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American Institute of Certified Public Accountants. Task Force on Accounting for Changes in Estimates

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Issues Paper

Accounting for Changes in Estimates

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ACCOUNTING FOR CHANGES IN ESTIMATES

1. Present generally accepted accounting principles require estimates that involve future events in recording events that have occurred:

> Preparing financial statements requires estimating the effects of future events.[1]
>
> Estimates are required in financial statements for many ongoing and recurring activities of an enterprise.[2]

This issues paper addresses unclear guidance on accounting for changes in estimates in the accounting literature and diversity of practice in accounting for these changes.

The Relationship between Estimates and Contingencies

2. Estimates are required in recording events that involve uncertainty about the future. Since contingencies also involve uncertainty about the future, the relationship between estimates and contingencies should be clarified. Estimates and contingencies involve two general types of uncertainties: (1) uncertainties about whether future events will occur and (2) uncertainties about the effects or timing of future events.

3. FASB Statement No. 5 defines contingencies so that they involve uncertainties about whether future events will occur.

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1 APB Opinion 20, paragraph 10.

2 FASB Statement No. 5, paragraph 2.

> A contingency is defined as an existing condition, situation, or set of circumstances involving uncertainty as to possible gain...or loss...that will ultimately be resolved when one or more future events occur or fail to occur.[3]

Statement No. 5 establishes rules for determining whether to record loss contingencies, based on the likelihood of the related future events occurring.

4. In contrast, APB Opinion 20, paragraph 10, uses the term estimates in a way that involves uncertainties about the effects or timing of future events, by referring to "estimating the effects of future events."

5. FASB Statement No. 5 (paragraph 8) provides that for a loss contingency to be accrued, a condition is that "the amount of loss can be reasonably estimated." Thus, estimates are involved in contingencies that are accrued. Some estimates do not involve contingencies, however - the effects but not the occurrence of the future events are uncertain, for example, the termination of the usefulness of a depreciable asset.

Future Events and Present Conditions

6. An estimate may directly involve the prediction of future events. For example, the date of the termination of the usefulness of a depreciable asset in the future is estimated and a formula is applied using the time span from the date of the acquisition of the asset to the estimated termination date to determine depreciation amounts.

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3 FASB Statement No. 5, paragraph 1.

7. In contrast, an estimate may be made of conditions existing at the balance sheet date that are difficult or impossible to measure directly. For example, in accordance with Statements on Auditing Standards Section 560.04, an allowance for doubtful accounts is an estimate of the accounts that are uncollectible as of the balance sheet date although none is known at that date to be uncollectible (known uncollectible accounts should be written off). Future events, for example, notices of bankruptcies, will shed light on those present conditions, and the future events are implicitly predicted in the estimate.

Definition of an Estimate

8. Based on the foregoing characteristics, an estimate may be defined for accounting purposes as follows:

> An estimate is a prediction of the uncertain effects or timing of future events whose occurrence is sufficiently probable to cause them to influence the recording of events that have occurred or an evaluation of the uncertain effects of an existing condition.

Balance Sheet or Income Statement Emphasis

9. Some estimates are made primarily for the purpose of determining balance sheet amounts, for example, an allowance for doubtful accounts receivable or an accrued liability for payments that will be required under warranties because of defects existing at the balance sheet date. Other estimates are made primarily for determining income statement amounts, for example, periodic depreciation or depletion or revenue earned in a period under contracts accounted for by the percentage of completion method.

Changes in Estimates

10. Since no one knows the future, estimation involves judgment, and an estimate can change between the time it is originally made and the time the uncertainty is resolved.

> Accounting estimates change as new events occur, as more experience is acquired, or as additional information is obtained.[4]

11. An original estimate affects the amounts at which events or circumstances are initially recorded. APB Opinion 20, paragraph 31, requires that a subsequent change in an estimate be reflected in the accounting records starting with the period in which the estimate is changed, and it contains the only general guidance in the authoritative literature on how changes in estimates should be accounted for. Other authoritative discussions of changes in estimates deal with specific types of estimates and changes.

APB Opinion 20, paragraph 31, states:

> The Board concludes that the effect of a change in accounting estimate should be accounted for in (a) the period of change if the change affects that period only or (b) the period of change and future periods if the change affects both. A change in an estimate should not be accounted for by restating amounts reported in financial statements of prior periods or by reporting pro forma amounts for prior periods.

