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On the IASB Comprehensive Income Project: An Analysis of the Case for Dual Income Display

The IASB is presently involved in a project on reporting comprehensive income. Since the IASB accounting model mixes two income determination systems, namely, historical cost accounting and fair value accounting, an interesting question pertains to whether the display of comprehensive income should reflect the existence of these two paradigms. This article scrutinizes, from both the points of view of accounting theory and a valuation perspective, the typical arguments made by proponents of historical cost net income and comprehensive fair value income. It finds that claims for exclusive reliance on a single concept of income are untenable. The analysis provides arguments in defence of an income display that explicitly features both income concepts. Such a dual income display would correspond to a categorization of comprehensive income that is currently investigated in the IASB performance reporting project. However, given the importance of summarization in financial analysis, as is most extremely reflected in the focus on the earnings per share (EPS) number, the case for a dual income display should also be considered at the highest level of summarization of financial performance reporting. In other words, mandatory publication of two EPS numbers, one for net income, and one for comprehensive income, should be considered. Possible effects on perception and actual use of financial reports that should enter such a consideration are suggested as topics for experimental research.

Key words: Accounting; IASB; Income, comprehensive; Valuation, residual income.

Basically, an accounting system can be described as a set of rules determining recognition, measurement and display that defines a mapping of a company’s financial performance and position into its financial statements. Since recognition and measurement determine when and at what amount elements should be incorporated in these financial statements, they are generally considered as the essential determinants of the accounting system. Indeed, given the standard setter’s goal of decision relevance to investors, the hypothesis of stock market efficiency would even imply that display of accounting information is irrelevant. The only requirement is that the information about recognized and measured elements is available. However,
under a semi-strong or weak form view of market efficiency, issues of presentation become important. According to the theory of bounded rationality (e.g., Libby et al., 2002), physical and cognitive limitations cause investors to deviate from theoretical decision models and resort to heuristics. As a consequence, summarizations are generally relied upon instead of the complete voluminous financial reports themselves. The extensive use of the price/earnings per share or P/E ratio in valuation is probably the most extreme example of this summarization. Preparers’ preoccupation with the earnings number, in the standard setting process and in financial communication, is a reflection of this focus (Beresford, 1994).

Against the background of this summarization, an interesting question pertains as to how display of income should relate to recognition and measurement if the accounting system is a mixture of two income determination systems—for instance, transaction-based historical cost accounting and fair value accounting, as is the case in the International Accounting Standards (IAS/IFRS). A ‘utilitarian’ suggestion might be that the income report should advance both net historical cost income and fair value comprehensive income on an equal standing so that, from the income reporting format itself, users experience no incentives to weigh one income measure more versus another in their investment decisions.

Currently, the IASB is involved in a joint project with the Financial Accounting Standards Board (FASB) to investigate the reporting format of performance. The statement of comprehensive income that is proposed therein would replace the present income statement. Next to integrating all sources of income, an important goal of the statement of comprehensive income is to categorize income components in a way that is useful to investors (IASB, 2005b). One categorization that has been suggested in the course of the project (Joint International Working Group on Performance Reporting, 2005) and has gained considerable academic interest (Newberry, 2003; Barker, 2004) is based on the division between historical cost income and fair value income (remeasurements). Accordingly, the statement of comprehensive income would contain a subtotal based on historical cost income (i.e., excluding fair value remeasurements) while the total comprehensive income would include fair value remeasurements. Such an approach would thus explicitly feature both measurement concepts. However, given the importance of summarization in financial analysis, as is reflected in the focus on the earnings per share (EPS) number, the case for a dual presentation format of income should also be considered at the highest level of summarization of financial performance. Moreover, given that the influence of display probably increases with the level of summarization users rely on, the issue of duality at the EPS level, the highest level of summarization, is relatively most relevant. Duality of display at the level of the EPS number implies mandatory publication of two EPS numbers, one for historical cost net income and one for comprehensive income.

Obviously, the answer to the question of whether dual income display at the highest level of summarization is indeed a desirable standard setting objective ultimately depends on the absence of persuasive arguments for valuation purposes to rely exclusively on comprehensive income or on net income, presuming that users either only acquire information about the EPS number(s) or attach too
much weight to it. In the absence of such arguments, sole reliance on a single income number is not warranted and financial reports should possibly reflect the duality of the income measurement model by reporting two EPS numbers.

Traditionally, arguments in favour of one income concept have tended to sway with one’s view on the use of the income number for valuation purposes. Those interpreting investor relevance as accounting for equity have regarded income as the temporal elaboration of the equity account and have argued in favour of comprehensive income since this shows the total increase in the value of net assets. However, this article analyses several ‘true income’ notions that have figured in accounting theory. It finds that these do not provide a priori arguments to consider comprehensive income to the exclusion of net income. On the other hand, those attaching greater importance to predictive ability of income favour net income because of its superior analytical properties vis-à-vis comprehensive income. Proponents of net income could borrow support from the informational approach in accounting research and, contrary to what is commonly believed in the literature, also from the valuation approach, which was advanced by Ohlson. This article argues that the exclusion of transitory fair value income components, which is proposed by this research, is based on an incomplete notion of prediction and that there could be benefits from considering comprehensive income in addition to net income for the purposes of prediction.

Regardless of the purpose of the income number one envisages, no case for exclusive focus on a single concept of income can be made. Hence this article argues that a dual approach, putting two income and EPS numbers on an equal standing, should be considered. However, several possible effects on perception and actual use of financial reports from publishing two EPS numbers are imaginable. Since these should be considered before implementing a double EPS display, they are suggested as topics for experimental research.

THE IASB COMPREHENSIVE INCOME PROJECT

Both the IASB and the FASB are currently involved in a performance reporting project. Until recently, the IASB and the FASB conducted these projects separately. As of 2004, the Boards agreed, in the interest of international convergence, to conduct a joint project on this topic and established a new Joint International Working Group on Performance Reporting to assist them (IASB, 2004a). The objective of the performance reporting project is to establish standards for the presentation of information in the financial statements that would improve the usefulness of that information in assessing the financial performance of a business enterprise (IASB, 2005b). The reporting requirements of financial institutions will be considered separately and are for the moment not included in this project (IASB, 2005b), one of the main goals of which is to create a comprehensive income statement that will categorize and display all components of income. In other words, the key issues revolve around the content and appropriate display of income. Standard setters’ focus on investor decision relevance, combined with the prominence of the income number to the investing community, make income one
of the most central outputs of the accounting model. Hence the importance of this project can hardly be overstated. Frankly, given the high status of the income notion, it may seem surprising that its determination and presentation still remain to be settled by the world’s two main accounting bodies.

