Financial Reporting: An Enterprise Operations Perspective

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Abstract

Studies related to the measurement of accounting numbers have tended to focus on accounting as it relates to: changes in *equity* values; *equity* valuation; estimation of the cost of *equity* capital; and, prediction of *equity* earnings. I propose and justify a perspective for financial accounting research on measurement of accounting numbers, which differs from the current generally-applied perspective. I argue that important new insights will be gained if research efforts turn toward accounting measurement and valuation at the *enterprise/operating/firm* level.

November 2015

This perspective was written for the inaugural issue of *The Journal of Financial Reporting* at the request of the Editor, Cathy Schrand. I thank Keji Chen, Joseph Gerakos, Zach Kaplan, Steve Monahan, Stephen Penman, Cathy Schrand, Greg Sommers, Theodore Sougiannis, Eric Weisbrod, Nir Yehuda, and Xiao-Jun Zhang for helpful comments on a draft of this paper.

1. Introduction

I propose and justify a perspective for financial accounting research which differs from the current generally-applied perspective. I suggest that important insights will be gained if research efforts turn more toward accounting and valuation at the enterprise/operating/firm level rather than continuing to focus on the equity level, which is the emphasis of the vast majority of the research effort in financial accounting and reporting to-date.[1]

Why should there be at least two quite different perspectives: (1) a focus on equity market return and accounting for equity return; and, (2) a focus on enterprise return and accounting for the enterprise? Much of the work in finance and in accounting has been on accounting for the value of equity (that is, book value) and accounting for changes in the value of equity (that is, earnings).[2] More recent work has turned to accounting for the value of debt and for changes in the value of debt.[3] There has been little research emphasis, however, on accounting for the value of, or accounting for changes in, the value of the entity that is owned by the debt holders and the equity holders (that is: the firm; the enterprise; the operations).[4] Yet most valuation work (as we teach it and as it is done) focuses on valuation of this entity.[5] And there are many good reasons for this focus on the enterprise in teaching and in practice. I will discuss some of these reasons. In my view, for the same reasons, we should consider re-focusing our research effort on

[1] I use the term "enterprise" to identify the entity owned by the equity and debt holders, which engages in the firm's primary revenue-generating activities. I follow the terminology of Gode and Ohlson [2013] to distinguish between enterprise activities and financing activities. Enterprise activities are sometimes referred to as operating activities in practice, and enterprise earnings are sometimes referred to as operating income (see, for example, Penman [2012]) or net operating profit after tax, NOPAT. Enterprise/operating activities include activities such as research, development, purchasing inputs, production, marketing, and distribution of products and services (e.g., coffee in the case of Starbucks, passenger miles in the case of United Airlines, and brand-name household consumer products in the case of Procter and Gamble).

[2] This literature began with the seminal paper by Ball and Brown [1968], which spurned a vast literature described in Ball and Brown [2014].

[3] See Beatty and Liao [2014] for a review of recent literature.

[4] Examples of this literature are Freeman, et al. [1982], Penman and Yehuda [2004] and Easton, et al. [2015].

[5] This is clearly the emphasis of textbooks such as Easton et al. [2015], Gode and Ohlson [2013], Palepu and Healy [2013], Penman [2012], and Wahlen et al. [2015].

fundamental measurement issues at the enterprise level rather than the focus of the literature, which is, generally, at the equity level.

An important outcome of a change in focus to the enterprise is that it becomes clear that studies of accounting for change in value of the enterprise should recognize fundamental differences between the accounting for: (1) change in value of the enterprise due to funds contributed by (or distributed to) the owners of the enterprise; and, (2) change in value generated from the assets that are in the enterprise. Taking these differences into account when developing prediction models yields new insights.

1.1 Scope

I have been asked to write my perspective on the state of research on fundamental analysis, "because fundamental analysis research is a foundation in accounting yet fundamental analysis studies – related to the measurement of accounting numbers – are a smaller part of the literature than they used to be." This statement is, indeed, descriptive of the importance of fundamental analysis research and of the current state of the literature. It is important, however, to underscore the qualifier, "related to measurement of accounting numbers," because there has been a vast amount of work on accounting anomalies and fundamental analysis.[6] Research on the measurement of accounting numbers is important even if (perhaps particularly if) the market efficiently incorporates information in a timely manner, and it is research on measurement that has waned recently.

