

**Executive Office of the President  
Office of Management and Budget**

**ACCOUNTING FOR DIRECT LOANS AND LOAN GUARANTEES**

**STATEMENT OF FEDERAL FINANCIAL ACCOUNTING STANDARDS  
NUMBER 2**

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## EXECUTIVE SUMMARY

1 The Statement provides accounting standards for federal direct loans and loan guarantees. The standards require that direct loans obligated and loan guarantees committed after September 30, 1991, be accounted for on a present value basis. The use of the present value accounting method is consistent with the intent of the Federal Credit Reform Act of 1990.

2 The standards contain the following essential requirements:

- Direct loans disbursed and outstanding are recognized as assets at the present value of their estimated net cash inflows. The difference between the outstanding principal of the loans and the present value of their net cash inflows is recognized as a subsidy cost allowance.
- For guaranteed loans outstanding, the present value of estimated net cash outflows of the loan guarantees is recognized as a liability. Disclosure is made of the face value of guaranteed loans outstanding and the amount guaranteed.
- For direct or guaranteed loans disbursed during a fiscal year, a subsidy expense is recognized. The amount of the subsidy expense equals the present value of estimated cash outflows over the life of the loans minus the present value of estimated cash inflows.
- The subsidy cost allowance for direct loans and the liability for loan guarantees are reestimated each year, taking into account all factors that may have affected the estimated cash flows. Any adjustment resulting from the reestimates is recognized as a subsidy expense (or a reduction in subsidy expense).
- When direct loans or loan guarantees are modified, the cost of modification is recognized at an

amount equal to the decrease in the present value of the direct loans or the increase in the present value of the loan guarantee liabilities measured at the time of modification.

-- Upon foreclosure of direct or guaranteed loans, the acquired property is recognized as an asset at the present value of its estimated future net cash inflows.

3 The standards permit but do not require restating pre-credit reform direct loans and loan guarantees at present value.

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## INTRODUCTION

### BACKGROUND

4 The federal government, in discharging its responsibility to promote the nation's general welfare, makes **DIRECT LOANS** [Footnote 1] and guarantees loans to segments of the population not adequately served by nonfederal financial institutions. Examples of federal **CREDIT PROGRAMS** include farmers' home loans, small business loans, veterans' mortgage loans, and student loans. For those unable to afford credit at the market rate, federal credit programs provide subsidies in the form of direct loans offered at an interest rate lower than the market rate. For those to whom nonfederal financial institutions would be reluctant to grant credit because of the high risk involved, federal credit programs guarantee the payment of these nonfederal loans, absorbing the costs of defaults.

[Footnote 1: Terms included in Appendix C: Glossary are printed in **CAPITAL LETTERS** when they appear for the first time. (In the printed text, the terms appeared in bold face.)]

5 Because federal credit programs provide interest subsidies and sustain losses caused by defaults, the costs of these programs are significant. It is crucial, therefore, that the actual and expected costs of federal credit programs be fully recognized in both budget and financial reporting.

## THE FEDERAL CREDIT REFORM ACT OF 1990

6 The primary intent of the Federal Credit Reform Act of 1990 is to ensure that the SUBSIDY COSTS of direct loans and LOAN GUARANTEES are taken into account in making budgetary decisions. To achieve this general result, the Act has the following specific purposes: (a) ensure a timely and accurate measure and presentation in the President's budget of the costs of direct loan and loan guarantee programs, (b) place the cost of credit programs on a budgetary basis equivalent to other federal spending, (c) encourage the delivery of benefits in the form most appropriate to the needs of beneficiaries, and (d) improve the allocation of resources among credit programs and between credit and other spending programs.

7 The major provisions of the Act, which is effective for fiscal year 1992 and thereafter, are to:

- Require that, for each fiscal year in which the direct loans or the loan guarantees are to be obligated, committed, or disbursed, the President's budget reflect the long-term cost to the government of the subsidies associated with the direct loans and loan guarantees. The subsidy cost estimate for the President's budget is to be based on the PRESENT VALUE of specified cash flows discounted at the average rate of marketable Treasury securities of similar maturity.
- Require that, before direct loans are obligated or loan guarantees are committed, annual appropriations generally be enacted to cover these costs. (However, mandatory programs have permanent indefinite appropriations.)
- Provide for borrowing authority from Treasury to cover the non-subsidy portion of direct loans.
- Establish budgetary and financing control for each credit program through the use of three types of accounts: the PROGRAM ACCOUNT (budgetary), the FINANCING ACCOUNT (non-budgetary), and the LIQUIDATING ACCOUNT (budgetary).

## THE NEED FOR ACCOUNTING INFORMATION

8 Accounting information on credit programs provides the basis for evaluating program performance by comparing actual accounting data with estimated budget data. Budget analysts and decision-makers can use accounting information to compare actual cash flows with projected cash flows and actual costs of direct loans and loan guarantees with their estimated costs.

9 For credit program managers, information on estimated default losses and related liabilities, when recognized in a timely manner, can be an important tool in evaluating credit program performance. The information can help determine a credit program's overall financial condition and identify its financing needs.

10 Furthermore, cost and performance information on loans and loan guarantees maintained by COHORT and RISK CATEGORY can highlight those groups that are not expected to meet budget estimates because of increased risk. Based on such information, program managers can take timely action to reduce costs, control risks where possible, and improve credit program performance.

## PRESENT VALUE ACCOUNTING

11 The Federal Credit Reform Act of 1990 requires that effective October 1, 1991, the cost of direct loans and loan guarantees be estimated at present value for the budget. The objectives of using the present value measurement in federal credit reform are to measure, recognize, and control subsidy costs of direct loans and loan guarantees.

[Footnote 2]

[Footnote 2: Congressional Budget Office, "Credit Reform: Comparable Budget Costs for Cash and Credit" (Dec. 1989), p. 33.]

12 For direct loans, the effect of using the present value measurement is to estimate the extent of the disbursed amounts that would be recovered, and the extent of the disbursed amounts that is a subsidy cost. The portion that

can be recovered is the present value of projected net cash inflows discounted at the Treasury rate of similar maturity. This portion is not considered a cost to the government because it is expected to be returned to the government in future amounts. The remaining portion of the cash disbursement represents a cost to the government, resulting either from lending at a rate lower than the Treasury interest rate, or from default losses, or both.

13 Under credit reform, the subsidy portion of direct loans is financed by appropriations, and the unsubsidized portion of the loans, which equals the present value of the government collections from the borrowers, is financed with funds borrowed from Treasury. The subsidy cost of loans must be REESTIMATED and updated annually.

14 The present value measurement basis is also applied to loan guarantees. Before credit reform, as in the case of direct loans, loan guarantees were measured for the budget on a cash basis. Thus, loan guarantees could appear to be virtually cost free, since cash payments by the government were not required unless and until the guaranteed loans defaulted at a future date. Under credit reform, the future cash outflows required by LOAN GUARANTEE COMMITMENTS must be projected and discounted at an appropriate Treasury interest rate. The present value of the cash outflows is the cost of the loan guarantees. Before loan guarantees are committed, annual appropriations generally must be enacted to cover the cost of the loan guarantees.

## FINANCIAL REPORTING

15 The Board believes that present value measurement should be adopted for financial accounting and reporting on direct loans and loan guarantees that have been or will be obligated or committed after September 30, 1991. Since the Act requires that the costs of these POST-1991 DIRECT LOANS AND LOAN GUARANTEES be estimated at present value for budget purposes, financial reports on actual results measured at present value can be used as feedback to compare with budget estimates. Such comparisons can be used as a basis to improve future estimates and REESTIMATES.

16 The Board recognizes that effective use of the present value accounting method depends on accurate projections of future cash flows over the life of direct or

guaranteed loans. The efforts to make accurate projections should begin with establishing and using reliable records of historical credit performance data, and should take into consideration current and forecasted economic conditions.

17 The Board recognizes the value of having financial accounting support the budget. It endorses the logic underlying credit reform, and it recommends that accounting standards for credit be consistent with budgeting under credit reform. The Board is aware that as more experience is gained, some modifications may be made in budgetary requirements. It is the intention of the Board that so long as the modifications are made on a credit reform basis and do not materially affect the basic recognition and measurement principles embodied in the accounting standards, accounting practices for direct loans and loan guarantees should change as needed in order to be consistent with the budget.

18 The Board considered the expected costs and efforts that would be required in restating PRE-1992 DIRECT LOANS AND LOAN GUARANTEES at present value. Based on this consideration, the standards permit but do not require restating those loans and loan guarantees on a present value basis.

19 The standards were proposed in an Exposure Draft issued in September 1992. Comments were received from 36 organizations and individuals. Oral comments were also presented at a meeting by representatives of federal agencies with major credit programs. The Board considered all the comments received and incorporated changes, as appropriate. Issues raised by those who responded to the Exposure Draft and the Board's conclusions are presented in Appendix A, Basis of the Board's Conclusions.

#### EFFECTIVE DATE

20 The FASAB recommends that the accounting standards recommended in this Statement become effective for fiscal years ending September 30, 1994, and thereafter. An earlier implementation is encouraged.

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THE ACCOUNTING STANDARDS

## EXPLANATION

21 These standards concern the recognition and measurement of direct loans, the liability associated with loan guarantees, and the cost of direct loans and loan guarantees. The standards apply to direct loans and loan guarantees on a group basis, such as a cohort or a risk category of loans and loan guarantees. Present value accounting does not apply to direct loans or loan guarantees on an individual basis, except for a direct loan or loan guarantee that constitutes a cohort or a risk category.

## ACCOUNTING STANDARDS

### Post-1991 Direct Loans

22 Direct loans disbursed and outstanding are recognized as assets at the present value of their estimated net cash inflows. The difference between the outstanding principal of the loans and the present value of their net cash inflows is recognized as a subsidy cost allowance.

### Post-1991 Loan Guarantees

23 For guaranteed loans outstanding, the present value of estimated net cash outflows of the loan guarantees is recognized as a liability. Disclosure is made of the face value of guaranteed loans outstanding and the amount guaranteed.

### Subsidy Costs of Post-1991 Direct Loans and Loan Guarantees

24 For direct or guaranteed loans disbursed during a fiscal year, a subsidy expense is recognized. The amount of the subsidy expense equals the present value of estimated cash outflows over the life of the loans minus the present value of estimated cash inflows, discounted at the interest rate of marketable Treasury securities with a similar maturity term, applicable to the period during which the loans are disbursed (hereinafter referred to as the applicable Treasury interest rate).



25 For the fiscal year during which new direct or guaranteed loans are disbursed, the components of the subsidy expense of those new direct loans and loan guarantees are recognized separately among interest subsidy costs, default costs, fees and other collections, and other subsidy costs.

26 The interest subsidy cost of direct loans is the excess of the amount of the loans disbursed over the present value of the interest and principal payments required by the loan contracts, discounted at the applicable Treasury rate. The interest subsidy cost of loan guarantees is the present value of estimated interest supplement payments.

27 The default cost of direct loans or loan guarantees results from any anticipated deviation, other than prepayments, by the borrowers from the payments schedule in the loan contracts. The deviations include delinquencies and omissions in interest and principal payments. The default cost is measured at the present value of the projected payment delinquencies and omissions minus net recoveries. Projected net recoveries include the amounts that would be collected from the borrowers at a later date or the proceeds from the sale of acquired assets minus the costs of foreclosing, managing, and selling those assets.

28 The present value of fees and other collections is recognized as a deduction from subsidy costs.

29 Other subsidy costs consist of cash flows that are not included in calculating the interest or default subsidy costs, or in fees and other collections. They include the effect of prepayments within contract terms.

#### Subsidy Amortization and Reestimation

30 The subsidy cost allowance for direct loans is amortized by the INTEREST METHOD using the interest rate that was originally used to calculate the present value of the direct loans when the direct loans were disbursed. The amortized amount is recognized as an increase or decrease in interest income.

31 Interest is accrued and compounded on the liability

of loan guarantees at the interest rate that was originally used to calculate the present value of the loan guarantee liabilities when the guaranteed loans were disbursed. The accrued interest is recognized as interest expense.

