THE UNIT OF ACCOUNT ISSUE

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1 INTRODUCTION AND OVERVIEW

This paper discusses what is termed the “unit of account” issue. The unit of account is a fundamental, pervasive, and yet unresolved, issue in financial accounting and reporting. Despite its prevalence, the issue is neither widely recognized nor well understood. We first provide a description of the issue as it is discussed in this paper.

The basic concept involves determination of when financial items should be aggregated (or combined) and when they should be disaggregated. Financial items are transactions, other events, or circumstances that affect the reporting entity, and the assets and liabilities (and changes in them) that result from those transactions, other events, or circumstances.¹

However, before we discuss the accounting implications of the unit of account issue, we want to stress that the underlying concept is economic. In order to assess the appropriate unit of account, it is necessary first to assess the unit of economic analysis. That is, we must understand the economics of the transaction, event, or circumstances before we can determine how to represent the economics in accounting terms.

One difficulty in identifying the unit of economic analysis is determining what criteria should be applied to the financial item under consideration in order to analyze it appropriately in its entirety and in isolation of other financial items. Even if one argues as a starting point that there should be no aggregation, that each financial item should be considered separately, one faces the issue of determining the boundaries of the financial item; that is, at what point does the financial item begin and at what point does it end? Economic principles do not provide direction on this issue and so it is not surprising that FASB Concepts Statement No. 6, Elements of Financial Statements, does not establish the boundaries of any single transaction, other event, or set of circumstances, nor of any single asset or liability, or change in them. As a result, a basis for

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* I would like to thank Mark DeFond, Frank Gigler, Pat Hopkins, and Linda Vincent for helpful comments and suggestions. The views expressed in this paper are those of the author and do not represent positions of the Financial Accounting Standards Board. Official positions of the Financial Accounting Standards Board are arrived at only after extensive due process and deliberation.

¹ FASB Concepts Statement No. 6, Elements of Financial Statements, (paragraphs 135-137) uses the terms ‘transactions and other events and circumstances affecting an entity’ to describe the sources or causes of changes in assets, liabilities, and equity or net assets. An event is an internal or external happening of consequence to an entity. A transaction is a particular kind of external event, namely, an external event involving the transfer of something of value (future economic benefit) between two (or more) entities. Circumstances are conditions or sets of conditions that develop from an event or a series of events, which may occur almost imperceptibly and may converge in random or unexpected ways. Concepts Statement 6 also defines ten interrelated elements of financial statements: assets, liabilities, equity, investments by owners, distributions to owners, comprehensive income, revenues, expenses, gains, and losses. They represent certain entity resources, claims to those resources, and the effects of transactions and other events and circumstances that result in changes in those resources and claims.
establishing criteria for either aggregation or disaggregation of financial items does not currently exist.

This paper reviews the (quite limited) academic, professional, and authoritative literature that addresses the unit of account issue or aspects of it, although not always by name. The paper begins by describing the nature of the unit of account issue to facilitate a common understanding of the problem as we address it. The paper then illustrates the unit of account issue and its pervasiveness by means of examples and notes some of the inconsistencies in how the unit of account is dealt with by accounting today. Next, the paper considers the difficulties experienced in addressing the unit of account issue. The paper closes by describing the approach that will be used at this conference to structure the study of the unit of account issue.

2 THE UNIT OF ACCOUNT ISSUE

There are three aspects to the unit of account issue: definition, recognition, and presentation. We focus in this paper on the definition and recognition aspects.

The first references to the unit of account problem that we identified date to the middle 1960s. Various authors have taken different perspectives on the problem in the academic and professional literature. Some, such as Devine (1985) and Gellein (1984), considered the issue principally in the context of cost allocations. Others, such as Ijiri (1969), Larson and Schattke (1966), McKeown (1972), Sterling (1979), and Thomas (1969), considered the issue principally in the context of discussing particular valuation models, such as net realizable value or exit value, or in comparing alternative valuation models. They focused mainly on what they described as “additivity” or “aggregation.”2 Of those cited, Devine, Gellein, and Sterling explored the issue more extensively than the others and this paper reviews their contributions.