In the interest of clarity, I pause to define the literature that may be classified under the term "measurement of accounting numbers." This literature, by and large, examines the extent to which accounting numbers measure/recognize value and value change in a timely fashion. The

[6] See Richardson, Tuna, and Wysocki [2010] and Lewellen [2010] for excellent, comprehensive and constructive reviews.

literature requires a benchmark against which to measure the adequacy/validity/timeliness of accounting measures; equity values and change in equity values have generally been used as that benchmark. I often hear the devil's advocate question in seminars/workshops, "but if we have market prices and changes in market prices on which we can rely, why do we need accounting numbers?" The questioner has missed the point. The goal is to understand the effectiveness of accounting estimates and to compare various accounting estimates. More effective accounting measurement also aids in more effective forecasting and, hence, in more effective valuation.

I suggest reasons for focusing research on measurement of accounting numbers at the enterprise level. The extant fundamental analysis studies, related to the measurement of accounting numbers, have tended to focus on: accounting for changes in *equity* values; *equity* valuation; estimation of the cost of *equity* capital; and, prediction of *equity* earnings. I provide several reasons we should change the focus to accounting for changes in *enterprise* values; *enterprise* valuation; estimation of the cost of capital for the *enterprise*; and, prediction of *enterprise* earnings.

1.2 Fundamental roles of accounting

Two key/fundamental roles of accounting are in valuation and in prediction.[7] Much recent analytical work has been done on the valuation role of accounting but empirical work has waned.[8] Interestingly, empirical work on prediction/forecasting has made little progress since 1977, when Watts and Leftwich showed that the best earnings prediction model is a random walk with drift.[9] My perspective suggests that a change in focus to the enterprise level could serve to revitalize this research; the change will bring a focus to how the accounting is done, which, in

[7] Of course, another key role is the stewardship role, which I do not address in this perspective.
[8] Key theory papers include Ohlson [1995], Feltham and Ohlson [1995, 1996], Zhang [2000], Ohlson [2005], and Ohlson and Jeuttner-Nauroth [2005].
[9] I will return to this point later.

turn, will aid in our understanding of the role of accounting in prediction/forecasting and in valuation. This perspective may also provide more meaningful/useful estimates of the implied cost of capital, which in the past two decades have been the most used summary metrics of the relation between earnings forecasts and security prices.[10]

1.3 Reasons for a focus on enterprise earnings

There are a number of reasons for a change in research on fundamental analyses of accounting numbers from a focus on equity to a focus on enterprise operations, accounting for the value of the enterprise operations, and accounting for changes in this value. I will first list these reasons and then provide further explanation.

First, a focus on enterprise earnings and valuation of enterprise operations will lead to a much closer alignment between what we do in our research, what is done in practice, and what we teach in our financial statement analysis and valuation courses. Second, this focus permits abstraction from capital structure issues when analyzing the mapping from accounting numbers to future earnings and cash flows. Third, this focus permits abstraction from issues related to expected changes in capital structure when we invert accounting-based valuation models to obtain an implied expected rate of return. Fourth, this focus brings attention to the portion of the mapping from accounting numbers to value and value change that is not, as a first approximation, one-to-one and, therefore, is interesting empirically. In other words, conservative accounting is manifested/practiced at the enterprise level; the accounting for net debt is generally not conservative – for example, interest expense is, as a reasonable first approximation, equal to the cash interest paid to debtors (that is, interest payables are relatively small at balance date) and the change in the value of net debt is generally a reasonable approximation to change in market

[10] See Easton [2007] for a review of this literature.

value.[11] Fifth, changing the focus of analysis to accounting at the enterprise level brings attention to the fact that the form of the ("conservative") accounting for change in value of the enterprise assets in the firm differs from the accounting for value change due to the contribution from/distribution of cash from/to the owners (equity and debt holders) of the enterprise. Finally, the extant literature focuses on the effects of accounting rules and choices of accounting methods on the mapping from value change to earnings. Yet, the different mapping from change in value of enterprise assets to enterprise earnings vs. from change in value due to contributions/distributions to enterprise earnings, implies different mappings between current accounting numbers and future cash flows/earnings. I suggest that analyses of these differences may provide useful insights in our prediction models.

2. Align what we do in our research with practice and the teaching of financial statement analysis and valuation.

There are synergies to research following practice/teaching. Detailed valuation in both the classroom and practice generally occurs at the enterprise level. Integrating research, which follows the equity valuation perspective, into the enterprise valuation framework adds a layer of difficulty for students/teachers/practitioners attempting to adopt the techniques advocated by the researcher. Adopting enterprise value as the standard framework would lower this barrier.