32 The subsidy cost allowance for direct loans and the liability for loan guarantees are reestimated each year as of the date of the financial statements. Since the allowance or the liability represents the present value of the net cash outflows of the underlying direct loans or loan guarantees, the reestimation takes into account all factors that may have affected the estimate of each component of the cash flows, including prepayments, defaults, delinquencies, and recoveries. Any increase or decrease in the subsidy cost allowance or the loan guarantee liability resulting from the reestimates is recognized as a subsidy expense (or a reduction in subsidy expense). Reporting the subsidy cost allowance of direct loans (or the liability of loan guarantees) and reestimates by component is not required.

#### Criteria for Default Cost Estimates

33 The criteria for default cost estimates provided in this and the following paragraphs apply to both initial estimates and subsequent reestimates. Default costs are estimated and reestimated for each program on the basis of separate cohorts and risk categories. The reestimates take into account the differences in past cash flows between the projected and realized amounts and changes in other factors that can be used to predict the future cash flows of each risk category.

34 In estimating default costs, the following risk factors are considered: (1) loan performance experience; (2) current and forecasted international, national, or regional economic conditions that may affect the performance of the loans; (3) financial and other relevant characteristics of borrowers; (4) the value of collateral to loan balance; (5) changes in recoverable value of collateral; and (6) newly developed events that would affect the loans' performance. Improvements in methods to reestimate defaults are also considered.

35 Each credit program should use a systematic methodology, such as an econometric model, to project

default costs of each risk category. If individual accounts with significant amounts carry a high weight in risk exposure, an analysis of the individual accounts is warranted in making the default cost estimate for that category.

36 Actual historical experience of the performance of a risk category is a primary factor upon which an estimation of default cost is based. To document actual experience, a data base should be maintained to provide historical information on actual payments, prepayments, late payments, defaults, recoveries, and amounts written off.

### Revenues and Expenses

37 Interest accrued on direct loans, including amortized interest, is recognized as interest income. Interest accrued on the liability of loan guarantees is recognized as interest expense. Interest due from Treasury on uninvested funds is recognized as interest income. Interest accrued on debt to Treasury is recognized as interest expense.

38 Costs for administering credit activities, such as salaries, legal fees, and office costs, that are incurred for credit policy evaluation, loan and loan guarantee origination, closing, servicing, monitoring, maintaining accounting and computer systems, and other credit administrative purposes, are recognized as administrative expense. Administrative expenses are not included in calculating the subsidy costs of direct loans and loan guarantees.

### Pre-1992 Direct Loans and Loan Guarantees

39 The losses and liabilities of direct loans obligated and loan guarantees committed before October 1, 1992, are recognized when it is more likely than not that the direct loans will not be totally collected or that the loan guarantees will require a future cash outflow to pay default claims. The allowance of the uncollectible amounts and the liability of loan guarantees should be reestimated each year as of the date of the financial statements. In estimating losses and liabilities, the risk factors

discussed in the previous section should be considered. Disclosure is made of the face value of guaranteed loans outstanding and the amount guaranteed.

40 Restatement of pre-1992 direct loans and loan guarantees on a present value basis is permitted but not required.

#### Modification of Direct Loans and Loan Guarantees

41 The term modification means a federal government action, including new legislation or administrative action, that directly or indirectly alters the estimated subsidy cost and the present value of outstanding direct loans, or the liability of loan guarantees.

42 Direct modifications are actions that change the subsidy cost by altering the terms of existing contracts or by selling loan assets. Existing contracts may be altered through such means as forbearance, forgiveness, reductions in interest rates, extensions of maturity, and prepayments without penalty. Such actions are modifications unless they are considered reestimates, or workouts as defined below, or are permitted under the terms of existing contracts.

43 Indirect modifications are actions that change the subsidy cost by legislation that alters the way in which an outstanding portfolio of direct loans or loan guarantees is administered. Examples include a new method of debt collection prescribed by law or a statutory restriction on debt collection.

44 The term modification does not include subsidy cost reestimates, the routine administrative workouts of troubled loans, and actions that are permitted within the existing contract terms. Workouts are actions taken to maximize repayments of existing direct loans or minimize claims under existing loan guarantees. The expected effects of work-outs on cash flows are included in the original estimate of subsidy costs and subsequent reestimates.

#### A. MODIFICATION OF DIRECT LOANS

45 With respect to a direct or indirect modification

of pre-1992 or post-1991 direct loans, the cost of modification is the excess of the PRE-MODIFICATION VALUE [Footnote 3] of the loans over their POST-MODIFICATION VALUE [Footnote 4] The amount of the modification cost is recognized as a modification expense when the loans are modified.

[Footnote 3: The term pre-modification value is the present value of the net cash inflows of direct loans estimated at the time of modification under pre-modification terms and discounted at the interest rate applicable to the time when the modification occurs on marketable Treasury securities that have a comparable maturity to the remaining maturity of the direct loans under pre-modification terms (simply stated, the pre-modification terms at the current rate).]

[Footnote 4: The term post-modification value is the present value of the net cash inflows of direct loans estimated at the time of modification under post-modification terms and discounted at the interest rate applicable to the time when the modification occurs on marketable Treasury securities that have a comparable maturity to the remaining maturity of the direct loans under post-modification terms (simply stated, the post-modification terms at the current rate).]

46 When post-1991 direct loans are modified, their existing BOOK VALUE is changed to an amount equal to the present value of the loans' net cash inflows projected under the modified terms from the time of modification to the loans' maturity and discounted at the ORIGINAL DISCOUNT RATE (the rate that is originally used to calculate the present value of the direct loans, when the direct loans were disbursed).

47 When pre-1992 direct loans are directly modified, they are transferred to a financing account and their book value is changed to an amount equal to their post-modification value. Any subsequent modification is treated as a modification of post-1991 loans. When pre-1992 direct loans are indirectly modified, they are kept in a liquidating account. Their bad debt allowance is reassessed and adjusted to reflect amounts that would not be collected due to the modification.

48 The change in book value of both pre-1992 and post-1991 direct loans resulting from a direct or indirect modification and the cost of modification will normally differ, due to the use of different discount rates or the use of different measurement methods. Any difference between the change in book value and the cost of modification is recognized as a gain or loss. For post-1991 direct loans, the MODIFICATION ADJUSTMENT TRANSFER [Footnote 5] paid or received to offset the gain or loss is recognized as a financing source (or a reduction in financing source).

[Footnote 5: OMB instructions provide that if the decrease in book value exceeds the cost of modification, the reporting entity receives from the Treasury an amount of modification adjustment transfer equal to the excess; and that if the cost of modification exceeds the decrease in book value, the reporting entity pays to the Treasury an amount of modification adjustment transfer to offset the excess. (See OMB Circular A-11.)]

## B. MODIFICATION OF LOAN GUARANTEES

49 With respect to a direct or indirect modification of pre-1992 or post-1991 loan guarantees, the cost of modification is the excess of the POST-MODIFICATION LIABILITY [Footnote 6] of the loan guarantees over their PRE-MODIFICATION LIABILITY.[Footnote 7] The modification cost is recognized as modification expense when the loan guarantees are modified.

[Footnote 6: The term post-modification liability is the present value of the net cash outflows of the loan guarantees estimated at the time of modification under the post-modification terms, and discounted at the interest rate applicable to the time when the modification occurs on marketable Treasury securities that have a comparable maturity to the remaining maturity of the guaranteed loans under post-modification terms (simply stated, the post-modification terms at the current rate).]

[Footnote 7: The term "pre-modification liability" is the present value of the net cash outflows of loan guarantees estimated at the time of modification under the pre-modification terms and discounted at the interest rate applicable to the time when the modification occurs on

marketable Treasury securities that have a comparable maturity to the remaining maturity of the guaranteed loans under pre-modification terms (simply stated, the pre-modification terms at the current rate.)

50 The existing book value of the liability of modified post-1991 loan guarantees is changed to an amount equal to the present value of net cash outflows projected under the modified terms from the time of modification to the loans' maturity, and discounted at the original discount rate (the rate that is originally used to calculate the present value of the liability when the guaranteed loans were disbursed).

51 When pre-1992 loan guarantees are directly modified, they are transferred to a financing account and the existing book value of the liability of the modified loan guarantees is changed to an amount equal to their post-modification liability. Any subsequent modification is treated as a modification of post-1991 loan guarantees. When pre-1992 direct loan guarantees are indirectly modified, they are kept in a liquidating account. The liability of those loan guarantees is reassessed and adjusted to reflect any change in the liability resulting from the modification.

52 The change in the amount of liability of both pre-1992 and post-1991 loan guarantees resulting from a direct or indirect modification and the cost of modification will normally differ, due to the use of different discount rates or the use of different measurement methods. Any difference between the change in liability and the cost of modification is recognized as a gain or loss. For post-1991 loan guarantees, the modification adjustment transfer [Footnote 8] paid or received to offset the gain or loss is recognized as a financing source (or a reduction in financing source).

[Footnote 8: OMB instructions provide that if the increase in liability exceeds the cost of modification, the reporting entity receives from the Treasury an amount of modification adjustment transfer equal to the excess; and that if the cost of modification exceeds the increase in liability, the reporting entity pays to the Treasury an amount of modification adjustment transfer to offset the excess. (See OMB Circular A-11.)]

## C. SALE OF LOANS

53 The sale of post-1991 and pre-1992 direct loans is a direct modification. The cost of modification is determined on the basis of the pre-modification value of the loans sold. If the pre-modification value of the loans sold exceeds the net proceeds from the sale, the excess is the cost of modification, which is recognized as modification expense.

54 For a loan sale with RECOURSE, potential losses under the recourse or guarantee obligations are estimated, and the present value of the estimated losses from the recourse is recognized as subsidy expense when the sale is made and as a loan guarantee liability.

55 The book value loss (or gain) on a sale of direct loans equals the existing book value of the loans sold minus the net proceeds from the sale. Since the book value loss (or gain) and the cost of modification are calculated on different bases, they will normally differ. Any difference between the book value loss (or gain) and the cost of modification is recognized as a gain or loss. [Footnote 9] For sales of post-1991 direct loans, the modification adjustment transfer [Footnote 10] paid or received to offset the gain or loss is recognized as a financing source (or a reduction in financing source).

[Footnote 9: If there is a book value gain, the gain to be recognized equals the book value gain plus the cost of modification.]

[Footnote 10: See footnote No. 5 for an explanation of modification adjustment transfer.]

## D. DISCLOSURE

56 Disclosure is made in notes to financial statements to explain the nature of the modification of direct loans or loan guarantees, the discount rate used in calculating the modification expense, and the basis for recognizing a gain or loss related to the modification.



## Foreclosure of Post-1991 Direct Loans and Guaranteed Loans

57 When property is transferred from borrowers to a federal credit program, through FORECLOSURE or other means, in partial or full settlement of post-1991 direct loans or as a compensation for losses that the government sustained under post-1991 loan guarantees, the foreclosed property is recognized as an asset at the present value of its estimated future net cash inflows discounted at the original discount rate.

58 If a legitimate claim exists by a third party or by the borrower to a part of the recognized value of the foreclosed assets, the present value of the estimated claim is recognized as a special contra valuation allowance.

59 At a foreclosure of guaranteed loans, a federal guarantor may acquire the loans involved. The acquired loans are recognized at the present value of their estimated net cash inflows from selling the loans or from collecting payments from the borrowers, discounted at the original discount rate.

60 When assets are acquired in full or partial settlement of post-1991 direct loans or guaranteed loans, the present value of the government's claim against the borrowers is reduced by the amount settled as a result of the foreclosure.

## Write-off of Direct Loans

61 When post-1991 direct loans are written off, the unpaid principal of the loans is removed from the gross amount of loans receivable. Concurrently, the same amount is charged to the allowance for subsidy costs. Prior to the WRITE-OFF, the uncollectible amounts should have been fully provided for in the subsidy cost allowance through the subsidy cost estimate or reestimates. Therefore, the write-off would have no effect on expenses.

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## APPENDIX A: BASIS OF THE BOARD'S CONCLUSIONS

## PRESENT VALUE ACCOUNTING

62 Several respondents were opposed to using present value accounting for direct loans and loan guarantees. They pointed out that although the Federal Credit Reform Act of 1990 requires the use of present value to measure the subsidy costs of direct loans and loan guarantees for the budget, the law does not require using present value for financial reporting. They believed that since there are no legal requirements, the adoption of present value accounting should be based on cost-benefit considerations.

