

Accounting for Revenues: A Framework for Standard Setting

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I. Introduction: The Revenue Recognition Challenge.

The accounting for revenues under GAAP has become increasingly intricate. Schipper et.al. (2009) observe that revenue accounting depends on “more than 200 pieces of literature, most of which are, literally, tied to business models, in the sense of being industry specific.”¹ The apparent need for such extensive detailed regulation suggests that the accounting for revenues could potentially be streamlined if it had a firmer conceptual foundation. The widespread concern about the current standards suggests so.

Presumably due to such concerns, the FASB and IASB are jointly engaged in a project to refine revenue recognition principles, and published a proposed standard in an Exposure Draft in June, 2010. Whether this effort will transform current accounting practice is an open question. It is unlikely to do so if the final accounting standard lacks a firm direction as to what constitutes acceptable and unacceptable accounting. Therein lies the challenge: will the forthcoming standard spell out an accounting that is actually operational, or will the current state of affairs remain because of insufficient specificity?²

Accounting principles cannot be of much practical use unless they refer directly to actual transactions, events, property rights, etc., and how the rules depend on these features. The prescribing narrative must be concrete enough to connect with what accountants can observe and validate. The 2010

¹ Katherine Schipper, Catherine Schrand, Terry Shevlin, and T. Jeffrey Wilks, “Reconsidering Revenue Recognition,” *Accounting Horizons* 23 (2009), 55-68.

² This paper was concluded after the June, 2010 Exposure Draft on revenue recognition, *Revenue from Contracts with Customers*, was published. The AAA Financial Accounting Standards Committee commented earlier on an FASB-IASB Discussion Paper that preceded the Exposure Draft (in *Accounting Horizons* 24, 2010, 689-702). Our document goes further by actively proposing an alternative to the approaches in the Discussion Paper and Exposure Draft.

Exposure Draft prescribes that “an entity would recognize revenue when it satisfies a performance obligation by transferring a promised good or service to a customer.” That requires both an identification of a “performance obligation” and the “satisfaction” of a performance obligation. These principles modify Concepts Statement No. 5 that requires that “revenue is recognized when two conditions are met: the revenue is both realized or realizable and earned.” Neither of these statements, by themselves, tell us much about what acceptable accounting should be. The first statement seems to have more of a balance sheet flavor, whereas the second centers on revenue and expense flow. But do these statements differ in their guidance? Both statements deal somewhat vaguely with the nature of recognition, but one can argue that in no substantive sense do they differ. And in the absence of any reference to measurement, it is clear that much more is needed if one wants to prescribe an accounting that goes beyond broad generalities.

The rather general statements quoted above remind us that accounting prescriptions must ultimately aim for concreteness: the inputs on which the accounting is based must be clear and observable. Meeting this requirement is only a necessary condition, however. It goes almost without saying that any proposed accounting must also appeal on conceptual grounds.³ In sum, any attempt at establishing a framework for revenue recognition must ensure that it leads to discernable practical implications rooted in observable realities, yet they must be based on persuasive concepts.

³ One can argue that the combination of clarity and usefulness is undoable; perhaps it is inevitable that revenue accounting by the year 2020 will refer to more than 400 pieces of literature specifying rules across a broad variety of contracts found in different industries. The paper addresses this point later.

I. Our Approach to the Issue

This paper states principles that, we think, ought to guide practical revenue accounting. As suggested above, to be useful such principles must restrict the permissible accounting. Hence our focus is, first and foremost, on the accounting itself and how that accounting converts actual transactions into measurements.⁴

Our approach to revenue recognition relies on three precepts.

First, as suggested in the introductory section, the language describing the principles ought to project practical accounting implications. This requirement discourages the use of hard-to-pin-down nouns and indirect language; instead there must be a reliance on (i) a robust, understandable terminology and (ii) a description of transactions and events that most accountants can recognize and comfortably live with. If we are successful in this regard, the principles will be accessible to anyone familiar with intermediate accounting.

Second, in contrast to GAAP, the accounting ties revenue recognition directly to customer payments as opposed to the delivery of a product or service (per contract). This statement can perhaps be viewed as controversial, and it deserves considerable discussion as we advance this approach. Such a discussion will indeed be forthcoming. At any rate, given this stipulation, profit recognition becomes a separate matter: it focuses on the extent to which the uncertainty associated with the total profit expected

⁴ We do not entertain a role for often-stated, broad objectives, such as “relevance” or “forecast the magnitudes and timing of future cash flows.” While these kinds of objectives are agreeable, they lack in practical implications. The issue was addressed in the earlier conceptual framework paper of this Committee, “A Framework for Financial Reporting Standards: Issues and a Suggested Model,” *Accounting Horizons* 24 (2010), 471-485.

has been resolved. In other words, whereas revenue is recognized on customer payment, profit recognition awaits the resolution of the economic uncertainties inherent in the contract. As a special case the framework considers the possibility of no profit recognition until the end of the contract, though revenues may have been recognized prior to that date. This constitutes effectively a completed contract when it comes to profit recognition. As such it is not the least radical since many contracts are accounted along these lines. The traditional concept of conservatism justifies such accounting. Thus our framework exploits the idea that the greater the uncertainty, the more conservative the profit recognition must be.

