

The Design of Financial Statements

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Table of Contents

- OVERVIEW i
- INTRODUCTION 1
 - THE APPROACH IN THIS WHITE PAPER..... 2
 - MAIN POINTS IN THE PAPER..... 3
- FINANCIAL STATEMENT DESIGN AND SUPPORTING PRINCIPLES 6
 - 1. FINANCIAL STATEMENT TOTALS 6
 - PRINCIPLE 1: BOTTOM-LINE NUMBERS REPORT TO THE COMMON SHAREHOLDERS 6
 - 2. FINANCIAL STATEMENT SUBTOTALS 13
 - PRINCIPLE 2: SEPARATE OPERATING ACTIVITIES FROM FINANCING ACTIVITIES 13
 - 3. DISAGGREGATION OF SUBTOTALS 22
 - PRINCIPLE 3: COMMUNICATE INFORMATION ABOUT FUTURE CASH FLOWS 22
 - 3.1. Communication through the Balance Sheet..... 23
 - 3.2. Communication through the Income Statement 27
 - 3.3. Cash Flow Statement Disaggregation 30
- THE SUMMARY EARNINGS-PER-SHARE NUMBER..... 34
- FINANCIAL STATEMENT TEMPLATES 37
- TOOLS FOR USERS 55

OVERVIEW

This paper proposes a redesign of financial statements. It is written in response to proposals by the Financial Accounting Standards Board (FASB) and the International Accounting Standards Board (IASB) to revise the presentation of financial statements.

The paper is not an evaluation of the Boards' proposals, but rather a stand-alone design developed from first principles to contrast with those proposals. After a hiatus, the IASB and FASB recently returned to the issue, so this document is offered as a contribution to that effort.

The aim of the design is to reformulate financial statements in a way that reflects the operations of the business. Accordingly, the design readies the financial statements for an analysis of the performance of a business, the valuation of the business, and an evaluation of the stewardship of management. In practical terms, financial statements can then be loaded into an analysis spreadsheet without the cumbersome adjustments that often have to be made with the current financial statements.

The paper largely endorses the approach proposed by the Boards while varying significantly in the implementation. Like the Boards' proposals, it is built around three key ideas: (1) the cohesion between financial statements is an important aspect of accounting that conveys information that needs to be brought to the fore, (2) activities to do with a firm's business operations should be clearly distinguished from activities that involve the financing of the business, and (3) disaggregation in the financial statements should be made with the objective of enhancing information about future cash flows.

The architecture in the paper is built in three steps. First, the bottom-line numbers in each financial statement—the totals to which all other line items aggregate—are specified under the principle that the financial reports are to report faithfully to shareholders. Second, subtotals that sum to those bottom-line numbers are identified under the principle of distinguishing operating activities from financing activities. Third, further disaggregation is carried out under the principle of providing further information about the future cash flows. With this breakout of financial statement information, the paper shows how the component parts of financial statements connect to each other to provide information that adds to that in each financial statement—thus bringing the cohesion principle into life.

A key feature of the design is the recognition that the accounting system is organized by a set of accounting relations—an accounting structure—that can be exploited to convey information. That is, financial statements convey information, not only through the accounting for individual line items, but also in the way those line items are organized in the financial statements and aggregated into totals according to this structure. Employing the structure to organize financial statements in a form that aligns with the way firms operate significantly enhances their information content.

Here are the main features of the proposed design:

- The “bottom-line” numbers of each statement pertain to the interest of the common shareholders and all other numbers in the statement total to (and convey information about) this number. Thus, Common Equity is the bottom-line number of the balance sheet, (comprehensive) Earnings to Common is the bottom-line number of the income statement, and Net Cash Flow to Common Equity is the bottom-line number of the cash flow statement.

- The bottom-line number of the income statement closes to the corresponding number in the balance sheet. Apples-to-apples. And the change in the Common Equity in the balance sheet is explained (comprehensively and cohesively) by the two bottom-line numbers in the income statement and cash flow statement. Apples-to-apples-to apples.
- These bottom-line numbers disaggregate into subtotals that distinguish operating activities from financing activities in accordance with precepts of valuation theory: operating activities add value while financing activities typically do not.
- These operating and financing subtotals also reconcile across the three statements in a way that reveals the drivers of the two activities and explains their evolution over time; readers of financial statements see clearly the sources of operating profitability and how the operating profitability and net indebtedness of the firm change from period to period.
- Further disaggregation is made under the principle of conveying information about future cash flows, consistent with the FASB/IASB prime objective in their Conceptual Framework documents. The disaggregation conveys information, not only about the expected “amount” of future cash flows but also the “timing and uncertainty” of those cash flows, as elaborated in the stated objective.
- The financial statement design differs under historical cost accounting and fair value accounting, for these measurement methods provide information about the “amount, timing, and uncertainty” of future cash flows in different ways.
- On-going income is distinguished from unsustainable income and a Forward-Looking Earnings-per-share is identified as an alternative to a net income EPS or a comprehensive income EPS number. The proposed EPS number finesses the use of (often arbitrary and sometimes self-serving) “Non-GAAP” EPS numbers.
- With an analysis of earnings quality in mind, the presentation distinguishes accruals (the “soft” aspect of accounting measurement) from cash flows (the relatively “hard” component).
- The paper demonstrates how the design leads to an effective financial statement analysis that elicits clean measures of operating profitability and its drivers, financial leverage and its effects, and forward-looking measures relevant for valuation, performance measurement, and the assessment of stewardship of managers.

The paper first lays out the design scheme and the principles behind it. It then provides financial statement templates that illustrate the design. The paper concludes with a demonstration of how the design leads to tools for effective financial statement analysis.

INTRODUCTION

In October 2008, the Financial Accounting Standards Board (FASB) and the International Accounting Standards Board (IASB) published substantially similar Discussion Papers with proposals that could significantly change the way in which financial statements display accounting information.¹ While the matter seems to have been placed on a “back burner” for some time, the IASB and FASB recently revived a research project to review the initial proposals.² This paper offers a financial statement design that contrasts with that is the earlier Discussion Papers.

Financial statement presentation is of considerable importance; indeed, we see this issue as one of the most consequential of those addressed by the Boards in recent years. Organizing financial statements is a form that aligns with the way firms operate significantly enhances their information content. An effective financial statement layout says to the investor: this is the way to think clearly about this business and how it affects the value of your claim. And it connects managements’ actions directly to highlighted summary numbers in the financial statements such that managers can be assured that those summary numbers appropriately communicate the results of their actions to investors. While measurement of those numbers is also important, the way they are presented with other information in the financial statements is critical to their interpretation.

With the Boards’ financial statement presentation project on the “back burner,” effort appears to be going into developing a disclosure framework. We see this as the cart before the horse. Clear financial statement presentation requires less explanatory footnote disclosure, so a disclosure framework should start with the presumption that an informative financial statement presentation is in place. The effect would be to reduce “disclosure overload,” an issue that has arisen in the disclosure framework project. Effective financial statement design satisfies the requirement of “transparency” more directly than lengthy footnote disclosure that might otherwise be needed. Poor design obscures information that might be revealed by the accounting; good design brings it to the surface. The current U.S. income statement, often reduced to six or so line items, with extensive annotation sprayed among copious footnotes, exemplifies the problem.

¹ International Accounting Standards Board, Discussion Paper, *Preliminary Views on Financial Statement Presentation* (London: IASB, October 2008) and a Discussion Paper from the Financial Accounting Standards Board with the same title and date.

² The renewed IASB project was initially under the heading of Performance Reporting, now changed to Primary Financial Statements. See <http://www.ifrs.org/Current-Projects/IASB-Projects/Performance-Reporting/Pages/default.aspx>. In August, 2016, the FASB announced that it, too, was reviving the project.

The Approach in this White Paper

The paper is not written as an evaluation of the Board’s proposals, but rather as a stand-alone design developed from first principles to draw a contrast with those proposals. That said, the underlying principles broadly accord with those in the 2008 FASB-IASB Discussion Papers: cohesion between the financial statements and their component parts, separating business activities from financing activities, and disaggregation to convey information about future cash flows. However, the implementation of these principles differs significantly and yields alternative proposals that would, we feel, further enhance the utility of financial statements.

The issue is straightforward: How should financial statements be designed to maximize insights about a business and investors’ share of the value of the business? The question is utilitarian, so we take a very practical approach: What presentation minimizes the adjustments that a diligent analyst, seeking those insights, must make to the financial statements? An effective design adopts the same architecture as that to be used in analyzing businesses, minimizing friction in going from the financial statements to the analysis of the statements. In practical terms, the financial statement format and an analysis template should be the same, so financial statements are in a form ready for downloading into analysis spreadsheet. But note that effective design is not based on how analysts currently carry out financial analysis—a Babel of methods—but rather from first-principles as to how one effectively carries out that analysis.

This goal raises financial statement design to a higher level of importance. It calls for an architecture that not only facilitates analysis but also directs how the diligent analyst conducts financial statement analysis: the analyst understands how to conduct the analysis by following the logic underlying the financial statement presentation. Effective financial statement design then has the effect of promoting effective financial statement analysis that gives insights into the business, its performance and valuation. Consequently, any design (including this one and that evolving from the IASB’s and FASB’s current endeavors) is to be judged by how it achieves this objective, and a critique of any design demonstrates how it fails.

As a utilitarian endeavor, financial statement design should be laid out with an understanding of the user (the end customer) to whom the statements are reported (and for whom analysts work). As with other CEASA papers, we maintain the perspective of reporting to common shareholders. Correspondingly, we focus on equity analysis. In effect, we adopt the “basic ownership approach” proposed, among other approaches, by the FASB and IASB.³ We don’t mean to be pedantic about this, and the FASB-IASB may well choose a design for

³ See Financial Accounting Standards Board, Preliminary Views, *Financial Instruments with Characteristics of Equity* (Norwalk, Conn.: FASB, November 2007) and a Discussion Paper from the International Accounting Standards Board with the same title, dated February 2008.

“general-purpose” financial reporting.⁴ If so, the design here shows what the common shareholder (and equity analyst) will lose if financial reporting abandons this shareholder orientation. The presentation of the results of the business enterprise—the entity—is not affected by the emphasis on the owners, of course. The orientation simply enforces a clear distinction between shareholders’ claims on the enterprise and those of others, for claims are property rights that should not be blurred. As we will see, isolating the common shareholders’ claim improves the reporting for non-shareholder claims and conveys the appropriate numbers to the credit analyst.

Main Points in the Paper

Here are the main features of the financial statement design:

1. With the focus on reporting to shareholders, the “bottom-line” number in each financial statement (to which other numbers total) pertains to the interest of the common shareholder. By looking at the bottom line of each statement, the shareholder understands what is the net effect of the statement on his or her claim.
2. The design exploits the cohesion between financial statements. Cohesion reflects the formal structure of the accounting system: the balance sheet, income statement, cash flow statement, and the statement of shareholders’ equity articulate. However, with the aim of providing a “cohesive picture,” the emphasis must be on “picture.” Honoring accounting relationships is not just an aesthetic—it’s nice if numbers reconcile—but an opportunity to convey information about the source of earnings, cash flows, the change in indebtedness, the change in net assets, and the value generated by the enterprise. Financial statements convey information, not only in the way they disaggregate information within each statement, but also in the way they connect disaggregated components across statements.
3. The design separates the operating activities of the business from activities that finance the business. Operating activities define the enterprise (the entity), so the distinction cleanly

⁴ That said, we suspect that a “general-purpose” financial reporting objective is unattainable. It muddies the statements such that they serve no stakeholder well and it is doubtful that one can run a company on the basis of general-purpose financial statements. Clarity on accounting issues comes with a focus on a particular (important) constituent, and the shareholders (the owners) would seem to be of prime importance.

separates the enterprise from claims on the enterprise. The separation also identifies the (operating) activities involved in generating value as distinct from financing activities which, in valuation theory, typically do not add value.⁵

4. The design provides guidance on how to (dis)aggregate in the financial statements. We supply specific principles, so it is understood what is being achieved by aggregation and disaggregation. An ordered scheme that flows from these principles not only yields an informative disaggregation within statements but also a cohesion across disaggregated components of the different statements that adds further information.
5. The design accommodates the tension in accounting between reporting accruals (that presumably convey more information but involve estimates) and reporting cash flows (that do not involve estimates but are presumably less informative). We supply an income statement and cash flow statement presentation that handles the issue and so supplies information about the “quality” of the accruals.
6. We do not accept the FASB-IASB notion that financial statement presentation is solely about format, with no implication for existing accounting standards. To the extent that current standards frustrate financial statement presentation and analysis, the issue must be recognized. Further, the paper shows that financial statement design differs with the recognition and measurement of those line items: historical cost accounting results in a different financial statement presentation than fair value accounting. More subtly, the way in which the design under the two alternative measurements conveys information has bearing on the choice of measurement method; design in the necessary input to recognition and measurement for it lays out the framework within which those line items are to be interpreted. Measurement communicates, but does so within a financial statement design, so they are not separate issues.

⁵ Some financial statement analysis texts advise analysts to reformulate existing financial statements along these lines. The author’s book does so, for example. See S. Penman, *Financial Statement Analysis and Security Valuation*, 5th ed. (New York: McGraw-Hill Companies, 2013). Increasingly, introductory financial accounting texts are built around the distinction between operating, investing, and financing activities on which the FASB-IASB scheme focuses. See, for example, P. Easton, J. Wild, R. Halsey, and M. McAnally, *Financial Accounting for MBAs*, 6th ed. (Chicago: Cambridge Business Publishers, 2016).

The proposal is a rejection of the idea that firms should just present financial information in a raw, disaggregated form and allow users to compile it as they wish (disclosure is all that is required). Academics, with a wave to “market efficiency,” sometimes take this position: it does not matter if one presents information “above the line” in financial statements or “below the line” as disclosures (they say). Accounting is distinguished from mere disclosure as a system for summarizing and aggregating information (in financial statements) with the purpose of efficiently conveying information about the value generation in a business. But here the rubber hits the road: the financial statements must be designed to do so.⁶

The next section lays out the financial statement design. The subsequent section deals with the issue of reporting a summary earnings per share number, to replace EPS under GAAP and IFRS and to finesse the reporting of Non-GAAP EPS numbers. The paper then presents financial statement templates dictated by the design. The reader should refer to these templates as the design develops. The paper concludes with a demonstration of how the design lends itself to developing tools for financial statement analysis.