63 These respondents emphasized the complexity and cost of implementing and maintaining present value accounting. Because of the need to separately account for the direct loans or loan guarantees obligated or committed by each credit program in a fiscal year by cohort, as years go by, the number of cohorts would multiply. An agency with a number of loan and loan guarantee programs estimated that within 5 years, there would be more than 200 cohorts, one for each year and each program. Since most of its loans are long-term, maturing in 30 or more years, the number of cohorts would be staggering.

64 The respondents who were opposed to present value accounting doubted whether there would be any significant improvement in financial information on loans and loan guarantees reported on a present value basis compared with information traditionally reported on a nominal value basis. They contended that both present value accounting and nominal value accounting rely on historical experience and management judgment to evaluate risk as the primary variable in determining a default allowance. They further argued that since present value calculations involve cash flow estimates over future years, information based on the estimates is not necessarily more reliable than information reported under the nominal value accounting method.

65 A number of respondents expressed support of the Board's proposal to use present value accounting for direct loans and loan guarantees. They believed that it is a positive step to bring budgeting and financial reporting together. They also believed that implementation of the proposed standards would present useful information for monitoring programs with direct loans and loan guarantees.

66 In proposing present value accounting, the Board's primary considerations were to carry out the intent of the Federal Credit Reform Act of 1990 and to make financial reporting compatible with the budget. (See Exposure Draft, Vol. 1, par. 15.) The Board believes that one of the objectives of financial reporting is to enable the reader to determine the status of budgetary resources, and whether those resources were acquired and used in accordance with the enacted budget. [Footnote 11]

[Footnote 11: FASAB Exposure Draft, Objectives of Federal Financial Reporting, Vol. 1, par. 13.]

67 The Federal Credit Reform Act of 1990 requires using present value for the budget. The Board does not believe that this requirement should be ignored for financial reporting. Since budgetary resources for direct loan and loan guarantee subsidies are provided on a present value basis, financial reporting on the acquisition, use, and status of the resources should be on the same basis. Only by using the same basis can financial information be used to compare the actual results with the budget.

68 Indeed, distortion in information would result if present value were not used to report direct loans or loan guarantees that are budgeted on a present value basis. This can be illustrated by the following example.

69 Suppose a group of 5-year term loans in the aggregate amount of \$100,000 were disbursed by a federal credit program at the end of fiscal year 1992. The loans require paying an annual interest of 5 percent and repaying the principal in fiscal year 1997. It was estimated that the interest would be collected each year, but only \$80,000 of the principal would be repaid when the loans mature. During the year the loans were disbursed, the average interest rate of Treasury securities of the same maturity was 9 percent.

70 Based on the cash flow projection shown in Table 1 below, at the end of the 1992 fiscal year, the present value of the direct loans was \$71,440 and the loans' subsidy cost was \$28,560. It is assumed in this example, that as required by credit reform, the subsidy cost (\$28,560) was funded with appropriations, and the remaining amount (\$71,440) was financed with borrowing from Treasury at 9 percent.

TABLE 1: THE PRESENT VALUE OF DIRECT LOANS

FISCAL YEARS	EXPECTED PAYMENTS
1993	\$ 5,000
1994	5,000
1995	5,000
1996	5,000
1997	\$85,000
Present value at 9%	\$71,440

71 If the nominal value accounting method were used in financial reporting, the \$20,000 of the principal that was estimated to be uncollectible would have been reported as a bad debt expense. The estimated uncollectible amount of \$20,000 would have been recognized as the cost of the loans in financial statements. In reality, however, the agency spent \$28,560 of budgetary resources to fund the cost of the loans.

72 Also, if the nominal value accounting method were used, the loans as assets would have been reported at \$80,000 at the end of the 1992 fiscal year, which equals the \$100,000 principal of the loans minus an allowance of \$20,000 for the uncollectible amount. On the other hand, debt to Treasury would have been reported at \$71,440, which was the amount actually borrowed to finance the loans. The financial information would have shown an excess of the assets over the liability by \$8,560. In reality, however, even if the default estimate was correct, the entire collection of interest and principal would be used to pay interest and principal to Treasury. The credit program in fact would have no excess in assets. The following is a comparison of the loans reported on a present value basis and on a nominal value basis. [Footnote 12]

[Footnote 12: Tables are provided only for illustration. They do not represent a reporting format.]

TABLE 2: REPORTING ON THE DIRECT LOANS AT PRESENT VALUE ON SEPTEMBER 30, 1992

ASSETS:		LIABILITIES:	
Loans receivable	\$100,000	Debt to Treasury	\$71,440
Subsidy cost allowance	(28,560)		
Loans receivable, Net	\$ 71,440	Net Position:	\$0

TABLE 3: REPORTING ON THE DIRECT LOANS AT NOMINAL VALUE ON SEPTEMBER 30, 1992

ASSETS:		LIABILITIES:	
Loans receivable	\$100,000	Debt to Treasury	\$71,440
Allowance for bad debts	(20,000)		
Loans receivable, Net	\$ 80,000	Net Position:	\$ 8,560

73 A similar distortion would result in reporting loan guarantees. The distortion would be caused by reporting loan guarantee liabilities on a nominal value basis, whereas the budgetary resources received to finance the liabilities are measured at a present value basis.

74 In evaluating efforts and costs of implementing present value accounting for post-1991 direct loans and loan guarantees, one should keep in mind that the federal direct loan and loan guarantee programs have modified or will have to modify their accounting systems in order to implement the budgeting requirements of the Federal Credit Reform Act of 1990. They will have to maintain data by cohort and risk category, compute interest on borrowing from Treasury and on uninvested funds, and make subsidy estimates and reestimates. The accounting standards provided in this statement do not require more than the budget process requires in these respects, and thus they would not result in a substantial amount of additional effort or cost.

75 Some respondents indicated that it would be

burdensome if present value accounting were to be implemented on a loan-by-loan (or transaction) basis. The Board does not propose that the accounting standards be implemented on a loan-by-loan basis. The standards should apply to a cohort (or risk category) of direct loans or loan guarantees in the aggregate.

76 In addition to making financial reporting consonant with the budget, the Board also believes that the standards proposed in the Exposure Draft will produce better financial information for the following reasons:

77 First, the proposed standards would require measuring and recognizing the subsidy costs of direct loans and loan guarantees at their inception rather than at a later date. The current accounting practice does not require this. In the absence of this requirement, the cost of direct loans is not recognized when the loans are disbursed, and the liability to pay claims under loan guarantees is not usually recognized when guaranteed loans are disbursed.

78 Second, the proposed standards would require a comprehensive evaluation of future cash flows over the life of direct loans and guaranteed loans, including payments of interest, principal, fees, prepayments, defaults, delinquencies, and recoveries. The current accounting practice typically provides an allowance for the portion of the principal that would not be collected. It does not take into account the impact of other cash flow elements.

79 Third, the proposed standards would require discounting the net cash flows at the government's borrowing rate on marketable Treasury securities. Discounting is a basic feature of present value accounting that measures and recognizes the interest subsidy cost of direct loans and loan guarantees, and the time value of all cash flows. The time value of such cash flows is not accounted for under the nominal value accounting method, and the interest subsidy cost is not accounted for when the loans are disbursed.

80 Finally, the proposed standards would require an annual systematic review of the projected cash flows. The projections would be revised and updated to reflect newly developed events, changes in economic conditions, and better understanding of the factors that cause defaults. The subsidy costs would be reestimated accordingly. The

reestimation requirement assures that credit programs maintain an up-to-date data base by cohort and risk category of actual collections, defaults, and amounts written off on federal loans and loan guarantees. Such a complete data base was not available prior to credit reform.

81 In summary, the recognition of cost at inception, the comprehensive evaluation of all future cash flows, and the discounting of future cash flows to present value are complementary elements at the core of present value accounting. When taken together, they place an economic value on the cost the federal government incurs in making direct loans and loan guarantees. Likewise, they place an economic value rather than a nominal value on loan assets and loan guarantee liabilities.

82 Based on the view that financial accounting should be compatible with the budget, and based on the other advantages of using the present value accounting, the Board has concluded that the present value accounting method should be used in the accounting standards for post-1991 direct loans and loan guarantees.

## SUBSIDY COST COMPONENT

83 The Exposure Draft proposed that when direct or guaranteed loans are disbursed, their subsidy expense be recognized separately among interest subsidy costs, default costs, fees (as a deduction from the costs), and other subsidy costs.

84 The Exposure Draft also proposed the following requirement: The interest subsidy allowance shall be amortized using the interest method. Compound interest shall be accumulated on the allowances for default losses, fees, and other cost components.

85 The Exposure Draft posed a question: Should the subsidy cost components, if material, be recognized separately in financial reporting? Some respondents agreed that the subsidy cost components should be separately recognized. They believed that separate recognition would provide the level of detail needed to understand the program better and improve their component estimates for budget formulation.

86 Some respondents were opposed to reporting subsidy costs by component on the grounds that (1) only the aggregate amount of subsidy costs is needed for budget execution purposes, (2) information on cost components may not be used by management, and (3) the cost of complex record-keeping and calculations outweigh the benefit.

87 After considering the benefits and efforts required in accounting for subsidy cost components, the Board has concluded that when direct or guaranteed loans are disbursed, the subsidy expense of the direct loans or loan guarantees should be recognized in separate components. The Board believes that by reporting the subsidy expense components of direct or guaranteed loans disbursed during the reporting year, the cost components of newly disbursed direct loans and loan guarantees can be compared with those of prior years. The cost component information would be valuable for making credit policy decisions, monitoring portfolio quality, and improving credit performance. Information on interest subsidies and fees would help in making decisions on setting interest rates and fee levels. Information on default costs would help in evaluating credit performance.

88 In calculating the present value of the subsidy costs for the budget, agencies must first develop data on cash flow components. OMB requires agencies to use the OMB credit subsidy model, which takes these cash flows as inputs and automatically calculates the components of the subsidy cost. Since the information on subsidy cost components of new direct loans and loan guarantees is available, reporting the information would not require significant additional efforts.

89 However, the Board realizes that it would require considerable efforts to maintain records for the present value of cost components for each existing cohort of loans and loan guarantees, amortize or accumulate interest on each component each year, adjust each component each year for reestimates, and, if applicable, adjust each component for modifications when they occur. After considering the efforts that would be required and the benefits that could be derived, the Board decided not to recommend the requirement to amortize or accumulate interest on each subsidy cost component. Without this requirement, credit programs may



amortize the subsidy allowance of each cohort in aggregate, using the interest method. They would not have to maintain records for the present value of each cost component and adjust them annually. This would greatly ease the record-keeping and calculation burden.

90 By eliminating the requirement to amortize and accumulate interest on each component of the subsidy cost allowance, the Board realizes that information would not be available to track changes in the present values of the components. However, data would still be available to track changes in the total amount of a cohort's subsidy allowance affected by annual reestimates. The primary factor that causes changes in the subsidy allowance would be default reestimates. Furthermore, the Board believes that it is of a critical importance that each credit program maintain a data base for actual collections, defaults, delinquencies, and recoveries. For purposes of monitoring program performance and estimating future losses, the actual default and collection data base is more important than tracking changes in the allowance for the present value of subsidy costs by component. The actual default and collection data base is also necessary for estimating and reestimating subsidy costs.

## ACCOUNTING FOR FEES

91 In the Exposure Draft, the Board proposed that the present value of estimated fee receipts be recognized as a deduction from the subsidy expense. The Board posed a question: How should fees be recognized on an entity's financial reports? Should they be recognized as a deduction of subsidy expense, or as a revenue?

92 Many respondents agreed with the proposal that the present value of estimated fee collections be recognized as a deduction of subsidy expense. Some respondents contended that fees should be recognized as a revenue rather than as an expense component. They stated that offsetting revenues against expenses would not provide clear revenue/expense information concerning the operating results of a credit program. Some of the respondents also said that to the extent some of the fees are used to defray administrative costs, they should not offset subsidy expenses because the Federal Credit Reform Act of 1990 excludes administrative

costs from subsidy expenses.

93 The Board is not persuaded by the arguments that fees should be reported as a revenue. The subsidy expense of direct loans and loan guarantees is the focal point of credit reform, and it is measured as the present value of the net cash flows of the direct loans and loan guarantees. Since the estimated fees are a component of the cash flows, the Board believes that the present value of fees should be reported as a component of the subsidy expense. Since the Board has concluded that all of the subsidy expense components, including the present value of fees, are to be reported separately, reporting the present value of fees as an expense component would not reduce information on the collection of fees. Furthermore, the administrative expenses that are excluded from subsidy costs are often covered by appropriations, rather than paid by fee collections. Thus, it is not necessary to allocate a portion of the fee collections to pay the administrative costs that are not a part of the subsidy costs.