Third, the emphasis on revenue and gross profit measurement (and the implied emphasis on the income statement) means that the balance sheet picks up a “plug.” Carrying values in the balance sheet are a consequence of current and past measurements of revenues and expenses. These assets and liabilities are generally present, except of course when there is a truing up at contract completion. This approach obviously contravenes paradigms that try to directly value the outstanding performance claims and performance obligations at balance sheet dates. Fair value accounting and similar precepts are wholly absent in our framework: the principles embed the spirit of traditional historical cost accounting

Before spelling out the framework principles, it should be made clear that we differentiate between an accounting “framework” and “standards.” The former lays the foundation for the latter: a framework document provides guidance for subsequent standards that address contract complexities. No framework can span all conceivable contracts. Business practice evolves over time, and the role of standards is to come to grips with new situations that the framework leaves open. A successful framework

governs standards so that the standards are consistent with some broad principles, and standard setters, addressing “new” problems, do not have to start from scratch. A framework sets the stage by explicitly illustrating the appropriate accounting for *relatively simple* cases. Complexities might be dealt with of course, but these matters are secondary, so that the focus is on a tangible, down-to-earth set of prescriptions. This perspective appeals, we think, because attempts at dealing with complicated settings would be too much of an uphill struggle unless a frame of reference is already in place for simpler settings. In sum, it makes sense to first present core principles that yield a concrete accounting in simple cases, and then proceed to suggest how the core principles can be extended or modified to handle various complications.

II. Accounting for Revenues and Gross Profits

Any operational accounting must rest on observable aspects of firms’ activities. These ingredients need to be considered before thinking about dollar amounts in the financial statements.⁵

Here are the observables that constitute the operational features of a firm and its customers:

- A contract between two independent parties (a contractor and a customer) and its termination date. The termination date need not

⁵ As indicated immediately above, developing the relevant terms of reference becomes a never-ending exercise if one allows for complications like barter, performance-based risk-sharing to be settled long after the products and services have been delivered and paid for, three party contracts with intertwined obligations, cost-plus construction projects with contingent subcontracting, the sale of long duration insurance products, etc.. Our framework refers only to a limited number of core ingredients so that the reader can appreciate the proposed baseline accounting.

be certain in advance (because of options in the contract), but the end of the contract must be “objectively” observable. We assume that it will occur within a “reasonable period of time.” In other words, we initially avoid the difficulty of infinite duration contracts or effectively the same.

- Cash or legal claims to cash, remitted by the customer to the contracting firm. A legal claim to cash embeds the idea of an unambiguously high quality receivable when the customer is financially solid. We will simply refer to these flows as “customer payments” (with the understanding that the accounts receivable can be viewed as equivalent to cash.) These payment flows can be uncertain, not only in their timing but also in magnitudes. Thus, the aggregate payment may not be fully known until the termination of the contract, but at that date it is known⁶.
- Expenditures incurred by the contractor to satisfy contract obligations. These expenditures include not only the direct costs, such as wages paid to employees working on the contract, but also assets that must be transferred to the customer or other parties such as subcontractors. More broadly, because the expenditures are not necessarily cash payments, they may include deferred and prepaid expenses in addition to inventories. The dollar-value of such non-

⁶ There are well-known issues related to the measurement of total contract revenue when the contracting firm acts as an intermediary for certain services purchased. For example, an advertising agency may charge its customers for media space, which are then passed on to the media providers (newspapers, say). Such dollar amounts are generally excluded from the total contract price. In this regard, the paper offers no view on how this problem should be dealt with. (We actually view it as beyond the scope of basic revenue recognition issues.)

direct expenditures depends, therefore, directly on such asset's pre-existing carrying values in the balance sheet. The expenditures are generally uncertain (in their totality and what remains in the future), like the customer payments. That said, their aggregate amount must be known at the contract termination date.⁷

- It is assumed that a contract's gross profit, customer payments less contract expenditures, can be determined with certainty at some point in time. In principle this could be at the inception of the contract, though more generally it will be feasible only at the end of the contract. At earlier points in time, the expected profit on the contract can generally be estimated though there is uncertainty about the ultimate outcome. In case the profit estimates are too unreliable (like a wild guess) and effectively so subjective to be meaningless, the accounting has to proceed without such estimates.

The notion that an accounting rule can depend on expectations about the future raises reliability worries. The factual foundation for any expectation can be shaky and, naturally, fall short of being objective. We discuss this issue later. Two observations suffice here. First, a firm may have extensive experience with certain kinds of more or less standardized contracts; such circumstances should allow for adequately reliable estimates of gross profit margins. Second, while the use of estimates is always problematic, they are very much part of accrual accounting and entrenched

⁷ The determination of expenditures, even ex post, involves all sorts of accounting conventions, such as the allocation of overhead, product versus period costing, pension obligations, etc. We certainly do not wish to imply that these issues have been "settled," but this is not the place to engage cost accounting issues. A discussion of these accounting principles is way beyond the scope of this paper. All we can do is to presume that there is some kind of accounting that answers the question: So what was the gross profit on the contract just finished? We doubt that any meaningful discussion of revenue recognition can be had when the question cannot be answered.

in GAAP. Examples abound: the useful life of PPE, pension expense with its dependence on actuarial projections, valuation allowance for deferred taxes, and the projection of expected cash flows in impairment accounting. (These examples also serve to illustrate the danger in estimates.) In light of these two comments, we think that at least under some circumstances a (practical) accounting rule should be allowed to depend on a contract's expected profit margin.

Our accounting prescription, in its *core* set up, involves *one* single rule for *revenue* recognition and *two* alternative approaches for related (gross) *profit/loss* recognition.

- Revenue recognition:
Customer payments constitute a necessary and sufficient condition.
- Profit recognition:
 - (a) The completed contract method: the gross profit is recognized at the date of contract completion.
 - (b) The profit margin method: the cumulative profit recognized is determined by the estimated percentage profit margin applied to cumulative revenues recognized. However, the cumulative profit recognized cannot exceed the cumulative revenues minus cumulative expenditures incurred.
- Loss recognition:
 - (a) The completed contract method: if at any point the contract is expected to incur a loss, then the loss must be recognized. A (partial) reversal in light of subsequent information is not allowed.
 - (b) The profit margin method: If at any point the contract is expected to incur a loss, the loss must be recognized. Partial reversals are allowed in light of subsequent new information.