While it is explicitly mentioned that the project deals only with presentation and will not address issues of measurement and recognition (IASB, 2003), there is nonetheless a strong link in the sense that measurement and recognition directly determine the properties of the income number. It is exactly the inability to settle between the historical cost and fair value measurement paradigms that finds its way into present day discussions concerning the income statement. One of the main questions to be solved concerns whether or not remeasurements, resulting from fair value accounting, should be included in income and if so, how these should be presented therein. In principle, under the IASB Framework, both revenue and gains are included in income, and expenses also include losses (IASC, 1989). So, in principle, the IASB Framework endorses ‘clean surplus’ accounting, under which every income and expense item is run through the income statement. As a consequence of double-entry accounting, the clean surplus income number shows the increase in net assets derived from non-owner transactions and is therefore regarded to be a ‘true’ or ‘tell it like it is’ measure of income. In practice, however, many individual IASB standards, especially those involving fair value measurement, have departed from the clean surplus rule. A few examples are IAS 16, Revaluation of Property, Plant and Equipment; IAS 21, Foreign Exchange Gains/Losses on Translation of Net Investment; and IAS 39, Unrealized Gains/Losses on Available for Sale Instruments. In recent debates fair value measurement has met with serious opposition from historical cost adherents, especially from the preparers’ side (Walsh, 1996). Higher income volatility, due to the inclusion of fair value remeasurements, raised the fear for higher risk premiums (American Bankers Association, 1990; Hirst et al., 2004).¹ Further, the subjective character of certain fair value measurements was said to corrupt the quality of the income number (Barth, 1994; Bernard et al., 1995; Joint International Working Group on Performance Reporting, 2005). Under dirty surplus accounting, fair value remeasurements are not recorded in the income number, but are ‘bypassed’ directly to equity. It is well known that this practice reflects a compromise, allowing fair value measurement of balance sheet items to progress, while retaining the traditional properties of the income number (Johnson et al., 1995). Obviously, the disadvantage of this procedure for fair value proponents was that fair value accounting was to a large extent removed from the income statement. Depending on the views on the hypothesis of market efficiency one entertains, this can constitute a serious impediment to enhancing fair value relevance. Obviously, if markets are efficient, then it does not matter where information is presented because prices will impound all available information anyhow. However, if one relaxes one’s views of market efficiency and

¹ In the 1960s and 1970s such debates had appeared—see, for example, Gynther (1971) and Chambers (1972)—and they resurfaced when CPP and CCA inflationary supplementary statements were proposed in the late 1970s.
considers the (undue) attention that the income concept receives in financial markets, one might entertain the idea that fair value has not been given a fair chance. From a standard setter’s point of view, bypassing fair value remeasurements constitutes a negation of its own measurement model. From a user’s point of view, to the extent that fair value measures are indeed relevant for valuation purposes, the more items are taken directly to equity, the more the equity account will become a dumpster for an amorphous and growing mass of important information (Beresford et al., 1996). The demand for comprehensive income reporting by the Association for Investment Management and Research (AIMR, 1993) voiced this concern. Comprehensive income is the change in the value of net assets during a period from all sources except for transactions with owners (Robinson, 1991). So even under dirty surplus accounting, comprehensive income reconciles all income and expense items, regardless of whether these were booked directly on the equity account or passed through the net income statement. In other words, a statement of comprehensive income mimics clean surplus income. To have all gains and losses reported in an organized way in a statement of comprehensive income would enhance the accessibility and comprehensibility of financial statements (AIMR, 1993). In response to these concerns, standard setters’ intentions to report comprehensive income gained momentum. Since 1997, SFAS 130, Reporting Comprehensive Income (FASB, 1997), requires the reporting of comprehensive income in a financial statement with the same prominence as the other statements that together constitute a full set of financial statements. IAS 1, Presentation of Financial Statements, permits but does not require a single comprehensive income statement.

With the joint performance reporting project, the Boards have taken their intention to advance the comprehensive income concept one step further. By December 2005, tentative conclusions reached in the project indicate that a comprehensive income statement, which would replace the current income statement, is the ultimate goal of the performance reporting project for both the IASB and the FASB (IASB, 2005b). This statement is currently referred to in the project as the statement of recognized income and expense, but preparers would be allowed to choose their own titles and labels for totals and subtotals (IASB, 2005b). The statement would include a subtotal profit or loss for the period. While the initial intention of the IASB was to require a single statement, an alternative that consists of presentation of comprehensive income in two statements was allowed. An income statement would thereby show profit or loss for the period, while the statement of recognized income and expense would begin with profit or loss for the period and display all other comprehensive income components. Although the Board expressed its preference for a single statement approach and found no conceptual base for presentation in two statements, it allowed for this alternative because of the resistance that seemed to be prevalent among constituencies about the move to a single statement of recognized income and expense (IASB, 2005a).

Obviously, the meaning of the profit or loss subtotal will depend on the categorization scheme that will apply. This issue is expected to be decided in a second phase of the project (IASB, 2005b). However, a categorization that has already
been discussed in the course of the project (Joint International Working Group on Performance Reporting, 2005) and that has gained considerable academic interest (Newberry, 2003; Barker, 2004) is based on the division between historical cost accounting income and fair value remeasurements. The subtotal profit and loss for the period would then be based on accrual-based historical cost accounting (i.e., excluding fair value remeasurements) while the total comprehensive income would include fair value remeasurements.

A project that would incorporate all fair value gains and losses in an income statement and that advances comprehensive income as the ultimate income total can be expected to increase the prominence of display of fair value income components. According to Lipe (1998), items in the income statement receive higher processing and judging weight just because they are part of an income statement.

Another possible indication of the re-evaluation of comprehensive income concerns the matter of recycling. Although this issue will be decided in a later stage of the project (IASB, 2005b), tentative conclusions indicate that recycling will be prohibited (IASB, 2004b). Preventing recycling implicitly obliges users to consider fair value remeasurements in their analysis. Recycling of an item of financial performance refers to reporting of that item in more than one accounting period because the nature of the item is deemed to have changed in some way over time (G4+1, 1999). For example, unrealized gains, which have been reported in the comprehensive income statement under remeasurements, are, in a later period, when realization occurs, again reported as income, but this time under the subtotal profit or loss for the period. The motivation for recycling is the concern that early recognition of fair value measurement pre-empts the point of realization as a recognition signal. Therefore, certain income items, which users may potentially regard as value relevant, will never pass through profit or loss for the period if the latter is made devoid from fair value remeasurements, as would be the case under the suggested comprehensive income categorization. A prohibition on recycling is motivated by the IASB’s preference that income components should only be recorded once. However, users who rely exclusively on profit or loss for the period will miss these income components completely if they are not recycled and are therefore obliged to consider comprehensive income. Although the magnitude of this problem obviously depends on the specifics of the economic activity and on the extent of fair value accounting, a prohibition on recycling no doubt constitutes a re-evaluation of comprehensive income and of fair value accounting in general.

Finally, the calculation and display of the EPS number could also influence the status of display of fair value remeasurements vis-à-vis historical cost income components. IAS 1, Presentation of Financial Statements, requires only the presentation of net income as a base for EPS calculations while revisions to IAS 33, Earnings per Share, preclude alternative income numbers for this purpose. But as the comprehensive income project is obviously geared towards dual income presentation, the introduction of two EPS numbers, one for profit or loss for the period and one for comprehensive income, seems a straightforward suggestion. Given the importance and visibility of the EPS number in investment practice, the importance of this issue should not be underestimated. The Boards have included
the analysis of comprehensive income per share calculation and display in their performance reporting project, but will address the issue in a later stage (IASB, 2005b).