Carl Devine (1985) devoted one of his many essays on accounting theory to what he described as the “unit problem.” In that (undated) essay, he states:

This essay examines some accepted recognition and measurement conventions and some of their alternatives. We begin with the old, but important, procedural problem: whether to select small units and aggregate them so long as they prove to be useful or select a large unit and use imputation devices until interest wanes. (p. 2)

Many of the arguments and controversies in accounting result from undisclosed differences in points of view with regard to the accountability units selected. Economists have often considered a business organization, or even an industry, to be a monolithic structure with its components highly synchronized as to objectives and motivation. The accountant, burdened with problems of measurement and reporting, has been less rigid and has generally directed his measurement conventions to parts of the organization that seem manageable and has assumed that the result may be aggregated for the entire organization. (p. 2)

2 Let $V(x)$ be the value (however defined) of $x$. Additivity holds when, as an example, $V(A) + V(B) = V(A+B)$. Nonadditivity is illustrated by Larson and Schattke as when the sum of the amounts that can be received for assets sold separately differs from the amount that would be received if the assets were sold as a group. In other words, additivity implies that the whole is equal to the sum of the parts.
The accounting difficulties that accompany the overall enterprise view are imposing, but any atomistic view encounters special difficulties of its own. That consideration of each individual asset apart from any surrounding support is inadequate has long been understood by accountants and economists alike. These classical (atomistic) accounting conventions mean, of course, that the going value of the organization may be far in excess of the sum of the numbers assigned to the parts. The economic rents are neglected individually and are imputed to the organization. In this case, the whole is obviously greater than the sum of its parts. (p. 4)

Going back further into economic history, Ronald H. Coase (1937) asks when it makes economic sense for firms to enter into complex contracts (e.g., long term contracts that involve many contingencies) versus simple contracts. Coase based his theory of the firm on transaction costs. That is, firms emerge in order to minimize transaction costs and they accomplish this through contractual arrangements. In other words, managers organize the exchange of goods and services and the property rights assigned to each party in the exchange in ways that minimize the total costs of the transactions. Multiple types of costs, often moving in opposite directions, bear on the form of the contract. Examples of these costs include price discovery—which includes the cost of information gathering, of measurement, and of negotiation—and agency costs. Coase recognized the difficulty of delineating boundaries in his attempt to define the firm. Consistent with the problems posed by the unit of account issue, Cheung (1983) states that “[t]he important questions are why contracts take the forms observed and what are the economic implications of different contractual and pricing arrangements.” (p. 18)

In informal discussions with FASB staff members over 20 years ago, former FASB (and APB) Board member Oscar Gellein described the unit of account issue as the “portfolio problem,” and noted that it raised questions of “how big is an asset?” and “how broad is a liability?” In a later article (1984), he described the issue as involving what the “boundaries of an asset” are and framed it as the “asset grouping question.” In that article, he notes that the accounting consequences of grouping decisions can be significant:

Financial statements can be affected materially by the extent of asset grouping. The effects of the grouping manifest themselves in two ways. First, through the effects of averaging and, second, through the recognition of some upward changes in value. (p. 42)

From the perspective of the FASB’s Conceptual Framework, the unit of account issue may be described generally as how the definitions in FASB Concepts Statement No. 6 (1985) should be applied in recognizing particular items in the financial statements (assuming that all of the other recognition criteria have been met). Specifically, how should the definitions of assets and liabilities be applied in the course of recognizing particular items as assets or liabilities in the financial statements? The other elements of financial statements defined in Concepts Statement 6 are all based on these definitions. For example, revenues are defined in terms of increases in assets or decreases in liabilities, and expenses are defined in terms of decreases in assets or increases in liabilities. Asking the general question of how the definitions of assets or liabilities should be applied gives rise to another, more specific question: what is the precise nature of the asset or liability that is to be recognized? That question is at the core of the unit of account issue and addresses the fundamental economics of the financial element.
Distinguishing the Unit of Account from the Unit of Measure

The term “unit of account” does not appear in the conceptual framework, although the term “unit of measure” does, and both terms appear in accounting standards. However, because unit of measure and unit of account are sometimes treated as synonyms, we discuss the distinction between the two terms next.