#### PRE-1992 DIRECT LOANS AND LOAN GUARANTEES

94 The phrase pre-1992 direct loans and loan guarantees refers to direct loans obligated and loan guarantees committed before October 1, 1991, the effective date of the Federal Credit Reform Act of 1990. In the Exposure Draft, the Board did not recommend restating pre-1992 direct loans and loan guarantees at present value. The Board's position was that the costs of restating those direct loans and loan guarantees would outweigh the benefits.

95 Most respondents who commented on this issue agreed with the Board's position. They emphasized that the restatement of pre-1992 direct loans and loan guarantees would be a complex process and would require substantial resources. They pointed out that a major difficulty is caused by the lack of complete and accurate historical data that a restatement needs to be based upon. Because of the lack of accurate data, even if the agencies incurred a great deal of cost, the restated loans and loan guarantees could not be accurately compared with post-1991 loans and loan guarantees on the same basis. The respondents pointed out that since the pre-1992 direct loans and loan guarantees

were obligated or committed in the past, restated information would be of limited usefulness to current budget decisions. They also pointed out that the amount of pre-1992 direct loans and loan guarantees outstanding would diminish over time as loans matured, defaulted, or were modified.

96 In addition to considering the comments on the Exposure Draft, the Board also considered the findings of a GAO report presented to the Board. [Footnote 13] The GAO report suggested that by not requiring a restatement of pre-1992 direct loans and loan guarantees at present value, poor information would be perpetuated, which could affect the ability to (1) forecast the future budgetary impact of pre-credit reform credit activity, (2) minimize losses, and (3) judge the reasonable accuracy of subsidy estimates for post-1991 credit. The GAO report recommended using simplified methods, such as sampling techniques, to restate pre-1992 direct loans and loan guarantees at present value.

[Footnote 13: GAO Report to the Chairman, Senate Budget Committee, Federal Credit Programs: Agencies Had Serious Problems Meeting Credit Reform Accounting Requirements (GAO/AFMD-93-17, Jan. 1993).]

97 However, there was a strong indication in the comments the Board received and in the findings of the GAO report that agencies have been experiencing serious difficulties in implementing the credit reform requirements related to post-1991 direct loans and loan guarantees. A restatement of pre-1992 direct loans and loan guarantees, even on a sampling basis, would require additional use of the agencies' limited accounting resources. The Board also agrees with the view that as the pre-1992 direct and guaranteed loans are approaching their maturity and are paid off, liquidated, or written off, the difference between their present value and nominal value becomes less significant. Thus, the Board concludes that it is appropriate not to require restating pre-1992 direct loans and loan guarantees at present value.

98 The Department of Veterans Affairs stated in its comments that it had accounted for pre-1992 loan guarantees on a present value basis. The Department of Education indicated in its comments that it planned to report pre-1992 loans on a present value basis. Their efforts to account for pre-1992 loans and loan guarantees at present value,

although not at the same level of detail as required by credit reform, could very well result in improved information for credit management. Other agencies may follow their examples. The Board believes that reporting those pre-1992 direct loans and loan guarantees on a present value basis should be permitted.

99 Although a restatement of pre-1992 direct loans and loan guarantees at present value is not required, the Board continues to believe that it is of fundamental importance to estimate and recognize losses and liabilities for those direct loans and loan guarantees. Loss estimation and recognition are necessary to support federal government financial planning and management. The information on both current and potential liabilities related to federal credit programs alerts Congress and federal officials to the long-term costs and future financing needs.

100 The recommended standards would require that losses of pre-1992 direct loans and liabilities related to pre-1992 loan guarantees be recognized when it is more likely than not that the loans will not be totally collected or the loan guarantees will require a future cash outflow to pay default claims. This is the same standard that the Board recommended for the recognition of losses on receivables in FASAB Statement of Recommended Accounting Standards No. 1, Accounting for Selected Assets and Liabilities.

101 The Board believes that each loan guarantee program should disclose the aggregate amount of outstanding guaranteed loans. In addition, it should also disclose its risk exposure, which is the guaranteed portion of the total outstanding guaranteed loans.

## MODIFICATIONS

102 A modification is a government action that alters the estimated subsidy cost of outstanding direct loans or loan guarantees. Both a government action and an alteration in subsidy cost are necessary conditions for a modification. A subsidy reestimate is not a modification.

103 Direct modifications change the subsidy cost by legislation or administrative actions that alter the terms of existing contracts or by selling loan assets. Existing

contracts may be altered by such means as forgiveness, forbearance, reductions in interest rates, extensions of maturity, and prepayments without penalty. Such actions are modifications unless they are considered workouts as explained below or are permitted by the existing contract terms.

104 Indirect modifications change the subsidy cost by legislation that alters the way in which an outstanding portfolio of direct loans or loan guarantees is administered. Examples include a new method of debt collection prescribed by law or a statutory restriction on debt collection. Such new legislation would produce a one-time effect on the subsidy cost of outstanding direct loans and loan guarantees only. After the enactment of the legislation, the effects of the legislation are included in the original subsidy cost estimates of newly obligated direct loans and newly committed loan guarantees. Thus, the legislation is not a modification with respect to direct loans obligated and loan guarantees committed subsequent to its enactment.

105 The term modification does not include the routine administrative work-outs of troubled loans or loans in imminent default. Work-outs are actions undertaken to maximize the repayments to the government under existing direct loans or to minimize claim payments that the government would make under loan guarantees. The expected effects of work-outs on cash flows are included in the original estimate and the reestimates of the subsidy cost. Therefore, a workout effort is not a government action that alters the estimated subsidy cost of direct loans or loan guarantees.

106 The term modification also does not include actions that are permitted within the existing contract terms, such as prepayments without penalty permitted by existing loan contracts. The expected effects of such actions on cash flows are included in the original estimate and the reestimates of the subsidy cost.

107 Neither the term modification nor the term workout includes additional disbursements to borrowers that increase the amount of direct loans outstanding. These disbursements are considered to be new loans in the amount of the increment.

108 When direct loans and loan guarantees are modified, the subsidy cost of the modification must be calculated. The book value of the modified loans and the liabilities of the modified loan guarantees must be restated. The Exposure Draft used two types of discount rates to calculate the present values of post-1991 direct loans and loan guarantees that are modified: CURRENT DISCOUNT RATES and original discount rates.

109 The term *current discount rate* refers to the interest rate applicable to the time when the modification occurs on marketable Treasury securities that have a comparable maturity to the remaining maturity of the direct or guaranteed loans, under either pre-modification terms, or post-modification terms, whichever is appropriate. The cost of modification is measured as the excess of the present value of pre-modification net cash flows over the present value of post-modification cash flows, both discounted at a current discount rate. This is consistent with the measurement method described in OMB instructions.

110 The term *original discount rate* refers to the discount rate that is originally used to calculate the present value of the direct loans or the present value of loan guarantee liabilities, when the direct or guaranteed loans were disbursed. The value of modified loans or the liability of modified loan guarantees equals the present value of modified cash flows discounted at the original discount rate. The original discount rate is used to determine the value of modified loans because this is the interest rate that the Treasury charges on funds that it lends to the credit program to finance the loans. The original discount rate is also used to determine the liability of modified loan guarantees because this is the interest rate that the Treasury pays on funds that it holds for the credit program to pay future claims.

111 Because of using the two different rates, a difference will normally occur between the change in the book value of modified direct loans and the cost of the modification. In the case of loan guarantees, there will normally also be a difference between the change in the liability of modified loan guarantees and the cost of modification.

112 The Exposure Draft used an example to illustrate the difference. [Footnote 14] The example used the original discount rate of 6 percent to calculate the book value of a modified loan, and it used the current discount rate of 8 percent to calculate the cost of modification. The calculations resulted in a difference between the change in book value and the cost of modification.

[Footnote 14: See Exposure Draft, Vol. 2, pars. 221 through 231, and Appendix 2, pages 139 through 143.]

113 OMB instructions require that an amount equal to the difference between the change in book value and the cost of modification either be returned to, or received from, the Treasury to offset the difference. The amount transferred to offset the difference is referred to in OMB instructions as the modification adjustment transfer. This transfer does not constitute a part of the cost of modification and is not a budget outlay or collection.

114 Several respondents objected to use of the current rate for measuring the modification cost. They believed that both the modification cost and the value of the modified loans (or the liability of modified loan guarantees) should be measured on the same basis, using the original discount rate. They said that by using the original discount rate for measuring both the cost and the book value or the liability, there would be no difference between the modification cost and change in book value (or change in loan guarantee liability). They argued that the additional computations at current discount rate do not result in any additional meaningful information for use by management. They contended that the complexity of the computation, the effect of changing discount rates, and the resulting difference between the change in book value and the cost of modification would only detract from management's ability to analyze the results of modification.

115 The Board realizes that it is undesirable to calculate the cost of modification and change in book value on different bases. Because the cost of modification and the book value are calculated on different bases, the modification expense recognized would not equal the decrease in the book value of direct loans (or the increase in the liability of loan guarantees) resulting from the modification.

116 However, it is also undesirable to recognize a modification expense at a measurement basis that differs from the budget and appropriation basis. The OMB instructions concerning the definition and the cost of modification have carried a great weight on the Board's consideration of the subject. The OMB instructions require that the cost of modification be measured at the current rate, and appropriations approved for a modification will equal the cost of modification. The Board believes that financial reporting should reflect the modification cost recognized in the budget and the modification appropriations received.

117 The Board also appreciates the rationale in OMB instructions. The Federal Credit Reform Act of 1990 requires that the calculation of modification cost be based on the estimated present value of the direct loans or loan guarantees at the time of modification. This requirement has been interpreted as calculating the present value of modification cost at the discount rate applicable at the time of modification. The Board also agrees with the substantive rationale for using the current rate. By using the current rate, the calculation of the modification cost will reflect the economic cost of the modification at the time when the modification decision is made.

118 The Board found that some of the opposition to the use of the current rate for modifications arose because of a misunderstanding about the difference between modifications and work-outs. Once the distinction was clarified between work-outs (which are included in the initial subsidy estimates and are quantified using the original rates) and modifications (which require separate action as described, but are less frequent in occurrence), much of the opposition to using current rates for modifications disappeared.

119 In considering a solution for the measurement difference between the modification cost and the book value of the loan (or the loan guarantee liability), the Board has considered as an alternative whether the current rate could also be used to calculate the value of modified direct loans (or the liability of modified loan guarantees) so that the change in direct loan book value or loan guarantee liability could equal the cost of modification. The Board has decided against this for the two reasons explained below.



120 First, under credit reform, the un-subsidized portion of direct loans is financed by funds borrowed from Treasury, while the subsidy cost of the direct loans is financed by appropriations. Thus, the carrying amount of direct loans at any point should equal the balance of debt to Treasury. Proceeds from collecting direct loan principal and interest will be used to repay debt to Treasury. This exact match between loan assets and liabilities (debt to Treasury) is a unique feature that makes credit reform loans and loan guarantees different from private sector lending.

121 When a modification occurs, the book value of the direct loans is affected. An amount of modification appropriation, plus or minus the modification adjustment transfer, would be used to reduce the debt to Treasury. By doing so, the book value of the modified loans and the balance of the debt to Treasury would continue to be equal. It is important to note that the interest rate on the debt to Treasury does not change as a result of the modification; it remains the original rate. Thus, the debt balance to Treasury in fact equals the present value of future payments to Treasury discounted at the original rate. Since the debt to Treasury is based on the original rate, that rate should also be used to calculate the book value of modified loans, so that the book value of the loans and the balance of debt to Treasury would be kept equal.

121 A parallel situation exists with loan guarantees. The financing account of each loan guarantee program maintains a fund balance with the Treasury equal to the liability of the loan guarantees. The fund balance and the liability grow at the same compound interest rate. The fund balance will accrue interest at the original rate applicable at the time the guaranteed loans were disbursed. The interest rate will not change because of a modification of the loan guarantees. Thus, only by measuring the liability of the modified loan guarantees at the original rate could the liability be kept equal to the fund balance.