Appendix A illustrates the proposed accounting methods in terms of accounts to be debited and credited. Balance sheet accounts, which operate as “plugs,” are labeled there.

The next sections discuss the ideas behind this accounting. It is followed by extensions, elaborations, and modifications.

III. The Thinking Underlying the Accounting

Our principle of revenue recognition is about as simple as one can imagine: recognize revenue on receiving customer payments (cash or a legal claim). It conforms in concept, as well as in its usage of the terminology, to a standard spot market exchange. Thus a deferral account becomes redundant, in sharp contrast to GAAP.⁸ The focus here is squarely on what the customers have done for the firm, rather than what the firm has done for customer or some mixture of both dimensions of performance. The basic idea, therefore, is that the top line recognizes the flow of resources to the firm without any *explicit* prejudice whether the customer has been delivered a product or service. Hence the accounting, at the point of revenue recognition, leaves the extent of profit recognition undetermined.

The word “explicit” in the last paragraph has been put in italics for good reason. To equate revenues and customer payments is based on a rather obvious point: customers are not predisposed to make payments unless they are reasonably confident that the supplier will honor its obligations and supply the promised the product/service in due course. Hence, it is *implicit*

⁸ GAAP prescribes that revenues cannot be recognized unless the firm has performed; goods or services must have been supplied to the customer. Hence, this requirement gives rise to the possibility of a deferred revenue liability.

that the customer either has been delivered a good/or service or has an expectation that it will be forthcoming within a reasonable period of time with high probability. The point seems indisputable when it comes to many businesses, including when the customers are consumers. Thus customer payments can be viewed as *the* critical revenue recognition event that precedes profit recognition in a narrow technical sense, but not in a broader economic sense.

Revenue recognition differs from profit recognition because the latter also depends on expenditures and the implied expense recognition. Profit recognition accordingly ought to depend on a more substantial resolution of the uncertainty. The approach we suggest therefore depends on a two-step uncertainty resolution. First, the customer has to be willing to transfer payments to the contractor, and second, there is an issue the extent to which margin is relatively predictable. In other words, the accounting here accepts the following tenet: *While recognition of revenues sets the stage for profit or loss recognition, the extent of delay in the latter depends on the degree of remaining uncertainty.*

The dichotomy between revenue and profit recognition does not surface in a spot market. Nonetheless, the spot market metaphor raises the possibility that the accounting ought to be consistent with a spot market no less when it comes to profit recognition. That is, one may want to view profit recognition as an automatic corollary of revenue recognition so that with each dollar of revenue one must try to measure the profit margin. On conceptual grounds, we do not reject this line of reasoning in a general contractual setting. But there are plenty of *practical* reasons why it is not generally workable and accordingly should not be viewed as a baseline setting. The argument becomes most apparent if one considers continuing

contracts in which case partial “profit-calculations” due to” performance-elements”become blurred by the nature of the contract. (Example: the construction of a railway system.)

The issue goes beyond the unappealing complexities related to the allocation of expenditures across “performance elements.” The important point is that the spot market paradigm is inapplicable insofar that the accounting in that case does not have to deal with uncertainty. In contrast, in the more general contractual setting there is a *gradual* resolution of uncertainty and the accounting needs to address this aspect. We stress this dimension in contrast to one based on a transfer of goods or services and the allocation of costs to the transfer. Contractual performance is indeed relevant only insofar that it influences payment and expenditure flows that resolve uncertainties. This feature of uncertainty resolution, along with revenue recognition based on customer payments, is what distinguishes our proposal from the “satisfaction of performance obligations” approach of the FASB-IASB Exposure Draft.

Traditional accounting relies on conservatism to deal with economic uncertainties. Specifically, the degree of balance sheet conservatism should reflect the degree of uncertainty related to a (net) asset’s future benefits. As a matter of the mechanics of accounting, this attribute is equivalent to delaying the profit recognition. Thus the proposed accounting satisfies traditional conservatism concepts of asset valuation.

To decide on profit recognition, our most conservative solution identifies the contract termination date. This solution should follow whenever the uncertainty is deemed substantial. The second, less conservative, profit margin approach views the customer payment as being critical in resolving profit uncertainties. Thus the payment event influences not only the revenue

measurement but also the profit measurement. The profit margin method makes sense if the aggregate expenditure and payment uncertainties are relatively low. But here one can of course further argue that the evidence for a profit lacks persuasion if the expenditures exceed the payments. Hence one obtains the profit margin method by requiring the payments to precede the expenditures. And, of course, consistent with conservatism, both methods need to reflect loss recognition as soon as they become likely.

Most readers have surely noted that the proposed methods resonate with what is taught in traditional intermediate accounting in chapters on revenue recognition . However, the completed contract method here differs from the completed contract method explained in intermediate accounting textbooks. The difference is that the textbooks describe a method that recognizes all revenues and expenditures at the contract completion date. In other words, the revenue recognition must coincide with earnings recognition. The method described here has the virtue of sticking to the principle that revenues depend solely on what the customer has been doing for the contractor. Hence the accounting here allows for revenues that have yet to be earned. The profit margin method, too, captures much of the spirit of what textbooks refer to as the percentage of completion method. But there are differences because the textbook method tends to refer to engineering measures rather than (expected and realized) customer payments and expenditure outflows.⁹ In spite of the differences between the textbook accounting and what we have proposed, the comparison reassures. It supports the contention that, overall, we have proposed an accounting inside the boundaries of traditional accounting.