The common template for most financial statement analysis and valuation texts follows the following steps: (1) re-format the financial statements to clarify the distinction between enterprise operating and financing activities; (2) use these re-formatted financial statements as

[11] It is important to focus on my general point, which is that, if we want to understand "conservative" accounting, our understanding may be enhanced by looking at the entity where conservative accounting is likely to be applied; of course, there are exceptions where accounting for debt is conservative (for example, other-than-temporary-impairment of debt securities with no corresponding accounting for an expected permanent increase in value). Much of the recent work on accounting for debt has focussed on firms in the financial services industry where there are important manifestations of conservatism. Much of market-based accounting literature removes these firms from the sample; the emphasis in my perspective is on the vast majority of firms that remain.

the basis for forecasting cash flows from operating activities and/or earnings from operating activities; (3) discount these future cash flows or earnings to a present value using the cost of capital for operations to obtain the estimate of the value of the operations of the firm (the enterprise); and, (4) subtract the book value of debt (which is generally taken as an adequate proxy for the market value of debt) to obtain the value of the equity ownership of the enterprise. A reason for this approach is that it simplifies and clarifies the analysis by focusing on the entity (the enterprise) where the accounting numbers do not reflect value one-for-one; debt and financial assets are generally (obviously not always) on the balance sheet at a value that approximates market value and, therefore, forecasting interest expenses and then discounting them back to a present value is a waste of time and effort; we can simply value the enterprise and, if we wish to determine the value of equity, we subtract the value of the debt to obtain an estimate of the value of equity.[12]

3. Value the pay-offs from investment in the enterprise operations; abstract from the issue of changes in future capital structure.

The residual income valuation model (re-introduced by Ohlson [1995]) and the abnormal earnings growth model derived by Ohlson and Jeuttner-Naroth [2005], which have become the foundation of much analysis of the fundamental valuation role of accounting, were derived from the dividend capitalization model. Both of these papers are based on a single firm and the issue of ownership of the firm is moot. Textbooks have taken these models and derived enterprise-earnings-based models from the discounted cash flow model; the derivation of the residual enterprise income model and the abnormal enterprise income growth valuation model from the discounted cash flow valuation model being directly analogous to the derivation of the residual

[12] Of course, although the valuer focuses on the valuation of the enterprise, checks are made to ensure that there will be sufficient funds available to fund the operations.

income model and the abnormal income growth model from the dividend capitalization model.[13] Thus, we teach the equivalence of these enterprise-earnings-based valuation models and valuation based on discounted cash flow from enterprise operations. But the research literature has, by and large, remained at the equity level. The research focus could easily change to the enterprise level.

3.1 Forecasting enterprise operating income.

Unlike the focus of forecasting in financial statement analysis and valuation texts, most extant academic research work on forecasting has focused on forecasting earnings to common equity holders.[14] There are many good reasons for this, not least of which is that this is the key accounting summary number of interest to equity investors. But, the focus in valuation on forecasts of cash flows from operations and earnings from operations suggests that more research should be done on prediction/forecasting at the enterprise operating level. It seems reasonable to suggest research that follows the steps followed in valuation texts: (1) forecast sales; (2) forecast the expenses associated with the generation of these sales (the forecast of sales divided by the sum of the forecasted expenses is the forecast of the profit margin ratio); and, (3) forecast the enterprise assets required to generate the sales (the forecast of sales divided by the assets required to generate the sales is the forecast of the asset turnover ratio). Bringing this focus to research on forecasting may lead to insights that we can take into the classroom and may also *per se* enrich the research endeavor.[15]

[13] Easton [2007], for example, presents derivations of the residual enterprise operating income model and the abnormal enterprise income valuation model from the discounted cash flow valuation model.
[14] There are some notable exceptions; for example, Esplin et al. [2014] examine the implications of disaggregating operating and financing activities for forecasting profitability at the enterprise level.
[15] Nissim and Penman [2001] and Soliman [2008] are the proto-typical examples of this kind of research. Unfortunately, despite the increasing emphasis on enterprise-earnings-based valuation in our teaching, research on this topic has waned.