The Unit of Measure in the FASB’s Conceptual Framework

The FASB Discussion Memorandum, An Analysis of Issues Related to Conceptual Framework for Financial Accounting and Reporting: Elements of Financial Statements and Their Measurement (1976), a publication that preceded the FASB’s Concepts Statements, describes the unit of measure in terms of the monetary unit to be used; that is, whether it should be nominal units of money as opposed to units that are adjusted for changes in purchasing power over time (paragraphs 384-7). FASB Concepts Statement No. 1, Objectives of Financial Reporting by Business Enterprises (1978), and Concepts Statement 6, mention unit of measure but do not define or describe it. FASB Concepts Statement 2, Qualitative Characteristics of Accounting Information (1980), uses the term without defining it but discusses it in the context of making comparisons based on units of money or units of invariant purchasing power (paragraph 114). FASB Concepts Statement No. 5, Recognition and Measurement in Financial Statements of Business Enterprises (1984), describes the unit of measure in terms of nominal units of money or units of constant purchasing power, and then further describes it in terms of artificial monetary units3 or units of a commodity, such as ounces of gold (paragraph 71).

In the FASB’s conceptual framework, therefore, unit of measure refers to the numerals used in accounting measurement, in conjunction with recognition in financial statements or with disclosure in the notes to the financial statements. More specifically, it refers to the measurement unit (such as nominal dollars or price-level adjusted dollars), as opposed to the measurement attribute (such as historical cost or fair value).

In contrast to the numerals that are used to measure an item, the unit of account refers to the words that are used to describe the item. That is, it relates to the specific assets and liabilities that are reported in financial statements rather than the units used to measure them. That is, unit of account refers to the object of recognition or display whereas unit of measure refers to the tool for measuring it.

The Unit of Measure in Accounting Standards

Unit of measure appears in several accounting standards. Those standards generally use the term in a manner that is consistent with its use in the Concepts Statements.

For example, FASB Statement No. 19, Financial Accounting and Reporting by Oil and Gas Producing Companies (1977), discusses converting oil and gas reserves and oil and gas produced to a common unit of measure based on their relative energy content (paragraph 38). FASB Statement No. 52, Foreign Currency Translation (1981), uses the term in its Basis for Conclusions and defines the term in its glossary as “the currency in which assets, liabilities, revenues, expenses, gains, and losses are measured.” These uses of the term are consistent with the general meaning of the term in the Concepts Statements.

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3 The illustration that Concepts Statement 5 provides is that of the European Currency Unit or ECU.
However, FASB Statement No. 115, *Accounting for Certain Investments in Debt and Equity Securities* (1993), uses unit of measure in its Basis for Conclusions when it should have used unit of account:

The Board also was unable to agree on how deposit liabilities of banks and thrifts should be valued. Some Board members believe that the fair value of a deposit liability should be based on the terms of the obligation, that is, if the deposit is payable on demand, the fair amount cannot be less than the amount that could be withdrawn. That amount represents the settlement amount with the counterparties and is also consistent with the Board’s decision in Statement 107 that the *unit of measure* for financial instruments generally should be the individual instrument rather than the portfolio. Other Board members would anticipate the depositor’s probable forbearance in exercising its right to withdraw the funds on deposit; thus, in their view, the fair value of the deposit liability should be based on the probable timing of the expected future cash outflows— which essentially incorporates the institution’s core deposit intangible into the valuation of deposit liabilities. The value associated with the probable timing of those expected cash flows is currently recognized in purchase business combinations, but as an intangible asset. (paragraph 52, emphasis added)

The unit of account issue has been recognized by both accountants and economists for some time. However, neither group has proposed a set of criteria or other approach for addressing the issue, not to mention, resolving it.

### 3 EXAMPLES OF THE UNIT OF ACCOUNT ISSUE

Present-day accounting is replete with examples of the unit of account issue. However, accounting standards in which the issue arises generally do not specifically acknowledge it even when they provide guidance that implicitly establishes or suggests a particular unit of account. Moreover, the guidance differs from standard to standard.

The unit of account that is used for balance sheet reporting purposes generally is the same as that used for income statement reporting purposes. For example, if two assets are combined and treated as a single asset (or if an asset and a liability are combined and the net is treated as a single asset or liability) in the balance sheet, the revenues associated with those items are generally combined, as are the expenses (or the gains or losses are combined and treated as a net gain or loss) in the income statement.