12. The treatment required depends on the periods the change "affects." It is not clear how a change in an estimate can "affect" a period. The exposure draft of the Opinion used the term "relates to," which is more understandable. Therefore, "affects" will be interpreted to mean "relates to." Guidance is given in two circumstances:

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[4] APB Opinion 20, paragraph 10.

- Guidance (a): If the change in estimate relates only to the period of change, the effect of the change should be accounted for in that period.
- Guidance (b): If the change in estimate relates to the period of change and subsequent periods, the effect of the change should be accounted for in the period of change and subsequent periods.

Application of Guidance (a)

13. The occurrence of the final event estimated can be considered a change in estimate. The difference between the estimate and the final outcome needs to be accounted for. The occurrence of the final event relates only to the period in which it occurs. Guidance (a) indicates that the difference should be accounted for in the period the final event occurs in. That is adequate guidance.

Application of Guidance (b)

14. Guidance (b) relates to a change in estimate other than the occurrence of the final event and indicates that the effect of such a change should be accounted for in the period of change and in subsequent periods. That is inadequate guidance. Although retroactive restatement of information of prior periods and presentation of pro forma amounts for prior periods are ruled out, the key question of how an accounting estimate should be accounted for in the period of change and subsequent periods is not answered.

Alternative Interpretations of Guidance (b)

15. The problem with Guidance (b) is that it has been interpreted to permit two alternative treatments, which are referred to in this paper as cumulative catch-up and reallocation:

- Cumulative Catch-up. Account for the change in estimate in the period of change so that the balance sheet at the end of the period of change and the accounting in subsequent periods are as if the changed estimate had been the original estimate.
- Reallocation. Account ratably over the period of change in estimate and subsequent periods for the effect of the change.

16. The existence of alternative treatments is reflected by diversity in the literature on application of APB Opinion 20 in specific types of circumstances and diversity in practice. The following chart indicates (a) some of the areas in which estimates are used, (b) discussions in the literature on the need for the estimates and on treatment of changes in estimates, and (c) methods to treat the changes required, discussed, or used. The chart has a two-way classification. First, changes in estimates originally made primarily to determine balance sheet amounts are separated from changes in estimates originally made primarily to determine income

statement amounts. Some items do not clearly fall into one class or the other, since all estimates affect both the balance sheet and the income statement. Nevertheless, the items are classified according to their predominant features. Second, changes in estimates originally directly involved with the prediction of future events are separated from estimates originally made of conditions existing at the balance sheet date. The classifications are made because they might uncover helpful patterns.

Examples of Accounting Estimates

Type of estimate	Literature that discusses accounting based on estimate	Literature that discusses accounting for change in estimate (other than APB 20)	Method to account for change[1]
. Balance sheet amounts exphasized			
A. Future events directly involved			
Future selling prices of and future costs involved in inventories carried at net realizable value.	ARB 43, Ch. 4, para. 8		C[3]
Earnings of a subsidiary that will be distributed to its parent in a taxable transaction.	APB Opinion 23, para. 12	APB Opinion 23, para. 12	C
Loss on disposal of a segment of a business	APB Opinion 30, para. 15	APB Opinion 30, para. 25	C[4]
Effective tax rate for full fiscal year for interim reporting	APB Opinion 28, para. 19	APB Opinion 28, para. 19	C
Losses of property and liability insurance companies	6/8/78 draft of SOP, para. 39	6/8/78 draft of SOP, para. 39	C
Recoverable cost of productive facilities less than historical cost	APB Stmt. 4, para. 183 (M-5c)		C[3]
B. Estimate of present condition confirmed by future events			
Uncollectible receivables			C[3]
Obsolete inventory	ARB 43, ch. 4, para. 7		C[3]
Defective goods sold under warranty	APB Stmt. 4, para. 183 (S-4a)	APB Stmt. 4, para 183 (M-4a)	C
. Income statement amounts emphasized			
A. Future events directly involved			
Revenue to be earned, costs to be incurred, and extent of progress toward completion of a contract accounted for by percentage of completion	ARB 45, paras 4-8; Audits of Gov't. Contractors, pp. 18, 19; 6/7/78 draft of Contract SOP, pp. 16-19	Audits of Construction Contractors, pp. 76,77	C
		Audits of Gov't Contractors, pp. 18, 19	C or R
		6/7/78 draft of Contract SOP, pp. 63,64.	C
Gross profit rates under the program method of accounting	6/7/78 draft of Contract SOP, pp. 28,52.	6/7/78 draft of Contract SOP, p. 65.	C or R; R[2]
Life in years or units of output and salvage value of depreciable asset	Terminology Bulletin 1, para. 56		R[3]
Life of intangible asset subject to amortization	APB Opinion 17, para. 27	APB Opinion 17, para. 31	R
Residual value of a sales-type, direct financing, or leveraged lease	FASB 13, paras 17d, 18d, 46	FASB 13, paras. 17d, 18d, 46	C
Actuarial assumptions involved in pensions	APB Opinion 8, para. 25	APB Opinion 8, para. 30	R
Estimated gross profits from a motion picture film	Motion Picture Guide, pp. 11, 12	Motion Picture Guide, pp. 11, 12	R
B. Estimate of present condition confirmed by future events			
Recoverable reserves of natural resources	FASB Stmt. 19, para. 30	FASB Stmt. 19, para. 30	R[4,5]