Thus, the analysis of the performance reporting project shows that the IASB and the FASB are moving towards a model which gives prominence to two income concepts, profit or loss and comprehensive income. If two EPS numbers were to be required on the income statement, then this duality would also be reflected at the level of per share income reporting. The aim for the rest of this article is to investigate whether a case can be made to support such an evolution. With this in mind, the next section analyses several income notions from accounting theory.

PRO COMPREHENSIVE INCOME: TRUE INCOME SCHOOLS

The period before 1968, that is, before the papers of Beaver (1968) and Ball and Brown (1968), heralded empirical accounting research, witnessed several attempts by economists to harmonize the traditional accounting concept of income with economic thinking (Beaver et al., 1968; Revsine, 1973, pp. 28–56; Beaver, 1998, pp. 3–4). These theories were labelled ‘normative’ because, although they differed strongly in their conclusions, they all applied economic reasoning to develop income notions that possess characteristics that income ‘ought’ to have. These normative writers were blamed for the fact that, to develop their theories, they needed to make assumptions about the information needs of users and how these information needs were best served. So basically, the validity of a proposed income concept depended on these assumptions. With the rise of empirical accounting research, the work of these normative thinkers soon grew out of vogue (Watts, 1995). These days, for some, it has become unfashionable to rely on normative accounting theories. However, according to others, it could be beneficial to reconsider this work because the strong conceptual foundations still bear upon present day discussions (Demski et al., 2002; Newberry, 2003).

Yet, in spite of the rigorous investigation of the income concept that was undertaken in those days, the issue of whether it should be defined comprehensively or not was treated only tangentially and one has to read carefully to find clues on this subject.

The two polar notions are historical cost accounting income and economic income. According to Hicks, income is defined as ‘the maximum value which a man can consume during a week and still be expected to be as well off at the end of the week as he was in the beginning’ (Hicks, 1946, pp. 171–81). For an enterprise, this corresponds to the maximum amount of dividends that can be distributed while retaining the same value of net assets as in the beginning of the period. The important aspect of this definition lies in the explicit recognition of the inter-temporal nature of income: Aside from owner-related transactions, income emerges only after the value of net assets has been maintained for the next period. On the other hand, apart from owner-related transactions, once the value of net assets has been maintained, all value changes above or below that level are considered as income. This point holds irrespective of the actual valuation system.
that applies. However, this is the very definition of clean surplus accounting. In other words, starting from the Hicksian definition of income, clean surplus income is self-evident. Basically, this is the rationale behind the defence of proponents of clean surplus accounting.

However, this equality is only definitional since nothing has been said about how ‘well off’, or the value of the assets and liabilities, is to be measured. Once a specific valuation measure is applied, it no longer is evident that all changes in the value of net assets can automatically be considered as income. Consider the economist who calculates economic income in a forward-looking manner by valuing assets and liabilities at the discounted present value of their future cash flows. In reality, these cash flows are uncertain and will have to be approximated by using current market prices or estimates. Hence, due to unravelling of uncertainty between balance sheet dates, the most recent balance sheet value always has an ex post character towards the previous balance sheet. Since the most recent balance sheet always contains the possibility of a partial revision of the estimates of the previous balance sheet data, part of economic income may be caused by errors due to uncertainty in the estimation of the opening balance sheet at that time. If economic income is defined as the increase of the ‘revised’ value of net assets, it may not be viewed as income of the current period at all, but rather as capital readjustment (Lee, 1985, pp. 33–9). So, due to uncertainty, the answer to the question of whether income should be defined comprehensively cannot be derived a priori from an economic definition of income and depends on one’s view of whether the original or revised value of net assets should be maintained.

In the historical cost accounting model, the problem of uncertainty is avoided by the fact that balance sheet items are initially booked at historical transaction price (which is certain) and recognition of gains or losses is delayed until uncertainty about their current value is resolved by the event of realization. However, under historical cost accounting, the inter-temporal allocation of income may be completely distorted. This is exactly one of the main critiques against the historical cost model. Because of its adherence to the realization principle, which disregards the timing of when certain income components accrued, historical cost accounting income may include components that do not belong to the reporting period. Therefore, historical cost accounting income reports are typically subdivided and income components that do not belong to the current period are relegated to a subgroup of extraordinary items, which is reported below the line of normal or recurring income. This below-the-line reporting can be considered as ad hoc dirty surplus accounting since attention is normally devoted to the items above the line. However, because items reported below the line are definitely realized, definitely contributed to wealth and can therefore be considered as distributable to the owners, it is not a priori clear which income notion should be viewed as the increase in the value of net assets of a certain period.

The economic and historical cost accounting definitions of income constitute two extremes. A variant of the business income concept, that of Edwards and Bell (1961), combined the advantages of these two approaches. Its point of departure is historical transaction-based registration, but at the end of the accounting period
an adjustment is made to reflect current entry prices. Entry prices are the prices that an enterprise would have to pay to replace its assets. The business income model shares with the economic income model that it does not await realization to register changes in the value of assets and liabilities. But because records of historical transactions are kept in the business income model, more information is available than under a pure balance sheet approach, and a distinction between operating income and holding gains is possible. Operating income is the difference between the value of the output and the current entry value of the assets that were used in the process. Holding gains represent the change between balance sheet dates in the entry value of the assets.

A controversial issue concerns whether or not holding gains and losses should be classified as income according to the model of business income. According to Edwards and Bell, a holding gain represents a benefit to a firm and, for the purpose of reporting wealth accrue to shareholders, should be included in income. ‘A holding gain represents a cost saving due to the fact that inputs were acquired in advance of use’ (Edwards and Bell, 1961, p. 93). However, according to Revsine (1973), a firm does not benefit from a holding gain since the use of replacement costs corresponds to a model of physical capital maintenance. Consequently, holding gains must be retained in the enterprise to allow for the maintenance of physical capital. Holding gains do not contribute to profit at all and have to be carried to the balance sheet as an adjustment to equity. However, for the purpose of reporting wealth accruing to shareholders, Edwards and Bell seem to abandon the concept of physical capital maintenance: ‘The existence of the gain is not to be confused with the disposal of the gain. The gain exists and has been realized. That the firm chooses to purchase identical merchandise is to select one of several alternatives’ (1961, p. 118). But according to Revsine, ‘if the cost saving is included in income, it is because it represents an opportunity gain accruing to the firm because it purchased its assets when it did rather than at a later date. Incorporating such opportunity costs into an accounting system introduces troublesome issues. Theoretically, there are an unlimited number of possible courses of actions available to a firm. Selecting one such conceivable event for juxtaposition with actual events is difficult to defend’ (Revsine, 1973, pp. 88–89).

Edwards and Bell did not go to great lengths to defend the inclusion of holding gains in income. Rather, their focus was on the separation of total income to reflect the division between operating and holding activities. ‘The natures of these two types of activity and the decisions involved are so different that their separation is vital for decision making’ (1961, p. 36). In their view, operating profit is of greater significance for most firms and is the most relevant concept for evaluating management. The main benefit of using replacement costs is that operating profit indicates whether or not the current proceeds from the sale of products are sufficient to cover the current cost of the factors of production used in producing that output. Operating profit is therefore ‘a concept of profit which measures truly and realistically the extent to which past decisions have been right or wrong’ (1961, p. 25).