⁹ The requirement that cumulative customer payments exceed cumulative expenditures before profit can be recognized echoes the cost recovery method mentioned in some accounting texts.

We do not believe that the accounting proposed here is particularly original. It would not surprise if many others have suggested similar kinds of accounting, especially the idea that revenue recognition is fully determined by customer payments (inclusive of legal claims). But the framework can, perhaps, be viewed as radical relative to GAAP (and the current FASB and IASB deliberations). A comparison of our proposal and GAAP is undertaken later in the paper.

The proposal's emphasis on transactions and income measurement is in the spirit of the conceptual framework document authored by the committee last year. While this document by itself does not determine the proposed revenue recognition, it underscores that any accounting for a firm's operating activities rests on actual transactions without any reference to fair values. Appendix B elaborates more generally on the relation between the revenue recognition proposed and the five principles stated in the broader framework document.

IV. Issues that Arise with the Proposed Accounting

The absence of deferred revenues in the two accounting methods may seem like a requirement that goes too far. But analysts treat deferred revenues (under GAAP) very differently from other liabilities: *ceteris paribus*, analysts tend to think of deferred revenues as something "desirable." In other words, an increase in this account is generally perceived as suggesting that income has been understated. (In this regard, the folklore surrounding Microsoft's deferred revenues are legendary, as was the case of Apple's more recent iPhone deferred revenues.) Hence one can argue that analysts

most likely would view the elimination of deferred revenues as improving income measurement.¹⁰

Settings can be visualized when a customer remittance of cash cannot be offset by a credit to revenues. We do not rule out such possibilities, though there has to be some qualifications to maintain the spirit of our proposed framework.

Consider a case when the customer and contractor strike a deal such that there is a significant payment up front with a clear understanding by both parties that the “real” contractual execution comes later on. The contract may even allow the contractor to cancel the contract unconditionally, as long as the money is returned plus a fee. Now one can certainly argue that it makes little sense to treat the transfer of money (or a legal claim to that effect) as revenue. One reason for such an argument is the traditional one, namely there has been no performance. Our argument is more basic, however: it is far from clear that the contract in fact will lead to

¹⁰ Empirical research on deferred revenues as a liability has a negative tenor. Rachna Prakash and Nishi Sinha, “Deferred Revenues and the Matching of Revenues and Expenses” (2009), at <http://ssrn.com/abstract=1316286> suggest that “revenue deferrals, when combined with significant indirect cost and/or immediate expensing of investment expenditures, exacerbate the mismatch in the timing of revenue and expense recognition.” They also suggest that the current (profit) margins will be a poor indicator of the future margins (which is undesirable insofar that it makes the forecasting of future earnings more difficult). Mark Bauman, “The Unearned revenue Liability and Firm Value: Evidence from the Publishing Industry” (2000), at <http://ssrn.com/abstract=238628>, suggests that the evidence in the publishing industry supports the idea that it is better to think of the deferred revenue liability as an asset rather than a liability. There are also papers suggesting that deferred revenues are subject to “earnings management.” See Jennifer Altamuro, Anne Beatty, and Joseph Weber, “The Effects of Accelerated Revenue recognition on Earnings Management and Earnings Informativeness: Evidence from SEC Staff Accounting Bulletin No. 101,” *The Accounting Review* 80 (2005), 373-401, and Marcus Caylor, “Strategic Revenue Recognition to Achieve Earnings Benchmarks” (2008), at <http://ssrn.com/abstract=885368>. In the latter paper, the same appears to be the case for the receivables. (Here it must be noted that the receivable asset we suggest differs from the one under GAAP.)

That said, we are unaware of any empirical research expressly supporting the notion that the deferred revenue liability is no different from (most) other liabilities.

Whether the accounting we propose would be more difficult to manipulate is hard to say. But we have a difficult time to see how it could be easier because there are fewer ingredients to “play around” with. Given some determination and imagination when it comes to CFOs, perhaps revenue recognition will always be subject to earnings manipulation, whatever the method.

the performance of a service or delivery of contract. It would, therefore, be premature to recognize revenue.

In the absence of an (unconditional) agreed upon performance element, this transaction “looks and smells” like a financing arrangement. How the transaction ultimately will be resolved has yet to be settled. This transaction scenario suggests a generalization of the framework in which the initial transfer of cash is offset by a credit to the balance sheet to reflect a financing arrangement rather than a payment for services to be performed, i.e., there is in effect a borrowing transaction. Thus the transaction should lead to a loan account in the balance sheet rather than the typical deferred revenue account. And of course one can now further argue that the transaction, being one of financing, should recognize an implicit interest rate to emphasize its character.

This accounting for the loan reaches a critical event later when it becomes clear whether or not the loan will be paid off either via (i) product and service performance or (ii) return of the money that was remitted by the customer earlier. Revenue is recognized only if the contract commences in earnest (and no refund is available unless there is performance failure); at that juncture the loan is, per accounts, no longer outstanding. This modification poses no problems, as long as the accountant can reasonably assess whether or not there is a loan outstanding.

The above illustrates that a contract can sometimes usefully be sliced into parts, and where each part is accounted for separately. To proceed along these lines is workable as a practical matter provided the various contract elements can be disentangled. Such cases make it feasible to consider an accounting, using either of the two methods, for each slice separately. But the disentanglement provision is a non-trivial one in many cases. For

example, a contract that offers multiple services/products can often not be sliced into parts because intractable allocation issues arise. We are generally inclined to think that the slicing of contract into parts (or contract elements) need not modify the accounting. We question whether related complications, due to the need for allocations, are worth the benefits in terms of more “accurate” income measurement. Such improved “accuracy” is probably more an illusion than a reality, especially if one considers the possibility that complex accounting increases the opportunities to manipulate earnings. Perhaps more important, the two methods proposed work such that their input refers to the payment and expenditure flows without any specific reference to performance elements. Because of this feature, we view the two methods as insensitive to contractual complexities due to performance elements.