However, in some instances, the unit of account used for balance sheet purposes differs from that used for income statement purposes. For example, if two assets (or an asset and liability) deemed to have a relationship to one another are treated as separate assets (or as an asset and liability) in the balance sheet, their income statement counterparts may be combined with one another. Thus, their revenues may be combined, as may be their expenses. Alternatively, if the items have gains and losses rather than revenues and expenses, the gains and losses may be offset against one another, and only a net gain or net loss is reported. In other words, there is no reliably consistent treatment.
Depreciation

One of the more frequently cited examples concerns what unit of account should be used for purposes of recording depreciation. In *Toward a Science of Accounting* (1979), Robert R. Sterling uses depreciation to illustrate the issue:

The nature of the problem can be most easily understood by casting it in familiar terms of historic-cost depreciation. Prior to calculating depreciation we must decide what constitutes the account category. In broad terms we have the choice of component depreciation, unit depreciation, or group depreciation. Textbooks provide us with examples of depreciating the components of assets as opposed to depreciating the assets as a whole. Textbooks also provide examples of depreciating groups of assets as opposed to depreciating the individual assets. Convenience considerations often lead us to group depreciation. Obviously, the three different methods result in different depreciation expenses and in different historic costs being reported on the balance sheet.

The problem is that there is no apparent way to decide which method to use. We are free to categorize the asset as a component, as a unit, or as a group. That is, we can establish accounts for components, units, or groups. In attempting to describe what practicing accountants do (as opposed to prescribing a preferable rule), I have previously suggested that the usual method of purchasing dictates the categories. For example, if a firm purchases chassis and engines, it usually will establish account categories of “chassis” and “engines” and will employ component depreciation. If it normally purchases individual automobiles, it will establish categories of “automobile #1” and “automobile #2” and will employ unit depreciation. If it purchases fleets of automobiles, the account category will be “fleet” and group depreciation will be employed. But this is a description, as opposed to a solution, and tax and convenience considerations may result in it being breached as often as it is observed. Moreover, it does not even begin to describe the possibilities. We could break it into finer categories of nuts, screws, bolts, and the like. Or we could utilize broader categories. Instead of establishing an account for fleets of automobiles we could establish one for automotive equipment which would include automobiles, trucks, semi-trailers, and the like. Or we could utilize a still broader category which would include fork lifts, front loaders, and the like. It is conceivable to have a very broad category entitled “plant and equipment” which would include everything except current assets. There are examples of such broad accounts found in practice albeit they are rare.

What is the appropriate category? If the same asset and expense figures were obtained from employing different categories, e.g., if the sum of unit depreciation were equal to the group depreciation of the same units, there would be no problem. But the figures are different and therefore the selection of categories is a type of additivity problem in historic-cost accounting. (pp. 171-2)

Gellein (1984) notes that the unit of account issue extends beyond the amount of depreciation expense that is recognized, stating “grouping depreciable assets results in an averaging of costs of property for purposes of determining periodic depreciation and at the same time can affect the amount and timing of provisions for impairments and gains or losses at the time of sale or retirement” (p. 42).
Devine (1985) adds yet another perspective on depreciation in stating:

The replacement (renewal) approach to the depreciation problem is based on the assumption that there is no decline in value of a well-maintained complex of plant assets. For a continuing firm with an indefinite future and expected demand sufficient to make continuing in business worthwhile, a seasoned plant, viewed as a single business good, is not subject to decline in value and to depreciation. Railroad managers, for example, argue either that there is no decline in value in a well-maintained roadbed or that the life of such a roadbed is so long that any periodic writeoff would be negligible.

A little reflection will show that this view rests on the assumption that the unit for depreciation is the entire plant or class of assets. If a smaller unit—say the individual rail or the annual batch of ties—is taken, decline in value becomes obvious. depreciating individual assets on a service (or value) basis results in allowances of approximately one-half the base figure for a seasoned plant. If all plant assets are treated as a single service potential and if the plant is assumed to be a continuing service potential instead of a series of piecemeal liquidations, there is no required writedown to reflect service expiration or value decrease and therefore no depreciation on the basic facilities. The implications of this shift to a larger unit of accountability are not traced in detail at this point. Clearly these implications might have some effect on early utility rates, reported earnings during the formative period of any business, total assets, earnings related to investments, fund mobility within the firm and between the firm and outside, taxes, and even replacement policies. (p. 6, footnote reference omitted)

**Inventory Impairments**

The impairment of inventory assets is addressed in Accounting Research Bulletin (ARB) No. 43, *Restatement and Revision of Accounting Research Bulletins* (AICPA, 1953). Statement 7 of Chapter 4 provides guidance in applying the lower of cost or market rule to inventories, as follows:

Depending on the character and composition of the inventory, the rule of *cost or market, whichever is lower* may properly be applied either directly to each item or to the total of the inventory (or, in some cases, to the total of the components of each major category). The method should be that which most clearly reflects periodic income. (emphasis in original.)