Rarely do we see forecasts of earnings that separately identify earnings from the enterprise and payments to debt holders. A reason for this is that these forecasts are generally short-term and it is often reasonable to assume that capital structure will change little in the short-term. Academic research has also generally focused on forecasting equity earnings rather than enterprise earnings. A likely reason for this is that the academic literature has focused on: the information content of earnings to *equity* investors; prediction of the pay-offs (particularly earnings) to *equity* investors; use of earnings as a core variable in *equity* valuation; and, calculation of the implied cost of *equity* capital. Another reason is ready availability of high-frequency trading data for equities and ready availability of analysts' forecasts of equity earnings.[16] And, finally, much of the early market-based accounting research took a finance or information content perspective (with equity earnings as the key accounting information variable) rather than the fundamental measurement perspective.

The key underlying point of my perspective is that we could gain new insights by focusing our research effort on accounting and valuation at the enterprise level rather than at the equity level. Why, for example, do we continue to focus on forecasts of earnings and models for forecasting earnings rather than on forecasts of enterprise profit (after tax), *EPAT*, and models for forecasting *EPAT*? Why don't we study models for forecasting sales, enterprise profit margins and asset turns? Consider, for example, a recent paper by Hou et al. [2012], which spurned a new interest in models of forecasting earnings. Much of this interest has been due to the fact that they presented/titled their paper as "*The Implied Cost of Capital; A New Approach*," in essence providing an opportunity for researchers to estimate an implied cost of capital for

[16] Difficulties with conducting research at the enterprise versus the equity level have diminished in recent years with the move to fair value accounting for debt and required footnote disclosures if debt is not on the balance sheet at fair value, and with ready access to bond prices, CDS prices etc. Barriers that once existed, are largely gone now.

equities for which analysts' forecasts of earnings are not available. Interestingly, however, subsequent papers (Gerakos and Gramacy [2013] and Li and Mohanram [2014]) showed that this model provides, at best, only marginal improvement over a random walk, which suggests a serious limitation for estimates of cost of capital based on these forecasts. But, more fundamentally, why not forecast *EPAT*? Can we develop a model that will beat a random walk forecast of *EPAT*? Why not use forecasts of *EPAT* to reverse engineer a residual enterprise income valuation model or an abnormal enterprise income growth model to obtain an estimate of the cost of capital for enterprise operations? Since all of these questions are quite related, let us focus on just the last one. But, first, consider some fundamental relations between equity returns and enterprise returns.

3.2 Why focus on expected return on enterprise operations?

To see the benefits of focusing on the enterprise, consider the well-accepted expression, which captures the notion that the equity investors expected rate of return, r_{Eq} , reflects the sum of the expected rate of return on the enterprise operations, r_{Ent} , and the effect of leverage. That is,

$$r_{Eq} = r_{Ent} + \frac{V_D}{V_{Eq}} \cdot \left(r_{Ent} - r_D \right) \qquad (1)$$

where V_D is the market value of debt, V_{Eq} is the market value of equity and r_D is the after-tax cost of debt. The effect of leverage is to increase the expected rate of return on equity by the product of the ratio of the market value of debt to the market value of equity and the spread between the expected rate of return on the enterprise and the cost of debt. The capital structure irrelevance proposition of Modigliani and Miller [1958] supports the notion that, as a reasonable first approximation, the value of the enterprise and, in turn, r_{Ent} are not affected by capital structure,

rather r_{Eq} and r_D are affected by r_{Ent} and the portion of the enterprise owned by equity vs. debt holders. Rearranging equation (1) provides the well-known formula for calculation of the weighted average cost of capital (WACC):

$$r_{Ent} = \left(r_D \cdot \frac{V_D}{V_{Ent}} \right) + \left(r_{Eq} \cdot \frac{V_{Eq}}{V_{Ent}} \right) \qquad (2)$$

It follows from Modigliani and Miller that this estimate of the cost of capital for the enterprise may, as a reasonable first approximation, be considered to be unaffected by capital structure and may be used to discount future cash flows if we are prepared to assume that the riskiness of these operations does not change over time. This assumption, I argue, is reasonable. Importantly, however, it is evident from equation (2) that, if the assumption that r_{Ent} is, as a first approximation, unaffected by capital structure, r_{Eq} will be affected by capital structure changes. There are two important implications of this observation: (1) estimate the implied cost of capital at the enterprise level; and, (2) discount enterprise cash flows and enterprise earnings.