Some contracts may embed a “green light” feature which signifies that the customer will be locked in to a more extensive contract. (Prior to the green light event taking place the contract is thus much more limited in scope, contractor performance as well as claims on customers). Given this type of observable event, the accounting can apply the completed contract method initially, and then convert to a profit margin method if the green light occurs. The idea here is that the green light event has eliminated substantial uncertainty as to the contract’s expected total profit.

Contracts can be open-ended in their duration and in practice span several years. (IT support and other kinds of service contracts illustrate.) In such cases one can expand on the accounting by introducing more or less artificial “as if” contract termination dates. The typical experience of contract duration is one possibility. Another possibility relies on calendar periods, such as a year. The contract and related accounting would be settled

up at such dates, and then start a new cycle with fresh expectations of customer payments and expenditures as inputs to implement the profit margin method.

In the proposed accounting, a financial claim against the customer suffices for revenue recognition. In its most straightforward version this idea equates the claim to a legal claim. But this strict legal requirement can be extended if, in effect, the expectation of a legal claim is more or less a foregone conclusion. In other words, some contracts are structured such that the incurrence of expenditures for all practical purposes guarantees subsequent billings with a legal status. Of course, now one can argue that it makes sense to accelerate the revenue recognition so it takes place prior to the existence of a “formal” legal claim.

Some low risk contracts essentially repeat over time, like monthly maintenance contracts. The actual billings may lag the performance by some time as a practical matter because there may be some performance variations across months. Again it seems reasonable to let the revenue recognition precede the actual billings. The spirit of the basic revenue recognition principle has been upheld.

The profit margin method includes what one might label a “cost recovery” constraint. That is, there can be no profit recognition unless the revenues exceed the expenditures incurred (on a cumulative basis). While this idea represents an important concept, it does not always have to be taken literally. Depending on circumstances, it can be suitably modified. To illustrate, consider the accounting for sub-prime mortgages. These lending contracts extend over many periods, of course, and there is no risk in the expenditure since in this case it equals the amount lent. But the risk is considerable (to put it mildly) when it comes to the payment of interest and

principal. GAAP deals with this uncertainty by using more or less subjective assessments of expected defaults via an allowance account. (Recent FASB proposals on accounting for loans would admit fair value estimates.) One can now ask how subprime mortgages should be accounted for according to our framework.

To apply the completed contract method for subprime mortgages makes no sense and it would be bizarrely conservative if the mortgage has 30-year duration. But what about the profit margin method? This method, in its precise, restrictive version, requires that no profit can be recognized until cumulative cash payments have exceeded the amount lent. Hence profits would be recognized only after the total cash collected (principal and interest) add up to the amount lent. After that point all customer payments show up as a profit in the income statement. (This profit can be broken into various elements so the accounting reconciles with present value techniques.) The prescription builds in an old-fashioned caution: hold off the profits until a significant degree of uncertainty has been eliminated. An advantage with this approach is that it eliminates the need for subjective allowance accounts. But the accounting is arguably too stringent. Thus one can design a modified accounting so the lack of profits applies only for a few years. The basic idea, we think, is solid: conservatism can be used to push profits into the future when there is considerable uncertainty about the extent to which payment inflows will cover the original outlay. As yet another modification of this profit margin method, one may consider some very limited amount of profit recognition until a point in time when the borrower's track record suggests that there are good reasons that he or she will service the debt per schedule. (We leave it to the reader to speculate

whether this type of accounting might have served us better during the years that preceded the recent financial crisis.)

The above discussion raises the issue whether our proposed accounting will be all that different from GAAP, as a *practical matter*. The matter needs some study, of course, before one can make some hard and fast claims. However, we are inclined to think that notions such as “multiple elements” and “delivered performance” are hard to pin down, and, as a consequence, in practice, the accounting will have to fall back on more practical issues. That means the practical accounting will concern itself with questions such as “have the customers paid or accepted that they must pay?” and “if so much uncertainty remains, is profit recognition warranted?” From this perspective, it seems reasonable to argue that some version of the completed contract method will always play an important role in accounting practice.

V. Dealing with Uncertainties

This section examines more closely the central role of uncertainty resolution on the accounting. We will try to demonstrate how baseline transaction scenarios give rise to either the completed contract method or the profit margin method depending on the uncertainty. To approach this issue, consider a setting with only two points in time, the beginning and end of a contract. The payment and the expenditure, in their totalities, take place at one, and only one, of the two points. There is question as to what the final amounts at the end point will be (though we exclude the possibility of a loss expectation to keep matters simple). In concrete terms, let the revenue be 120 (“inflow”), which is an expectation if it is paid at the end of the contract;

let the expenditure be 100 (“outflow”), which is an expectation if incurred at the end of the contract. Hence the expected profit on the contract equals 20.

The setup leads to four possibilities:

- (i) Both flows take place at the beginning of the contract.
- (ii) Both flows take place at the end of the contract.
- (iii) The inflow occurs at the beginning and the outflow at the end.
- (iv) The outflow occurs at the beginning and the inflow at the end.

Regarding (i) the contract is effectively a (pure exchange) spot market and there is no argument that a profit of 20 should be recognized immediately. The two accounting methods proposed yield the same conclusion, of course.