122 Second, even if the current rate were used to calculate the book value of modified loans, the difference between the change in book value (or the change in liability balance) and the modification cost would not disappear. In measuring the change in book value (or the change in liability balance), the starting point is the

pre-modification book value (or the pre-modification liability balance), which is based on the original discount rate. If the current rate is used to calculate the post-modification book value of modified direct loans, the change in book value would equal the difference between the pre-modification book value (based on the original rate) and the post-modification book value (based on the current rate). Similarly, if the current rate is used to calculate the post-modification balance of modified loan guarantee liabilities, the change in liability balance would equal the difference between the pre-modification balance (based on the original rate) and the post-modification balance (based on the current rate).

124 The cost of modification, on the other hand, is calculated differently. The starting point of the calculation is not the existing pre-modification book value of the modified loans (or the existing pre-modification book value of the liability of the modified loan guarantees). For both direct loans and loan guarantees, the calculation uses the present value of pre-modification net cash flows discounted at the current discount rate as the starting point. This pre-modification value differs from the existing pre-modification book value because the latter is based on the original discount rate. The cost of modification equals the difference between the present value of pre-modification net cash flows (discounted at the current rate) and the present value of post-modification net cash flows (also discounted at the current rate). Since the calculations take a different starting point, the cost of modification would not equal the change in book value.

125 Because of the two reasons above, the Board believes that the best solution available is to measure the cost of modification at the current discount rate, and to calculate the carrying amount of modified loans and loan guarantee liabilities at the original discount rate.

126 However, while it makes sense to determine the cost of modification based on the current discount rate, financial reporting cannot discard the pre-modification balance of direct loans or loan guarantee liabilities that are carried in the accounting records. Because of the use of different discount rates, the change in book value will be different from the cost of modification. The Board believes that the effect of a modification on assets or liabilities

should be reflected in the operating statement. The Board believes that in addition to recognizing the cost of modification as a modification expense, any difference between the change in book value and the modification expense should be recognized as a gain or loss. Thus, the net effect of the modification on the operating statement equals the decrease in loan assets or the increase in the liability of loan guarantees resulting from the modification.

127 Based on this view, the Board has concluded that, with respect to a modification of direct loans, any difference between the change in the book value of the direct loans resulting from the modification and the cost of modification should be recognized as a gain or loss in the operating statement. Similarly, any difference between the change in the amount of liability of loan guarantees resulting from the modification and the cost of modification should be recognized as a gain or loss in the operating statement. The gain or loss is to be recognized in a category distinguished from the modification expense. The modification adjustment transfer paid or received to offset the gain or loss is to be reported as a financing source or a reduction in financing source.

128 The Board further believes that agency financial statements should include a footnote to explain the calculation of the cost of modifications and nature of gain or loss on modifications.

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APPENDIX B: TECHNICAL EXPLANATIONS AND ILLUSTRATIONS

This Appendix explains and illustrates the accounting standards for direct loans and loan guarantees. The explanations and illustrations are presented to show how the standards may be applied but are not standards themselves. They also take into account OMB and Treasury regulations on credit reform.

This Appendix has 4 parts:

- Part I: Post-1991 Direct Loans
- Part II: Pre-1992 Direct Loans

-- Part III: Post-1991 Loan Guarantees

-- Part IV: Pre-1992 Loan Guarantees

Topics covered include:

-- the measurement and recognition of direct loans, subsidy costs, and the liability of loan guarantees;

-- the reestimation and the amortization of the subsidy cost allowance;

-- the reestimation of loan guarantee liabilities and the accumulation of interest on the liabilities;

-- the recognition of revenues and expenses;

-- modifications of direct loans and loan guarantees (including the sale of direct loans);

-- the write-off of direct loans; and

-- the foreclosure of assets upon default.

The Appendix does not illustrate financial statements, journal entries, or accounting procedures. Readers should consult OMB, GAO, and Treasury for guidance.

## PART I POST-1991 DIRECT LOANS

Post-1991 direct loans are direct loans obligated after September 30, 1991. The accounting for post-1991 direct loans is explained and illustrated in this part of the Appendix through an example described below:

At the end of fiscal year 1994, a federal credit program disburses a number of direct loans with a total principal of \$10 million. Those loans constitute a cohort for that year. The maturity term of that cohort is 5 years and the stated annual interest rate is 4 percent.

All of the amounts used in the text below are in thousands of dollars.

The loan contracts require an annual payment of \$2,246 per year for 5 years, paid at the end of each year. In Table 1 below, the required annual payments are shown in column (a). [Footnote 15] The amounts in column (b) equal the beginning loan balance of each period multiplied by the stated interest rate of 4 percent. The amounts in column (c) are principal repayments, which equal the amounts in column (a) minus the amounts in column (b). The amounts in column (d) are the ending principal balance of each period, which equal the beginning balance minus the principal repayment of that period, shown in column (c).

[Footnote 15: The annual payment is derived by dividing the present value factor of 4.45182 into the principal of \$10,000. The present value factor can be found in any ordinary annuity table, and it equals the present value of \$1 paid over 5 periods discounted at 4 percent. Alternatively, knowing the loan principal, the number of pay back periods, and the interest rate, one can use computer software or a financial calculator to find the required payment per period.]

TABLE 1: PAYMENT SCHEDULE (IN THOUSANDS OF DOLLARS)

	YEAR-END			
	PAYMENT	INTEREST	PRINCIPAL	LOAN BALANCE
	(a)	(b)	(c)	(d)
FY 1994				\$10,000
1995	\$2,246	\$400	\$1,846	8,154
1996	2,246	326	1,920	6,234
1997	2,246	249	1,997	4,237
1998	2,246	169	2,077	2,160
1999	2,246	86	2,160	0

It is also assumed that:

- The average interest rate of Treasury marketable securities of a similar maturity for the period during which the loans are disbursed is 6 percent.
- Fees totaling \$500 are received when the loans are disbursed. The fees are used to reduce the need to borrow from Treasury.

## A. REPORTING POST-1991 DIRECT LOANS AND THEIR SUBSIDY COSTS

The accounting standard for post-1991 direct loans requires that direct loans disbursed and outstanding be recognized as assets at the present value of their estimated net cash inflows. The difference between the outstanding principal of the loans and the present value of their net cash inflows is recognized as a subsidy cost allowance.

[Footnote 16]

[Footnote 16: In this Appendix, the requirements of the accounting standards are summarized to address specific situations. However, the standards are not quoted verbatim. Readers should refer to the text of the standards for their exact wording.]

To implement the standard in the example, a cash flow projection and present value calculations are prepared. Based upon the risk factors and other criteria for default cost estimates that are enumerated in the accounting standards, it is estimated that losses in cash flows due to the defaults would equal 30 percent of the scheduled payments for fiscal year 1997 and each year thereafter.

[Footnote 17] Table 2 below displays the cash flow projections and present value calculations.

[Footnote 17: The standard defines losses in cash flows due to default as being due to defaults net of recoveries. However, to simplify computations, recoveries are assumed to be zero throughout Parts I and II of this Appendix. References to defaults throughout Parts I and II should be understood to mean defaults net of recoveries for all cases where recoveries are expected. The accounting standard for recoveries is illustrated in Part III of this Appendix.]

TABLE 2:PROJECTED CASH FLOWS DISCOUNTED TO THE END OF FY 1994 (IN THOUSANDS OF DOLLARS)

	FEE COLLECTIONS	P & I PAYMENTS*	DEFAULT LOSSES	NET CASH INFLOWS
FY 1994	\$500			\$ 500
1995		\$2,246		2,246
1996		2,246		2,246
1997		2,246	\$ (674)	1,572
1998		2,246	(674)	1,572
1999		2,246	(674)	1,572
PV at 6%	\$500	\$9,461	\$(1,603)	\$8,358

\*The term P & I Payments used in this table as well as other tables throughout this Appendix denotes scheduled principal and interest payments required in loan contracts.

The present value of the loans' estimated net cash inflows is \$8,358. The direct loans are recognized as assets at that amount. Since the loans' outstanding principal is \$10,000, the difference between the loans' outstanding principal and their present value is \$1,642, which is recognized as the subsidy cost allowance.

The accounting standard for post-1991 direct loans requires that for direct loans disbursed during a fiscal year, a subsidy expense be recognized. The amount of the subsidy expense equals the present value of estimated cash outflows over the life of the loans minus the present value of estimated cash inflows, discounted at the interest rate of marketable Treasury securities with a similar maturity term, applicable to the period during which the loans are disbursed (hereinafter referred to as the applicable Treasury interest rate).

In the example, the present value of the loans' cash outflows is the disbursed amount of \$10,000. The present value of the loans' estimated net cash inflows is \$8,358. The difference between those two amounts is \$1,642, which is recognized as subsidy expense.

The accounting standard for post-1991 direct loans requires that for the fiscal year during which new direct loans are disbursed, the components of the subsidy expense of those new direct loans be recognized separately among

interest subsidy costs, default costs, fees and other collections, and other subsidy costs.

The interest subsidy cost of direct loans is the excess of the amount of the loans disbursed over the present value of the interest and principal payments required by the loan contracts, discounted at the applicable Treasury interest rate (6 percent in this example). In this example, the amount of the loans disbursed is \$10,000. The present value of the scheduled interest and principal payments is \$9,461. The difference between those two amounts is \$539, which is recognized as the interest subsidy cost.

The default cost of direct loans results from any anticipated deviation, other than prepayments, by the borrowers from the payment schedules in the loan contracts. The deviations include delinquencies and omissions in interest and principal payments. The default cost is measured at the present value of the projected payment delinquencies and omissions minus net recoveries. (See footnote 3.) In this example, the present value of the projected payment omissions minus net recoveries is \$1,603, which is recognized as the default cost.

The present value of fee collections is \$500, which is recognized as a deduction from subsidy costs.

There are no other subsidy costs [Footnote 18] in this example.

[Footnote 18: The term other subsidy costs is explained in the standard for subsidy costs of post-1991 direct loans and loan guarantees.]

The subsidy expense of the loans is the sum of the above cost components, which is \$1,642, calculated as follows:

Interest subsidy cost	\$ 539
Fee collections	(500)
Loan default cost	1,603
Total subsidy cost	\$1,642

The loan disbursements are financed by three sources: subsidy payments, borrowing from Treasury, and fee



collections. The subsidy cost of \$1,642 is provided by appropriated funds; and the present value of loans, equal to \$8,358, is provided by fee collections and funds borrowed from Treasury at the Treasury interest rate of 6 percent.

The fees are collected when the loans are disbursed. Because all cash flows, including fee collections, are used to calculate the subsidy cost allowance, the amount of the fee collections is credited to the subsidy cost allowance. The collected amount reduces the amount that has to be borrowed from the Treasury. As a result, the subsidy cost allowance is \$2,142, which is the sum of the interest subsidy cost of \$539 and the default subsidy cost of \$1,603. This is \$500 more than the total subsidy cost of \$1,642. The debt to Treasury is \$7,858, which is \$500 less than the present value of the loans of \$8,358.

Table 3 displays the asset and liability balances at the end of fiscal year 1994.

TABLE 3: ASSETS AND LIABILITIES AS OF THE END OF FY 1994  
(IN THOUSANDS OF DOLLARS)

ASSETS		LIABILITIES	
Loans receivable	\$10,000	Debt to Treasury	\$7,858
Less:			
Allowance for			
subsidy costs	( 2,142)		
Loans			
receivable - net	\$ 7,858		

## B. SUBSIDY REESTIMATION AND AMORTIZATION

### (1) SUBSIDY REESTIMATION

The accounting standard for post-1991 direct loans requires that the subsidy cost allowance for direct loans be reestimated each year as of the date of the financial statements. Since the allowance represents the present value of the net cash outflows of the underlying direct loans, the reestimation takes into account all factors that may have affected the estimate of each component of the cash flows, including prepayments, defaults, delinquencies, and recoveries. Any increase or decrease in the subsidy cost

allowance resulting from the reestimates is recognized as a subsidy expense (or a reduction in subsidy expense).

The standard further states that reporting the subsidy cost allowance of direct loans and reestimates by component is not required.

In Appendix A, the Basis of the Board's Conclusions, it is pointed out that the primary factor that causes changes in the subsidy cost allowance would be default reestimates. The accounting standard provides a number of risk factors and other default cost criteria to be considered in making the default cost estimates and reestimates.