Related to the business income model is the realizable income model (Chambers, 1966; Sterling, 1970). Instead of using replacement costs, the realizable income
notion is based on the opportunity cost or money that the enterprise is sacrificing by having the assets in the company. Hence, realizable income measures how the value of the assets has changed using exit prices, rather than entry prices. Like business income, it also consists of two components: (a) realized income, which measures the difference between the value of the outputs sold and the value of the inputs measured at current exit prices, and (b) unrealized gains, which represent the difference in exit value of the assets between the beginning and the end of a period. The answer to the question of whether unrealized gains are income is more straightforward in the realizable income model. As the value of the assets is measured in money terms, the realizable income model envisages a nominal notion of capital. In other words, unrealized gains are part of income and can be distributed without decreasing the nominal value of net assets. However, in practice, for some assets, liquid markets do not exist so that direct exit prices are unavailable and estimates of exit prices are potentially unreliable. In these cases, the degree of uncertainty involved could be such that it may be unwarranted to consider value increases as income.

Reconsidering the current performance reporting project and the proposals for categorizing comprehensive income that are developed therein, there is a remarkable resemblance between these proposals on the one hand, and the business income and the realizable income models on the other. All these models have in common that they advance a dual income display and defend a separation between two different income concepts that is based on economically meaningful criteria. In general, the gains and losses component in these models is viewed as less relevant for management evaluation and prediction purposes.

To conclude this section: At first sight, the analysis of the different concepts of income that figure in accounting theory seems a promising avenue to solve the issue of whether income should be defined comprehensively. In principle, the concept of capital maintenance provides an unambiguous reference point by which profit can be measured: Value changes above the level that is needed to maintain the value of net assets are defined as profit. In practice, however, this analysis does not allow for unambiguous conclusions. Physical capital maintenance implies the use of replacement cost as a basis for measurement. Increases in entry prices show how much a company needs to put aside to replace its assets. Therefore, as pointed out by Revsine, it is problematic to consider gains and losses as profit under this model. However, considering IASB and FASB accounting, the current debates between net income versus comprehensive income proponents revolve mainly around fair value remeasurements (Barker, 2004). Obviously, the latter refer to a model of nominal capital maintenance (Newberry, 2003). Therefore, the guidance that the concepts of replacement and physical capital maintenance have to offer for this discussion seems limited. According to the concept of nominal capital maintenance, gains and losses should be included in income. Historical cost accounting considers the money amount that was originally invested in the company as the value concept that is to be maintained and recognizes a change in this amount only when gains and losses have been realized. But since realized gains and losses may refer to price changes of previous periods, it may be intuitively
difficult to consider them as income of the period in which realization occurred. The realizable income model regards the current exit value of net assets as the value concept to be maintained and considers gains and losses measured by changes in exit prices as part of income. However, in practice, it is possible that the unreliability of exit prices or their estimations may raise doubt with regard to their inclusion in income. The same concern applies to the calculation of net present values, which serves as a measurement basis for the economic balance sheet approach to income determination.

**PRO NET INCOME: INFORMATIONAL AND VALUATION ACCOUNTING RESEARCH**

*Informational Accounting Research*

The inability of the normative schools to reach consensus on the ‘best’ method of income determination caused, in the late 1960s, a shift in focus of accounting research to an ‘informational’ approach (Beaver, 1998). Compared to normative models, informational accounting research does not rely on arbitrary assumptions regarding user decision models (Beaver et al., 1968). Instead, starting from the dividend discount model, it relies only on the hypothesis of market efficiency to assume that all available information regarding future dividends is reflected in share prices. Hence market data were used as a benchmark against which to judge accounting alternatives. In these ‘association studies’, the higher the earnings response coefficients, which measure the covariation between an accounting income number and a market value metric, the more information relevant the income number was supposed to be. Although early research in this area indicated that there was indeed information content in accounting income numbers (Ball and Brown, 1968), generally the magnitude of the earnings response coefficients and associated $R^2$-squareds was considered as surprisingly low (Lev, 1989). The presence of transitory income components was soon advanced as a possible explanation. Transitory income components make current accounting income a poorer proxy for future expected income. In other words, if changes in accounting income are deemed less persistent, they will elicit lower market response. While Miller and Rock (1985) formally demonstrated this explanation, papers by Kormendi and Lipe (1987), Easton and Zmijewski (1989) and Ali and Zarowin (1992) empirically confirmed the existence of downward bias in estimating earnings response coefficients of transitory income components. Accordingly, this line of research provided a motivation to depart from clean surplus accounting.

*Valuation Approach: The Ohlson Model*

In turn, the informational approach to accounting research was also challenged. Holthausen and Watts (2001) warned against drawing standard setting inferences from association studies. According to them, the lack of an underlying theoretical framework makes the conclusions of association studies *ad hoc*. Another concern was that, although associations between accounting and market data were investigated, the assumption of market efficiency made association studies useless for
valuation purposes (Penman, 1992). The Ohlson model (Ohlson, 1995; Feltham and Ohlson, 1995) addressed many of these problems and is broadly recognized as one of the main theoretical contributions to accounting research (Bernard, 1995; Lundholm, 1995; Dechow et al., 1999; Lo and Lys, 2000; Penman, 2005). Ohlson directed attention back to valuation by reconsidering the residual income relation. This relation, which originally dates back to earlier work of Preinreich (1936), Edwards and Bell (1961), Kay (1976) and Peasnell (1982), provides a direct link between firm value and accounting data, relying thereby only on clean surplus accounting. The EVA™ valuation model (Stewart, 1991) is a well-known application of this residual income equation. The importance of the Ohlson model and its emphasis on clean surplus accounting also drew the attention of advocates of comprehensive income (Brief and Peasnell, 1996). However, in many ways the clean surplus assumption is not as essential to the Ohlson model as is generally assumed. In fact, Ohlson (1999) discriminates between persistent and transitory income, departs explicitly from clean surplus accounting and comprehensive income reporting. Because of its importance, the model is presented briefly below.*

The starting point of the model is the dividend discounting equation, according to which the equilibrium total stock market value of the firm will equal the present value of future expected dividends:

\[ P_t = \sum_{\tau=1}^{\infty} \frac{E_t[d_{t+\tau}]}{(1+r)^\tau}. \]  

(1)

\( P_t \), the total stock market value of the firm, is calculated by multiplying the number of shares with the market share price at time \( t \). As indicated by Ohlson (2005), equilibrium condition (1) initially applies to the per share level. However, under the assumption that the number of shares will remain constant throughout the forecast horizon, multiplying both sides of the equation with the number of shares is only a matter of scaling. \( d_t \) represents net dividends paid. The word net means that potential capital contributions to the company by the owners are deducted from dividends. The risk free interest rate \( r \) is assumed to be constant over time. The use of the risk free interest rate reflects the assumption that investors are risk neutral. This assumption is made for reasons of simplicity and can be relaxed without major consequences (Feltham and Ohlson, 1999). \( E_t \) reflects the investors’ expectations, conditioned on the information set available at date \( t \). Equilibrium condition (1) assumes that these expectations are homogenous among investors. Next, clean surplus accounting is assumed:

\[ b_t - b_{t-1} = x_t - d_t, \]  