Case (ii) differs little from (i). There is no apparent reason why there should be any accounting at the beginning of the period: neither the firm nor the customer has done anything for the other until the end of the period. At that point revenue and expense are recognized, consistent with the accounting for executor contracts. The two methods yield this result too, and it does not depend on the degree of uncertainties. Put simply, there are no uncertainties to be accounted for at the beginning of the period because there is incontrovertible revenue and expense matching at the end of the period.

To account for cases (iii) and (iv) is less apparent, and correspondingly much more interesting. Consider, first, (iii) where the inflow (payment) occurs at the beginning of the period without any related expenditures. Due to the lack of performance at the inception, GAAP generally suggests deferred revenue at the beginning of the period and a profit realization at the end. It does so regardless of the uncertainties related to the expenditures. By contrast, the completed contract method recognizes revenue, but no profit, at the beginning because a payment has been made. Given the high degree of

uncertainty, the related expense is conservatively presumed to equal the revenue. At the end of the period there will be truing up of the expenses, which then yields the recognized profit on the contract; it may or may not equal 20 since the contractual expenditures may differ from those expected. It is now clear that the difference between GAAP and completed contract method is *not* in the profit recognition; it is solely in the revenue and expense recognition at the beginning of the contract. Is our approach sensible? We think so. First, it is significant indeed that the customer has remitted 120 and thus it reflects part of the performance of the period. One aspect of the contract, the payment, has been resolved, and this event falls into the category of good news. Second, the expense of an equal amount at the same date reflects that there is considerable uncertainty with respect to the end of period expenditures. Prudent accounting accordingly stipulates a *profit* realization only after all aspects of the contract has been fulfilled.

The reasoning related to the last case (iii), shows the necessity of introducing a second method, namely the profit margin approach. The issue, of course, pertains to the degree of uncertainty. If it is low, then it makes sense to recognize a profit of 20 at the inception. After all, the performance event should be relatively predictable, and the related liability can be estimated with a high degree of confidence. In the extreme case when there is *no* uncertainty it goes almost without saying that the profit margin method is the only logical one. More generally, at the end of the period there will be a final profit adjustment because the expected and actual expenditure could differ. But, given an assumption of low uncertainty, any discrepancy should be relatively minor. Compared to GAAP, our proposed framework focuses on the uncertainty resolution rather than whether or not a performance has

taken place. The accounting maintains sound economics because the forthcoming performance shows up as a liability.

Finally, consider the case (iv) when the expenditure is up front in contrast to the payment which comes later. In our proposed accounting, neither revenue nor expense is recognized until the end of the period for both methods. Put simply, the customer's withholding of a payment (or non-acceptance of a legal claim) suggests considerable uncertainty as to what the transaction's profit will be in the end. Conservatism accordingly suggests that revenue and expense recognition should take place at the end of the period. Of course one may also consider the possibility that there is no uncertainty regarding the payment though it occurs at the end of the period. In that case one can dismiss conservatism and view the economics as essentially equivalent to the case of a spot market. The spirit of the proposed framework is thereby maintained regardless of the degree of uncertainty.

The issue of uncertainty can never be determined in any "objective" manner. Thus accounting standards often rely on rough characterizations of the business environment and a firm's business or industry experience. Auditors then have to rely on their judgments as to what makes sense given any set of more or less subjective observations and assessments. Overall, we feel that our scheme, deferring to actual transactions as it does, provides less call on auditor judgment—or for numerous implementation guidance rules from standard setters—than the determination of changes in "rights" and "performance obligations" (required under the Boards' proposed models) or GAAP's (somewhat vague) motto that the earnings process must have been substantially completed.

At any rate, the issue of risk and uncertainty should be explicitly handled by the accounting, and it goes to the heart of any framework for

revenue recognition. Conservatism and prudence will always influence accounting rules because of unresolved uncertainties, and the accounting needs to embed conservatism. We contend that the two methods do so without having lost their concreteness. That said, to cover all bases, it must be underscored that the idea of “degrees of uncertainty” will always ensure that regulators have to face tough problems.

It is instructive to consider the robustness of the proposed accounting. Will it be the case that firms try to “accelerate” the revenue/profit recognition by introducing a “non-cancellable” contract at the contract inception? To address this question, two points should be made. First, as has been noted repeatedly, the customers are unlikely to accept obligations only if, in fact, there are few uncertainties about what will be delivered. Second, revenue recognition cannot take place unless the claim is essentially unconditional, which is a much stronger requirement than a non-cancelable contract. Front loading of revenues is therefore far from the discretion of the management. Third, the earlier the revenues are recognized, the more uncertainty remains as to future costs. Thus, the accounting will be pushed into the completed contract framework. In other words, while the revenue recognition perhaps takes place earlier, it will lead to a more delayed profit recognition.

VI. Our Proposed Framework and GAAP: A Comparison

To appreciate the strengths and drawbacks of the two accounting methods, a comparison with GAAP and the recent FASB-IASB Exposure Draft instructs.

As noted earlier, GAAP allows for deferred revenues. This occurs whenever performance lags customer payments. This simple observation underscores that GAAP (and the Exposure Draft) rest on events that indicate that “the earnings process has been completed” or “a performance obligation has been satisfied”, and such events can be observed quite independently of customer payments. The deferred revenue concept does indeed go to the heart of GAAP (and, we think, the Exposure Draft as well). In sharp contrast, our two basic approaches make no attempt to capture this idea, except insofar it reflects the end of the contract when both parties have met their obligations. GAAP seems to hinge on a relatively ambiguous concept of “performance elements.” How does one slice a contract into distinct elements, and observe that *dollar-quantifiable* elements have been satisfied at discrete points prior to contract completion? It is not hard to conjure up contracts when the answer to such a question all too often will be highly subjective and arbitrary. And, to be sure, the difficulty pertains to both sides of the earnings process, revenues as well as expenses.