In this illustration, it is originally estimated that 30 percent of the loan payments would be lost due to defaults for fiscal year 1997 and thereafter. The first reestimate is made early in fiscal year 1995. Because so little time has passed since the subsidy was initially estimated, the estimated cash flows are unchanged and the reestimate is zero. (This illustration assumes that the interest rates at the time of loan obligation and disbursement are the same, so no reestimate is needed for the difference in interest rates.)

The second reestimation is performed early in fiscal year 1996, in preparing financial statements for fiscal year 1995. It reestimates the subsidy cost allowance as of the end of fiscal year 1994. After evaluating all of the risk factors, it is concluded that defaults would occur in fiscal year 1996, instead of 1997, and that 60 percent, instead of 30 percent, of the cash flows would be lost due to the defaults in fiscal year 1996 and thereafter. Table 4 below displays the present values of the reestimated cash flows discounted to the end of fiscal year 1994.

TABLE 4: SUBSIDY COST REESTIMATION: PROJECTED CASH FLOWS DISCOUNTED TO THE END OF FY 1994 (IN THOUSANDS OF DOLLARS)

	P & I PAYMENTS	DEFAULT LOSSES	NET CASH FLOWS
FY 1995	\$2,246	\$ 0	\$2,246
1996	2,246	(1,348)	898
1997	2,246	(1,348)	898
1998	2,246	(1,348)	898
1999	2,246	(1,348)	898
PV at 6%	\$9,461	\$(4,405)	\$5,056

The present value of the reestimated net cash inflows discounted to the end of fiscal year 1994 is \$5,056, compared to the loans' book value of \$7,858, a decrease of \$2,802. Thus, the subsidy cost allowance is increased by \$2,802, from \$2,142 to \$4,944. The amount of the increase in the subsidy cost allowance (which is the decrease in the present value of the loans), resulting from the reestimate, is recognized as subsidy expense reestimates .

A subsidy payment of \$2,802, equal to the subsidy expense resulting from the reestimate, is received under permanent indefinite authority. The amount is used to repay borrowing from Treasury. Thus, the outstanding balance of the debt to Treasury is reduced by \$2,802 to \$5,056.

Furthermore, the direct loan program also receives a payment under permanent indefinite authority to cover the interest accrued on the reestimate subsidy payment of \$2,802 for the period from the end of fiscal year 1994 to the end of fiscal year 1995. The payment is \$168, which equals \$2,802 times the applicable Treasury interest rate of 6 percent. This amount is recognized as interest income reestimates, and the money is used to pay the interest on the \$2,802 borrowed from Treasury but repaid with the reestimate subsidy.

Table 5 displays the asset and liability balances as of the end of fiscal year 1994, adjusted for the reestimate that was calculated early in fiscal year 1996.

TABLE 5: ASSETS AND LIABILITIES AS OF THE END OF FY 1994:

AMOUNTS ADJUSTED FOR REESTIMATE CALCULATED IN EARLY FY 1996  
(IN THOUSANDS OF DOLLARS)

ASSETS	LIABILITIES		
Loans receivable	\$10,000	Debt to Treasury	\$5,056
Less:			
Allowance for subsidy costs	( 4,944)		
Loans receivable - net	\$ 5,056		

(2) SUBSIDY AMORTIZATION

The accounting standard for post-1991 direct loans requires that the subsidy cost allowance for direct loans be amortized by the interest method using the interest rate that was originally used to calculate the present value of the direct loans when the direct loans were disbursed. The amortized amount is recognized as an increase or decrease in interest income.

The subsidy cost allowance is amortized as a whole, not by components. Under the interest method of amortization, the amortization of each period equals the effective interest of the outstanding direct loans minus the nominal interest. For any period for which interest is to be paid (a fiscal year in this example), the effective interest equals the book value (which is also the present value) of the direct loans at the beginning of the period times the applicable Treasury rate. The nominal interest equals the outstanding nominal balance of the loans at the beginning of the period times the interest rate stated in the loan contracts.

In the example, the book value of the direct loans, as reestimated, is \$5,056. The effective interest for fiscal year 1995 is \$303, which equals the book value of \$5,056 times the applicable Treasury rate of 6 percent. The nominal interest for that year is \$400, which equals the nominal principal of the direct loans \$(10,000) times the stated rate of 4 percent. The amortized amount is a negative amount of \$97 for fiscal year 1995, which equals the effective interest minus the nominal interest. The subsidy cost allowance is increased by \$97, from \$4,944 to

\$5,041. The amortized amount is recognized as a reduction in interest income. (Interest income for fiscal year 1995 is calculated in section C: Revenues and Expenses.)

[Footnote 19]

[Footnote 19: Amortization can alternatively be computed as interest expense other than reestimates \$(471) minus the sum of interest income from borrowers \$(400), interest income from reestimates \$(168), and interest income on fund balance with Treasury \$(0). These figures are derived in section C below.]

The same procedure of amortization is applied for each of the subsequent years so long as the direct loans are outstanding. The collection of interest and principal payments must be properly accounted for together with the amortization, so that the asset and liability balances can be updated.

At the end of fiscal year 1995, payments of \$2,246 are received from the borrowers as scheduled. Of this amount, \$400 is interest payments, and the remaining amount of \$1,846 is principal repayments. Thus, the outstanding nominal balance of the loans is reduced by \$1,846 to \$8,154.

The \$2,246 received from the borrowers was paid to Treasury. Although the debt to Treasury outstanding at the end of fiscal year 1994 was \$7,858, the amount of \$2,802 has been paid off by the subsidy payment for the reestimate. This left \$5,056 of debt to Treasury. The interest that accrued on this remaining debt to Treasury is \$303; the interest that accrued on the amount of debt paid off by the subsidy reestimate is \$168, but it is covered by the interest on the reestimate. Therefore, of the \$2,246 collected from the borrowers, \$303 is interest paid to Treasury. The remaining \$1,943 is principal repayment to Treasury. After the principal repayment, the outstanding debt to Treasury becomes \$3,113.

Table 6 below displays the asset and liability balances after the amortization and the collection of interest and principal payments at the end of fiscal year 1995.

TABLE 6: ASSETS AND LIABILITIES AFTER AMORTIZATION AT THE  
END OF FY 1995 (IN THOUSANDS OF DOLLARS)

ASSETS		LIABILITIES	
Loans receivable	\$8,154	Debt to Treasury	\$3,113
Less:			
Allowance for subsidy costs	( 5,041)		
Loans receivable - net	\$ 3,113		

### C. REVENUES AND EXPENSES

The accounting standard for post-1991 direct loans requires that interest accrued on direct loans, including amortized interest, be recognized as interest income. Interest accrued on debt to Treasury is recognized as interest expense.

In this example, interest income for fiscal year 1995 is \$471, which consists of the following items:

Nominal interest	\$ 400
Amortized interest	(97)
Interest reestimates	168
Total interest income	\$ 471

Interest expense on the debt to Treasury for the fiscal year is also \$471, which equals the debt to Treasury of \$7,859 at the beginning of the year times 6 percent. It is financed with the following sources:

Collections from borrowers	\$303
Interest on reestimated subsidy payments	168
Total interest expense	\$471

Costs of administering credit activities, such as salaries, legal fees, and office costs, that are incurred for credit policy evaluation, loan origination, closing, servicing, monitoring, maintaining accounting and computer systems, and other credit administrative purposes, are recognized separately as administrative expenses. Administrative expenses are not included in calculating the

subsidy costs of direct loans.

#### D. MODIFICATION OF POST-1991 DIRECT LOANS

The accounting standard on modifications states that the term modification means a federal government action, including new legislation or administrative action, that directly or indirectly alters the estimated subsidy cost and the present value of outstanding direct loans.

Readers should refer to the text of the standard and to Appendix A, Basis of the Board's Conclusions, for a more detailed definition of modifications.

Assume that in October 1995, shortly after the close of fiscal year 1995, Congress passed legislation to aid the borrowers. The legislation forgave some of the outstanding loans, and extended the maturity of the remaining loans for one additional year (to the end of fiscal year 2000). It is estimated that 70 percent of the outstanding amounts, or \$5,708, is forgiven.

The legislative action is within the definition of direct modification because it is a federal government action that directly changes the estimated subsidy cost and the present value of outstanding direct loans by altering the terms of existing contracts.

The accounting standard on modifications states that with respect to a direct or indirect modification of pre-1992 or post-1991 direct loans, the cost of modification is the excess of the pre-modification value of the loans over their post-modification value. The amount of the modification cost is recognized as a modification expense when the loans are modified.

The accounting is implemented in the steps described below.

##### (1) CALCULATE THE PRE-MODIFICATION VALUE

The pre-modification value is the present value of the net cash inflows of the direct loans estimated at the time of modification under pre-modification terms and discounted at the current discount rate.

As used in this part and Part II of this Appendix, the current discount rate is the interest rate applicable at the time of modification on marketable Treasury securities with a similar maturity to the remaining maturity of the direct loans under pre-modification terms or post-modification terms, whichever is appropriate. [Footnote 20]

[Footnote 20: The definition of the current discount rate is provided in Appendix C, Glossary.]

The cash flows of the loans under pre-modification terms during 1996-99 are assumed to be the same as the cash flows that were reestimated early in fiscal year 1996 for these years and that are shown in Table 4. Those cash flows are used to calculate the loans' pre-modification value. It is assumed that the Treasury rate for a comparable maturity (4 years) and applicable to the time of modification is 4.5 percent. As Table 7 below shows, the present value of the pre-modification cash flows discounted at 4.5 percent is \$3,223.

TABLE 7: PRE-MODIFICATION VALUE (IN THOUSANDS OF DOLLARS, CALCULATED AT THE CURRENT DISCOUNT RATE)

	P & I PAYMENTS	DEFAULT LOSSES	NET CASH FLOWS
FY 1996	\$2,246	\$(1,348)	\$ 898
1997	2,246	(1,348)	898
1998	2,246	(1,348)	898
1999	2,246	(1,348)	898
PV at 4.5%	\$8,058	\$(4,835)	\$3,223

(2) CALCULATE THE POST-MODIFICATION VALUE

The loans' post-modification value is the present value of the loans' net cash inflows estimated at the time of modification under post-modification terms and discounted at the current discount rate (for a 5-year maturity).

The modification forgives 70 percent of the outstanding principal amounts, and requires the remaining 30 percent, or



\$2,446, be paid back in 5 years (instead of 4 years) starting with year 1996. The stated interest rate remains at 4 percent. As shown in Table 8 below, under the modified terms, the required annual principal and interest payment is \$549.

TABLE 8: PAYMENT SCHEDULE OF THE MODIFIED LOANS (IN THOUSANDS OF DOLLARS)

	YEAR-END			
	PAYMENT	INTEREST	PRINCIPAL	LOAN BALANCE
FY 1995				\$ 2,446
1996	\$549	\$97	\$452	1,994
1997	549	79	470	1,524
1998	549	61	488	1,036
1999	549	41	508	528
2000	549	21	528	0

It is estimated that 20 percent of the scheduled cash inflows of the modified loans would be lost due to defaults. The current discount rate for a maturity of 5 years is 5 percent. As Table 9 shows, the present value of the post-modification cash inflows discounted at 5 percent is \$1,902.

TABLE 9: POST-MODIFICATION VALUE (IN THOUSANDS OF DOLLARS, CALCULATED AT THE CURRENT DISCOUNT RATE)

	P & I PAYMENTS	DEFAULT LOSSES	NET CASH FLOWS
FY 1996	\$549	\$(110)	\$ 439
1997	549	(110)	439
1998	549	(110)	439
1999	549	(110)	439
2000	549	(110)	439
PV at 5%	\$2,377	\$(475)	\$1,902

### (3) CALCULATE AND RECOGNIZE THE COST OF MODIFICATION

The cost of modification is the excess of the pre-modification value over the post-modification value.

Since the pre-modification value is \$3,223, and the post-modification value is \$1,902, the cost of modification is \$1,321, which is recognized as a subsidy expense for modifications.

(4) CALCULATE THE CHANGE IN THE LOANS' BOOK VALUE

The accounting standard on direct loan modifications requires that when post-1991 direct loans are modified, their existing book value be changed to an amount equal to the present value of the loans' net cash inflows projected under the modified terms from the time of modification to the loans' maturity and discounted at the original discount rate (the rate that is originally used to calculate the present value of the direct loans, when the direct loans were disbursed).