⁶ XBRL and other data-centric technologies do not dodge the issue of financial statement presentation, for it leaves unanswered the question of how tagged line items should be combined for financial statement analysis, forecasting, and valuation. See the CEASA White Paper on XBRL implementation: T. Harris and S. Morsfield, *An Evaluation of the Current State and Future of XBRL and Interactive Data for Investors and Analysts*, White Paper No. 3, Center for Excellence in Accounting and Security Analysis, Columbia Business School, December 2012, at http://www4.gsb.columbia.edu/filemgr?&file_id=7313156.

FINANCIAL STATEMENT DESIGN AND SUPPORTING PRINCIPLES

We present a methodical, building-block approach to the design in three steps. First, we prescribe the totals for each statement, the summary number to which all line items in the statement add. Second, we prescribe the important subtotals for each statement that aggregate meaningfully to the statement total. Third, we show how these subtotals are then disaggregated into line items. At each step, we lay out the principle that directs the design. The three section headings that follow state the three steps, with the governing principle for each step stated under the section heading. These principles assure that aggregation makes sense. Apples-added to-apples.

At each point, we supply terminology for financial statement totals and line items. However, we are not married to these terms, and the reader may offer better ones. Effective communication requires terms to be definitive, mutually exclusive, and not in conflict with common understanding. We may not have chosen the best terminology to satisfy these criteria.

1. Financial statement totals

Principle 1: Bottom-line numbers report to the common shareholders

The first order of business in designing financial statements is to define the financial statement totals, the bottom-line numbers that each statement reports. These summary numbers should summarize the message conveyed by the statements and give meaning to the line items components that aggregate to and explain the total.

The bottom-line designation is important for the cohesive message that the financial statements jointly convey. The cohesion works between the income statement and balance sheet via the closing entry, and the closing entry can only be implemented after a specification of the balance in the opening balance sheet to which earnings, the total from the income statement, must be added. That specification, in turn, also requires that earnings, the bottom-line total for the income statement, be defined in a consistent manner to the balance sheet number, for earnings and the balance sheet number to which it is added must be flows and stocks of the same denomination. Apples-to-apples. Cohesion also implies that totals in the cash flow statement reconcile to totals in income statements and balance sheets, that is, the bottom-line number of the cash flow statement is explained by the income statement and the change in the balance sheet.

Because financial statement totals are the summary messages from the respective financial statements, they cannot be specified without a declaration of the constituency to whom the statements are primarily

oriented. For the design here, we presume that the residual claimants are the prime reporting constituency. Residual claimants are usually referred to as the owners or, in the FASB and IASB project on debt versus equity, as the “basic owners.”⁷ In most cases, the claim is identified as those of the holders of the common shares outstanding who “own” the company by voting for a board of directors who then appoint management.

This “proprietorship perspective” is hardly controversial. Financial statements are presented for approval by the common shareholders at their annual meeting. Auditors and directors who review the financial statements report to those same common shareholders; the proprietorship perspective aligns with their fiduciary duty. Current accounting practice largely (but not entirely) adheres to the perspective, with the closing entry adding earnings to shareholders’ equity. The standard price/earnings (P/E) ratio and price-to-book (P/B) ratio, so common in valuation, refer to the pricing of earnings to the common shareholders (earnings per common share) and the book value of common equity.

Accounting with an eye for the owners does not dismiss other claims. To the contrary, clearly identifying the residual claim to enterprise value results in a clear distinction of non-owners’ claims. With this clarity, we will see how the shareholder focus, appropriately implemented, leads to a presentation that provides information that is important to creditors.

Figure 1 depicts the financial statements, their summary numbers that focus on the shareholders, and the cohesion between them. It should be followed as the discussion develops.

⁷ See Financial Accounting Standards Board project, *Financial Instruments with Characteristics of Equity*, op. cit.

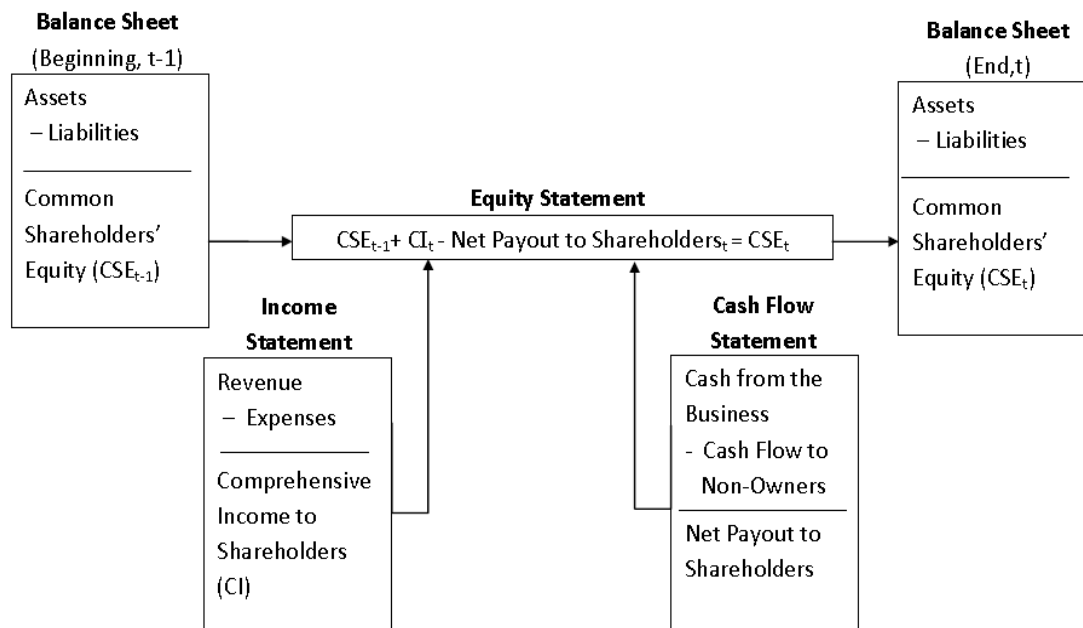


Figure 1. The Cohesion of Financial Statements with a Focus on the Common Shareholder

The Balance Sheet Total

To stress the common shareholders’ residual claim, Common Shareholders’ Equity is the “bottom line” of the balance sheet:

$$\text{Assets} - \text{liabilities} = \text{Common Shareholders’ Equity},$$

where “liabilities” are the claims of non-owners on assets.⁸ Liabilities thus include preferred equity claims and noncontrolling (minority) interest claims, though these will be differentiated in the disaggregation later.

The Income Statement Total

A common-shareholder focus means that the “bottom line” of the income statement is (comprehensive) Earnings to Common Shareholders, the residual after subtracting earnings to non-owners:

⁸ Items that appear as line items in the proposed financial statement presentation are capitalized throughout the paper. At this point, only financial statement totals are capitalized.

$$\text{Earnings from the business} - \text{Earnings for non-owners} = \text{Earnings to Common Shareholders}$$

Earnings for non-owners include: preferred dividends, non-controlling interest in earnings, and, of course, interest to debt claimants. With Common Shareholders' Equity as the bottom line of the balance sheet, bottom-line (comprehensive) Earnings to Common Shareholders reconciles successive balance sheets, as in Figure 1. Further, it forces cohesion between the income statement and the balance sheet. In other terms, this is "clean-surplus" accounting for common shareholders, a feature on which accounting-based equity valuation models are grounded.

The Cash Flow Statement Total

Again with a focus on the common shareholder, the bottom line of the cash flow statement is the net cash flow to common shareholders (also referred to as Net Payout to Shareholders). Just as Earnings to Common Shareholders is the residual of earnings from the business after recognizing earnings for non-owners, so Net Payout to Shareholders is the residual of cash flow from the business after net cash paid to non-owners. Thus, the cash flow statement reports

$$\text{Cash flow from the business} - \text{Cash flow to non-owners} = \text{Net Payout to Shareholders}$$

Cash flow from the business is commonly referred to as free cash flow, that is, cash that is free to distribute to (all) claimants, both owners and non-owners. Net Payout to (Common) Shareholders, sometimes referred to as the net dividend, is

$$\text{Net Payout to Shareholders} = \text{Cash dividends} + \text{Share repurchases} - \text{Share issues}$$

With this design, the cash flow statement communicates how cash ends up in shareholders' hands. Net Payout to Shareholders can be negative, so the statement then indicates why a share issue had to be made, that is, to meet a cash shortfall in the business or to pay off non-owners.

We are not wedded to a format that presents net cash to shareholders as the residual. It has the feature of reporting the bottom-line number in the cash-flow statement on the same basis as the balance sheet and income statement, maintaining the focus on the common shareholder. But one can argue that, even from a shareholders' point of view, the focus on cash generation is to cover debt service. In this case, cash flow to non-owners (cash available for paying off obligations) becomes the bottom line:

Cash flow from the business – Net Payout to Shareholders = Cash flow to non-owners

Net Payout to Shareholders is clearly identified, but cash available to paying off the non-owners (after net payments to shareholders) is highlighted as the remainder. Our financial statement templates (later) present two alternative formats.

In any case, the design here differs from the current cash flow statement that foots to the change in cash and cash equivalents. This bank reconciliation format is not of particular interest to investors (we feel). Rather, they are interested in the cash flows to their claims, both debt and equity.

The Cohesion between the Statements: The Equity Statement

With the bottom-line numbers in the statements now consistently defined, the cohesion between the bottom-line numbers of the balance sheet, the income statement, and the cash flow statement is now complete: the bottom-line numbers in the income statement and cash flow statement explain the change in the bottom line of the balance sheet. In other (perhaps more familiar) words, the statements “articulate.”

The equity statement reports this cohesion. To explain the change in Common Shareholder’s Equity (CSE) in the balance sheet, it reports

$$CSE_{t-1} + \text{Earnings to Common Shareholders}_t - \text{Net Payout to Shareholders}_t = CSE_t$$

where Earnings to Common Shareholders is the bottom line of the income statement and Net Payout to Shareholders is the net payment to shareholders in the cash flow statement (otherwise cohesion is violated).

Figure 1 depicts how the income statement and cash flow statement explain the two components in the equity statement that update common equity. Earnings to Common Shareholders is comprehensive of earnings from all sources, so the statement reports that common shareholders’ equity is increased by comprehensive income to common and reduced by net payout to common.

As we will see, this “clean-surplus” cohesion of common shareholders’ equity with the bottom lines of the income statement and cash flow statement is critical to the cohesion of other parts of the financial statements. Otherwise analytical spreadsheets and other programs work only with clumsy plugs that lack identification. But the cohesion demonstrates another point: by forcing financial statements to be cohesive, further information is produced, in this case an equity statement that summarizes (cleanly) how shareholders’ equity changed during the period. In accounting for that change, earnings from the business are (cleanly)

distinguished from transactions with shareholders. The notion of “*clean*-surplus accounting” takes on fresh meaning (and “*dirty*-surplus accounting” that violates is truly pejorative).

As we proceed with disaggregation of financial statement totals, we will see how further information is provided by maintaining cohesion between the component parts of the statements (and misinformation comes from violating it). Cohesion is not just a nicety to satisfy the accountant’s obsession for reconciliation, but an active way of conveying information.

Implications for financial statement presentation and the analysis of financial statements

The focus on the common shareholder has the following implications for financial statement presentation.

- a. “Debt” and “equity” are clearly differentiated: all claims other than those of the current holders of the outstanding common shares are liabilities. Accordingly, property rights are delineated, and the obligation of common shareholders to pay off other claimants is explicit; “liabilities” are the obligations of the common shareholders. In particular,
 - Preferred stock is a non-owner claim and thus a liability reported outside common equity, and preferred dividends are expenses in determining Earnings to Common Shareholders rather than distributions from earnings.
 - Contingent equity claims such as warrants, call and put options, and convertible bonds are classified as liabilities: these claims involve settlement with the shareholders’ paper on exercise (with the associated dilution), so are (contingent) liabilities to the shareholder.⁹
 - Non-controlling (minority) interest is reported outside common shareholders’ equity on the balance sheet and minority interest in earnings is a deduction in determining Earnings to Common Shareholders. Of course, non-controlling interest is different from other liabilities so should be separately identified.
- b. Common dividends declared but not paid are part of the equity claim, not a liability (as in current GAAP). Clearly, such dividends are a claim by the common shareholders, not the non-owners; the shareholders cannot report a liability to themselves. By accounting for the dividends payable as an

⁹ CEASA White Paper No. 1 expands on the accounting for contingent equity claims under a proprietorship perspective. See J. Ohlson and S. Penman, *Debt vs. Equity: Accounting for Claims Contingent on Firms’ Common Stock Performance*, White Paper No. 1, Center for Excellence in Accounting and Security Analysis, Columbia Business School, January 2005, at http://www4.gsb.columbia.edu/null?exclusive=filemgr.download&file_id=645445

equity claim, the integrity of the P/B ratio is maintained: as price incorporates the anticipated dividend (before the ex-date), so should book value. If this classification is not honored, the two numbers for Net Payout to Shareholders in the equity statement and the cash flow statement do not agree, and the balance sheet, income statement, and cash flow statement fail to articulate in a cohesive way.

c. Deferred charges and credits, to be matched against future income or expense, cannot be recorded in shareholders' equity. Thus, for example, a recognized unrealized loss on a cash flow hedge is not reported as a decrease in equity, if it is offset by an unrecognized unrealized gain on the hedged item, to be matched in the future when that gain is realized. (An example is the change in the fair value of a hedge against the price of fuel to be purchased in the future by an airline.) It is a deferred charge, to be reported as such among other deferred charges. As (efficient) share prices reflect the net-zero from the matching, the integrity of the P/B ratio is maintained.

d. Comprehensive earnings takes on a particular focus: it is a summary number that incorporates earnings from all sources that update shareholders' equity. The income statement totals to comprehensive income, that is, Earnings to Common Shareholders, so that additional income cannot be run through equity separately. The presentation does not necessarily dismiss a separate category of "other comprehensive income" as part of Earnings to Common Shareholders, nor even a separate other comprehensive income statement, though the issue will become moot with our later discussion of the income statement.

e. The equity statement clearly separates the change in shareholders' equity that comes from net cash payments to shareholders from that which comes from (comprehensive) earnings. Indeed, the equity statement presents the cohesive reconciliation between the other three statements. With this cohesion, the analyst is assured that numbers like earnings, book values, and net payout, and multiples like P/B, and P/E have integrity – they are all comprehensive with respect to what they purport to report or price. The analyst can proceed to the details in their components with the assurance that nothing has been left out.

f. In cleanly separating the change in shareholders' equity that comes from net payout to shareholders from earnings from the business, the accounting is in accordance with one of the fundamental principles of equity valuation, the Miller and Modigliani dividend-irrelevance principle. This principle says that the generation of value (captured by earnings) has to be distinguished from the

distribution of value (net dividends) in valuation, for the latter adds no value.¹⁰ The presentation here does this.

g. In the cash flow statement, the source of the net cash paid to shareholders is clearly identified, as is that for debt service.