Applying the rule to individual items of inventory, major categories of it, or the inventory as a whole can, of course, produce sharply different amounts of assets and net income. The overall criterion in ARB 43 for determining the unit of account in that context is to most clearly reflect periodic income, but that criterion provides no guidance. Indeed, Gellein notes that “[n]o one would seriously recommend an unclear reflection” (p. 43).

ARB 43 also notes that if there is only one category of product, applying the rule to the inventory as a whole is preferable, but if there are several categories, applying the rule by major categories is preferable. ARB 43 further indicates that applying the rule on an item-by-item basis may not be useful unless selling prices are affected by temporary fluctuations in current costs. Thus, the guidance in ARB 43 suggests that different units of account would be appropriate in
different cases. However, Gellein observes that “[i]t is difficult to see a thread of logic running through those criteria, except possibly the notion that to recognize all downward changes in current cost, but to ignore all upward changes often is too conservative” (p. 43).

Devine, too, points to inventory impairments as another example of the unit of account issue. In that regard, he states:

It should be clear that the major changes in income that result from varying the size of the unit arise because of the differences in requirements for recognizing gains and losses. If cost or market is applied to individual units, the increased prospects of those items that increased in value are not offset against the decreased prospects for those items that have suffered a decline. Thus the prospects for the entire stock may have increased while accountants who follow item-by-item cost or market stubbornly insist on the recognition of an inventory loss in the form of a writedown to market and at the same time insist on more rigid tests for recognizing gains. They find the evidence adequate to support a loss but not sufficient to support recognition of a gain.

Application of cost or market to the entire stock of goods permits the offsetting of individual value increases against decreases, and so long as the value of the entire inventory asset has not decreased no inventory loss is taken. Only the area covered in appraising the prospects has been changed—the unit to be measured has been shifted—yet in the one case a loss is indicated and in the other case status has been maintained. If the rules for both loss and gain recognition were identical, it would be a matter of indifference whether cost or market is applied to individual units, classes of stock or to the entire inventory. If the unit is widened until it coincides with the firm itself, no amount of damaged stock, receivables, buildings, etc., whether from fires or any other reason would result in a loss so long as the total prospects of the firm have not decreased. (p. 9)

Although we do not focus on presentation issues, the following quote from Devine (1985) provides an example, in the context of inventory impairments, of how unit of account affects how items are presented or displayed in the financial statements as well.

The unit controversy is also a part of any discussion about the desirability of burying inventory losses in merchandise cost of sales. If the inventory process is thought of as a method for the assignment of cost of goods available for sale to revenues and to future periods, the pool of costs may be assumed to be one unit, and the declines in value of the unsold units may be combined with the obvious decline in utility of those that were sold. A separation of the two elements may be considered to be desirable because of the evidentiary difference, but there is certainly no serious objection to the assumption of the broad unit of income accountability. Accountants sometimes insist that value declines on units unsold should not be combined with the cost of units that were in fact sold. If so, they are insisting on the use of the individual item of inventory as the accounting unit. Of course, there are all kinds of differences between units that are on hand and those that have been sold, but we are interested primarily in their value changes. A unit may lose value long before it is sold. Accountants may wish to give recognition in some manner to decline in value due to sale and due to other considerations. Thus it may seem to be desirable to separate the cost of goods available into two or more portions. (pp. 9-10)
Another frequently cited example of the unit of account issue is in the context of accounting for oil and gas production. In that regard, the two primary methods of accounting are the full cost method and the successful efforts method. Central to the difference in those two methods is what the unit of account is deemed to be.