In this example, the original discount rate is 6 percent. As Table 10 below shows, the present value of the net cash inflows estimated under the modified terms and discounted at 6 percent is \$1,849.

TABLE 10: POST-MODIFICATION BOOK VALUE (IN THOUSANDS OF DOLLARS, CALCULATED AT THE ORIGINAL DISCOUNT RATE)

	P & I PAYMENTS	DEFAULT LOSSES	NET CASH FLOWS
FY 1996	\$549	\$(110)	\$ 439
1997	549	(110)	439
1998	549	(110)	439
1999	549	(110)	439
2000	549	(110)	439
PV at 6%	\$2,312	\$(463)	\$1,849

At the time the modification action is taken, the existing book value of the loans is \$3,113. The book value is changed to \$1,849. This represents a decrease in book value by \$1,264.

Table 11 displays the effect of the modification on the book amounts. The table shows that, due to the forgiveness, (1) the outstanding balance of the loans receivable is reduced from \$8,154 to \$2,446, (2) the book value is reduced

from \$3,113 to \$1,849, and (3) the subsidy cost allowance, which is the difference between the gross amount and the book value, is changed from \$5,041 to \$597.

TABLE 11: CHANGE IN THE VALUE OF MODIFIED LOANS (IN THOUSANDS OF DOLLARS)

	GROSS AMOUNT	ALLOWANCE	BOOK VALUE
Before Modification	\$8,154	\$(5,041)	\$3,113
After Modification	\$2,446	\$( 597)	\$1,849

(5) CALCULATE THE GAIN OR LOSS AND THE DEBT TO TREASURY

The accounting standard on direct loan modifications states that the change in book value of both pre-1992 and post-1991 direct loans resulting from a direct or indirect modification and the cost of modification will normally differ, due to the use of different discount rates or the use of different measurement methods. Any difference between the change in book value and the cost of modification is recognized as a gain or loss. For post-1991 direct loans, the modification adjustment transfer [Footnote 21] paid or received to offset the gain or loss is recognized as a financing source (or a reduction in financing source).

[Footnote 21: OMB instructions provide that if the decrease in book value exceeds the cost of modification, the reporting entity receives from the Treasury an amount of modification adjustment transfer equal to the excess; and if the cost of modification exceeds the decrease in book value, the reporting entity pays to Treasury an amount of modification adjustment transfer to offset the excess. (See OMB Circular A-11.)]

The change in book value in this case is \$1,264, compared to the cost of modification of \$1,321. The amount of the modification cost exceeds the change in book value by \$57. This excess is recognized as a gain.

The credit program receives a subsidy appropriation

equal to the cost of modification. Since the cost of modification exceeds the decrease in book value by \$57, the credit program pays to the Treasury a modification adjustment transfer of \$57 to offset the excess. This is reported as a reduction in financing source.

The \$1,321 subsidy appropriation received minus the \$57 modification adjustment transfer paid is used to repay debt to Treasury. As a result, the debt to Treasury is reduced by \$1,264 from \$3,113 to \$1,849.

Table 12 displays the asset and liability balances after the modification in October 1995.

TABLE 12: ASSETS AND LIABILITIES AFTER MODIFICATION IN OCTOBER 1995 (IN THOUSANDS OF DOLLARS)

ASSETS		LIABILITIES	
Loans receivable	\$2,446	Debt to Treasury	\$1,849
Less:			
Allowance for subsidy costs	( 597)		
Loans receivable - net	\$ 1,849		

#### (6) PROVIDE DISCLOSURES

The accounting standard requires that disclosure be made in notes to financial statements to explain the nature of the modification of direct loans, the discount rate used in calculating the modification expense, and the basis for recognizing a gain or loss related to the modification.

With respect to the modification described above, a footnote disclosure should be made in the financial statements for fiscal year 1996. The disclosure would explain the following: [Footnote 22]

[Footnote 22: The disclosure will not be illustrated for other modifications explained in this Appendix.]

(a) The direct loans in the cohort of fiscal year 1994 were modified in October 1995. The modification was to forgive 70 percent of the outstanding loans and to extend

the maturity of the remaining loans to the end of fiscal year 2000.

(b) The modification expense is \$1,321, which is the decrease in the present value of the cash flows from that estimated under pre-modification terms to that estimated under post-modification terms, discounted at the current interest rate of marketable Treasury securities of similar maturity. The pre-modification cash flows were discounted at the current discount rate of 4.5 percent, which was applicable to a maturity of 4 years, and the post-modification cash flows were discounted at the current discount rate of 5 percent, which was applicable to a maturity of 5 years.

(c) As a result of the modification, the book value of the loans receivable decreased by \$1,264, from \$3,113, as reported at the end of fiscal year 1995, to \$1,849. The difference between this decrease in book value and the modification expense, which amounts to \$57, is recognized as a gain in the operating statement.

#### E. Write-off of Direct Loans

The accounting standard on write-off of direct loans requires that when post-1991 direct loans are written off, the unpaid principal of the loans be removed from the gross amount of loans receivable. Concurrently, the same amount is charged to the allowance for subsidy costs. Prior to the write-off, the uncollectible amounts should have been fully provided for in the subsidy cost allowance through the subsidy cost estimate or reestimates. Therefore, the write-off would have no effect on expenses.

Direct loans in this example that are determined to be uncollectible are written off as of the end of fiscal year 1996. However, before the write-off, accounting is performed for the year-end reestimation, the amortization of the allowance for subsidy costs, and the recording of collections and payments. This takes the following steps:

##### (1) THE REESTIMATION OF THE SUBSIDY COST ALLOWANCE

In early fiscal year 1997, before the write-off, the credit program makes a year-end reestimation for the subsidy cost allowance. This reestimation is for the balances

calculated as of the end of fiscal year 1995 adjusted for the modification in October 1995 (Table 12). The result of the reestimation indicates that 20 percent of the outstanding loan payments due after the modification were lost because of defaults for fiscal year 1996, and the expected loss would be 30 percent in fiscal year 1997 and thereafter. The reestimated loss of 30 percent for fiscal year 1997 and the subsequent years is 10 percentage points more than the previous estimate made in October 1995, when the loans were modified. As Table 13 below shows, the net present value of the reestimated net cash inflows, discounted at the original rate of 6 percent to the end of fiscal year 1995, is \$1,670.

TABLE 13: SUBSIDY COST REESTIMATION: PROJECTED CASH FLOWS DISCOUNTED TO THE END OF FY 1995 (IN THOUSANDS OF DOLLARS)

	P & I PAYMENTS	DEFAULT LOSSES	NET CASH FLOWS
FY 1996	\$549	\$(110)	\$ 439
1997	549	(165)	384
1998	549	(165)	384
1999	549	(165)	384
2000	549	(165)	384
PV at 6%	\$2,313	\$(643)	\$1,670

Based on the reestimate, the direct loans' book value is reduced by \$179, from \$1,849 to the reestimated present value of \$1,670. This is accomplished by adjusting the subsidy cost allowance upward by \$179, from \$597 to \$776. The increase of \$179 in the subsidy cost allowance is recognized as subsidy expense reestimates.

A subsidy payment of \$179 equal to the subsidy cost increase resulting from the reestimate is received under permanent indefinite authority and is used to reduce debt to Treasury. As a result, the debt to Treasury is reduced from \$1,849 to \$1,670.

Furthermore, the direct loan program also receives a payment under permanent indefinite authority to cover the interest accrued on the increased subsidy expense of \$179. The payment is \$11, which equals \$179 times the applicable Treasury interest rate of 6 percent. This amount is

recognized as interest income reestimates, and the money is used to pay interest accrued for fiscal year 1996 on the \$179 borrowed from Treasury, that is repaid by the subsidy reestimate.

The following table displays the asset and liability balances as of the end of fiscal year 1995, adjusted for the modification in October 1995 and the results of the reestimate that is calculated in early fiscal year 1997.

TABLE 14: ASSETS AND LIABILITIES AS OF THE END OF FY 1995:  
AMOUNTS ADJUSTED FOR MODIFICATION IN OCTOBER 1995 AND REESTIMATES CALCULATED IN EARLY FY 1997 (IN THOUSANDS OF DOLLARS)

ASSETS	LIABILITIES
Loans receivable	\$2,446
Less:	
Allowance for subsidy costs	( 776)
Loans receivable - net	\$ 1,670
	Debt to Treasury \$1,670

### (2) THE AMORTIZATION OF THE SUBSIDY COST ALLOWANCE

The subsidy cost allowance is amortized as of the end of fiscal year 1996. The amortized amount equals the loans' effective interest minus their nominal interest. The loans' effective interest for fiscal year 1996 is \$100, which is the loan's book value of \$1,670, as reestimated, times the original discount rate of 6 percent. The loans' nominal interest is \$98, which is the loans' nominal outstanding balance of \$2,446 times the stated interest rate of 4 percent. Thus, the amortized amount is \$2, which is the effective interest minus the nominal interest. The amortized amount is recognized as interest income, and the allowance for subsidy costs is reduced by \$2, and becomes \$774.

### (3) COLLECTIONS AND PAYMENTS

Of the scheduled annual payment of \$549 for fiscal year 1996, payments of \$439 are received from the borrowers, which equal 80 percent of the scheduled payments. Of the

amount received, \$78 is interest payment (which equals 80 percent of the loans' balance of \$2,446 times the stated interest rate of 4 percent), and the remaining \$361 is principal repayment. The outstanding nominal principal of the loans is reduced by \$361 to \$2,085. There is unpaid accrued interest of \$20 (which equals 20 percent of the loans' nominal balance as of the end of fiscal year 1995 times the stated interest rate of 4 percent). At this point of time, the loans' book value is \$1,331, which equals the outstanding principal of \$2,085, plus interest receivable of \$20, minus the subsidy cost allowance of \$774.

The debt to Treasury was \$1,849 after the modification in October 1995. Of that amount, \$179 has been paid off with the subsidy payment received as a result of the reestimate, which reduces the debt to \$1,670; and the \$11 of accrued interest on the \$179 has been paid off with the interest on the reestimate. The interest accrued on the remaining debt is \$100, which equals the debt balance of \$1,670 times the Treasury interest rate of 6 percent. Of the \$439 in payments received from the borrowers, \$100 is used to pay interest due Treasury, and the remaining \$339 is used to reduce debt to Treasury. As a result, the balance of debt to Treasury becomes \$1,331.

Table 15 displays the asset and liability balances after the amortization and the recording of collections and payments at the end of fiscal year 1996.

TABLE 15: ASSETS AND LIABILITIES AFTER AMORTIZATION AT THE END OF FY 1996 (IN THOUSANDS OF DOLLARS)

ASSETS		LIABILITIES	
Loans receivable	\$2,085	Debt to Treasury	\$1,331
Interest receivable	20		
Less:			
Allowance for subsidy costs	( 774)		
Loans and interest receivable - net	\$1,331		

#### (4) WRITE-OFF OF UNCOLLECTIBLE DIRECT LOANS

It is confirmed that non-performing loans with an



outstanding balance of \$489 (20 percent of the direct loan balance after modification in October 1995) are in default and will not be collected. The credit program is authorized to write off those loans, and the unpaid accrued interest of \$20. The total amount of the write-off is \$509. Thus, the principal is reduced by \$489 to \$1,596, and the interest receivable of \$20 is written off. The subsidy cost allowance is reduced by \$509, from \$774 to \$265.

The loans' book value is not changed by the write-off; it remains \$1,331, which equals the remaining principal of \$1,596, minus the subsidy allowance of \$265. Table 16 below shows the asset and liability balances after the write-off.

TABLE 16: ASSETS AND LIABILITIES AFTER THE WRITE-OFF AS OF THE END OF FY 1996 (IN THOUSANDS OF DOLLARS)

ASSETS		LIABILITIES	
Loans receivable	\$1,596	Debt to Treasury	\$1,331
Less:			
Allowance for subsidy costs	( 265		
Loans receivable - net	\$ 1,331		

The book value of \$1,331, as indicated in the above table, equals the present value of estimated net cash inflows of the remaining outstanding loans. The estimated cash flows and the present value calculations are shown in Table 17.