2. Financial statement subtotals

Principle 2: Separate operating activities from financing activities

Modern finance makes a distinction between business activities—trading with customers and suppliers in input and output markets for products and services—and the activities to finance the business—raising cash in capital markets and from (financing) institutions and returning cash to the resultant claimants. It is conventional to refer to the business activities as operating activities, though terms such as “enterprise,” “firm,” and “operating and investment activities” have also been used to indicate the business. We use the term “operating activities” to maintain the most common convention, but wish to be clear that “investing activities” involving investment in the business are part of operating activities. See the end of this section for further discussion on this issue.

Modern finance distinguishes operating and financing activities because they very much differ in the way that they add value for shareholders (and that is what the analyst seeks to discover). The FASB-IASB Discussion Papers make the distinction. Value is seen primarily as coming from operating activities, not financing activities. Indeed, financing activities are viewed as typically not adding value: in the parlance of financial economics, issuing and redeeming bonds at (fair) market value, issuing and repurchasing shares at market value, and paying interest and dividends are zero-net-present value activities.¹¹ Exceptions may occur: management might perceive the market price of their bonds or the common shares to be under- or over-priced, and thus worth trading. And, after the fact, firms may realize unexpected gains and losses from redeeming debt. However, firms typically are not in the business of trading their debt and shares for gain (in expectation); rather, these are primarily transactions to raise cash for operations and return can to claimants. In any case, if they were

¹⁰ See M. Miller and F. Modigliani, “Dividend Policy, Growth and the Valuation of Shares,” *Journal of Business* 34 (1961), 411-433. (The principle is established under certain assumptions). J. Ohlson, “Earnings, Book Values, and Dividends in Equity Valuation.” *Contemporary Accounting Research* 12 (1995), 661-687, demonstrates how accounting for earnings and dividends honors this principle and facilitates accounting-based valuations that are dividend irrelevant.

¹¹ The idea, foundational in the theory of finance, is formalized in the Modigliani and Miller financing irrelevance proposition. See F. Modigliani and M. Miller, “The Cost of Capital, Corporation Finance and the Theory of Investment,” *American Economic Review* 48 (1958), 261-297.

to trade debt and equity for profit, such earnings are quite different from those from trading with customers and suppliers, so should be differentiated in the accounts. Of course, for a (financial) firm trading financial instruments for profit, the relevant assets and liabilities are operating items.

The designation of operating activities is simply a declaration of what business the firm is in: How does the firm “make money?” So, while interest-bearing debt assets and liabilities might be financing activities for a manufacturing firm—the firm does not make money from debt arbitrage—most debt would be part of operating activities for a bank that makes money from the spread between lending and borrowing rates. (Indeed, the sign of that expected spread distinguishes a financing intermediary from a non-bank where the spread is negative).

Like the FASB-IASB Discussion Papers, we expect that management may be in the best position to make the designation (under the eye of the auditor), though recognize the concern about introducing management discretion. If managers don’t understand how they add value for shareholders, pity help the shareholders. Indeed, as valuation requires a good understanding of the business model, investors and analysts will be helped by managements’ designation. If managers cannot see their comparative advantage in understanding what constitutes the business,

the financial statement presentation requirements will force them to come to grips with it. Annotation in the accounting policy footnote will explain management’s designations and how they are consistent with the business strategy.

The distinction between operating activities and financing activities determines the subtotals in each financial statement: totals are divided into components that have to do with the operating activities and components that have to do with the financing activities. Figure 2 presents the financial statements in Figure 1, but now with this distinction. It should be followed throughout the discussion in this section.

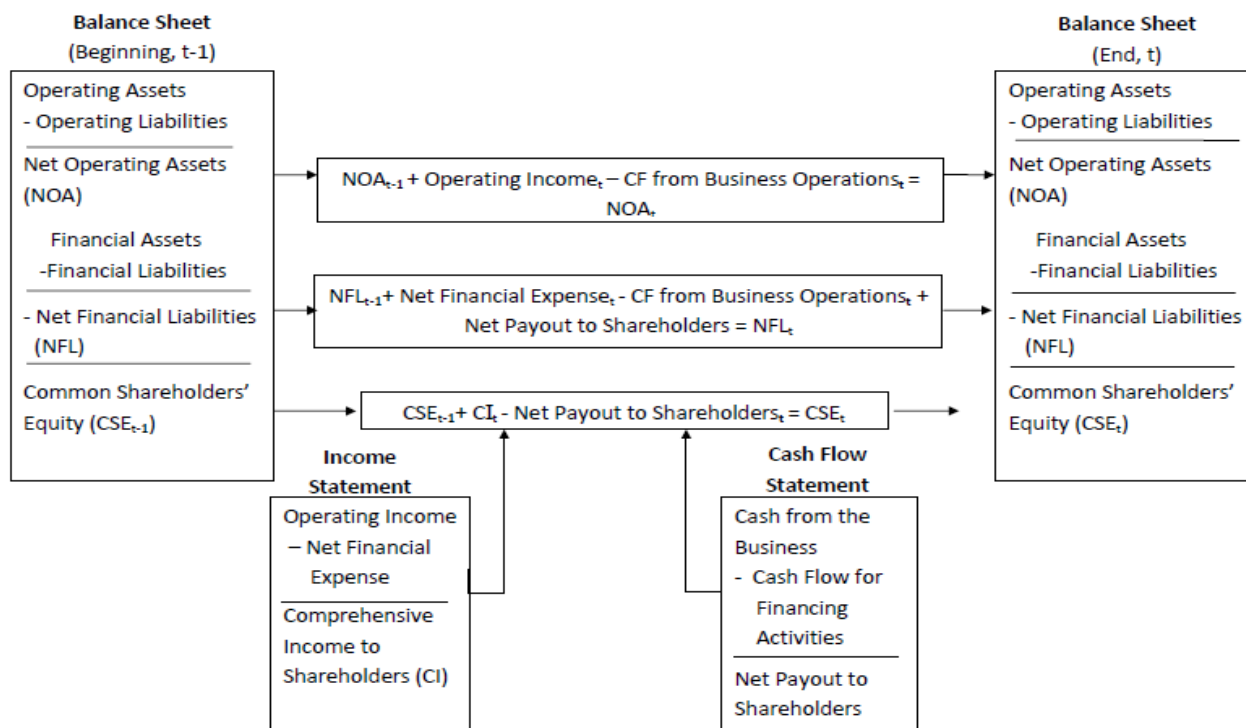


Figure 2. The Financial Statements with Operating and Financing Components and the Cohesion of the Components between Statements

The Balance Sheet Subtotals

Assets and liabilities (that total to Common Shareholders’ Equity, CSE) are broken down into operating and financial assets and liabilities:

$$CSE = \text{Operating Assets} + \text{Financial Assets} - (\text{Operating Liabilities} + \text{Financial Liabilities})$$

Types of assets and liabilities typically falling into these categories are indicated in the financial statement templates presented later. At this point note that Financial Assets usually consist of interest bearing deposits, typically cash equivalents and short-term investments (sometimes referred to as “excess cash”). This is “cash” held to finance investment in operations or to make payouts to claimants. Financial Liabilities is debt issued to finance the business, as opposed to debt arising in the course of business operations like accounts payable and deferred revenues that are classified as operating liabilities.

To present meaningful subtotals that aggregate to Common Shareholders’ Equity, operating and

financing components are matched to present a subtotal for each activity.

$$\begin{aligned} \text{CSE} &= (\text{Operating Assets} - \text{Operating Liabilities}) - (\text{Financial Liabilities} - \text{Financial Assets}) \\ &= \text{Net Operating Assets} - \text{Net Financial Liabilities} \end{aligned}$$

The shareholders' investment is thus depicted as an investment in the net operating assets of the business and an exposure to a financing position. See Figure 2. In this presentation, Financial Assets are negative debt—debt held rather than debt owed that reduces the net debt. Net Operating Assets and Net Financial Liabilities can be negative. In particular, Financial Assets may be greater than Financial Liabilities, rendering the shareholders as net creditors rather than net debtors (long debt, rather than short on debt).

The Income Statement Subtotals

Corresponding to the balance sheet, the income statement distinguishes operating income that flows from the Net Operating Assets from income (and expense) flowing from the Net Financial Liabilities:

$$\text{Operating Income} - \text{Net Financial Expense} = \text{Earnings to Common Shareholders},$$

where $\text{Net Financial Expense} = \text{Financial Expense} - \text{Financial Income}$. See Figure 2. Financial Expense is typically interest incurred on financial debt and Financial Income is typically interest earned on financial assets, but these terms are used (rather than “interest”) to indicate that unrealized and realized gains on these assets and liabilities, and preferred dividends, are also encompassed.

The Cash Flow Statement Subtotals

The cash flow statement separates cash flow associated with the business from cash flow associated with financing activities. Net Payment to Shareholders is again the residual, for cash generated by the business must be distributed to either the claimants associated with the financing activities or the common shareholders:

$$\begin{aligned} \text{Cash Flow from Business Operations} - \text{Cash Flow for Financing Activities} &= \text{Net Payment to} \\ &\text{Shareholders} \end{aligned}$$

This is the same equation as for the cash flow statement under *Principle 1*, but with slightly different labels to sharpen the association with operations and financing. Cash Flow from Business Operations is, of course, cash

remaining after investment in the business, the free cash flow commonly referred to among analysts and investors.¹² This subtotalling forces the cash flow statement to communicate that any deficit in cash flow from business operations (negative free cash flow) must be satisfied either by cash raised in (debt) financing activities or cash raised from shareholders, and a cash surplus must be passed out either to the (debt) financing activities or shareholders.

The term, Cash Flow for Financing Activities, replaces the term, Cash flow to non-owners under *Principle 1*, for another reason. In disposing of cash from the business, the treasurer can either buy down debt (Financial Liabilities) or buy others' debt (Financial Assets); in either case he or she buys debt but with no effect on net debt (Net Financial Liabilities). To satisfy a cash shortfall, he or she either sells the firms debt, adding to Financial Liabilities, or sells (liquidates) debt held (Financial Assets). So this cash flow covers purchases and sales of both debt assets and liabilities and the cash interest received as well as cash interest paid.

Of course, every corporate treasurer knows that this is the way it operates. Thus, with these subtotals, the cash flow statement reflects actual financing activity (and is in the form for loading directly into the treasurer's spreadsheet). As discussed under *Principle 1*, there are good arguments, even from the shareholders' point of view, to present Cash Flow for Financing Activities as the residual in the statement. This would also be the treasurer's point of view, for the treasurer is concerned with the amount of debt to be raised and the servicing of that debt. Cash Flow for Financing Activities might then be labeled, Cash Flow Available for Debt Service to stress the point. (See the templates that follow for the alternative form.)

In cash flow statements currently published, the change in cash and cash equivalents is presented as the residual. However, cash cannot be left off the table, excluded from both operations and financing activities; just as operating and financing activities in the income statement and balance sheet must total to the bottom line, so must they do in the cash flow statement. "Cash and cash equivalents" is either working cash (for business operations) or excess cash invested in a financial asset, where the latter is a disposition of cash from the business. Working cash is typically quite small, so there is usually no material misinformation in classifying all cash and cash equivalents as Financial Assets and the investment in cash and cash equivalents as part of the financing section of the cash flow statement.

The Cohesion between the Subtotals of the Statements

For articulation with the balance sheet, Cash Flow from the Business Operations is cash flow from the Net Operating Assets, and Cash Flow for Financing Activities is cash flow to the Net Financial Liabilities. Just

¹² The label here should not be confused with "cash flow from operating activities" in the current cash flow statement (that refers to cash flow before deducting cash investment in the business). Financial reporting could adopt the "free cash flow" label for cash flow after investment, to be consistent with common business usage, although free cash flow takes on other meanings in other contexts.

as the cohesion between the bottom-line numbers in the balance sheet, income statement, and cash flow statement is expressed by the clean-surplus equation for equity that governs the equity statement, so the cohesion between the operating and financing subtotals in the statements is expressed as a clean-surplus equation for each of the two activities.

Table 1 describes the cohesion between the subtotals of the statements and how they cohere with the cohesion in the totals. The first equation is the clean-surplus equation for the operating activities, the second that for financing activities. It is clear that, by subtracting the second equation from the first, the two equations aggregate to the clean-surplus equation for equity that the equity statement mirrors.¹³ Further, each component of a given financial statement across rows reconciles to the totals in financial statements down columns.

Table 1: Reconciling Equations for Operating and Financing Components of the Balance Sheet, Income Statement, and Cash Flow Statement

<u>Balance Sheet_t</u>	<u>Balance Sheet_{t-1}</u>	<u>Income Statement_t</u>	<u>Cash Flow Statement_t</u>
Net Operating Assets _t	= Net Operating Assets _{t-1}	+ Operating Income _t	- CF from Business Operations _t
Net Financial Liabilities _t	= Net Financial Liabilities _{t-1}	+ Net Financial Expense _t	- CF from Business Operations _t + d _t
CSE _t	=	CSE _{t-1}	+ Earnings to Common _t - Net Payout to Shareholders _t (d _t)

Note: CF is Cash Flow and d is Net Payment to Common Shareholders (the net dividend).