With respect to this issue, Devine (1985) states:

An extension of the unit problem is also found in the oil industry where it is common to find dry holes that in themselves as individual units are of negligible benefit to anyone. Accountants for tax and reporting purposes have long been accustomed to adding the cost of a normal amount of dry holes to the cost of the producing wells. Looked at from the point of view of the individual drilling effort, the cost is a clearcut loss! However, if the unit is enlarged to the entire operations of a firm, the same costs may be construed as an asset! (p. 8)

Needless to say, those differences in the unit of account can produce financial statement information that differs markedly.

Gellein (1984) observes that “[t]he controversy involving the full costing method and the successful efforts method of accounting for oil and gas properties is closely tied to the grouping question in all of its aspects—that is, recognition of amortization, impairments, costing of sales, and even the identification of the asset whose cost is to be allocated.” He adds:

The two methods differ sharply on the extent of asset grouping. Under the full-costing method, the hydrocarbon deposits within a large geographical area are grouped and treated as a single asset for amortization, impairment, and sales accounting purposes. Further, the cost of that single asset can manifest cost prices over long spans of time. This might be said to be an example of the ultimate in grouping. The potentially significant differences in the effects on periodic income of the grouping under the full-costing method and successful-efforts method are well-known. Under the strictest form of successful-efforts accounting, the well may be the individual asset and the validity of any grouping would be judged by comparing it with the results of accounting for individual wells. Under other forms, a single property on which there are one or more wells may be the individual property. Under the full-costing method, the asset would be a composite of all (at least those proved) hydrocarbon deposits in a large geographical area. (p. 43)

However, he also observes an important distinction between the two methods that is not often noted. In that regard, he states that “[t]he full costing method assumes that underground hydrocarbon deposits are the asset whose cost is to be allocated. The successful efforts method, at least the one described in Financial Accounting Standards No. 19, views the assets comprising an oil- and gas-producing system, including lifted oil and gas, but not those underground, as the assets whose costs are to be allocated” (p. 43).

Sterling (1979) uses an example that he describes as “an extreme case” to highlight the question of the assets to be accounted for (pp. 219-22). In that case, an oil explorer expends $1 million for a drilling rig in the middle of the Sahara Desert. However, the cost of dismantling and transporting the rig from the desert to a market where it could be sold equals or exceeds the price that could be obtained for it in that market following its removal. Thus, from an exit value
perspective, the rig has a zero value. However, he observes that, under historic cost accounting, many accountants consider it “absurd” to value the rig at zero, yet they have no qualms about not reporting the deposit, even if oil is discovered, which is equivalent to valuing it at zero. Thus, the focus on costs confuses the bigger question of the asset to be accounted for.

In the context of oil and gas accounting, Sterling suggests the array of possibilities in stating:

Within the historical-cost method there are several thousand submethods which would result in different values and different incomes. The cost of the rig could be depreciated while drilling is going on or it could be deferred until drilling is completed. If the hole is dry, the deferred cost of the rig could be expensed immediately or it could be amortized over time or over other discoveries. If a deposit is discovered, the deferred cost of the rig could be depleted over the quantity in the well, or it could be added to other costs and depleted over the quantity in a field. (p. 221)

Multi-Element Contracts

Contracts and contractual rights and obligations provide further illustrations of the unit of account issue. For example, AICPA Statement of Position 81-1, Accounting for Performance of Construction-Type and Certain Production-Type Contracts (SOP 81-1), permits reporting entities to aggregate contracts that are so closely related that they effectively are parts of a single project with an overall profit margin. Among the criteria in SOP 81-1 for what it calls “combining contracts” is that the individual contracts were negotiated as a package with an overall profit margin objective, even though the individual contracts may have different margins. Thus, the contractor’s intent of securing an overall profit margin plays a role in determining what the unit of account should be.

Conversely, SOP 81-1 also permits reporting entities to disaggregate individual contracts or a group of contracts that include several elements or phases. Among the criteria for what SOP 81-1 calls “segmenting contracts,” the contractor must have negotiated each of the elements or phases separately with the same customer and agreed to perform each element without regard to the performance of the others. As a result, elements or phases of a contract may be accounted for as having different profit margins than would have been the case if the contract been accounted for as a whole.

Given that the contracts can be separated, a question is whether the customer would have purchased separate contracts. If not, can we make valid inferences about the underlying economics of the separate components?