(2)

where \( b_t \) equals the book value of net assets at time \( t \) and \( x_t \) equals total income for the period \( (t-1, t) \). The clean surplus relation states that all changes in the book value of net assets \( (b_t - b_{t-1}) \) unrelated to net dividends \( (d_t) \) must pass through

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* Editor’s note: This article was accepted before publication of Isidro et al. (2006), which provides an extensive demonstration of the model.
income \( (x_t) \). In other words, the clean surplus equation defines income to be all-inclusive (comprehensive). Further, it is assumed that \( \partial b_t \partial d_t = -1 \) (dividends reduce book value unit for unit) and that \( \partial x_t \partial d_t = 0 \) (dividends have no effect on current income). The clean surplus equation can be rearranged as

\[
d_t = b_{t-1} + x_t - b_t
\]

which can be used to replace dividends in equation (1):

\[
P_t = \sum_{t=1}^{\infty} \frac{E_t[b_{t+1} + x_{t+1} - b_{t+1}]}{(1 + r)^t},
\]

In other words, using the clean surplus relation, the dividend discounting equilibrium condition has been transformed into an equation that defines the total share value of the company in terms of accounting variables, to wit book values and accounting income. Equation (3) is equivalent to

\[
P_t = \frac{E_t[b_t + x_{t+1} - b_{t+1}]}{1 + r} + \frac{E_t[b_{t+1} + x_{t+2} - b_{t+2}]}{(1 + r)^2} + \frac{E_t[b_{t+2} + x_{t+3} - b_{t+3}]}{(1 + r)^3} + \ldots,
\]

and, after some rearranging,

\[
P_t = b_t + \frac{E_t[x_{t+1} - rb_t]}{1 + r} + \frac{E_t[-(1 + r)b_{t+1} + b_{t+1} + x_{t+2}]}{(1 + r)^2} + \frac{E_t[-(1 + r)b_{t+2} + b_{t+2} + x_{t+3}]}{(1 + r)^3} + \ldots
\]

Deleting opposite terms and invoking the summation operator yields:

\[
P_t = b_t + \sum_{t=1}^{\infty} \frac{E_t[x_{t+1} - rb_{t+1}]}{(1 + r)^{t+1}} - \frac{E_t[b_{t+1}]}{(1 + r)^{t+1}},
\]

The expectations limit of discounted book value is assumed to approach zero at infinity so that the last term drops out of the equation. The next step is to define ‘residual’ or ‘abnormal’ income as

\[
x^a_t = x_t - rb_{t-1}.
\]

In other words, residual income is calculated by deducting a charge from income for the use of capital. This capital charge is measured by beginning of period book value of net assets multiplied by the cost of capital. Accordingly then, equation (4) can be expressed as:

\[
P_t = b_t + \sum_{t=1}^{\infty} \frac{E_t[x^a_{t+1}]}{(1 + r)^{t+1}}.
\]

Equation (6) is the well-known residual income valuation (RIV) model. It equals the market value of the company shares to the book value of net assets plus the present value of expected residual income. It demonstrates that, if the clean surplus relation holds, the dividend discounting equation can be transformed into an equation defined only in terms of accounting variables. It is important to recognize

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that the RIV model depends in no way on the properties of the accounting model other than the clean surplus relation. If, for instance, accounting is economic value accounting, all assets and liabilities will be recorded at net present value. In principle then, the book value of net assets will equal the market value of the shares and expected future residual income will be zero. Obviously, when markets are imperfect or incomplete or when there is uncertainty, this equality will never hold exactly (Beaver, 1998). If accounting is more conservative, this will simply drive down book value at time $t$ and drive up subsequent residual income estimations (O’Hanlon and Peasnell, 1998). Residual income in fact bears on the difference between the economic values of assets and liabilities and their recorded book values. Because the RIV model incorporates residual income until infinity, all value that is expected to be created throughout the future of the company has to show up in current book value or expected future residual income eventually, regardless of the underlying accounting model. Book value and expected future residual income act as complementary value indicators (Ohlson, 1995). The role of the clean surplus relation is to make this complementarity watertight by assuring that, apart from owner-related transactions, no value creation can escape from the residual income series.

However, the analytical properties that follow from the clean surplus ‘relation’ do not necessarily require clean surplus ‘accounting’. First, to derive the RIV relation, clean surplus ‘accounting’ as such is not a necessary condition. Dirty surplus accounting means that certain changes in the value of net assets bypass the income statement and are booked directly to equity. It can easily be shown that under dirty surplus accounting, the RIV relation can be derived as well. The only additional condition is that the amount of income that bypasses the income statement is introduced as a new variable into the model. Suppose that this variable is labelled $s_t$. For example, $s_t$ could contain unrealized gains/losses on available for sale financial instruments which, according to IAS 39, have to be booked directly to equity. Defining $x^d_t$ as dirty surplus income, or that part of income which is not bypassed and actually is recorded as income, allows one to write the following identity:

$$b_t - b_{t-1} = x^d_t + s_t - d_t,$$  \(2^{"}t\)

which one could label the dirty surplus equivalent of equation (2). Obviously, if $s_t$ is known, comprehensive income can be calculated by adding all sources of income, irrespective of whether they were bypassed ($s_t$) or recorded as income ($x^d_t$). Hence, one can write that $x^c_t = x^d_t + s_t$, where $x^c_t$ is comprehensive income. From the definition of $x^d_t$ and $s_t$, it is obvious that $x^c_t = x_t$. In other words, comprehensive income is nothing more than a reconciliation of recorded dirty surplus income ($x^d_t$) with bypassed income ($s_t$) and in fact mimics clean surplus income $x_t$. This means that, in the so-called dirty surplus equation (2”), $x^d_t + s_t$ can be replaced by $x^c_t$, which is equal to clean surplus income $x_t$. Therefore, equation (2”) is identical to equation (2) and, starting from equation (1), the residual income equation (6) can be derived in exactly the same way as under clean surplus accounting. While the demonstration of this point is trivial, it clearly shows that, even with dirty surplus accounting, the residual income relation can be derived.
The only necessary condition is that the analytical model is enriched with a new variable $s_t$, which provides the information to calculate comprehensive income, thereby picking up the items that bypassed the income statement. In other words, in the Ohlson model, the emphasis on clean surplus accounting to derive the clean surplus relation is self-inflicted by the deliberate restriction of the model in terms of three accounting variables: dividends, recorded income and book value of net assets. Under those conditions, income that bypasses the income statement is not observed and cannot be inferred if dividends are replaced in equation (1). The same point applies to the earlier papers that emphasized clean surplus as a necessary condition to derive other algebraic properties of accounting data (Edwards and Bell, 1961; Brief and Lawson, 1992). The consequence for empirical research applications is that the Ohlson model can be applied even in a dirty surplus environment (e.g., U.S. GAAP, IAS/IFRS GAAP), provided that researchers are able to restate earnings in terms of comprehensive income (Lo and Lys, 2000).

Also, in valuation exercises, dirty surplus accounting poses no problems since it suffices that analysts form their earnings expectations in terms of clean surplus income, so that future book value changes are predicted to be faithful to the clean surplus relation (Bernard, 1995).