C = cumulative catch-up; R = reallocation. Methods indicated are those cited in the literature except for items marked (3).

Practice is described in the literature as C or R; recommended practice is R.

Current practice is thought to be as indicated.

4 Method indicated is thought to be the one cited in the literature, but the literature refers to APB Opinion 20 and is unclear.

5 SEC addressed this in Release 14792. However, they merely objected to the method used for reallocation.

17. Notwithstanding the general treatment accorded a particular type of change in accounting estimate, a change to reflect an estimated overall loss, for example, on a contract or on a motion picture film, is accounted for by the cumulative catch-up method.

Problems

18. The chart highlights the following problems:

1. In some areas, the treatment of changes in accounting estimates is not discussed in the literature.
2. In one area - audits of government contractors - the literature sanctions both the cumulative catch-up and the reallocation methods.
3. In at least one area - program accounting - practice is described as following both methods.
4. In one area - estimates primarily to determine income statement amounts involving future events directly (IIA) - both methods are required, accepted, or used for different kinds of estimates.
5. The two methods are accepted for different types of estimates without criteria in the literature tailoring methods to circumstances.

19. The Appendix contains an illustration of the different results obtained by using cumulative catch-up and reallocation for one kind of change in estimates—a change in the estimated cost to complete a contract accounted for under the percentage of completion method.

Effects of the Retroactive, Cumulative
Catch-up, and Reallocation Methods

20. Although APB Opinion 20 rules out accounting for changes in estimates by retroactive methods—restating amounts reported in financial statements of prior periods or reporting pro forma amounts for prior periods—a reexamination of accounting for changes in estimates should include consideration of those methods. The three methods—retroactive, cumulative catch-up, and reallocation—have various effects:

Retroactive

(a) Information for the period of change and succeeding periods reflects only the latest estimates.

(b) Users may be confused because of restatement of previously published information.

(c) The credibility of financial statements may be harmed if they are restated frequently.

(d) There are practical difficulties in applying the method.

(e) Some income statement charges or credits may go through no income statement as first published; others may go through two or more income statements as first published.

Cumulative Catch-up

(a) The balance sheets for the period of change and subsequent periods reflect only the latest estimates.

(b) The statement of income for periods following the period of change reflects only the latest estimates.

(c) The statement of income for the period of change is affected by the entire amount of the difference caused by the change, part or none of which pertains to that period.

(d) The income statement of the interim period in which the change is made can be severely affected by the change.

(e) The method can be used to manage earnings more easily than the other two methods.

(f) The effects of changes in estimates accounted for in the income statement on the cumulative catch-up method are greater than under the reallocation method. On large contracts, even a relatively small catch-up adjustment may have a substantial impact on reported earnings. The inherent exercise of judgment and absence of certainty in estimating make it impossible to determine the change with precision; thus, the catch-up method may introduce substantial uncertainty into the income statement. Accordingly, management may prefer the reallocation method of accounting for imprecise changes since it results in reporting financial position and results of operations in a way that is more readily verifiable within reasonable materiality ranges.

Reallocation

(a) The statements of income for the period of change and succeeding periods contain amounts consistently computed.

(b) The balance sheets reflect the original estimate and the latest estimate until the uncertainty is resolved.

(c) The income statement amounts for the period of change and subsequent periods all reflect the effects of two sets of estimates, the original estimates and the changed estimates.