Hedge Accounting

Hedging relationships provide many examples of the unit of account issue. “Hedge accounting” is a special accounting treatment that is based on the presence of a relationship between items that otherwise would be accounted for differently. Hedge accounting illustrates circumstances in which different assets or assets and liabilities may be recognized separately for

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4 In that regard, he notes that “[i]t turns out that exit values of deposits are relatively easy to determine. Oil companies regularly buy and sell deposits or fractions of deposits (called participating units); therefore, the market, albeit far from perfect, is well established and the prices are known within relatively narrow limits” (fn. 2, p. 221).
purposes of balance sheet reporting, but the timing of the recognition of gains and losses on them is modified so that they are recognized in the same accounting period. Such is the case with fair value hedging for certain hedged items and hedging instruments under FASB Statement No. 133, *Accounting for Derivative Instruments and Hedging Activities* (1998).

An example is a reporting entity that carries its inventory at the lower of cost or market and enters into a fair value hedge of that inventory by acquiring a derivative to hedge it. If the fair value of the inventory subsequently increases and the fair value of the derivative decreases by a corresponding amount, by applying hedge accounting, both the gain on the hedged item and the loss on the hedging instrument are recognized in the same accounting period. However, if the reporting entity had not designated the derivative as a hedge of its inventory, the gain on the inventory would not have been recognized until the inventory was sold, but the loss on the derivative would have been recognized immediately.

**Summary**

In addition to illustrating the unit of account issue, the foregoing examples illustrate inconsistencies in how the unit of account is applied in financial reporting. That is, different reporting entities may use different units of account in:

- depreciating similar or identical assets
- applying the lower of cost or market rule to inventories
- accounting for oil and gas production
- accounting for long-term construction contracts
- accounting for contracts that are designated as hedged items or hedging instruments.

The approach to the unit of account issue has been piecemeal to date, driven by concerns over specific transaction types rather than by a more general concern about the identification of boundaries issue. Given the lack of a conceptual basis for dealing with the unit of account issue, it should not be surprising that practice is varied. However, given the long-standing nature of the issue and its prevalence, it is interesting that the issue has not been addressed broadly and conceptually.

**4 ADDRESSING THE UNIT OF ACCOUNT ISSUE**

The above examples are representative and meant to illustrate the pervasiveness of the unit of account issue but they are by no means exhaustive—many more examples could be cited. However, as pervasive as the unit of account issue is, the solution has been equally evasive.

Sterling (1979) succinctly describes the issue as being “intractable.” He concludes that:

> [t]he categorization problem plagues all of the valuation methods…I freely admit that exit values suffer from this problem. I also admit that I have no solution…It

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5 For example, current accounting regulations recognize the conversion feature of convertible debt as equity, separate from the debt, only if the conversion feature is in the form of a detachable warrant. Hence the form of the contract, rather than its economic substance, determines the unit of account.
is a problem common to all valuation methods proposed to date. My only
defense is that when the categorization or aggregation problem is considered, exit
values fare no worse than the other valuation methods. (pp. 172-3).

Like Sterling (1979), Gellein (1984) offers little in the way of suggestions as to an approach
to addressing the issue. Indeed, early in his article, he acknowledges that “[f]ew solutions are
offered, but some key questions are posed. Perhaps the way is pointed toward additional research
and study and, ultimately, formulation of guidance in dealing with some troublesome aspects of
cost allocation” (p. 41).

However, Gellein suggests that:

Resolution of the asset grouping problem starts with identification of the central
purpose of accrual accounting. That purpose has been characterized from two
perspectives:

• Periodic income is the result of matching costs with the revenue of the
  period, or
• Periodic revenue manifests the change in net assets during the period after
  considering the effects of transactions with owners.

In the minds of some, those two perspectives are simply different ways of
looking at the same phenomenon. In the minds of others, they are different ways
of looking at different phenomena. (p. 41)

He suggests that the problem is inherent in a transactions-based accounting model.

Gellein also observes that the inconsistencies in asset grouping reflect uneven attempts to
overcome perceived flaws or weaknesses in the historical cost model. He states that “[s]ome
perceive a weakness that manifests itself in volatility that is not ‘real.’ Grouping of assets, by
reason of its averaging effect, mitigates volatility of periodic income. Some perceive a weakness
in that the model is too conservative because it ignores upward changes in value until those
changes are manifested in a transaction but requires downward changes to be taken into account
before they are manifested by a transaction. Grouping assets gives recognition, of course, to
some upward changes” (p. 46).