Implications for financial statement presentation and the analysis of financial statements

A financial statement presentation that follows this format (and thus honors these relationships) provides the following analytical advantages:

- a. Operating income, cleanly defined, adds to net operating assets. Apples-to-apples. Thus the rate of return on net operating assets, $RNOA_t = \text{Operating Income}_t / \text{Net Operating Assets}_{t-1}$ is a clean

¹³ The term “clean-surplus” is used with an emphasis on “clean,” for it means that operating income and net financial expense must be clean (comprehensive) with respect to all components for the reconciliation to work, and must not confuse operating and financing items,

measure of the profitability of the business operations. Component ratios, like profit margins and asset turnovers in a “DuPont” decomposition of RNOA, also have integrity.¹⁴

b. With net financial expense adding to net financial liabilities, a clean measure for net borrowing cost results: $\text{net borrowing cost}_t = \text{Net Financial Expense}_t / \text{Net Financial Liabilities}_{t-1}$. (The net borrowing cost can be broken out into a borrowing cost for financial liabilities and a return on financial assets, with the net borrowing cost being a weighted average of the two.)

c. With the net financing position of the firm clearly subtotaled and differentiated from operating liabilities, the extent to which the firm uses financing leverage to enhance or damage returns to shareholders is transparent. In particular, the netting of Financial Assets against Financial Liabilities reports the net debt position: a \$100 million of debt in commercial paper with \$100 million invested in commercial paper as an asset is a zero net investment in the debt and adds nothing to balance sheet financing leverage. (Any spread between interest rates for borrowing and lending will show up in the Net Financing Expense in the income statement). Tools for analyzing the effects of leverage can be immediately applied. See the section on Tools later.

d. The cohesion between the component parts of the statements conveys further information about the evolution of the operating and financing activities:

- The updating of Net Operating Assets is tracked. By the first equation in Table 1, the change in Net Operating Assets is explained by income added from business operations (Operating Income), but with a reduction for cash flow generated by the business. This accords with the way businesses operate: profit from trading with customers and suppliers adds value to the business and cash flow then disburses that value to the financing activities and the shareholders.
- The updating of the net debt position is explained. By the second equation in Table 1, the change in Net Financial Liabilities is explained by Net Financial Expense, Cash Flow from Business Operations, and Net Payout to Shareholders: indebtedness is increased by obligations to pay net financial expenses, but is reduced by the cash flow available for debt service, that is, cash flow provided by the business after net cash payments to shareholders. This is the way a credit analyst looks at it, with the ability to pay off debt out of cash from the business as critical. As indicated above, this is also the way the corporate treasurer looks

¹⁴ The “clean” attribution to the measure is appreciated when compared to the common “return on assets” where the denominator, total assets, includes financial assets (and thus confuses operating and financing activities) and excludes operating liabilities (and is thus not comprehensive of the net assets employed in operations).

at it, so the format is the template for his or her spreadsheet. (More detail, supplied by further disaggregation under *Principle 3* below, is of course added.)¹⁵ Note again the point that emphasis on the primacy of the common shareholders' claim in financial reporting leads to a clear accounting for debt claims.

- The explanation for the updating of the net debt position emphasizes that dividends are paid out of net debt. That is, a financing condition always holds: for a given cash flow from the business, paying a net dividend to shareholders always requires an increase in the net debt—the firm has to net borrow to pay dividends.

The accounting under current GAAP that includes interest payments and receipts in cash from operations (for non-financial businesses) confuses the generation of cash from the business with the disposition of cash to debt investors. Confounding cash investment in operations with investments in financial assets (short-term investments) in the investing section of the cash flow statement similarly blurs the line between operating and investing activities in the business with the disposition of “excess cash” by buying financial assets. The latter is particularly pernicious when cash flow for investing activities under GAAP is reduced by liquidating short-term investments when the firm is cash-short in its business; it then (misguidedly) appears that the firm is generating higher net cash from its business than it is, thus giving the false impression that the firm has a smaller cash shortfall.¹⁶

The first two equations in Table 1 are just a disaggregation of the third (bottom-line) equation. The third equation expresses the cohesion between the bottom-line numbers in the three statements and is the accounting relation governing the equity statement that reports the change in shareholders' equity, as in Figure 1. In parallel to the equity statement, two further statements could be presented to track the operating activities and the net indebtedness following the first two equations. These statements would satisfy the desire of the Boards to report on changes in balance sheet items.

Figure 2 depicts the two statements that explain the change in Net Operating Assets (NOA) and Net Financial Liabilities (NFL)—in the boxes above the equity statement that explains the change in Common

¹⁵ The format supplies the reconciliation asked of the FASB-IASB presentation project by the Corporate Reporting Users' Forum in the U.K. in a letter to the *Financial Times*, October 6, 2008. See http://www.cruf.com/fsp_comment_letter_may09.pdf for their letter to the IASB on financial statement presentation.

¹⁶ A CEASA Occasional Paper deals with issues of separating operating and financing activities in the cash flow statement. See H. Nurnberg, *Perspectives on the Cash Flow Statement under FASB Statement No. 95*, Occasional Paper, Center for Excellence in Security Prices, Columbia Business School, October 2006, at https://www4.gsb.columbia.edu/null?exclusive=filemgr.download&file_id=104

Shareholders' Equity (CSE). The two statements, in addition to the equity statement, express the cohesion between the statements, and convey information in a simpler but more compelling way than the tedious reconciliation schedule in the FASB-IASB Discussion Papers. They could be presented at the individual line-item level or at a more aggregated level if the detail is not considered important. The tracking of net indebtedness in a "Statement of Changes in Net Indebtedness" is presumably the more important of the two reconciliations. Some of the information that would be conveyed by such statements can also be conveyed along with the cash flow statement. So we will pick up this issue again later in the paper.

In sum, the clean separation of operating and financing activities enhances the transparency of financial statements, for it mirrors the way in which businesses operate to add value for shareholders and generate cash to satisfy non-owner claims and provide dividends for shareholders. Accordingly, it facilitates equity and debt analysis that tries to understand the business and infer the value of claims.

Separation of Investment Activities from Operating Activities?

The FASB-IASB Discussion Papers propose a trichotomy of business activities: operating activities, investment activities, and financing activities. We have distinguished "operating activities" from financing activities, with so-called investing activities implicitly incorporated within operating activities. Should investment activities be distinguished from (other) operating activities? We think not.

First, the Discussion Papers define investment activities as those that are distinct from normal business activities, leading to the inclusion of investment in financial assets as investing activities. They thus confuse investment in the business with investment of cash from the business in financing activities. Businesses generate free cash flow—cash from the business remaining after investing in the business—and apply that cash flow (in financing activities) to distributions to shareholders (dividends and net stock repurchases), paying interest on debt and redeeming debt, or buying financial assets (interest bearing debt) to store the "excess cash." So, treating investment in financial assets as investment in the business operations overstates investment in the business. And treating the liquidation of financial assets as liquidation of the business operations understates investment. As mentioned above, by misstating cash in investment activities, it also misstates the cash from the business available for (distribution in) financing activities in the cash flow statement. With negative free cash flow, the treatment confuses the liquidation of financial assets (the stored excess cash) to satisfy the shortfall with the cash shortfall itself—it makes the amount of the cash deficit to be dealt with look smaller.

Second, even if the investment is investment in the business, accounting (currently applied) does not (and probably cannot) distinguish those investments from other operating activities. This is clear from considering the current cash flow statement. Net investment in financial assets aside, investment in the investing

section of the cash flow statement includes only that investment that is booked under accounting rules to the balance sheet, largely capital expenditures (in property, plant, and equipment) and cash acquisitions. Investment in many other assets—R&D, brand building (advertising and promotion), investment in supply and distribution chains, investment in employees, incentives to maintain customer loyalty, start-up costs, to mention just a few—are included in cash flow from operations rather than investment because they are expensed in the income statement immediately rather than capitalized in the balance sheet.¹⁷ This is unlikely to be remedied, for two reasons: (i) there may be justification for expensing investments with low probability of “economic benefit” (“research” as opposed to “development” under IAS 38, for example), and (ii) some investments (in bonuses for employee retention, for example) are difficult to separate from periodic expenses. If so, identifying only a slice of investments gives a misleading impression of investment activities.

3. Disaggregation of subtotals

Principle 3: Communicate information about future cash flows

Having identified the subtotals under *Principle 2* that aggregate in a meaningful way to the financial statement totals in *Principle 1*, it remains to disaggregate those subtotals into meaningful financial statement line items. The aim of disaggregation is to provide more information, of course, but how should the disaggregation be done to supply that information? What principles guide the disaggregation?

Our answer turns on a financial reporting objective stressed in the FASB-IASB emerging Conceptual Framework and endorsed again as an objective of statement presentation in their Discussion Papers: the objective of financial reporting is to provide information to investors about future cash flows. The form and extent of disaggregation thus turns on the question of whether the disaggregation provides more information about future cash flows (relative to reporting just an aggregated number). The objective refers to information about “the amount, timing, and uncertainty” of future cash flows, so the disaggregation is useful not only if conveys information about expected cash flows streams, but also about the risk surrounding those expected cash flows. So our proposed disaggregation focuses on both. This, of course, accords with the investor interested in the valuation of his or her claim: the (present) value is the expected cash flows discounted for risk (as in standard no-arbitrage valuation formulas).

¹⁷ Accordingly, the “cash flow from operations” section subtotal is not really cash from operations—it includes investment outflows. Analysts treat this subtotal as cash that the business generates, separate from accruals, but, in reality, it is based on an accrual concept defining what investments are placed on the balance sheet and what investments are expensed immediately. Our Cash Flow from Business Operations subtotal (above) is net of all investment.

The proposed disaggregation is, of course, applied only if it materially supplies more information. With an appreciation that extensive disaggregation can clutter financial statements, taking away from the importance of subtotals, the question of disaggregation on the face of the statements or in footnotes is left open. We profess no expertise in behavioral information processing, in particular how individuals process information by dealing with a relatively few (aggregated) numbers versus more detail that may be too much to handle.¹⁸

The measurement of financial statement line items conveys information about expected cash flows and their risk in different ways. So, disaggregation cannot be entertained without specifying the measurement approach used in the accounting to indicate value. Two alternative approaches are considered here: indicating value through fair value measurement in the balance sheet or indicating value through the income statement under historical cost accounting. The FASB-IASB Discussion Papers on their emerging conceptual framework make the distinction between the two measurements, though the issue of which way to proceed is very much in the air.¹⁹

3.1. Communication through the Balance Sheet

Balance sheet measurement reports the value of an asset or liability through the balance sheet by mark-to-market accounting for assets and liabilities or so-called fair value accounting. The presumption here is that reported fair value is an unbiased measure of the present value of expected cash flows. This “value-in-use” notion is not necessarily exit value. If exit value is not equal to value-in-use for a going concern, our design is not applicable (and we are at a loss as to what is being communicated about future cash flows with a value appropriate for a liquidating concern).²⁰ With this understanding, fair value accounting has the following features (that apply only to the parts of the balance sheet that are fair-valued):

¹⁸ The proposed disaggregation below should not be interpreted as limiting disaggregation. For example, revenues might be disaggregated into product line, distribution channels, and price, quantity, and FX effects under the principle of providing more information about future cash flows. More detail on cost of goods sold (and the effect of absorption costing) is seemingly desirable. And so on.

¹⁹ Two CEASA Occasional Papers examine the issue. See I. Dichev, *On the Balance Sheet Model of Financial Reporting*, Occasional Paper, Center for Excellence in Accounting and Security Analysis, Columbia Business School, September 2007, at https://www4.gsb.columbia.edu/null?exclusive=filemgr.download&file_id=103, and A. Bezold, *The Subject Matter of Financial Reporting: The Conflict between Cash Conversion Cycles and Fair Value in the Measurement of Income*, Occasional Paper, Center for Excellence in Accounting and Security Analysis, Columbia Business School, May 2009, at http://www4.gsb.columbia.edu/null?&exclusive=filemgr.download&file_id=73359

²⁰ This is not to say that liquidation (exit) values are not relevant, for one must always consider liquidation as an alternative to continuation. But they are not relevant for going concern valuation. Financial reporting might consider presenting fair (exit) values as supplementary disclosure, particularly in the case where strategic assets, such as landing slots at airports, could be sold in a reconfiguration of a business.

a. The balance sheet presents the value of the asset or liability, and so reports both the expected cash flows with the discount for risk. One simply reads the value of the item off the balance sheet. As value is the present value of forecasted cash flows, the objective of providing information about future cash flows is achieved by reducing that information to one, sufficient number, and reporting that number in the balance sheet. (Whether exit value provides the indication of this “value-in-use” is another issue, of course).

b. As a fair-value asset or liability aggregates to common shareholders’ equity (along with other items), its contribution to explaining equity value is immediate: the asset contributes one-to-one to shareholder value and Common Shareholders’ Equity changes one-to-one with changes in the value of the asset.

c. The values of such assets and liabilities aggregate to meaningful totals which are indeed the sum of the values of the component assets and liabilities. For example, the sum of the values of equity investments in a share portfolio is the value of the portfolio. This is a theorem of portfolio theory. However, the property holds only if the individual assets in the portfolio are separable; that is, stand-alone values of assets aggregate to a total value only if no additional value is generated from their being used together. In all other cases, the property is violated: the fair value of a group of assets is not equal to the sum of the stand-alone fair values of the individual assets. This, of course, is the case in most businesses where assets are employed jointly to generate cash flows and add value.

d. With value indicated in the balance sheet, one does not have to refer to the income statement (gain or loss) to infer value. Indeed, the income from these assets and liabilities is uninformative about expected future cash flows: changes in fair value do not predict future gains or losses, nor can the current gain or loss indicate value. This is the “random walk” feature of fair values or, in more familiar accounting terms, the feature where there is no persistence in earnings (they are pure transitory). This states the mutually exclusive aspect of balance sheet and income statement measurement: balance sheet measurement of value renders the income statement uninformative for forecasting future cash flows, and the income statement can become informative only if the balance sheet does not provide all value-relevant information.

e. While the income statement does not provide information about expected future cash flows, it supplies information on the risk surrounding those cash flows. This is identified by the volatility of

reported gains and losses from fair-value changes over time (or, if systematic risk is in mind, the numbers to calculate betas on common risk factors).

f. Issues of accounting quality are investigated in the balance sheet rather than the income statement. The accounting is in question when mark-to-market prices are bubble prices or depressed (“fire-sale”) prices, or when fair values are estimated. The income statement cannot redeem the balance sheet, for errors in both opening and closing balance sheet numbers are compounded in the income statement (which reports the change in value from the beginning to the end of a period and thus incorporates the error in both).