The above criticism of GAAP may seem cheap and unfair; the world of business is generally complicated and we as accountants simply have to try our best in difficult situations. More important, one can of course also claim that in the absence of distinct, dollar-quantifiable elements there is only one performance element. But this observation raises a central question: how do we account for a contract with a single element? As far as we know, GAAP, not the Exposure Draft, does not address this question as stated. This omission is unsurprising if one considers the rather vague language found in the criteria for revenue recognition. Our framework, by contrast, tackles the issue head on: on the revenue side consider customer payments, and on the profit side consider the degree of (remaining)

uncertainty. Given a high degree of uncertainty in either expenditures or final contract price, how can one avoid the benchmark associated with the completed contract method? The idea of gradual performance satisfaction becomes irrelevant under the circumstances, and thus one *cannot* avoid the completed contract method as a *benchmark*. (One can, perhaps argue that GAAP does so at least implicitly.) And in this context it should be underscored that profit recognition should depend on the degree of uncertainty in the final outcome. It leads back to our earlier contention: a sound revenue recognition framework needs to distinguish revenue recognition from profit recognition.

It is easy to see that, in the case of multiple elements, prescribing a principles-based accounting with guiding implications is an unattainable goal. Suppose we start out with a very simple setting in which the economics of the contract is *fully* certain. This certainty does not tell us anything about how one is supposed to allocate the total revenue to a given performance element, let alone how one is supposed to allocate some expense to each and every element. The allocation issues now introduce uncertainty in the income measurement, not an appealing feature when there is no uncertainty in the first instance. Again, of course one can argue that argument is not fair insofar that it does not deal with realities. That said, the point to be made here is that an allocation on the basis of revenues (constant profit margin in case of certainty) would seem to be of greater appeal than other alternatives.

The next point is now rather obvious. A setting with multiple elements and uncertainties in total contract price and total expense becomes very baffling. No wonder that GAAP has developed standards on the basis of “types” of contracts as found across industries. No other solution is available, as far as we are concerned.

A framework that focuses on the decomposition of contracts into multiple performance elements cannot, in our view, provide a solid foundation for revenue and expense measurement.¹¹ The following prediction can be offered: if FASB and IASB retain the idea of accounting for revenue recognition via multiple elements of performance satisfaction, then whatever framework they come up with will lack in operational implications when it comes down to working out specific standards. In fact, we would argue that it is exceedingly unlikely that such an approach can spell out useful benchmarks of how accounting should be done in simple, baseline settings. Like Concept Statement 5 on revenue recognition, it will be long on some general characterizations of what constitutes the governing ideas in revenue recognition, but short on operational implications when it comes to the standard setting. Under these circumstances regulators will go on with their task without ever having to refer to a framework that rules out certain kinds of accounting currently prevalent. No reasonable practical precepts of accounting will be ruled out, and thus one can expect the occasional roles for the completed contract method and profit margin

¹¹ There is no end to the number of economically relevant events one can think of, internal and external. Perhaps the most basic issue pertains to the changes in “rights” to assets that have been transferred from the contractor (or developed by the contractor) to the customer. The word rights has to be put in quotation marks because they it can very much a matter of degree. (For example, an IT provider may retain qualified retention rights in software used by a customer.) A contract may also have so-called multiple deliverables which may lead to, say, multiple contract completion dates. And in this context the contractor often relies on sub-contractors so that the contract act partially as a mere agency collecting customer payments (which will be passed on to the subcontractor). Yet another set issue pertains to warranties and other services provided post completion of “core” contract. External events of relevance can be changes in factor prices (materials) to be acquired in the future to implement a contract; changes in taxation rules etc. In our view, to deal with even some of these possibilities in a *framework* statement would totally defeat its purpose.

methods.¹² In sum, the idea of a standard setting for revenue recognition without any prior constraints will remain firmly in place.¹³

We should perhaps stress at that our critique of a “performance-based” accounting for revenues and related expenses is *not* conceptual per se. To the contrary, we would argue that such an approach to the accounting is sound, *provided* that the performance-element is clearly observable and unambiguous as to what has been performed, what it is worth to the contractor, and what the allocated cost ought to be. In other words, the setting is such that one can, as a practical matter, break the contract into smaller units without introducing hard-to-resolve ambiguities. But this would seem to be the exception rather than the rule, and one reasonably argue that it is intrinsic to contracts that they rarely can be split into objective “elements.” Customers typically do not do so. Thus one has to move away from “performance-elements” and substitute the correlative, namely, customer payments and then address profit recognition as a matter of uncertainty resolution. When everything is said in done, we think any accounting standards dealing with revenue recognition will drift into this perspective in practice.

¹² The introduction of multiple elements in revenue recognition can cause problems, we suspect, such that even well-intentioned CFOs fail to get the accounting right.

¹³ To show that such is not, or will not be, the case, the FASB and IASB documents need to spell out in no uncertain terms (i) what currently acceptable accounting methods for revenue recognition will be prohibited in the future and (ii) what accounting methods not used in the past will be enforced in the future. (In our view, such statements ought to represent the core of executive summaries.) We strongly doubt this will occur.