3.3 Estimate the implied cost of capital for the enterprise

The implied cost of equity capital as it is calculated in the extant literature is the implied geometric average rate of return on equity from the date on which the equity price is observed to infinity.[17] An obvious shortcoming of this estimate is that it is the average across expected future changes in capital structure and, therefore, somewhat difficult to interpret. A reason for this emphasis on the implied cost of capital for equity is that forecasts of earnings to equity are readily available; forecasts of enterprise level earnings are not. Of course, we could obtain forecast of *EPAT* by subtracting (researcher derived) forecasts of net financial expenses from

[17] All of the extant methods of estimating the expected rate of return implied by forecasts of earnings and current market prices are based on either the residual income model or the abnormal earnings growth model. None is based on the residual enterprise income model or on the abnormal enterprise income growth model.

analysts' forecasts of earnings. Perhaps more obviously, we could set up models that forecast *EPAT* from current accounting fundamentals in a manner similar to that used by Hou et al. [2012]. Then we can reverse engineer the enterprise-income-based valuation models to obtain the implied expected rate of return that equates the market value of the enterprise (generally reasonably approximated as the sum of the market value of debt and the market value of equity) and the forecasts of *EPAT*. This estimate is likely much less affected by future changes in capital structure (see the discussion above).

3.4 Discount enterprise cash flows and earnings.

The observation from equation (1) that the effect of leverage is to increase the expected rate of return on equity by the product of the ratio of the market value of debt to the market value of equity and the spread between the expected rate of return on the enterprise and the cost of debt underscores the impossibility of estimating the value of equity directly from forecasts of cash flows to equity holders (that is, dividends and net stock repurchases and distributions). Such estimation encounters the conundrum that estimates of future equity and debt values are a required input to valuation of equity at the current date.[18] Valuation based on enterprise cash flows and enterprise earnings do not suffer from this conundrum, which is one of the reasons for the focus on the enterprise as the entity to be valued – then the values of equity are derived by subtracting the value of debt.

[18] This point, though, perhaps, subtle, is underscored by the fact that, when we calculate the cost of capital for operations using the weighted average cost of capital (WACC) formula, we generally weight the cost of debt capital and the cost of equity capital using observed market value weights, which is obviously somewhat unsatisfactory because it is the true intrinsic value that we are trying to calculate (in other words, we are using a market value as an input in the determination of the intrinsic value, which, of course, may differ from the market value). As a practical matter, this problem is overcome by an iterative procedure that begins with market value in the calculation of WACC; then, the calculated intrinsic value is substituted as the value weight in a new WACC calculation and so on until further substitutions lead to no further change in the estimated intrinsic value. But, calculating the cost of capital in future periods using the WACC formula is impossible because the cost of equity and the cost of debt will both be affected by the capital structure, which also cannot be measured.

4. Studies of the portion of value change captured in concurrent earnings should consider analysis at the enterprise level.

The foundational issue in market based accounting research is the mapping from change in market value to accounting earnings. I devote much of this perspective to this issue because it is at the core of our research endeavor and it provides an opportunity to describe insights that may be gained by changing the focus from equity ownership to the enterprise operations.

Decades of research on measurement of accounting numbers has focused on the mapping from change in market value of equity to earnings. This literature has, since the late-1990s, often been labelled research on accounting conservatism. The term accounting conservatism has generally described the tendency for accounting to record value and change in value less than one-to-one; that is, accounting earnings less than change in market value and book value less than market value. The literature has generally considered two forms of conservatism – viz., conditional and unconditional conservatism. I am unaware of any study that combines these two forms of conservatism in one (regression) framework. I will show that changing the focus to the enterprise makes it clear that these two forms of conservatism can and should be analyzed in the same (regression) framework. Nevertheless, combining the analyses of the two forms of conservatism is also justifiable at the equity level – I will begin by making the argument at the more familiar equity level before turning to the enterprise level.

Equity earnings are affected by the (conservative) accounting for: (1) new equity investments (for example, using the proceeds from a new stock issue to fund purchase of property, plant and equipment); and, (2) value generated by/with these new investments as well by/with the assets already in place. The accounting for these two forms of value change is quite different. I will discuss them separately.

