in recent years. In 2003, the Australian Stock Exchange released *Principles of Good Corporate Governance and Best Practice Recommendations* in order to provide a framework to guide good corporate governance practice and improve accountability. Companies are expected to apply these principles and disclose their corporate governance practices in their annual reports and/or on company websites.

## Relevance

Once it is established that the historical accounts are reliable, the focus shifts to an assessment of whether the earnings are reflective of future sustainable free cash flows – this is where relevance becomes important in assessing the quality of earnings.

The key is the tightness of the relationship between historical earnings and the sustainable future free cash flows from the existing business operations.

Potentially, there are two components of future cash flows. The first relates to the existing business operations. The second arises from future expansionary capital expenditure. Historical earnings that are relevant are those that are useful for estimating future sustainable cash flows from the existing business operations only.

The relevance of earnings quality implies that historical earnings need to be stable and persistent. Empirical research suggests that the cash flow-backed component of earnings is more persistent than the accruals-based component of earnings[4]. All other things being equal, historical earnings that are supported by cash flows are more likely to accurately reflect future sustainable operating cash flows. The accrual-based component of earnings is less persistent

because it involves estimates of future cash flows and related valuation judgements – estimates of future cash flows and events introduce potential errors into the accounts.

Empirical research also indicates that shares tend to be overpriced where total accruals are a large component of earnings and the rate of sales growth is lower than the rate of growth in invested capital[5]. The rapid growth in accruals that is unrelated to sales growth is normally based on optimistic assumptions and eventually reverses and depresses future earnings.

However, investors tend to focus or fixate on the reported profits rather than cash flows. That is, investors tend not to distinguish between the less persistent accrual component of earnings and the more persistent cash flow component. This leads to overvaluation of firms with high levels of accruals in their earnings and underpricing of firms with low levels of accruals.

Academic research also finds that earnings tend to be more persistent (higher quality) when the historical growth in earnings has been supported by revenue growth rather than cost reductions[6].

It is worth noting that earnings are not automatically considered high quality just because they are stable and persistent for a period of time. This is because equity valuations normally assume that earnings are maintained in perpetuity. If the factors determining historical earnings are not likely to persist over an extended period of time, the quality of earnings for valuation purposes will be eroded.

### Disclosure and transparency

Another aspect of the definition of high quality earnings relates to the level of associated accounting disclosure and transparency.

High quality earnings can be defined as those that provide a high level of disclosure of financial information that is useful in assessing value. The level of reliable and relevant disclosure can be influenced by many factors including the complexity of the business mix of the company.

The implementation of the new AASB standards will result in increased disclosure by companies in a number of areas (for example, disclosure of share-based payments). Much of this increased disclosure will be useful for more accurately assessing firm value and therefore creating more efficient portfolios.

### Qualitative factors

Historical earnings provide a starting point for valuation, and the quality of reported earnings is vital to accurate valuation. The quality of historical earnings is dependent on how useful they are in helping to understand the economics of the business and the likely long-term free cash flows produced by that business. In order to assess the quality of the business and thus earnings, the investor needs to understand the business model and the key economic drivers of that model. Key areas of focus include customers, competitors, suppliers, product attributes, competitive advantages, and management track record. Much of the information that is needed to understand the business is not included in the historical accounts and needs to be derived from other sources.

## Conclusion

High quality earnings should accurately reflect historical operating performance. Firms that have reported earnings that are highly reliant on estimates of difficult-to-predict events are more likely to have low quality earnings. These types of accounts normally have earnings that contain significant levels of accruals. This can be a warning signal that earnings quality may be poor.

Earnings are more stable and persistent than cash flows and thus are more useful in accurately forecasting future free cash flows. Accurate cash flow forecasting is the key to accurate equity valuations, and in turn, accurate equity valuations are essential for the construction of portfolios that provide above benchmark returns.

## END NOTES


1. Dechow, P.M. and Schrand, C.M, "Earnings Quality", Research Foundation of CFA Institute, 2004.

2. Dechow, P. M. "Accounting Earnings and Cash Flows as Measures of Firm Performance: The Role of Accounting Accruals," *Journal of Accounting and Economics*, Vol 18, No 1, July 1994.

3. Richardson, S., Sloan, R.G., Soliman M., and Tuna, I. "Accrual Reliability, Earnings Persistence and Stock Prices." Working Paper, University of Michigan, 2004.

4. Sloan, R.G. "Do Stock Prices Fully Reflect Information in Accruals and Cash Flows about Future Earnings?" *Accounting Review*, Vol 71, No 3, July 1996.

5. Richardson, S., Sloan, R.G., Soliman M., and Tuna, I. "Information in Accruals about the Quality of Earnings." Working Paper, University of Michigan, 2003.

6. Ghosh, A. and and Jain, P. "Sustained Earnings and Revenue Growth, Earnings Quality, and Earnings Response Coefficients", Working Paper.


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