VII. Concluding Remarks

It is hard to avoid complex accounting principles to the extent their dependence on transactions has to pick up all sorts of fine print. Conversely, relatively straightforward accounting principles require easy-to-understand events on which the rules are based. One can think of this as reflecting a trade-off between what easy-to-understand and simple accounting as opposed to more sophisticated accounting that may poses considerable difficulties to implement and appreciate. The former means that the accounting depends only on few basic observable inputs, with a corresponding drawback that some economically relevant aspects may be neglected by the accounting. A more sophisticated accounting, by contrast, means that the accounting tries to pick up on a large set of relevant features at the cost of making the accounting much more subjective. Revenue recognition must deal with these issues of course: It should be fairly apparent that our tilt is toward a straightforward accounting. We contend that a *framework* works best when it focuses on rules with relatively straightforward inputs. With such a framework in place standard setters can proceed to address what refinements are advisable as additional subtleties are introduced (such as industry and business models). In sum, we believe it can be quite useful to settle certain recurring revenue recognition issues up front in a concrete, easy to understand, manner.

In our view, the FASB-IASB Exposure Draft is remiss on this dimension. It simply does not pay enough attention to (i) what should be the basic transactions and events on which the accounting must rest and (ii) how the input maps into recognition and measurement rules. Discussion evolves

over time, so there is ample room for a “new-and-improved” FASB-IASB standard that differs substantially from the current document.

Appendices

A. An Illustration of the Proposed Accounting

A four-year contract is signed with a provision for interim billings. The estimated profit margin on the total contract is 10 percent. Though the total billings and expenditures are uncertain at the inception, the actual contract billings and expenditures over the five years evolved per schedule below. This schedule shows that the actual profit margin is 12.8%, which differs from the one expected.

	Year				Total
	1	2	3	4	
Billings	100	130	160	155	545
Expenditure	(120)	(110)	(100)	(145)	(475)
“Cash” Profit	(20)	20	60	10	70
Cumulative “Cash” Profit	(20)	0	60	70	70

Profit-Margin Method

Gross profit from the contract is recognized as follows:

Revenues	100	130	160	155	545
Expenses	(100)	(130)	(121)	(124)	(475)
Gross Profit	0*	0**	39***	31****	70
Cumulative Gross Profit	0	0	39	70	70

* To avoid showing a loss

** Recognized gross profit cannot exceed cumulative “cash” profit

*** Cumulative profit margin using a 10% rate is $.1 \times (100 + 130 + 160) = 39$. Since 39 is less than the cumulative cash profit of 60, the profit recognized in the current period should be 39 minus what has been recognized in the two earlier periods, which happens to be zero.

****The truing up on termination

The table supplies the revenue and expense numbers for the journal entries. To balance the books, the “plug” for the difference between expenditures and expenses goes to a balance sheet account. In case of a debit balance the account can be called “Deferred Expenses Related to Contract in Progress” and in case of a credit balance “Accrued Liability Related to Contract in Progress.”

Completed Contract Method

A simple example illustrates the accounting by means of journal entries. To make the example concrete, the reader can think of a firm that provides software and hardware as a package to a customer. It is assumed that there is no payment prior to the contract date. That is, there is no customer financing to worry about.

Event: The customer remits 100, estimate of total contract value. Final contract value depends on performance contingencies.

Dr.	Accounts Receivable	100	
	Cr. Sales Revenue		100

Dr.	Cost of Goods Sold	100	
	Cr. Accrued Liability Related to Contracts in Progress		100

Event: The firm ships hardware with a carrying value of 25 to the customer, and expenditures of 55 are incurred to develop the software. The contract has yet to be completed. There are no additional contract payments.

Dr.	Accrued Liability Related to Contracts in Progress	80	
	Cr. Inventory (hardware)		25
	Cash (or Accrued Liabilities)		55

Event: the customer gets a refund, 2, due to late delivery. There are no additional expenditures incurred.

Dr.	Sales Revenue	2	
	Cr. Cash		2
Dr.	Accrued Liability Related to Contracts in Progress	2	
	Cr. Cost of Goods Sold		2

Event: A final 5 of expenditures are incurred and the contract has been fulfilled. There are no additional payments.

Dr.	Accrued Liability Related to Contracts in Progress	18	
	Cr. Cash		5
			13

After these entries the balance in the Accrued Liability Related to Contracts in Progress account is zero and the firm has recognized a (gross) profit of 13: total revenues minus total cost of goods sold equals $(100-2) - (100 - 2 - 13)$.

B. How the Proposal Relates to the AAA Committee Conceptual Framework Document

A prior document of this committee, “A Framework for Financial Accounting Standards: Issues and a Suggested Model,” *Accounting Horizons* 24, 2010, 471-485 states five principles to guide accounting standards generally. Three of these apply to the current context. They are, first, principle A “Recognition and measurement rest on interpreting transactions”; second, principle C, “The centrality of operating earnings measurement; third, principle D, “Balance sheet conservatism.” (The other

two pertain to (B), separation of operating versus financing activities and (D), owners' equity accounting rests on a proprietor perspective.)

With respect to A, the principle is fully adhered to. The focus is squarely on actual transactions without reference to any kind of market values or criteria such as "satisfying performance obligations." The notion of reliability embedded in the principle would seem to be met, at least relatively speaking.

With respect to C, the same can be said. Of particular importance is the feature that forces a separate profit recognition principle. In our view, "good accounting" should never lose sight of the fact that investors are most concerned with an answer to the question, "How are the operations performing?" It sets the stage for forecasting of future performance, which in turn is the key ingredient to value the equity.

With respect to D, balance sheet conservatism applies via conservative profit recognition. This idea is carried out via the anticipation of losses and the requirement that customer payments must run ahead of the expenditures incurred. It is also noteworthy that economic uncertainty motivates the balance sheet conservatism. The total package captures longstanding ideas of unconditional and conditional conservatism. It also adheres to the principle because there is no room for arbitrary and discretionary impairment charges.