When equity holders contribute cash (in the form of payments for newly issued stock) and there is no conservatism in the accounting for the associated investment, book value of equity changes by the amount of the cash contribution and there is no effect on earnings at the date of the investment. But, if accounting is conservative (R&D expenditure, for example, is immediately expensed), some (or all, if the expenditure is on R&D) of the cash contribution is recorded as an effect on earnings and the remainder is recorded as change in book value.[19] That is, the portion of the cash investment recorded as an expense in earnings reflects the conservatism in the accounting for the cash contribution. This form of conservatism is unconditional – it is not conditional on the sign of equity return.[20]

The extant literature on conditional conservatism regresses earnings on equity returns with a dummy intercept and slope variable equal to one if returns are negative, zero otherwise. Equity returns are the change in value of the equity invested at the beginning of the return period as well as the change in value generated from new investment by equity holders. The earnings/return coefficient is the estimate of the portion of returns that is captured in earnings of the return period and this portion has been shown to be greater when returns are negative. Unlike unconditional conservatism, where the total change in value due to the cash contribution is recorded in either earnings or change in book value, only a portion of the value change generated via the equity in place is recorded in earnings and this portion is equal to the change in book value.

Thus, conservative accounting in earnings (that is, recording change in value at less than dollar-for-dollar) arises due to conditional conservatism and unconditional conservatism. It

[19] The clean surplus relation ensures that the entire amount of the cash contribution by equity holders will be recorded in either earnings (as an expense) or in book value (as an asset).
[20] See Ryan [2006] for a comprehensive discussion and review of the literature on unconditional conservatism.

follows that studies of accounting conservatism will gain a more complete understanding of the accounting for change in value if they add cash contributions/distributions as an additional explanatory variable in regressions of earnings on returns.

In the next two sections, I will discuss each of these forms of conservatism at the enterprise level and then suggest a structure for empirical studies of these two forms of conservatism. The key point of these sections is that the enterprise – not the equity ownership of the enterprise – is the entity where conservative accounting tends to be applied and is, therefore, more apparent.

5. Focus the research on the entity where conservative accounting is likely to be most apparent.[21]

The question at the heart of the empirical literature that considers accounting measurement of value and change in value is: what is the portion of value change captured in concurrent earnings? This literature, particularly since Beaver, Lambert and Ryan [1989] and more recently, Basu [1997], is generally based on a regression of earnings on returns; the estimates of the earnings/returns coefficients reflect the portion of the returns that are captured in earnings of the return period.[22] The relation between earnings and returns, may be written:[23]

$$\frac{NI_{it}}{MVE_{it-1}} = \alpha_{0t} + \alpha_{1t}\frac{\Delta MVE_{it}+FCFE_{it}}{MVE_{it-1}} + \varepsilon_{1it} \qquad (3)$$

where NI_{it} is comprehensive net income available to common shareholders of company *i* for year *t*, MVE_{it} is the market value of equity in company *i* at the end of year *t*, and $FCFE_{it}$ is free cash

[21] The next two sections are the core theoretical motivation for Easton et al. [2015]. My co-author on that paper, Eric Weisbrod, should be given much credit for the points made and the pedagogy of these sections.

[22] Basu [1997] includes a dummy intercept and slope variable to identify bad news (negative returns) vs. good news (positive returns); conservative accounting is manifested in a greater earnings/return coefficient when returns are negative. I will not include these dummy variables in order to simplify the exposition.

[23] Basu [1997] and papers that follow alternately use both comprehensive net income deflated by market capitalization and earnings before extraordinary items per share deflated by beginning of year price per share. All of these studies, as far as we are aware, use compounded monthly cum-dividend stock returns as the independent variable. I use the variables in equation (3) because it makes the algebra more succinct; but changing to these variables makes almost no difference to the results of empirical analyses.

flow to/from equity holders of company *i* in year *t*. $FCFE_{it}$ is the net of all transactions with equity holders (cash dividends plus payments for stock repurchases minus proceeds from new stock issues).