In other words, and contrary to common belief, provided that bypassed income is available and can be included in the analysis, clean surplus accounting as such is unnecessary to calculate comprehensive income and derive and apply the RIV model.

In a critical review of his previous work, Ohlson (2005) departs from the RIV model. He starts out by pointing at a conceptual flaw in the derivation of the RIV equation. It was mentioned earlier that excluding future equity transactions that change the number of shares outstanding allows one to write the equilibrium dividend discounting relation (1) on a per share level or on a total equity level. However, as explained by Ohlson (2005), when one takes into account the more realistic case that future equity transactions might change the number of shares outstanding, equilibrium condition (1) applies only to a per share level and not to a total equity level. Consequently, the derivation of the RIV equation can only be made on a per share level and therefore has to rely on the clean surplus relation on a per share level. However, equity transactions that change the number of shares outstanding generally imply that the clean surplus relation cannot hold on a per share level. In other words, changes in the number of shares outstanding generally imply that $\Delta bps \neq xps - dps$, where $\Delta bps$ indicates the change in book value per share and $xps$ and $dps$ represent income and dividends per share, respectively. The reason is that, unless new shares are issued at the book value per share ($bps$), a condition which is rarely satisfied, changes in the number of shares generally imply that the book value per share $bps$ changes for reasons that are unrelated to $xps$ (the source of value creation) and $dps$ (the distribution of value through dividends). This impossibility of the clean surplus relation on a per share level does not rest on dirty surplus accounting. Even with clean surplus accounting, the clean surplus relation on a per share level cannot hold because the difference between the issuance price of new shares and the book value per share causes changes to $bps$. In the light of this unsatisfactory aspect, Ohlson (2005) proposes
an alternative to RIV. This new approach is developed in Ohlson (2005) and Ohlson and Juettner-Nauroth (2005) and applies to a per share level. It no longer relies on the clean surplus relation and replaces book value per share in RIV with capitalized expected next-period earnings per share. The exact formula that is derived equals the market share price to next period expected earnings per share capitalized plus the present value of the expected future abnormal earnings growth. This formulation is referred to as the abnormal earnings growth model (AEG). According to Ohlson (2005), the replacement of book value with discounted future earnings better captures market value and accords better with investment practice, which emphasizes expected earnings as a core value attribute and does not attach such a role to book values.

Since the derivation of the AEG model does not rely on clean surplus accounting, discounted earnings could apply to comprehensive accounting income, dirty surplus accounting income or even to popular user-defined income numbers like for instance earnings before interest, tax, depreciation and amortization (EBITDA). Ohlson (2005) Ohlson and Juettner-Nauroth (2005) therefore take no normative stance with regard to clean or dirty surplus accounting. To be sure, these papers demonstrate that an accounting-based valuation model can be built without clean surplus accounting, but the only reason that the AEG model does not rely on the clean surplus relation is to circumvent the technical difficulties that are created by the issuance of new shares. These papers do not build a case against clean surplus accounting as such. Penman (2005) points out that, even after considering the AEG model, RIV and comprehensive income still have a role to play since they invoke discipline in the accounting system, allowing no value creation to escape from the income series.

However, in an earlier paper on transitory income components, Ohlson (1999) does take a normative stance and advocates a departure from both clean surplus accounting and comprehensive income reporting. Before demonstrating this point, it is worthwhile to reconsider the RIV equation (6) for a moment. This equation requires the prediction of future book values. Otherwise the capital charges on future book values cannot be predicted and future residual income cannot be forecast. However, one cannot predict future book values without predicting future dividends since these determine, together with earnings and the book value of the previous period, future book values. But if one needs to predict dividends, one might just as well use the dividend discounting equation (1), which would mean that the estimations of earnings and book values are redundant. In fact, this conclusion is obvious since the residual income model is nothing more than a restatement, through the clean surplus relation, of the discounted dividend formula (Ohlson, 1995; Dechow, 1999). The problem with predicting dividends to establish the value of the firm is known as the dividend conundrum: Unless the series of observed or predicted dividends includes the final liquidating dividend, this dividend series is arbitrary and tells nothing about the value of the firm (Penman, 1992). Equation (6) does not solve this problem.

As a way out of this difficulty, and this is the true innovation of the Ohlson model, Ohlson (1995) imposed an autoregressive pattern on abnormal earnings.
This autoregressive pattern means that future abnormal earnings are forecast using current abnormal earnings, which relieves the model of the need to predict future book values and dividends. We demonstrate the advantages of this approach by considering Ohlson (1999), which builds on this autoregressive model to elaborate on the difference between core and transitory earnings. The ensuing analysis provides arguments to depart from clean surplus accounting and focus on net earnings.

Ohlson (1999) separates total earnings $x_t$ into $x_{1t}$, earnings that are included in the income statement, and $x_{2t}$, earnings that bypass the income statement:

$$x_t = x_{1t} + x_{2t}. \quad (7)$$

Since obviously dirty surplus applies, one can again think of $x_t$ as reconciled comprehensive income, meaning that the clean surplus relation (2) applies to $x_t$. Next, the autoregressive earnings process is introduced as:

$$x_{1t+1}'' = \omega_{11}x_{1t}'' + \omega_{12}x_{2t} + \varepsilon_{1,t+1}, \quad (8a)$$

and

$$x_{2t+1} = \omega_{22}x_{2t} + \varepsilon_{2,t+1}, \quad (8b)$$

where $\omega_{12}$ and $\omega_{22}$ are persistence parameters and the $\varepsilon$'s are unpredictable zero-mean disturbance terms.

Equation (8a) forecasts future total residual earnings out of current total residual earnings ($x_{1t}'' = \omega_{11}x_{1t}'$). The inclusion of $\omega_{12}x_{2t}$ in equation (8a) extends the model with the technical possibility to eliminate $x_{2t}$ from the prediction of total residual earnings. The latter can be demonstrated by setting $\omega_{11} + \omega_{12} = 0$. Using the definition of abnormal earnings (5) and the definition of total earnings (7), equation (8a) can be transformed into:

$$x_{1t+1}'' = \omega_{11}(x_{1t} + x_{2t} - rb_{t-1}) + \omega_{12}x_{2t} + \varepsilon_{1,t+1}, \quad (8a')$$

assuming that $\omega_{11} + \omega_{12} = 0$ causes $x_{2t}$ to drop out of the equation and is equivalent to proposing that $x_{2t}$ is not relevant for forecasting next-period total residual earnings.

Equation 8b models the prediction of $x_{2t+1}$ as a function of its own current value $x_{2t}$. Assuming that $\omega_{22}$ is equal to zero is saying that $x_{2t}$ does not predict itself.

After some algebra, equations (8a) and (8b) allow the residual income relation (6) to be re-written as

$$P_t = b_t + \alpha_1x_t'' + \alpha_2x_{2t}, \quad (9)$$

with $\alpha_1 = \omega_{11}/(1 + r - \omega_{11})$ and $\alpha_2 = \omega_{12}(1 + r)/[(1 + r - \omega_{11})(1 + r - \omega_{22})]$.

As is clear from equation (9), the imposition of an autoregressive pattern on earnings liberates the residual income model from the prediction of future earnings and hence from the estimation of future dividends. In this way, the dividend irrelevancy problem is solved. The value of the firm can be derived in terms of current book value and current comprehensive and bypassed income.