These properties imply the following presentation when fair value accounting is applied. Disaggregation must be strictly within subtotals for operating and financing activities so that the distinction between the two is maintained.

Balance Sheet Disaggregation

First, fair-value assets and liabilities are reported separately from any assets and liabilities that are not fair valued, so their contribution to shareholder value is clear (points a and b above).

Second, fair value items on the balance sheets that work as a portfolio under a business plan are aggregated to meaningful totals that give the value of each portfolio (point c). Accordingly when the business or part of a business is one of matching assets to liabilities (that co-vary negatively) as a matter of risk management, the fair values of the two should be netted to report the net exposure. For example, a derivative that works as a hedge is matched to the hedged item (if both are fair-valued).

Third, when returns on fair-valued assets and liabilities are not perfectly (positively or negatively) correlated within portfolios, disaggregation is based on differential risk. Under portfolio theory, portfolio value is simply the sum of individual asset and liability values, so disaggregation cannot provide more information about value. However, the risk to portfolio value depends on the risk of the components of the portfolio and the covariance of their returns with each other. Accordingly, disaggregate with more detail if the disaggregation gives further insight into the risk of the portfolio.²¹ For example, (if they are fair valued) portfolios of sovereign debt are subtotaled separately from portfolios of mortgage-backed securities, and mortgage-backed securities are disaggregated according to their credit risk.

²¹ The principle also guides the netting of assets against liabilities in the second point (without disclosure of the two components): netting is strictly appropriate only with perfect negative correlation.

Fourth, an accounting quality analysis focuses on the balance sheet, not the income statement, and that focus requires disclosures on how fair values are determined. The current practice of “leveling” fair-value estimates is an example.

This design presumes that fair value accounting is being applied appropriately, that is, fair values and their aggregation are reported only when stand-alone values of assets and liabilities aggregate to total value, with no value added from joint use. This typically applies to (some) financial assets and liabilities, but will also apply to operating assets and liabilities where shareholder value moves one-to-one with market prices (such as an equity investment portfolio or operating assets and liabilities of financial firms that involve taking market positions). Stand-alone value for assets and liabilities whose value comes from a business plan that combines them to produce value jointly are meaningless for a going concern, and so is an aggregated “fair value” for them.²² Fair valuing these assets and liabilities and aggregating them with legitimate fair value items confounds the information that would otherwise be conveyed through fair value accounting.

Income Statement Disaggregation

First, gains and losses from fair-valued assets and liabilities are separated from income arising from assets and liabilities that are not fair valued. Fair value gains and losses measured without bias add one-for-one to shareholder value with no multiplier: $P/E = 1$. As fair-value gains and losses cannot predict future gains and losses, they must not be aggregated with income that can (which potentially attracts a value multiplier).

Second, unrealized and realized gains and losses must be reported together so the performance of the whole portfolio is reported (without cherry picking). These gains and losses should also be reported together with interest and dividends, so the complete cum-dividend return can be calculated. (The current practice of reporting “investment income” separately from gains and losses is distracting; dividends and interest reduce the ex-return but have no effect on the cum-return.)

Third, these gains and losses should be disaggregated for assets and liabilities with different risk so their (differential) volatility over time can be assessed. For example, gains and losses from sovereign debt are subtotaled separately from those from portfolios of mortgage-backed securities. The balance sheet valuation imbeds the discount for risk, but does not reveal the risk discount. Thus, risk is assessed from the income statement. However, this is slow risk revelation—volatility can be observed only over a considerable period of time, and then only if it is stationary—so additional risk disclosures are typically needed.

²² A CEASA White Paper deals with principles for the application of fair value accounting. D. Nissim and S. Penman, *Principles for the Application of Fair Value Accounting*, White Paper No. 2, Center for Excellence in Accounting and Security Analysis, Columbia Business School, July 2008, at http://www4.gsb.columbia.edu/null?&exclusive=filemgr.download&file_id=3822

3.2. Communication through the Income Statement

Fair value measurement cannot communicate value when assets or liabilities are employed jointly to generate cash flows. Indeed, these assets and liabilities have no stand-alone value, and the total of any individual fair values cannot be the total value—the portfolio value—from using assets jointly under the business plan. In most business activity, land, factories, work-in-process inventories, and so on, are combined with distribution systems, supplier and customer chains, and brands under an entrepreneurial design to produce value together. This is so for most operating assets and liabilities of non-financial firms (and many aspects of financial firms).

The alternative measurement approach, commonly used in practice and recognized in the Conceptual Framework, is of course historical cost accounting. With respect to providing information about future cash flows (and value), it has the following features. For the most part we refer to the accounting for operating activities because assets and liabilities in financing activities, as stand-alone items, often meet the criteria for fair value accounting.

- a. The balance sheet cannot communicate value because net assets are recorded at (amortized) historical cost. Value is added to the balance sheet only with the recognition of earnings.
- b. Even though the balance sheet does not report value, the income statement reports a summary number, earnings, from using assets jointly in a business. Indeed, that number also includes earnings from assets not on the balance sheet. That number, of course, is Operating Income. (Net Financial Expense is the summary number for the financing activities.) Accordingly, the analyst infers the value of the business from the income statement rather than the balance sheet.²³
- c. Valuation is effected by forecasting future earnings to be added to the balance sheet (as in standard residual income valuation models which are equivalent to discounted cash-flow models). The income statement thus becomes informative to the extent it can predict future earnings (and thus cash flows). A perfectly informative income statement is one where current earnings is sufficient (given all information) to forecast future earnings. In this case, valuation theory says that value is earnings capitalized at the cost of capital (that is, earnings are valuation sufficient).

²³ So, for example, although the Coca-Cola Company has an important asset, its brand, missing from the balance sheet, earnings from the brand and other assets run through the income statement. Thus, the firm is readily valued from the income statement. See S. Penman, “Accounting for Intangible Assets: There is also an Income Statement,” *Abacus* Vol. 45 No.3 (September 2009), 359-371. This paper is also an CEASA Occasional Paper at https://www4.gsb.columbia.edu/ceasa/research/papers/occasional_papers.

d. Earnings are determined by revenue recognition and matching the expenses incurred to generate the revenues (subject to point e below). This yields a measure of value added in operations, and it is this measure value-added measure that is the basis for forecasting and valuation as well as for operational performance.

e. Matching of revenues to expenses is upset by the expensing of some investment expenditures (rather than capitalizing and amortizing them). Under current GAAP and IFRS, these investments include research and/or development, brand building with advertising and promotion outlays, expenditures on supply chain and distribution systems, organization costs, store opening costs, employee development and human capital investments, film development costs, software development, and merger costs, to name a few. The expensing is apparently justified by uncertainty about future cash flows.²⁴ In addition, recorded balance sheet numbers are revised (impaired) with revised probabilities of outcomes. This “uncertainty accounting” disrupts the matching in the income statement, potentially yielding bottom-line earnings that are not indicative of future earnings.²⁵

These properties imply the following financial statement presentation. On all points, the disaggregation serves to enhance the ability to forecast future earnings and cash flows from the income statement, both expected flows and their risk. Disaggregation must be within operating and financing subtotals.²⁶

Income Statement Disaggregation

First, to reiterate, income from income statement measurement must be reported separately from income from fair-valuing assets and liabilities in the balance sheet (point c above). There is one exception. Gains and losses from fair valuing hedges of revenues and expenses should be matched with income or expense for the hedged item. So, for example, fuel costs for an airline are reported net of any gain or loss on hedging fuel prices to report the effective cost.

²⁴ In justifying the immediate expensing of R&D under FASB Statement No. 2, the FASB focused on the “uncertainty of future benefits.” In IAS 38, the IASB applied the criterion of “probable future economic benefits” to distinguish between “research” (which is expensed) and “development” (which is capitalized and amortized).

²⁵ For a proposal for how this uncertainty accounting is executed to convey information, see R. Barker and S. Penman, “Moving the Conceptual Framework Forward: Accounting for Uncertainty,” unpublished paper, Oxford University and Columbia University, 2016. That paper proposes some financial statement forecasting that communicates uncertainty about future cash flows that largely accords with that year.

²⁶ The FASB-IASB financial statement presentation proposals raise the question of reporting expenses by function or by nature. We have no insight into this issue. This is an issue for field research as to when and where these alternatives are appropriate.

Second, expenses should be reported against the revenue they produce, to yield a net from the matching. And income or expense not associated with top line revenues should not be matched against revenue, but reported separately (points d and e). Accordingly, Operating Income distinguishes Operating Income from Sales and Other Operating Income. The latter is income that does not come from top-line customers: returns on pension assets, equity method income in subsidiaries, and gains and losses from asset sales are examples. In this way, the analyst calculates a profit margin from sales that is clean (uncontaminated by gains on pension assets, for example, as happens under current GAAP).

Third, operating income that does not forecast the future (transitory or non-sustainable income) should be distinguished from income that has a multiplier because it repeats in a going concern (point c). Special charges, impairments, gains and losses from asset sales, one-time income, and income from discontinued operations fall into this category.²⁷ However, the category also includes repeating income which cannot be predicted, for example, currency gains and losses where a gain or loss for the current period presumably does not forecast whether there will be a gain or loss next period. Typically, there will be overlap between one-time income and Other Operating Income, though not necessarily. All fair-value gains and losses fall into the category.

Fourth, charges against earnings from the uncertainty accounting that expenses investments immediately should be disclosed separately from the above categories so as to maintain the integrity of those categories but also to highlight the application of uncertainty to the accounting (point e). This partially satisfies the objective of communicating information about the uncertainty of future cash flows: these are investments for which cash flows are so uncertain that they are not booked to the balance sheet. (This requires substantial revision to what goes into SG&A where a lot of the expensed investments are reported).

Fifth, taxes should be allocated between Operating Income, Net Financial Expenses, and Income from Discontinued Operations and, within Operating Income, between Operating Income from Sales and Other Operating Income. In this way, the analyst understands the after-tax contribution of each component of earnings. Analysts can make this allocation, but imperfectly if different income components attract different tax rates. The firm presumably has a comparative advantage in doing this; the outside analyst is especially disadvantaged when there are international operations with different tax effects. Transparency on taxes is accordingly improved.

²⁷ The issue is not whether a component will reoccur in the future, but whether the current number helps forecasting the future. Impairments and currency gains and losses (for example) do repeat but typically are not predictable.

Balance Sheet Disaggregation

First, accounting numbers associated with revenue recognition (sales receivables and deferred revenues) should be line-itemed to distinguish them from those associated with expense matching. The source of the revenue accrual can then be identified (as an increase in receivables or decrease in deferred revenue, for example).

Second, items that involve expense accruals in materially different ways should appear on separate lines. So assets associated with depreciation and amortization, accrued expenses, and deferred charges are highlighted as line items.

Third, with a focus on forecasting from the income statement, balance-sheet disaggregation should follow the principle of aiding that forecasting. Thus, as inventory build-up (or the sales/inventory ratio) can forecast future sales, report inventories as a line item within net operating assets; as property, plant, and equipment relative to sales indicates idle capacity, list it separately; and so on.

Fourth, to enhance forecasting of short-term versus long-term cash flows to settled debt, Financial Assets and Financial Liabilities are divided on the basis of time to cash. Operating Assets might be listed in order of liquidity, and Operating Liabilities in order of maturity. This provides information on the “timing” of cash in addition to their “amount and uncertainty” and agrees with the Boards’ July, 2009 decision that the objective of providing information about liquidity and financial flexibility should be done within the disaggregation framework. However, drawing the subtotals, “short-term” and “long-term” for operating items is questionable. Presenting subtotals might cloud the liquidity position: to mention a few issues (for a going concern), prepaid expenses and deposits with suppliers do not normally provide future liquidity, inventory is rolled over (requiring further cash), and deferred revenues and customer deposits are not usually a claim on cash. (The situation changes with a going-concern qualification, of course). With respect to financing items, the short-term and long-term distinction conveys maturity information for Financial Liabilities, but is suspect for Financial Assets: for example, marketable securities currently classified as “long-term” because of duration are equally as liquid as those classified as “short-term.”

3.3. Cash Flow Statement Disaggregation

Principle 2 led to cash flow statement subtotals that separated operating cash flows from financing cash flows and cash to shareholders from cash to other claimants:

Cash Flow from Business Operations – Cash Flow for Financing Activities = Net Payment to
Shareholders

Disaggregation involves giving more detail to these categories, but the disaggregation should also maintain cohesion between these subtotals and the corresponding subtotals in the income statement and the balance sheet. Again, maintaining this cohesion adds information beyond the disaggregation itself.

Disaggregation of Cash Flow from Business Operations

First, to maintain cohesion between the operating sections of the three statements, break Cash Flow from Business Operations into cash from activities that generate Operating Income and cash for net investments that are “capitalized” as net assets on the balance sheet (and do not affect the income statement):

$$\begin{aligned} \text{Cash Flow from Business Operations} &= \text{Cash Flow Associated with Operating Income} \\ &\quad - \text{Cash for Capitalized Investment in Operations} \end{aligned}$$

Cash Flow Associated with Operating Income is, of course, similar to “cash flow from operating activities” currently reported in cash flow statements (though, unlike GAAP, it excludes financing interest). Referring to Operating Income provides a direct comparison to the proposed income statement. Cash for Capitalized Investment in Operations is similar to the current “cash in investing activities” in the cash flow statement (though, unlike GAAP, it excludes net investment in financial assets). The reason for the labeling change is clear from the next point.