Recognizing the facts that: (1) net income is equal to enterprise profit after tax less net financial expenses; (2) the market value of equity is equal to the market value of the enterprise minus the market value of net financial liabilities (net debt);[24] and, (3) free cash flow to equity holders is equal to enterprise cash flows (*ECF*) minus the portion of *ECF* that goes to/comes from holders of net debt, equation (3) may be re-written:

$$\frac{EPAT_{it}-NFE_{it}}{EV_{it-1}-MVD_{it-1}} = \alpha_{0t} + \alpha_{1t}\frac{(\Delta EV_{it}+ECF_{it})-(\Delta MVD_{it}+FCFD_{it})}{EV_{it-1}-MVD_{it-1}} + \varepsilon_{1it} \qquad (4)$$

where $EPAT_{it}$ is the enterprise profit after tax of firm *i* for year *t*, NFE_{it} is net financial expenses of company *i* for year *t*, EV_{it} is the market value of the enterprise (operations) of firm *i* at time *t*, MVD_{it} is the market value of net debt of company *i* at time *t*, ECF_{it} is enterprise cash flows to the owners of the enterprise (equity and net debt holders), and $FCFD_{it}$ is cash flows to/from the net debt holders.

As a reasonable first approximation, net financial expenses and net debt are accounted for dollar for dollar (in other words, there is no conservatism); that is, $NFE = \Delta MVD + FCFD$. Thus, α_{1t}, the coefficient of interest in the extant literature, captures a combination of mappings from change in value to earnings that are, as a first approximation, *not* conservative ($NFE = \Delta MVD + FCFD$) along with mappings that *are* conservative ($EPAT \neq \Delta EV + ECF$). It follows that changing the focus to the accounting for change in value at the enterprise level changes the

[24] Note that the market value of net debt (as well as net financial expenses) can be negative. That is, the equity holders can own the enterprise and a "pile of cash" (as in Microsoft, Apple, and Starbucks, for example). It follows that substituting *MVE* with *EV - MVD* (where negative *MVD* implies market value of net financial assets) remains valid.

focus to the entity where conservative accounting occurs and the analyses are not confused/biased by the addition of variables where the accounting is not conservative. Hence, Easton et al. [2015] suggest a change in focus to the following regression:

$$\frac{EPAT_{it}}{EV_{it-1}} = \beta_{0t} + \beta_{1t}\frac{\Delta EV_{it} + ECF_{it}}{EV_{it-1}} + \varepsilon_{2it} \qquad (5)$$

$\Delta EV_{it} + ECF_{it}$ (that is, EVg_{it}) is the sum of value generated from assets in place, ΔEV_{it}, and value contributed by the owners of the enterprise, ECF_{it}. The estimate of the coefficient on EVg_{it} is the portion of the generated/lost value that is captured in enterprise earnings of the period. Hypotheses related to conditional conservatism (as in Basu [1997] and papers that follow) may be tested using this regression in a manner analogous to Basu and the predictions will be similar. That is, conservatism in accounting is reflected in a greater portion of enterprise value lost being captured in earnings of the period relative to the portion captured when enterprise value is generated.

6. When analyzing accounting for change in value, incorporate the fact that accounting for change in value of the enterprise assets in place differs from the accounting for value change due to the contributions from/distributions to the owners of the enterprise.

As I noted in section 4, conservative accounting in earnings arises due to conditional conservatism as well as unconditional conservatism. It follows that studies of accounting conservatism will gain a more complete understanding of the accounting for change in value if they add cash contributions/distributions as an additional explanatory variable in regressions of earnings on returns.

When the enterprise is the entity of interest, cash contributions/distributions come from/go to the owners of the enterprise, viz., debt and equity holders. Changing the focus from cash flow to/from equity holders to cash flows to/from the enterprise, *ECF*, again focuses the analysis on

the entity (the enterprise) where accounting is conservative. To see this, note that cash contributions from debt holders may be used to pay equity holders (in, say, a debt for equity swap) and such transactions are, by and large, recorded one-to-one.

At the time of the cash contribution from/distribution to the owners of the enterprise, the entire amount of the cash flow will be recorded on either the income statement (as an effect on *EPAT*) or on the balance sheet (as an effect on *NEA*); in other words, the accounting identity holds; that is, $ECF \equiv EPAT - \Delta NEA$. If there is *ECF* inflow, conservatism will be reflected in the amount of the *ECF* that is expensed (rather than capitalized). Investment of *ECF* will increase the market value of the enterprise, ΔEV, by the amount of the *ECF* inflow (that is, negative *ECF*). And, if there is no conservatism in accounting (that is, $\Delta NEA = \Delta EV$, where ΔNEA is the change in the book value of net enterprise assets), ΔNEA will also increase by the amount of negative *ECF*, and the accounting identity, $EPAT \equiv \Delta NEA + ECF$ ensures that *ECF* has no effect on *EPAT*.[25] But, conservative accounting will lead to greater expensing (for example, complete expensing of R&D, or partially accelerated expensing when accounting depreciation is greater than depreciation in market value of the asset) and *ECF* will reduce *EPAT* of the period.