Issues

21. The task force believes that the unclear guidance for accounting for changes in estimates in APB Opinion 20 and the diversity in treatment required or recommended in the literature and used in practice should be examined, and interpretation or amendment of the literature should be considered.

The following are among the issues that should be addressed:

A. Should the present prohibition against (1) restatement of amounts reported in prior periods and (2) reporting pro forma amounts for prior periods for changes in estimates be changed?

B. Should only one method to account for changes in estimates be permitted in all circumstances? If so, which method - restatement, cumulative catch-up, or reallocation - should be permitted?

C. If more than one method should be permitted

   1. Should an option be available to use more than one of the permitted methods in any particular set of circumstances? If so, in what circumstances and what option?

   2. If only one of the permitted methods should be permitted in some or all particular sets of circumstances, what criteria should be used to tailor the methods to the circumstances?

      a. Should a general rule be established giving criteria to tailor the methods to the circumstances or should the methods be decided on a case by case basis?

b. If a general rule is to be established, what should the criteria be?

D. If a change in estimate is made after the first interim financial statements for a year have been issued, should it be reflected back to the first interim financial statements or starting with the next interim financial statements to be issued?

E. How should the effects of a change in estimate be classified in the income statement?

F. What other disclosures of a change in estimate should be made beyond those required by paragraph 33 of APB Opinion 20?

Appendix

<u>Illustration of cumulative catch-up vs. reallocation methods of accounting for a change in estimated costs to complete a contract accounted for under the percentage of completion method.</u>

A company enters into a long term (3 year) contract. The company changes its estimate of costs to complete the contract in the second year.

	Original Estimate		Revised Estimate	
Sales price	$ 1,000	(100%)	$ 1,000	(100%)
Cost of sales	500	(50%)	800	(80%)
Profit	$ 500	(50%)	$ 200	(20%)

40% of the work to be performed under the contract is completed in each of the first two years and the remaining 20% is completed the third year. Accounting for the above change in accounting estimate under the cumulative catch-up and reallocation methods would be as follows:

Cumulative Catch-up

	Year 1	Year 2	Year 3
Sales	$ 400	$ 400	$ 200
Cost of Sales	200 (1)	440 (2)	160
Profit	$ 200	($40)	$ 40

Reallocation

	Year 1	Year 2	Year 3
Sales	$ 400	$ 400	$ 200
Cost of sales	200 (1)	400 (3)	200
Profit	$ 200	$ -0-	$ -0-

(1) Calculated by multiplying the original cost of sales percentage (50%) by revenues recognized.

(2) Calculated by multiplying the revised cost of sales percentage (80%) by revenues recognized to date ($800), less cost of sales previously recognized ($200).

(3) Calculated by multiplying the unrecognized cost of sales percentage (100%) by revenues recognized. Unrecognized cost of sales percentage is determined as follows:

	Revised Estimate		Recognized to date		Unrecognized	
Sales	$ 1,000	(100%)	$ 400	(100%)	$ 600	(100%)
Cost of sales	800	(80%)	200	(50%)	600	(100%)
Profit	$ 200	(20%)	$ 200	(50%)	$ -0-	(-0-%)

If on the other hand, the company changed its cost estimates in the second year as follows:

	Original Estimate		Revised Estimate	
Sales price	$ 1,000	(100%)	$ 1,000	(100%)
Cost of sales	500	(50%)	400	(40%)
Profit	$ 500	(50%)	$ 600	(60%)

The accounting for this change in estimate, assuming the same facts as above, would be as follows:

Cumulative Catch-up

	Year 1		Year 2		Year 3
Sales	$ 400		$ 400		$ 200
Cost of sales	200	(1)	120	(2)	80
Profit	$200		$ 280		$ 120

Reallocation

	Year 1	Year 2	Year 3
Sales	$ 400	$ 400	$ 200
Cost of sales	200 (1)	133 (3)	67
Profit	$ 200	$ 267	$ 133

(1) See (1) above.

(2) See (2) above.

(3) See (3) above. Unrecognized cost of sales percentage (33%) is determined as follows:

	Revised Estimate		Recognized to date		Unrecognized	
Sales	$ 1,000	(100%)	$ 400	(100%)	$ 600	(100%)
Cost of sales	400	(40%)	200	(50%)	200	(33%)
Profit	$ 600	(60%)	$ 200	(50%)	$ 400	(67%)