Second, within Cash Flow Associated with Operating Income, separate cash flows currently generated by business operations from those associated with investments that are expensed rather than capitalized (because of uncertainty accounting):

$$\begin{aligned} \text{Cash Flow Associated with Operating Income} &= \text{Cash Flow from Current Operations} \\ &\quad - \text{Cash Flow for Expensed Investments} \quad (a) \end{aligned}$$

This not only reports components that reconcile to the corresponding components in the income statement (as above), but also removes the misinformation under current GAAP where cash spent on investments that are expensed rather than capitalized (R&D, for example) are treated as cash from operations rather than investing cash flows; the proposed division clearly reports cash generated by the current business operations from cash flows on investments to generate future cash from operations. (One might consider grouping Cash Flow for Expensed Investments with Cash for Capitalized Investment in Operations together to yield one total for all investments).

This division also identifies an accrual component of operating income separate from the investments:

$$\text{Operating Accruals} = \text{Operating income before expensed investments} - \text{Cash from Current Operations} \quad (b)$$

As accruals are often the “soft” side of income measurement, they are accordingly identified for an investigation of earnings quality.

With this in mind, Cash from Current Operations could be reported using the “indirect method” as in equation (b) rather than the “direct method” of equation (a) (with the same line items components as the operating section of the income statement, but on a cash basis). We favor the direct method, though are not pedantic on the issue.²⁸ The direct method provides the transparency—cash flows are identified with their source—but can also be presented along with the accruals associated with each line item, as in the cash flow template later. The analyst would then have immediate understanding of the effect of accruals on each component of income.

Disaggregation of Cash Flow for Financing Activities

As with the operating activities, Cash Flow for Financials Activities is divided into cash associated with the financing subtotal in the proposed income statement, that is, Net Financial Expenses, and financing flows that update the balance sheet. The latter are, of course, “principal” receipts and payments from borrowing and repaying Financial Liabilities and buying and liquidating Financial Assets:

$$\begin{aligned} \text{Cash Flow for Financing Activities} &= \text{Cash Paid for Net Financial Expenses} \\ &+ \text{Cash Paid in Net Debt Transactions} \end{aligned}$$

The difference between Cash Paid for Financial Expenses and Net Financial Expenses is explained by the financing accruals. So, again, accruals reconcile the income statement to the cash flow statement.

If taxes are allocated to operating and financing components of the income statement, they might also be allocated to components of the cash flow statement for reconciliations to work. We are told that allocation of taxes to cash flows is difficult for firms with international operations, which may be a constraining factor. This

²⁸ We understand that a direct-method cash flow statement poses some difficulties for (the many) international firms with transactions involving (possibly many) currency conversions, and do not have a feel for the cost of conversion from the indirect method. The cash flow template that follows in the Financial Statement Template part of the paper highlights the benefits of a direct-method statement.

aside, tax allocation is desirable for cash flow reporting. For example, interest payments are reported net of the tax, so one sees the effective interest payments.

Disaggregation of Net Payout to Common Shareholders

This section of the cash flow statement simply reports the three types of cash flows involved in transactions with shareholders: Net Payout to Shareholders = Dividends + Share repurchases – Share issues

THE SUMMARY EARNINGS-PER-SHARE NUMBER

Common shareholding is among many investors, so a per-share number is required to allocate earnings among shareholders. Needless to say, earnings per share is very much the focus as a headline number among investors and analysts in most countries. What should that headline number be?

Comprehensive income, reported as Earnings to Common Shareholders in the proposed design, is the only number that reports all the income that is earned and shared. Reporting any other number in the numerator of earnings per share leaves something out. However, the purpose of the disaggregated income statement is to inform that all income is not the same. Operating Income might be emphasized, but Operating Income per share makes no sense: operating income can increase by borrowing and investing the proceeds in assets to produce further operating income. With added operating income and no change in shares outstanding, it looks like the shareholders are adding earnings per share with no cost. However, the cost is in the Net Financial Expense from the borrowing, so a per-share number must be net of these borrowing costs. Further, while both Operating Income and Net Financial Expense summarize all income earned by shareholders as an historical matter, not all components have the same bearing on the future.

As the income statement is informative only to the extent that it informs about the future, there is a demand for a summary number that bears on the future, a number that is indicative of per-share future earnings. Commentators have been critical of any suggestion to remove the “net income” or “net profit” number, and they have a point. However, while “net income” excludes transitory income in “other comprehensive income,” other income of a non-recurring or transitory type is included in net income. If there is to be a number other than comprehensive income, what is it to be?

We suggest the following solution. Report per-share (comprehensive) Earnings to Common Shareholders but also report a second per-share number that bears on the future. This is not a forecast, but rather current Earnings to Common Shareholders stripped of transitory, unsustainable items reported in the disaggregated income statement that do not bear on the future, along with investments expensed in the income statement under uncertainty accounting.

One could think of the number as sustainable earnings, a concept often referred to by analysts. But another way to think about it is as follows: What number would a (diligent) analyst forecast as forward earnings? What income statement line items are (or should be) omitted from the analyst’s forecasting spreadsheet? Clearly that analyst is not forecasting the one-time items of the previous period that will not repeat, nor components of earnings that are not predictable. Nor should the analyst, in forecasting future earnings, imbed a forecast of the future investments that reduce the future earnings under uncertainty

accounting; these are forecasts of investments, not forecast of earnings from investments.²⁹ The sustainable earnings-per-share number might be called Forward-Looking Earnings (to Common) with the understanding that analysts would forecast “forward earnings” per share defined by this number, with a settling-up of the forecast against actual Forward-Looking Earnings per share subsequently reported.

Consequently, the Forward-Looking Earnings number is not only information to assist forecasting, but supplies a discipline on the forecasting. Financial reporting and analysts’ forecasts would align such that analysts’ forecast errors would be determined by comparing their forecast to next year’s realization of Forward-Looking Earnings that is unaffected by earnings outcomes that they cannot be expected to forecast. Not only would a summary number be produced with forward-looking information but a discipline would also be imposed on the analyst community—or on the consensus-forecast aggregators (Thomson Reuters, Bloomberg, etc.) who force a conformity on analysts. Accordingly, investors who use analysts’ forecasts would know just what is being included in their “forward earnings” and would have the appropriate basis to evaluate analysts’ forecasting ability by observing informative forecast errors.³⁰ The differences between analysts’ earnings estimates and actual reported earnings would also be clearer, an important issue given how much the market seems to focus on “meet or beat” analysts’ forecast for pricing. Also, Forward-Looking EPS would explicitly deal with the Non-GAAP EPS reporting issue that is the subject of much discussion. It would recognize the desire for firms to report an EPS number that is more indicative of the future while also disciplining the use of a non-GAAP number to “leave out all but the good stuff.”

We are under no delusion that a perfect measure of sustainable income is elusive. But so is a perfect net earnings number—one cannot fall back on cynicism to dismiss the issue. The of a forward looking number that analysts can (and should) forecast is proactive.

With its focus on forecasting, our proposed income statement template that follows in the next section is designed to identify items to be stripped out in determining Forward-Looking Earnings. The components retained could be presented in a second column in the income statement that totals to Forward-Looking Earnings, or as a supplementary schedule. We are aware that a division between forward-looking and other

²⁹ At least the two should be differentiated in an analyst’s forecast. The analyst may of course refer to present and past expensed investments, now identified in the disaggregated income statement, to forecast the relevant future earnings

³⁰ Note that this forward-looking number is not sufficient for valuation. Unlike investments booked to the balance sheet (where the investment cost runs through the income statement through depreciation and amortization), the cost of investments not booked to the balance sheet enter the income statement via the immediate expensing. The cost of these investments is surely an expense to generate revenues, and Forward-Looking Earnings excludes this cost. Due to the cancelling-error property of accounting, earnings are no different if investments are capitalized and amortized versus immediate expensing if there is no growth in investment. So, in this case, Operating Income after expensed investments is the appropriate number on which to base a valuation. This Operating Income is also the base number in the case of growth in investments, but with accommodations. See S. Penman and X. Zhang, “Connecting Book Rate of Return to Risk and Return: The Information Conveyed by Conservative Accounting,” unpublished paper, Columbia University and University of California, Berkeley, 2016.

income may invite opportunistic reporting—bundling current operating expenses into impairment charges, for example. A requirement that management justify classifications in the accounting policy footnote mitigates, as does rigorous auditing and audit committee oversight.

FINANCIAL STATEMENT TEMPLATES

The Financial statement templates that follow the above design are laid out below. In the lay-outs, significant totals and subtotals are indicated by **XX**, and line items that aggregate to them by X. The templates are extensive and detailed to cover many of the issues that arise. They might well be presented in a more aggregated form in practice if “information overload” is a concern or if the detail is considered immaterial or not cost effective. Following each statement, we point out how the proposed format differs from that in the FASB-IASB discussion documents, at least on the major points.

The statements are laid out primarily with a non-financial firm in mind, but are detailed enough so that the form for a financial firm can be inferred. So for a bank, “financial instruments” involved in making money are classified as operating items and, within those assets and liabilities, one distinguishes those marked to market (in the trading book, for example) from those not so (in the banking book). If the fair value option under FASB Statement 159 or IAS 39 is exercised, the assets and liabilities on which the option is exercised will appear in the fair value section (matched against other assets and liabilities if the fair value option was exercised to reflect asset-liability matching employed as a matter of business).

The templates in no way limit the extent of desired disaggregation under the principle of informing about future cash flows. For example, sales revenue might be decomposed into their sources, including price, quantity, and FX components, and similarly for cost of goods sold.

The Balance Sheet

EXHIBIT1. Statement of Financial Position

THE POSITION IN THE BUSINESS

Operating Assets Used in Business Operations

Operating cash		X
Accounts receivable	X	
Less allowance for doubtful accounts	<u>(X)</u>	X
Inventory		X
Prepaid expenses		X
Deferred tax assets		X
Other deferred charges		X
Property, plant and equipment	X	
Less allowance for depreciation	<u>(X)</u>	X
Investments in unconsolidated subsidiaries (equity method)		X
Equity securities for operations, held-to-maturity		X
Identified intangible assets		X
Goodwill		<u>X</u>
Total Operating Assets		<u>XX</u>

Operating Liabilities from Business Operations

Accounts payable, trade		X
Accrued expenses		X
Deferred revenue		X
Deferred tax liability		<u>X</u>
Total Operating Liabilities		<u>XX</u>

Net Operating Assets Used in Business Operations

XX

Net Operating Assets Exposed to Market Price Movements:

Operating assets at fair value:

Investment in equity securities, trading portfolio		X
Investment in equity securities, available-for-sale		X
Derivative instruments		X
Fair value assets matched to liabilities	X	
Matched fair value liabilities	<u>X</u>	<u>X</u>
		<u>X</u>

Operating liabilities at fair value:

Derivative instruments		X
Deferred unrealized gains on cash flow hedges	X	
Deferred unrealized losses on cash flow hedges	<u>(X)</u>	X
Pension liabilities	X	
Pension assets	<u>(X)</u>	<u>X</u>

Total Net Operating Assets Exposed to Price Movements		<u>X</u> <u>XX</u>
NET OPERATING ASSETS OF THE BUSINESS		<u>XX</u>
THE NET FINANCING POSITION		
Financial Assets		
Debt investments and cash equivalents, at fair value		X
Financial Liabilities		
Short-term financial obligations		
Short-term debt		X
Current maturities of long-term debt		X
Interest payable		<u>X</u> X
Long-term financial obligations at fair value:		
Financing debt at fair value		(X)
Contingent equity claims at fair value		(X)
Net Financial Assets (Liabilities) at Fair Value		<u>XX</u>
Financing debt at contractual amounts		
Interest payable	X	
Bonds payable	X	
Lease liabilities	X	
Bank debt	X	
Preferred stock	<u>X</u>	<u>XX</u>
Net Financial Assets (Liabilities)		<u>XX</u>
Non-controlling Interest		X
COMMON SHAREHOLDERS' EQUITY		<u>XX</u>

Comments:

1. Components of Common Shareholders' Equity are given in the Statement of Shareholders' Equity, but can be detailed in the balance sheet also.
2. The presentation for pensions presumes pensions assets are at fair value. Pension assets are matched to pension liabilities to indicate the extent of underfunding or overfunding. Note that pension liabilities are estimated liabilities under current accounting standards (rather than exit value), but this is presumed to be unbiased "fair" value that can be matched.

The pension liability is treated as an operating liability rather than a financing liability, but this classification is debatable. The classification recognizes that the liability pertains to operations (effectively wages payable), and the corresponding expense appears in the operating section of the income statement. That expense consists of the service cost (wages) but also the interest cost. Accordingly, the income statement treatment is the same as that with other operating expenses: if goods and services are purchased on credit (for example, inventory with accounts payable), then there is an implicit interest charge in the price of the goods or services—the supplier charges a higher price with a credit purchase than with a cash purchase to cover his or her financing cost. Employees under a pension plan must similarly be compensated for delayed compensation. In pension accounting, the only difference is that the implicit interest is made explicit by separating it out from the service cost.

However, we recognize that others see the pension liability as a financing liability: the firm is borrowing from employees to finance the business. So there is some argument to treat it as a financing liability. That treatment means classifying interest cost as part of net financial expense while service cost is part of operating income. But it must be recognized that this treatment comes with some cost. First, unlike other operating liabilities (inventory purchased on credit), the implicit interest cost is not included in the cost of operations, an inconsistency. Second, the treatment violates the clean-surplus relations for operating and financing activities in Table 1 which are the basis of the reconciliation of opening and closing balances in the balance sheet and the reconciliation of components of the cash flow statement to the corresponding components in the income statement and balance sheet. In consequence, the cohesion objective between sought by the Boards is not attainable, expect with awkward plugs.