However, he is critical of using the unit of account as a means of addressing those flaws or
weaknesses, stating that “to take steps like that, which are indirect ways of dealing with perceived
weaknesses, amounts to putting patches on the model” (p. 46). Instead, he suggests that a better
approach would be to tamper with the model as little as possible by using supplemental
disclosures as a means for overcoming the perceived weaknesses. Nevertheless, he acknowledges
that those disclosures may at some point overwhelm the financial statements themselves, thereby
indicating a need to change the accounting model for those statements.

Like Sterling and Gellein, Devine offers little in the way of answers to the unit of account
issue:

What conclusions may be made in regard to the selection of units for
measurement? Are accountants hopelessly inconsistent because they do not
select a uniform unit and stick with it? Is there help from related fields and
disciplines? The answers here, as elsewhere in accounting, are not very
satisfying. We select the units that yield the greatest benefit to worthy users and are amenable to classification and measurement. In many cases the individual stock of inventory or the individual plant asset is the most useful unit for control against theft, for control of maintenance and upkeep. For income calculations the appropriate unit would seem to be the larger alternative—even the firm itself—if measurement can be found directly and not found by aggregating smaller units. For liquidity purposes the unit may be fairly large. (Usually the firm may be influenced by legal relationships not appropriate in other connections.) The claims may operate against individual assets or sometimes against more than one accounting entity. (p. 213)

Devine concludes that “[w]e may need to look longer and harder at the parties at interest, their areas of decisions, their reaction patterns, and their needs. This kind of scrutiny combined with knowledge of our measurement limitations may lead to a more useful profession” (p. 213).

In other words, to date there has been little progress in identifying an approach to addressing the unit of account issue, let alone identifying a conceptual solution to the issue.

5 THE APPROACH TO THE UNIT OF ACCOUNT ISSUE AT THIS CONFERENCE

The goals of the unit of account session are to develop a common understanding of:

1. The nature of the unit of account issue.
2. The scope of the challenge for standard setters in dealing with the unit of account issue (e.g., its cross-sectional pervasiveness).

We believe that there should be a general definition of the unit of account, based on the underlying economic substance of the financial item, which will guide financial reporting in making decisions about the appropriate level of aggregation or disaggregation.

Two of the main questions that participants should consider during the session are:

1. Is it preferred to have a single, general principle to guide the aggregation/disaggregation decision across all financial items?
   Or is it better to have different criteria for aggregation and disaggregation for different types of financial items?

2. If it is deemed preferred to have a single, general principle, what is that principle and how do we go about devising it? That is, how do we define the boundaries of a financial item?

One way to impose structure on the discussion of the unit of account illustrations and of the cases for the break-out sessions, is to partition the issue into four classes of problems:

1. What is the precise nature or identity of the financial item that is under
consideration? That is, what are its economic characteristics and its boundaries? What are the economic criteria for identifying these boundaries?

2. When is it appropriate, if ever, to consider and measure homogeneous financial items together (e.g., portfolio of marketable securities, pension obligations, other post-employment benefits, warranties)? For example, is difficulty in measuring each financial item separately sufficient justification for aggregating like items? All components that are so aggregated continue to exist in the same form as before aggregation.

3. When is it appropriate, if ever, to combine discrete financial items for purposes of recognition and measurement? That is, are there circumstances under which such combination would be appropriate? Such combination might include combining dissimilar assets (or liabilities).

4. When is it appropriate, if ever, to disaggregate into component parts, multi-element financial items?

These last three classes of problems implicitly assume that we can identify the boundaries of the financial item; such identification is one of the key stumbling blocks to developing an implementable set of criteria for addressing the unit of account issue.

Because of the pervasiveness of the unit of account issue, its apparent intractability must serve as a challenge and not be seen as a detriment to addressing the problem. The piecemeal, inconsistent, and therefore unpredictable, approach to the unit of account issue that standard setters have taken to date should be replaced by a concepts-based set of criteria for identifying the appropriate unit of account. This set of criteria should drive a generalized approach that can be applied to all unit of account issues.
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