The effect of accounting conservatism is similar if there is *ECF* outflow funded by, for example, sale of enterprise assets. If the asset sale price is equal to the book value of the asset (that is, there is no conservatism in the accounting for the value of the asset), $\Delta NEA = \Delta EV = ECF$, and *ECF* has no effect on *EPAT*. But, if the book value is less than the sale value there will be an accounting gain on sale, which will increase *EPAT* but not *EVg*. Note that

[25] The market identity $EVg \equiv \Delta EV + ECF$ ensures that zero-NPV *ECF* will not affect *EVg*, regardless of the accounting treatment of *ECF*.

unconditional accounting conservatism reduces *EPAT* relative to *EVg* when *ECF* is negative and increases *EPAT* relative to *EVg* when *ECF* is positive.

Notice that, in contrast to the accounting for value generated by/lost from the assets in place and the investment of *ECF*, where only the portion of value generated by the assets that affects earnings of the period is captured in *EPAT* (and, in turn, in *ΔNEA*), all of the value change due to contributions/distributions of *ECF* by/to the owners of the enterprise is captured in either *EPAT* or *ΔNEA*. Accordingly, Easton et al. [2015] suggest the following regression as the basis for fundamental analysis of accounting measurement at the enterprise level:

$$\frac{EPAT_{it}}{EV_{it-1}} = \theta_{0t} + \theta_{1t}\frac{EVg_{it}}{EV_{it-1}} + \theta_{2t}\frac{ECF_{it}}{EV_{it-1}} + \varepsilon_{3it} \qquad (6)^{26}$$

In a manner similar to that in Basu [1997] and related papers, Easton et al. [2015] compare the conservatism in accounting across partitions based on the signs of change in enterprise value, enterprise value generated/lost and enterprise cash in/out flow to gain insights in addition to those gained from a Basu-style analysis.

The fact that accounting for change in value of the enterprise assets in place differs from the accounting for value change due to the contributions from/distributions to the owners of the enterprise has implications for prediction. I discuss these implications next.

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[26] Since $EPAT \equiv \Delta NEA + ECF$ this regression may be re-written:

$$\frac{\Delta NEA_{it}+ECF_{it}}{EV_{it-1}} = \theta_{0t} + \theta_{1t}\frac{EVg_{it}+ECF_{it}}{EV_{it-1}} + \theta_{2t}\frac{ECF_{it}}{EV_{it-1}} + \varepsilon_{3it} \qquad (7)$$

Alternatively,

$$\frac{\Delta NEA_{it}}{EV_{it-1}} = \theta_{0t} + \theta_{1t}\frac{EVg_{it}+ECF_{it}}{EV_{it-1}} + (\theta_{2t} - 1)\frac{ECF_{it}}{EV_{it-1}} + \varepsilon_{3it} \qquad (8)$$

Regression (8) permits a focus on change in the value of enterprise assets on the balance sheet and on the portion of the variable *EPAT* where there is conservatism.

7. When developing prediction models, incorporate the fact that accounting for change in value of the enterprise assets in place differs from the accounting for value change due to the contributions from/distributions to the owners of the enterprise.

The different mapping from change in value of enterprise assets to enterprise earnings vs. from change in value due to contributions/distributions to enterprise earnings implies different mappings between current accounting numbers and the future cash flows/earnings. I suggest that analyses of these differences may provide useful insights in our prediction models. The researcher developing models to forecast, say, *EPAT*, might consider the different implications of conservative accounting for these forecasts. If, for the sake of illustration, the coefficient relating *EPAT* to *EVg* in the current period is 0.1, the change in *EPAT* is likely to be more permanent than if this coefficient is 0.9. Similarly, the coefficient relating *EPAT* to *ECF* reflects over-depreciation in the current period and this will be reflected in under-depreciation in future periods.

8. Summary and Conclusion

The extant fundamental analysis studies – related to the measurement of accounting numbers – have tended to focus on: accounting for changes in equity values; equity valuation; estimation of the cost of equity capital; and, prediction of equity earnings. I provide several reasons why changing the emphasis of the analyses from accounting for the equity ownership to accounting for the enterprise operations may revitalize this literature and provide insights that are useful in our teaching and the practice of financial statement analysis and valuation.

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