If pension liabilities are classified as financing liabilities, the matched pension assets would then be classified as a financing asset so that the net pension position is evident on the face of the balance sheet. One would then see these assets as Financial Assets: they would be seen as “excess cash” rather than an operation that runs an investment fund. Correspondingly, the returns on pension assets would be matched against interest on pensions in the income statement rather than in the operating section. Otherwise, the desired clean-surplus cohesion would further be violated. The net financial expense would then be impacted such that gains in pension assets would be reported as lowering a firm’s borrowing cost. And operating income would exclude the gains and losses from operating the pension fund.

3. Lease liabilities are financing liabilities.
4. Contingent equity claims are reported as financial liabilities, and in the fair value section if marked to fair value.

5. For operating assets and liabilities, there is no division between short-term and long-term, though the items are listed in order of perceived “liquidity” or maturity, defined by how long they take to generate or use cash in operations. A line could be drawn to indicate short-term and long-term operating assets and liabilities, though we see this as a doubtful exercise, for reasons in section 3. Financial assets and liabilities are divided into short-term and long-term but with the understanding that Financial Assets are short-term if they are liquid, even if they are instruments with long-term duration (like a long-term bond). The presentation here presumes all financial assets are short-term.

6. Assets and liabilities associated with discontinued operations can be placed in a separate category.

Comparison with the FASB-IASB Format:

- The FASB-IASB Discussion Papers maintain the definition of “Equity” as it is currently reported. The equity total thus fails to distinguish common, preferred, and contingent equity claims. For example, the line “Stock Compensation” in current financial statements (absurdly) reports the granting of a stock option as an increase in equity whereas it is a potential reduction in the common shareholders’ equity (should the option be exercised). The template above reports it as a financing liability.
- In the FASB-IASB Discussion Papers, the distinction between operating and financing activities is central. They refer to operating activities as “Business” activities which of course is just a matter of terminology. However, they break the Business section into an “Operating” category and an “Investing” category, with the latter containing assets and liabilities that are not related to the primary business purpose. The distinction is helpful (the templates above can show investment portfolios separately within the operating section). However, the terminology is confusing, because “operating” also involves investing, in property, plant, and equipment, for example; the term conflicts with the common notion of “investing” in finance and recognized in the cash flow statement as currently reported. More substantively, the “Operating” and “Investing” sections do not separate assets at fair value from other assets, for investment in a trading portfolio can be central to a business, as can an investment in available-for-sale equity securities that are part of a strategic objective (to invest in firms with related or complementary technology, for example, and perhaps increase the investment later).
- The “Investing” section in the FASB-IASB proposals includes investments in interest-bearing securities which, for most non-financial firms, are financial assets. Correspondingly, the “Financing” section for assets is limited to cash, with cash equivalents now included with short-term (interest-bearing)

investments in the “Investment” section of the business. This confuses operating and financing activities.

- In contrast to the Discussion Papers, the template above clearly distinguishes net assets at fair value from those not at fair value (with a corresponding separation in the income statement below).
- The template classifies a lease liability as a financing liability (rather than an operating liability as in the Discussion Papers), that is, as (effectively) a note written to finance the in-substance purchase presumed in the accounting for a capital lease.
- Unrealized gains and losses on cash flow hedges are treated as deferred income and deferred charges in the template, rather than as part of equity.

The Income Statement

EXHIBIT 2. Statement of Earnings to Common Shareholders

OPERATING INCOME FROM THE BUSINESS

Sales to Customers

		X
Cost of goods sold		<u>X</u>
Gross profit		<u>X</u>

Other matched operating expenses in gaining sales:

Selling expenses (detailed)	X	
Administrative expenses (detailed)	X	
Amortization of intangibles	X	
Other expenses (detailed)	X	
Matched realized gains (losses) on cash flow hedges	<u>X</u>	<u>X</u>

Operating Income from Sales, before tax

XX

Allocated tax		<u>X</u>
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Operating Income from Sales, after tax

XX

Other Sustainable Operating Income:

Earnings in subsidiaries (equity method)	X	
Dividends from held-to-maturity equity investments	X	
Other income (detailed)	X	
Expected return on pension assets	X	
Allocated tax	<u>(X)</u>	<u>X</u>

Sustainable Operating Income

XX

Non-sustainable Operating Income from the Business

Gains (losses) from asset sales	X	
Special charges and impairments (detailed)	X	
Litigation settlements	X	
Currency gains and losses	X	
Effects of changes in estimates	X	
Effects of accounting changes	X	
Allocated tax	<u>(X)</u>	X

Non-sustainable Operating Income from Fair-valued Assets and Liabilities

Gains (losses) on matched fair valued assets (detailed)	X	
Matched gains (losses) on liabilities (detailed)	<u>(X)</u>	
	X	
Realized and unrealized gains (losses) on trading securities	X	
Realized and unrealized gains (losses) on available-for-sale operating assets	X	
Dividends and interest	X	

Actual gains (losses) on pension assets, less expected return	X	
Translation gains and losses	X	
Other currency gains and losses	X	
Other fair-value gains (losses)	X	
Allocated tax	<u>(X)</u>	X
Expensed Investments		
Research and development	X	
Promotion and advertising	X	
Store opening and start-up costs	X	
Other (detailed)	<u>X</u>	<u>X</u>
Total Operating Income		<u>XX</u>
NET FINANCIAL EXPENSE		
Interest expense		X
Interest income		(X)
Allocated tax		<u>X</u>
Net interest, after tax		X
Preferred dividends		<u>X</u>
Recurring net financial expenses		X
Other net financial expenses (reported after-tax):		
Realized losses (gains) on financial assets and liabilities		X
Unrealized losses (gains) on fair-valued financial assets and liabilities		<u>X</u>
Total Net Financial Expense		<u>XX</u>
Earnings from discontinued operations		X
Non-controlling interest in earnings		(X)
Earnings to Common Shareholders		<u>XX</u>
Earnings per Share (Earnings to Common Shareholders/Weighted-average shares)		XX
Forward-Looking Earnings per Share		XX

Comments:

1. A column could be added to indicate the income components that go into Forward-Looking Earnings per Share. Alternatively, a note indicates the components. The number is made up as follows:

Operating income from sales, after tax	X
Other sustainable operating income	X
Recurring net financial expense	(X)
Minority interest in earnings	<u>(X)</u>
Forward-looking Earnings	XX

2. While fair value gains and losses are separated within Operating Income, realized gains and losses from hedging aspects of operations are included within Operating Income from Sales, to reflect the net effect of the hedge and the hedged item. The two can be netted.

3. Service cost and interest cost components of pension expense are included in the relevant line items in Operating Income from Sales where employee wages appear. Returns on plan assets are Other Operating Income rather than Operating Income from Sales (and are not netted against operating expenses as in current practice); they do not pertain to the business of generating sales, but rather the business of running a pension fund. Expected returns on plan assets are included in sustainable operating income if that expected return is a reliable estimate of average returns. Forward-Looking Earnings thus includes this component. Pension returns in fair-value income are accordingly the difference between actual returns and expected returns. Effects of changes in actuarial estimates are included in Non-recurring Operating Income (unless they are smoothed by amortization, in which case they go to sustainable income).

The alternative treatment when pension liabilities are classified as financing liabilities is discussed in comment 2 under the balance sheet template.

4. Similar to the pension treatment, fair value gains and losses can be broken down into (sustainable) expected returns and actual returns when expected returns are a reliable estimate of average returns. The former goes into Sustainable Operating Income, with the difference between actual and expected returns (rather than actual gains and losses) reported in the fair value section of Operating Income.

5. Interest on lease liabilities is included as a financing expense (in interest expense).

6. For financing assets and liabilities marked to fair value, expected returns are included in interest income and interest expense (and thus within Recurring Net Financial Expenses) with the difference between expected returns and fair value gains and losses reported in Other Net Financial Expenses.

7. Gains and losses from marking contingent equity securities (options, warrants, convertible bonds and preferred stock) to market are classified as financing items (in the Other Net Financial Expenses section where other fair value gains and losses on financing items are reported). Realized gains and losses (on settlement of these claims) are also financing items. As with other financing items at fair value, expected returns are included in Recurring Net Financial Expenses (if reliably estimable), with the difference between expected returns and actual gains and losses reported in Other Net Financial Expenses.

8. If material and cost-effective, translation gains and losses can be broken down into financing and operating components (and reported in the non-sustainable categories). This enables the reconciliation between these components reported in the balance sheet, income statement, and cash flow statement (although, for

international businesses, this will be frustrated by balance sheet amounts at beginning and ending exchange rates while cash flow statement amounts are at average exchange rates).

9. If preferred dividends receive a tax deduction (through a tax preferred trust), they appear above the tax line in Net Financial Expense.

Comparison with the FASB-IASB Format:

The reader will notice many differences in detail with the IASB-FASB Discussion papers. Only the major differences are listed here:

- Rather than an “Operating” and “Investing” breakdown of business activities in the Discussion Papers the template breaks down business income into Operating Income from Sales and Other Operating Income, with the latter divided into sustainable income and non-sustainable income. A separate component identifies the expensed investments under uncertainty accounting.
- In the template, income from fair value measurement is distinguished from other income.
- Forward-looking components of income are identified in the template, both in the operating section and the financing section.
- “Other comprehensive income” is not reported as a separate component of comprehensive income in the template. Rather its components are reported within their appropriate categories. Accordingly, income for each component is comprehensive and thus is cohesive with respect to its corresponding component in the balance sheet and cash flow statement. Further, by grouping realized and unrealized gains and losses together, the “cherry picking” of realized gains into income and unrealized losses into other comprehensive income is finessed.
- Correspondingly, the template does not report “net income.” With Earnings to Common Shareholders as the bottom line, there can be no other “net income,” with or without an “other comprehensive income” category. The demand for a summary number that excludes the typically transitory items in “other comprehensive income” is satisfied by the Forward-Looking Earnings number which, unlike net income, is exclusive of all transitory income.
- Preferred dividends are treated as a financing expense in the template, not a distribution of equity.
- Returns on pension assets are separated out from income from the business in the template, with expected returns differentiated from returns from marking pension assets to fair value.
- Interest on lease liabilities is a financial expense.

- Taxes are allocated to income components in the template. The Discussion Papers allocate taxes only to discontinued operations and “other comprehensive income.” With the clear distinction between comprehensive income and the equity statement, the template does not allocate taxes to the equity statement. In particular, taxes are not allocated to shares issued in exercise of stock options, for these are tax deductions for losses incurred from exercise of options (these are reported in the income statement).

The Cash Flow Statement

EXHIBIT 3. Statement of Cash Flows

CASH FLOW FROM BUSINESS OPERATIONS

Cash Flow from Current Operations

	<u>Cash Flow</u>	<u>Accruals</u>	<u>Income/Expense</u>
Sales to customers	X	X	X
Cash for goods sold	<u>X</u>	<u>X</u>	<u>X</u>
	<u>X</u>	<u>X</u>	<u>X</u>
Cash expended in gaining customers:			
Selling expenses	X	X	X
Administrative expenses	X	X	X
Other expenses	X	X	X
Taxes	<u>X</u>	<u>X</u>	<u>X</u>
Total	<u>X</u>	<u>X</u>	X

Net Cash Flow Generated from Customers

Cash flow from other sustainable income

Taxes

Sustainable Cash Flow from Current Operations

Cash flow from non-sustainable income

Cash flow from non-sustainable fair value income

Taxes

Cash Flow for Expensed Investments

(Detail)

Cash Flow Associated with Operating Income

Cash for Capitalized Investment in Operations:

Purchases of property, plant, and equipment

Acquisitions

Disinvestment

X X X

X X X

X X X

X X X

X X X

X X X

X X X

XX

X X X

XX **XX** **XX**

X

X

(X)

Net purchases of trading securities	X		
Net purchases of available-for-sales securities for operations	X		
Other (detailed)	<u>X</u>		
Total	<u>XX</u>		
Cash Flow from Continuing Operations	XX		
Cash flow from discontinued operations	<u>X</u>		
Cash Flow from Business Operations	<u>XX</u>		
CASH FLOW FOR FINANCING ACTIVITIES			
Cash Paid for Net Financial Expenses:			
Interest paid	X	X	X
Interest received	(X)	(X)	(X)
Taxes benefit on net interest payments	(X)	(X)	(X)
Preferred dividends paid	<u>X</u>	<u>X</u>	<u>X</u>
Total	<u>XX</u>	<u>XX</u>	<u>XX</u>
Cash Paid for Net Debt Transactions:			
Issue of debt	X		
Maturity and redemption of debt	X		
Purchase of financial assets	X		
Sales of financial assets	<u>X</u>		
Total	<u>XX</u>		
Cash Flow for Financing Activities	<u>XX</u>		
NET PAYOUT TO COMMON SHAREHOLDERS			
Common dividends	X		
Share repurchases	X		
Share issues	(X)		
Net Cash to Common Shareholders	<u>XX</u>		

Comments:

- Investments in cash equivalents and short-term debt investments (for a non-financial firm) are investments in financial assets.
- Purchases and sales of financial assets appear in the financing section of the statement, not the investing section.
- Interest paid and received are in the financing section, not cash from operations, and taxes are allocated to them.

4. Sustainable cash flow from business operations is identified.
5. The cohesion between the cash flow statement, income statement, and balance sheet (and between Net Payout to Shareholders in the cash flow statement and the equity statement) works only if the cash flow statement records “as-if” cash flows. That is, if an asset is purchased with the issue of debt (as in a capital lease transaction), the asset is recorded as a cash investment and the debt issue as a financing cash flow (as if cash were raised from the lease obligation and then used to purchase the asset). Similarly, acquisitions for stock are treated as an as-if issue of stock for cash, with the cash applied to the acquisition. If “as-if” cash flows are not reported, reconciliations must add a plug.