Ohlson (1999) then provides a definition of transitory earnings in terms of two conditions: (a) transitory earnings do not predict themselves, and (b) transitory
earnings do not forecast other earnings components. Now, considering the autoregressive earnings process (8a) and (8b), if the definition of transitory earnings were to apply to the income components that bypass the income statement \((x_2)\), this would imply that \(\omega_{22} = 0\) and that \(\omega_{11} + \omega_{12} = 0\).

Considering equation (8b), the implication that \(\omega_{22}\) should equal zero follows directly from condition (a) that states that transitory earnings should not predict themselves. The derivation of the condition that \(\omega_{11} + \omega_{12} = 0\) requires somewhat more careful thought. Condition (b) requires that transitory earnings, in this case \(x_2\), do not predict other earnings, in this case \(x_1\). But condition (a) already states that \(x_2\) does not predict future \(x_2\). So together, conditions (a) and (b) imply that \(x_2\) does not predict \(x_1\) and does not predict \(x_2\). Obviously then, \(x_2\) does not predict total earnings \(x\). It was previously demonstrated that this last property corresponds to the condition that \(\omega_{11} + \omega_{12} = 0\).

But if \(\omega_{22} = 0\) and \(\omega_{11} + \omega_{12} = 0\), then it follows directly from the definition of \(\alpha_1\) and \(\alpha_2\) that \(\alpha_1 + \alpha_2 = 0\) which means that transitory earnings \(x_2\) drop out of the valuation equation (9):

\[
P_t = b_t + \alpha_1 x_{t-1}^{mt}
\]  

(10)

In other words, if the \(x_2\) earnings series is transitory, then \(x_2\) is not value relevant and dirty surplus accounting, where transitory income components are excluded from income and bypassed to equity, makes sense. Transitory earnings increase book value on a one for one basis and this captures their full informational content. Separate display of transitory income to calculate comprehensive income is unnecessary. For valuation purposes, once total book value is taken into account, one can completely ignore transitory income components and focus on net income.

Together, the empirically documented relation between persistence and value relevance on the one hand and the Ohlson (1999) model on the other hand, provide a strong case in favour of excluding transitory income components from income.

Considering the performance reporting project and the division between historical cost income and fair value changes, the latter are obvious candidates to be considered as transitory (Barker, 2004). Under the assumption of market efficiency, fair value changes, for example, stock market gains and losses, do not predict themselves. Without the assumption of market efficiency, one would have to assume for instance that gains reveal management’s skill in exploiting market inefficiencies in order to motivate the expectation that these gains will be persistent. Such an assumption is far from evident, especially for non-financial companies. It is also not obvious how remeasurements could be helpful in predicting historical cost income. In other words, a case can be made to consider fair value income as transitory. At the same time, it can be argued that current historical cost income is a good starting point to predict future historical cost income. The underlying logic is that, without any other information, an obvious assumption is that historical cost income will remain the same next year. This is not to say that, ex post, fair value income will always be transitory and historical cost income will always be persistent. An important task of financial analysis is precisely to investigate how
present historical cost income will persist into the future. But given the \textit{a priori} difference in expected time series properties, the division between historical cost income and fair value income seems like a sensible division for fundamental analysis and for the design of the income report.

\textit{How are earnings expectations formed in practice?}

The empirical association studies and the Ohlson (1999) model indicate that reliance on net income, which excludes remeasurements, makes sense. To support their claim, both the association studies and the Ohlson model rely on the assumption that earnings expectations can be approximated by a time series model of earnings. This would only be descriptive of reality if investors rely on no other information than previous income numbers to form their expectations regarding future income numbers. In the Ohlson model, this assumption is expressed by the autoregressive equation (8a). In the association studies, an alternative attempt to increase the goodness of fit might have been to include other accounting or non-accounting variables in the regressions. Instead, by insisting on persistence, the complete task of incorporating information with regard to future accounting income was delegated to the current accounting income number. Ultimately, earnings are a random walk. However, this random walk notion essentially means that income has the characteristics of the macroeconomic permanent income concept (Kothari, 2001, p. 123). Permanent income can be defined as that constant income number whose discounted present value is equal to the present value of the expected income numbers. Hence, earnings become an indicator of future earnings power. Black (1993) offers one of the most spirited defences for such an income concept. But by insisting on a single number related to market value, the analyst is in fact delegating most of the real task of security analysis (Treynor, 1972). His responsibility is restricted to discounting current income with an appropriate discount rate. Since this income concept is essentially future oriented (Beaver and Morse, 1978) it should incorporate all elements of uncertainty that are involved in making predictions. However, several studies have documented that other information besides earnings is used to predict earnings. Beaver and Morse showed that the P/E ratio is far from constant and that this could not be explained by variations in interest rates. Instead, they demonstrated that the variation in P/E’s could be explained by the transitory aspect of current earnings, indicating that market participants indeed differentiate between persistent and transitory earnings. Ou and Penman (1989) showed that other elements of the financial statements, besides earnings, contain information that can help users to ascertain persistence of earnings. Dechow et al. (1999) showed that a model that discounts analysts’ forecasts beats a valuation model that is based on extrapolation of accounting earnings. According to Schipper (1991), analysts’ forecasts consistently beat time series models of forecasting because the former incorporate other information, financial and non-financial, besides the history of accounting earnings. For instance, Riley et al. (2003) and Amir and Lev (1996) showed empirically the value relevance of non-financial information, respectively in the airline and wireless communication industry.
In conclusion, this empirical evidence does not suggest that market prices are formed relying exclusively on current net income, disregarding all other relevant information. On the other hand, for many users, high reliance on net income is certainly descriptive of their investment practice. A survey conducted by Bartlett and Chandler (1997) among private equity holders showed that financial statements are ill read and understood. According to Cornell (1993), P/E valuation analysis is not only restricted to lay users, but is one of the most common techniques used by trained bankers and investment analysts. Arnold and Moizer (1984), Moizer and Arnold (1984), Pike et al. (1993), Block (1999) and Demirakos et al. (2004) present evidence that confirms this statement. To a large degree, this can probably be explained by physical restrictions on users’ available time, which precludes extensive investigation of financial reports and use of sophisticated valuation models. For instance, the analysts involved in the Hirst and Hopkins (1998) experimental research on comprehensive income followed on average sixty-six companies. Moreover, the increasing complexity of business environments and financial reporting rules probably exceeds cognitive limits of most users. Against this background, extreme reliance on summarizations to predict future earnings can be understood.