As indicated earlier, the statement can be reordered to highlight debt service, with no loss of information:

EXHIBIT 4. Statement of Cash Flows; Alternative Format to Highlight Debt Servicing**CASH FLOW FROM BUSINESS OPERATIONS****Cash Flow from Current Operations**

	<u>Cash Flow</u>	<u>Accruals</u>	<u>Income/Expense</u>
Sales to customers	X	X	X
Cash for goods sold	<u>X</u>	<u>X</u>	<u>X</u>
	<u>X</u>	<u>X</u>	<u>X</u>
Cash expended in gaining customers:			
Selling expenses	X	X	X
Administrative expenses	X	X	X
Other expenses	X	X	X
Taxes	<u>X</u>	<u>X</u>	<u>X</u>
Total	<u>X</u>	<u>X</u>	X
Net Cash Flow Generated from Customers	X	X	X
Cash flow from other sustainable income	X	X	X
Taxes	<u>X</u>	<u>X</u>	<u>X</u>
Sustainable Cash Flow from Current Operations	X	X	X
Cash flow from non-sustainable income	X	X	X
Cash flow from non-sustainable fair value income	X	X	X
Taxes	X	<u>X</u>	X
		<u>XX</u>	
Cash Flow for Expensed Investments	<u>X</u>		<u>X</u>
Cash Flow Associated with Operating Income	<u>XX</u>		<u>XX</u>
Cash for Capitalized Investment in Operations:			
Purchases of property, plant, and equipment	X		
Acquisitions	X		
Disinvestment	(X)		
Net purchases of trading securities	X		
Net purchases of available-for-sales securities for operations	X		
Other (detailed)	<u>X</u>		
Total	<u>XX</u>		

Cash Flow from Continuing Operations	<u>XX</u>		
Cash flow from discontinued operations	<u>X</u>		
Cash Flow from Business Operations	<u>XX</u>		
NET PAYOUT TO COMMON SHAREHOLDERS			
Common dividends	(X)		
Share repurchases	(X)		
Share issues	<u>X</u>		
Net Cash to Common Shareholders	<u>(XX)</u>		
Cash Available for Debt Financing Activities	<u>XX</u>		
CASH FLOW FOR FINANCING ACTIVITIES			
Cash Paid for Net Financial Expenses:			
Interest paid	(X)	(X)	(X)
Interest received	X	X	X
Tax benefit on net interest payments	X	X	X
Preferred dividends paid	(X)	(X)	(X)
Total	<u>(XX)</u>	<u>XX</u>	<u>XX</u>
Cash Flow from Liquidating Financial Assets			
Purchases of financial assets	(X)		
Sales of financial assets	<u>X</u>	<u>XX</u>	
Cash Available for Debt Service	<u>XX</u>		
Cash from debt issues	<u>X</u>		
Cash Applied to Debt Service	<u>XX</u>		

Comments:

- Cash Available for Debt Service in the statement is:

Cash Flow from Business Operations

- Net Payout to Common Shareholders

= Cash Available for Debt Financing Activities

- Cash Paid for Financial Expenses

+ Cash Flow from Liquidating Financial Assets

= **Cash Available for Debt Service**
- A firm with no financing debt totals the statement to net purchases of financial assets.

3. The statement is readily modified to explain the change in net debt, according to the second equation in Table 1. The modified statement has subtotals as follows:

Net Financial Liabilities, beginning of period

+ Net Financial Expenses

- Cash Flow from Business Operations after Net Payment to Shareholders

+ Cash Flow from Business Operations

- Net Payments to Common Shareholders

= Net Financial Liabilities, end of period

Financial liabilities can be broken out from financial liabilities in opening and ending balances, with net sales of financial assets reducing Financial Assets in the schedule and providing cash for the reduction of Financial Liabilities.

4. A further reconciliation can be made between the operating sections of the balance sheet, income statement, and cash flow statement according to the first equation in Table 1. Rather than explaining the change in Net Financial Liabilities, this reconciliation explains the change in Net Operating Assets. The reconciliation satisfies the objective in the Discussion Papers to report what causes the changes in reported amounts of individual assets and liabilities. As the change in Net Operating Assets = Operating Income – Cash Flow from Business Operations, further detail is provided by disaggregating these two components:

Net Operating Assets, beginning of period

+ Operating Accruals

+ Operating Income

- Cash Flow Associated with Operating Income

+ Cash for Capitalized Investment in Operations

= Net Operating Assets, end of period

Net operating assets, beginning and end, can be detailed to show how accruals and investments affect each item on the balance sheet. So, for example, the change in property, plant and equipment would be explained by added investment less the depreciation accrual, while the change in accounts receivable would be explained solely by the revenue accrual (unless there had been an acquisition). Some aggregation could be made; the detailing of the change in every line item is probably not necessary.

Comparison with the FASB-IASB Format:

Many of the differences with the Discussion Papers are due to the different way in which the income statement is presented. Here are to other major differences:

- The FASB-IASB cash flow statement does not distinguish cash flow for investing in the business from cash flow from operating the business. The template does so, maintaining the distinction currently made and used extensively in financial analysis. The template’s distinction enables a clear reconciliation between the cash flow statement, the income statement and the balance sheet.
- The template identifies cash flow from current operations distinct from those for investments that are expensed in the income statement.
- The template presents the reconciliation between the cash flow statement and the income statement clearly on the face of the statement. If a distinction between “accruals” and “re-measurements” is desired (as in the Discussion Papers), this is given by the separation of income from fair value accounting in both the cash flow statement and the income statement.
- The Discussion Papers confuse the generation of cash in operations from the disposition of cash (financing) by treating the investment in financial assets as part of the business (in their “Investing” section).
- The template does not total to a change in cash. Rather the change in cash is treated as an investment in financial assets. This corresponds to the balance sheet (in both the Discussion Papers and the template) where there are no assets outside the business and financing categories. Cohesion between the statements thus works.
- The template format yields a clean and more articulate cohesion between the component parts of the statements.
- The template clearly indicates cash going to different types of claimants, in particular, to the common equity holders.
- The cash flow statement in the templates clearly indicates cash flow for debt financing activities, with the Alternative Format being quite explicit.
- As in the income statement, taxes are allocated to components in the cash flow statement template. So, for example, it is clear how operating and financing activities affect tax payments.
- Reconciliation schedules (for net debt and net operating assets) are considerably more informative than the awkward reconciliation schedule in the Discussion Papers.

The Equity Statement

EXHIBIT 5. Statement of Common Shareholders' Equity

	<u>Issued Shares</u>	<u>Share Repurchases</u>	<u>Accumulated Earnings</u>	<u>Accumulated Dividends</u>	<u>Total</u>
Opening Balance	X	(X)	X	(X)	XX
Earnings to Common			X		XX
Net payout to Common:					
Dividends				(X)	(X)
Share repurchases		(X)			(X)
Share issues	X				<u>X</u>
					<u>XX</u>
Closing Balance:					
Dividends payable					X
Equity retained					<u>X</u>
Total	X	(X)	X	(X)	<u>XX</u>

Comments :

1. The number of shares associated with share issues and repurchases can be indicated.
2. If legal requirements demand, paid-in capital can be divided into par (stated) capital and additional paid-in capital, but these details complicate what is basically a very simple statement.
3. Share repurchases can be divided into shares purchased into treasury and shares retired from issued shares.

Comparison with the FASB-IASB Format:

- The equity statement in the template is a statement of common equity, excluding preferred stock and minority interests. Transactions in contingent equity claims are recorded in equity only on the issue or repurchase of shares in exercise of the claims.

- The statement clearly separates comprehensive income from net payout to shareholders and so reconciles directly to these totals in the income statement and cash flow statement. This cohesion ensures that component parts of the statements also cohere.
- Dividends payable are recognized as an equity claim.

TOOLS FOR USERS

The test of any design must be utilitarian, so how do the financial statement templates above help users? The design is implemented under an informational criterion, and many of its informational features have already been highlighted. Here we add to that list by pointing out the analytical tools that can be developed and applied simply by reading numbers off the financial statements (without the frustration of making adjustments).

- The rate of return for the business, $RNOA = \text{Operating Income} / \text{Net Operating Assets}$, is given immediately by subtotals in the income statement and balance sheet, as is the net borrowing cost = $\text{Net Financial Expense} / \text{Net Financial Liabilities}$. Because operating activities are cleanly separated from financing activities, the statements report clean measures of the profitability of both; the cohesion between the financial statements means that the numerators are appropriately compared to denominators that include all (and only all) balance sheet items that generate the numerator. Accordingly, the RNOA measure of operating profitability is not corrupted by the inclusion of financing items and the measure of financing cost similarly maintains integrity. Performance reporting and stewardship accounting is thus enhanced.

The efficacy of the profitability measures is seen in comparison of RNOA to the more common return on assets (ROA). ROA, based on total assets, includes the Financial Assets that are not part of the business operations (but rather for storing excess cash generated by the business). It also excludes operating liabilities in the denominator: a firm with \$100 million in inventory and \$100 million in accounts payable has a net zero investment in inventories. The implicit cost of the accounts payable borrowing—suppliers charge more to cover the cost of the credit provided—is in the inventory cost (in cost of goods sold) and thus in the numerator of the profitability measure. As ROA mismeasures operating profitability because it includes financing activities, so the corresponding measure of net borrowing costs (that now excludes these activities) is also mismeasured.

- The amount of financial leverage is read directly from two subtotals on the balance sheet: financial leverage = Net Financial Liabilities/Common Shareholders' Equity. This differs from a debt/equity ratio that includes operating debt and does not include the netting effect on debt of Financial Assets. Total debt is, of course, relevant for credit analysis, but even there the debt needs to be graded. In valuation it is important to distinguish leverage that comes from the financing of operations from that which arises in operations. The former typically does not generate value whereas the latter potentially does because it is inherent in the pricing of sales to customers and purchases from suppliers—those prices depend on credit terms.
- The “clean-surplus” profitability measures, RNOA and net borrowing cost based on the clean-surplus equations for the operating activities and financial activities in Table 1 that total to the clean-surplus relation for common equity. Accordingly, the return to common equity, ROCE = Comprehensive Income/Common Shareholders' Equity can be broken down (cleanly) into the operating component and a financing component given by a leveraging equation:

$$\text{ROCE} = \text{RNOA} + [\text{Financial leverage} \times (\text{RNOA} - \text{Net borrowing cost})]$$

This equation works as an analytical device if (and only if) Operating Income and Net Financial Liabilities are appropriately identified and the reconciliation between financial statements conforms to the three equations in Table 1. The equation shows that ROCE is determined by the profitability of business operations, RNOA, levered up by financial leverage, where the amount of the leverage effect is determined by the amount of financial leverage and the spread of RNOA over the net borrowing cost. A financial statement presentation that blurs the distinction between operating and financing activities not only leads to an incorrect assessment of operating profitability, but also of the effect of leverage. The latter is important, of course, because it not only levers ROCE but also adds risk in doing so: risk is the chance that leverage will turn unfavorable, with $\text{RNOA} < \text{Net Borrowing Cost}$ in the expression. But the unfavorable leverage condition can only be detected (and modeled in proforma) with the appropriate accounting classifications.

- The components of these profitability ratios are immediately clear from the disaggregation of subtotals. RNOA can be broken down into components by comparing components of operating income to the corresponding components in the balance sheet. So, for example, operating income not coming from fair-value net assets can be compared to net operating assets in the balance sheet that are not fair-valued, to understand the profitability of that part of the business. Fair value income can be compared to the

corresponding fair value net assets in the balance sheet to yield the rate of return on those assets. Pension income can be compared to pension assets to measure the success of the pension portfolio.

- With Operating Income from Sales separated from operating income not from sales, a clean profit margin can be calculated to communicate the contribution of sales to earnings (uncontaminated by income that is not from sales to customers).
- The standard “DuPont Decomposition” of profitability, applied to RNOA rather than ROA, now works cleanly. A clean profit margin measure is immediate and this measure can be divided into profit margin from sales and that from income not coming from sales. The asset turnover in the decomposition is now sales relative to the clean number for net operating assets in the business. The disaggregation of subtotals provides further information about the drivers of profit margins and asset turnovers.
- The income statement indicates the components of RNOA and the net borrowing cost that are sustainable – they forecast the future – and those which are to be stripped out in getting estimates for next year’s numbers (that are relevant for valuation). Thus a measure of sustainable RNOA is immediate (as in a measure of sustainable ROCE from the financing leverage equation).
- For proforma forecasts of future cash flow from the business, an analyst does not have to forecast cash flows directly. Once pro forma income statements and balance sheets are modeled, forecasts of Cash Flow from the Business Operations (free cash flow) falls out of the accounting: from the reconciliation for operating activities in the first equation in Table 1,

Cash flow from Business Operations = Operating Income – Change in Net Operating Assets

That is, cash flow is determined by earning Operating Income less the amount invested back into Net Operating Assets. Typical calculations that analysts use to calculate and forecast free cash flow (such as EBITDA minus “cap. ex.”) are clumsy and often leave considerable components out. (Compare cap. ex. in property, plant and equipment in the Balance Sheet Template with the total of all Net Operating Assets). With the proposed design, nothing can be left out, thus yielding a number for free cash flow with both ease and integrity. This, of course, is not only important to the equity analyst wishing to forecast future cash flows, but also means that the accounting satisfies the often-stated objective of forecasting future cash flows. The utility to the credit analyst and corporate treasurer trying to forecast cash flows from the business to cover debt payments is clear.

- The alternative form of the cash flow statement speaks directly to the corporate treasurer’s financing task and provides the template for forecasting future financing requirements. This template, in its

modified version, also explains the change in net indebtedness. The credit analyst is also well served by the presentation.

- The effect of accruals on income is immediately clear from the reconciliation of cash flows and accruals in the cash flow statement design. This is important to the analyst seeking to evaluate the quality of earnings by examining estimated accruals.
- Forward-looking (sustainable) earnings are identified. Its components are those that an analyst would forecast to predict forward earnings and a forward P/E ratio. Accordingly, the financial statements and analysts' forecasts focus on the same number and the reconciliation of analysts' forecasts to actual numbers (their forecast errors) is easily conveyed.

In short, the proposed design facilitates a financial analysis spreadsheet where numbers enter directly from financial statements and the relevant diagnostics arise from the spreadsheet with the press of a button. Financial reporting thus leads appropriate financial statement analysis for profitability analysis, performance assessment, and valuation.