According to Ohlson (1999), if people do indeed rely on current income as a proxy to predict future income, they should ignore transitory earnings. So while the RIV model stresses that comprehensive income is the target of forecasting, Ohlson (1999) points out that net income should serve as a basis for that forecast. Separate knowledge of transitory income is useless from a valuation perspective. However this conclusion disregards a fundamental aspect of the nature of prediction for decision-making, which is to make an estimate of a future variable under conditions of uncertainty. The uncertainty aspect makes a mere point estimate insufficient when making a prediction. What is also required is the estimation of a confidence interval around this prediction, or at least some indication of the risk involved. In the Ohlson model, this issue is completely obscured. For the sake of simplicity, Ohlson (1999) assumes risk neutrality, which allows him to equal the discount rate to the risk free rate. However, for applied purposes, a more realistic assumption is risk aversion. Hence the discount rate should incorporate a certainty equivalent to reflect the estimated uncertainty around the mean predicted outcome. Moreover, since the residual income model clearly shows that it is comprehensive income that is to be predicted, it follows that it is the variance of comprehensive income, and not the variance of net income, that needs to be ascertained. In other words, the fact that transitory income components are unpredictable does not necessarily imply that they are incapable of influencing future comprehensive income in a significant way. Since comprehensive income $x_i = x_i^f = x_{i1} + x_{2i}$, disregarding covariances, this means that

$$\text{var}^e(x_{i+1}) = \text{var}^e(x_{i+1}^f) = \text{var}^e(x_{i1+1}) + \text{var}^e(x_{2i+1}) \geq \text{var}^e(x_{i1+1}),$$

where $\text{var}^e$ indicates the estimated variance of prediction. In other words, if transitory income components ($x_2$) are ignored when producing an estimate of uncertainty,
and only the variance of net income $\text{var}(x_{t+1})$ is ascertained, this will lead to an underestimate of variance and create a false impression of stability. If \textit{ex post} realizations of transitory income components are any indication of the extent of uncertainty involved in the estimation of comprehensive income, then the sole emphasis on net income seems unwarranted. In other words, for users relying on summarizations, there could be an advantage if net income and comprehensive income were presented jointly: While net income can serve as a proxy for predicting future income, comprehensive income could alert users to all possible other sources of comprehensive income, even though they are unpredictable.

CONSIDERING DOUBLE EPS REPORTING

Brief and Peasnell (1996, p. xi) indicate that the debate between proponents of net income and comprehensive income emerged out of two different viewpoints concerning the purpose of the income statement: telling the facts and predictive ability. Scrutinizing the arguments made by proponents of comprehensive income and net income indicates that an exclusive emphasis on any single income or EPS number seems unjustifiable, irrespective of the purpose one entertains. From an accounting-for-equity perspective, telling the facts turns out to be no cut and dry issue. While, in principle, the concept of capital maintenance seems to offer an unambiguous reference point by which income can be measured, determining income as the change in net wealth is not straightforward in practice. From a prediction perspective, net income can provide a starting point, but users should not ignore unpredictable transitory income components since these can help them to ascertain the total risk involved in estimating comprehensive income. Accordingly, it was suggested that the publication of two income totals and two EPS numbers, one for comprehensive and one for net income, is something that should be considered.

The suggestion to report two EPS numbers is aimed at the highest level of summarization of financial reporting. Given that for some users this might be the only, or most heavily weighed, element of financial reporting information that they acquire, several possible effects at the level of an individual user come to mind. Obviously, standard setters’ concern for these matters depends on the extent to which they consider themselves responsible for users who act on a minimum of information. Naturally, issues of display are less important for users who conduct more thorough analysis of financial reports. Nonetheless, the very existence of the IASB project on the format of income presentation presupposes that the users targeted by the IASB indeed rely on some form of summarization. This should certainly be borne in mind when considering the possible consequences of double EPS publication.

One possibility is that a double EPS number would draw attention to the limitations of using an earnings number as a single valuation basis and that it would act as an incentive for users to conduct more thorough fundamental analysis. Fundamental analysis involves, next to an investigation of the complete financial report, consideration of a firm’s strategy, its macroeconomic environment,
its customers and suppliers and so on. Nevertheless, considerable emphasis on earnings and EPS can be observed. Some of this emphasis is excessive and users should preferably also consider other information (Lee, 1999). As already mentioned, the emphasis possibly follows out of an optimization process, whereby users balance the perceived advantage in terms of accuracy against the desire to minimize effort (Kleinmuntz and Schkade, 1993). One possible outcome is that the publication of two EPS numbers might increase the perceived benefit of further analysis. In other words, the difference between two earnings numbers might raise doubt about relying on a single earnings number. This could disturb the information gathering optimum towards a new optimum that involves the analysis of a richer set of information. Such a view presumes that, while accounting cannot fully protect users who act on a minimum of information, the conduct of fundamental analysis depends to some extent on how financial information is displayed. Of course, this relation is far from evident. An important motivation for users to rely on summarizations originates from time constraints and the inability to understand complex accounting issues. The publication of two EPS numbers would not change these restrictions and if these restrictions were binding, no change in conduct should be expected.

Even more dire consequences might be envisaged. A reporting format which advances two competing income numbers on an equal standing might be interpreted as a reflection of the inability of standard setters to reach consensus on the meaning and purpose of income and might highlight the deficiencies of a mixed measurement model. In that case, the publication of two EPS numbers might do nothing more than contribute to confusion and distrust of accounting numbers in general. As noted earlier (see note 1) this issue has been debated before.

Naturally, the analysis of the consequences of a double EPS number versus a single EPS number cannot be fully conducted until a particular single EPS number is envisaged. In other words, conclusions will differ depending on whether two EPS numbers are compared with a single net EPS or with a single comprehensive EPS. Since a typical error of judgment with a single net EPS number is over-emphasis of the stability of the earnings number, two EPS numbers might potentially bring attention to transitory elements of comprehensive income, which might allow a user to get a richer understanding of risk. A possible danger with a single comprehensive EPS number is that users fail to interpret comprehensive income correctly and overreact to transitory income components as if they were persistent. The addition of net EPS might draw attention to the distinction between recurring and nonrecurring items. If it would indeed turn out so that the publication of a double EPS number alleviated both the possible flaws of single comprehensive income and of single net income EPS presentation, then display of two EPS numbers could be considered as advantageous.

Since most of these envisaged consequences relate to issues of interpretation and actual use of financial information, experimental research seems a natural research method to address these issues. Moreover, the absence of historical applications of two EPS numbers reporting precludes empirical archival research anyway.
CONCLUSION

An important function of income reporting could be that it draws attention to the arbitrary nature of the income number. According to Littleton, ‘too many people regard the final figure of income as a fully established, indisputable fact’ (Littleton, 1940, p. 22). Bedford (1971) goes even further and suggests that there does not even exist a concept of income. According to him, there are only various operational definitions of income, which each have different roles to play. Accordingly, some have even suggested that the income notion should be abandoned altogether and that financial reports should only convey disaggregated ‘information’ (Cornell and Landsman, 2003). However, such a radical view ignores the need for summarization that characterizes real world commercial, including financial, analysis. Besides, notwithstanding the wide dispersion of opinion regarding the appropriate operational definition, in essence, only two main definitions of income have crystallized out of this diversity: historical cost net income and fair value comprehensive income. This article argues that, from an accounting theoretical point of view and from a point of view of valuation, exclusive focus on either of these two single income numbers is unwarranted. The explicit admission of the standard setters of this fact by giving equal status to these two income numbers might expand, rather than reduce the importance of the income notion. If honesty is indeed the best policy, then prescription by standards setters requiring publication of two EPS numbers might act as a stimulus for users to conduct more thorough financial analysis and might alleviate the concerns for wrong interpretations that accompany the publication of a single EPS, whatever that the latter may be. With such a prescription there would be observables to test the speculations proposed here.

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