In Table 17 the amounts in column (a) are the scheduled annual principal and interest payments. Since the principal of the outstanding loans is \$1,596 and the remaining life of the loans is 4 years, the required annual payment is \$439. The amounts in column (b) equal the default amounts reestimated at the end of fiscal year 1996 minus the scheduled payments of the loans that have been written off (recoveries on those loans are assumed to be zero). The amounts in column (c) are the projected net cash inflows of the outstanding loans.

TABLE 17: PROJECTED CASH FLOWS AFTER LOAN WRITE-OFF:  
DISCOUNTED TO THE END OF FY 1996 (IN THOUSANDS OF DOLLARS)

	P & I Payments (a)	Default Losses (b)	Net Cash Flows (c)
FY 1997	\$439	\$(55)	\$384
1998	439	(55)	384
1999	439	(55)	384
2000	439	(55)	384
PV at 6%	\$1,521	\$(190)	\$1,331

It should be noted that to calculate the amortization correctly in subsequent periods, the unpaid principal and interest should be written out of the nominal principal balance. The amortization would be distorted if the unpaid amounts were kept in the nominal principal balance and continued to accrue interest. However, direct loan programs may need to keep the non-paying loans in their accounting records until collection efforts are exhausted and the loans are authorized to be written off. The non-paying loans and interest accrued on them should be accounted for separately, so that the amortization of the subsidy cost allowance of the performing loans can be calculated correctly. Readers should consult Treasury, OMB, or GAO, for guidance on accounting for non-paying loans.

#### F. SALE OF DIRECT LOANS

The accounting standard on sale of loans states that the sale of post-1991 and pre-1992 direct loans is a direct modification. [Footnote 23]

[Footnote 23: This assumes that the sales proceeds were not included in the cash flow estimates for the initial subsidy calculation.]

It is assumed that after the close of fiscal year 1996, the credit program is authorized to sell the loans. In October 1996, all of the loans are sold with recourse. The net proceeds from the sale amount to \$1,100. Accounting for the sales takes the steps explained in the paragraphs that follow.

(1) RECOGNIZE THE COST OF MODIFICATION

The accounting standard on sale of loans requires that the cost of modification be determined on the basis of the pre-modification value of the loans sold. If the pre-modification value of the loans sold exceeds the net proceeds from the sale, the excess is the cost of modification, which is recognized as modification expense.

The pre-modification value of the loans sold is the present value of the loans' net cash inflows estimated under pre-modification terms and discounted at the current discount rate.

The net cash inflows of the direct loans estimated prior to the sale are assumed to be the same as those estimated after the loan write-off at the end of fiscal year 1996 (shown in Table 17). It is assumed that the current discount rate for a similar maturity (4 years) is 5 percent. To calculate the pre-modification value, the net cash flows are now discounted at the current discount rate of 5 percent. As Table 18 shows, the pre-modification value of the loans sold is \$1,362.

TABLE 18: PRE-MODIFICATION VALUE OF THE LOANS SOLD, AS OF OCTOBER 1996 (IN THOUSANDS OF DOLLARS, CALCULATED AT THE CURRENT DISCOUNT RATE)

	P&I PAYMENTS	DEFAULT LOSSES	NET CASH FLOWS
FY 1997	\$ 439	\$ (55)	\$ 384
1998	439	(55)	384
1999	439	(55)	384
2000	439	(55)	384
PV at 5%	\$1,557	\$(195)	\$1,362

The pre-modification value of the loans sold exceeds the net proceeds of \$1,100 from the sale by \$262, which is recognized as a modification expense. The credit program receives an appropriation equal to that amount to cover the modification cost. (The credit program must have an appropriation equal to the modification cost before it can sell the loans.)

## (2) RECOGNIZE BOOK VALUE GAIN OR LOSS

The accounting standard on sale of direct loans states that the book value loss (or gain) on a sale of direct loans equals the existing book value of the loans sold minus the net proceeds from the sale. Since the book value loss (or gain) and the cost of modification are calculated on different bases, they will normally differ. Any difference between the book value loss (or gain) and the cost of modification is recognized as a gain or loss. [Footnote 24] For sales of post-1991 direct loans, the modification adjustment transfer paid or received to offset the gain or loss is recognized as a financing source (or a reduction in financing source).

[Footnote 24: If there is a book value gain, the gain to be recognized equals the book value gain plus the cost of modification.]

The existing book value of the loans sold is \$1,331. Upon the sale, this amount is removed from the books. At the same time, the net proceeds of \$1,100 from the sale are recorded. The book value loss is \$231. The accounting standard requires that any difference between the book value loss and the cost of modification be recognized as a gain or loss. In this case, the cost of modification is \$262 and the book value loss is \$231. The difference of \$31 is recognized as a gain. Under the OMB instructions, this amount will be paid to Treasury as a modification adjustment transfer, and is recorded as a reduction in financing sources.

## (3) RECOGNIZE THE SUBSIDY EXPENSE ON RECOURSE

The accounting standard on sale of loans requires that for a loan sale with recourse, potential losses under the recourse or guarantee obligations be estimated, and that the present value of the estimated losses from the recourse be recognized as subsidy expense when the sale is made and as a loan guarantee liability.

It is estimated that 10 percent of the loans sold with a principal of \$160 would default at the end of fiscal year 1997. Upon their default, the federal credit program will

pay the loan purchaser an amount equal to the defaulted principal plus accrued interest. The estimated future default payment is \$166, which equals the principal of the loans that are expected to default plus the 4 percent nominal interest of \$6 accrued on those loans for one year.

At the time the loans are sold, the interest rate of Treasury securities of a similar maturity is 5 percent. The present value of the estimated default payment discounted at 5 percent is \$158. This amount is recognized as a subsidy expense and a loan guarantee liability. The credit program receives an appropriation of \$158 to cover the guarantee expense, which is paid to the loan guarantee financing account and becomes part of the fund balance of that account. (An appropriation must be available to cover the subsidy expense before the loans can be sold, since the payment to the loan guarantee financing account must be made in order for the guarantee to take effect.)

At this point, the credit program has \$1,489 in cash, which was derived from the following events:

Net proceeds from the loan sale	\$1,100
Appropriation to cover the modification cost	262
Appropriation to cover estimated recourse liability	158
Less: modification adjustment transfer	( 31)
Total in fund balance	\$1,489

The credit program uses \$1,331 to pay off the debt to Treasury, which was borrowed to finance the direct loans. The remaining balance of \$158 has been paid to the loan guarantee financing account (as stated above). That amount, together with interest for one year at 5 percent, is to cover the recourse liability of the loan guarantee financing account.

## PART II PRE-1992 DIRECT LOANS

Pre-1992 direct loans are direct loans obligated prior to October 1, 1991, and are recorded in liquidating accounts. The accounting standard requires that the losses of pre-1992 direct loans be recognized when it is more likely than not that the direct loans will not be totally

collected. The allowance of the uncollectible amounts should be reestimated each year as of the date of the financial statements. In estimating losses, the risk factors discussed in the standard for post-1991 direct loans should be considered.

The standard further states that restatement of pre-1992 direct loans on a present value basis is permitted but not required.

All of the amounts used in the text that follows are in thousands of dollars.

#### A. PROVISION FOR UNCOLLECTIBLE AMOUNTS

Assume that at the end of fiscal year 1994 a credit program has pre-1992 direct loans with outstanding principal of \$5,000 at 7 percent interest rate, maturing in three years (at the end of fiscal year 1997). The program management evaluates the risk factors enumerated in the accounting standard, and estimates that the net loss of principal due to defaults would be \$2,000. Thus, the program management provides an allowance of \$2,000 for uncollectible amounts, and charges that amount to bad debt expense. [Footnote 25] Thus, the book value of the loans is \$3,000, as shown below:

[Footnote 25: This assumes that no allowance for uncollectible amounts was provided prior to fiscal year 1994. If there is an allowance for uncollectible amounts, that allowance should be adjusted to the current estimate and the difference between the current estimate and the existing allowance should be charged to bad debt expense.]

Loans receivable	\$5,000
Less uncollectible amounts	(2,000)
Loan receivable, net	\$3,000

#### B. MODIFICATION OF PRE-1992 DIRECT LOANS

Assume that in October 1994, shortly after the close of fiscal year 1994, a decision is made to take the following actions: (1) forgive 50 percent of the amounts due, (2) lower the interest rate to 4 percent, and (3) extend the due date to the end of fiscal year 2000.

These actions are within the definition of direct modification because they are federal government actions that would directly change estimated subsidy costs and the present value of outstanding direct loans by altering the terms of existing contracts.

The accounting standard on direct loan modifications states that with respect to a direct or indirect modification of pre-1992 direct loans, the cost of modification is the excess of the pre-modification value of the loans over their post-modification value. The amount of the modification cost is recognized as a modification expense when the loans are modified.

Accounting for the cost of modification takes the following steps:

(1) CALCULATE THE PRE-MODIFICATION VALUE

The pre-modification value is the present value of the net cash inflows of the direct loans estimated at the time of modification under pre-modification terms and discounted at the current discount rate.

It is estimated that under the pre-modification terms, 40 percent of the cash flows would be lost due to defaults in fiscal year 1995 and each year thereafter. The current discount rate for a maturity of 3 years is 4 percent. As Table 19 below shows, the present value of the estimated net cash inflows discounted at 4 percent is \$3,172. This is the pre-modification value of the loans.

TABLE 19: PRE-MODIFICATION VALUE (IN THOUSANDS OF DOLLARS, CALCULATED AT THE CURRENT DISCOUNT RATE)

	P & I PAYMENTS	DEFAULT LOSSES	NET CASH FLOWS
FY 1995	\$1,905	\$(762)	\$1,143
1996	1,905	(762)	1,143
1997	1,905	(762)	1,143
PV at 4%	\$5,287	\$(2,115)	\$3,172

(2) CALCULATE THE POST-MODIFICATION VALUE

The loans' post-modification value is the present value of the loans' net cash inflows estimated at the time of modification under post-modification terms and discounted at the current discount rate.

The modification reduces the outstanding principal by 50 percent to \$2,500, lowers the nominal interest rate to 4 percent, and extends the maturity by 3 years to the end of fiscal year 2000. As shown in Table 20 below, under the post-modification terms, the required payments will be \$477 per year for six years.

TABLE 20: PAYMENT SCHEDULE OF THE MODIFIED LOANS (IN THOUSANDS OF DOLLARS)

	PAYMENT	INTEREST	PRINCIPAL	YEAR-END LOAN BALANCE
FY 1994				\$2,500
1995	\$477	\$100	\$377	2,123
1996	477	85	392	1,731
1997	477	69	408	1,323
1998	477	53	424	899
1999	477	36	441	458
2000	477	19	458	0

Taking into consideration that the loans owed by borrowers with poor conditions have been forgiven, it is estimated that only 10 percent of the cash flows would be lost due to defaults. The current discount rate for a maturity of 6 years is 5 percent. As shown in Table 21, the present value of the estimated net cash inflows discounted at 5 percent is \$2,179. This is the loans' post-modification value.



TABLE 21: POST-MODIFICATION VALUE (IN THOUSANDS OF DOLLARS,  
CALCULATED AT THE CURRENT DISCOUNT RATE)

	P & I PAYMENTS	DEFAULT LOSSES	NET CASH FLOWS
FY 1995	\$477	\$( 48)	\$ 429
1996	477	( 48)	429
1997	477	( 48)	429
1998	477	( 48)	429
1999	477	( 48)	429
2000	477	( 48)	429
PV at 5%	\$2,421	\$(242)	\$2,179

(3) CALCULATE AND RECOGNIZE THE COST OF MODIFICATION

The cost of modification is the excess of the loans' pre-modification value over the loans' post-modification value. Since the loans' pre-modification value is \$3,172, and their post-modification value is \$2,179, the cost of modification is \$993, which is recognized as a subsidy expense for modifications.

The credit program receives an appropriation of \$993 to cover the modification expense, which is paid to the financing account. The financing account, in turn, pays this amount to the liquidating account as part of its payment to acquire the loans. (A subsidy appropriation equal to the cost of modification must be available before the modification can take place.)

(4) CALCULATE THE CHANGE IN BOOK VALUE AND THE GAIN OR LOSS

With respect to modifications of pre-1992 direct loans, the standard requires that when pre-1992 direct loans are directly modified, they be transferred to a financing account and their book value be changed to an amount equal to their post-modification value. Any subsequent modification is treated as a modification of post-1991 loans.[Footnote 26]

[Footnote 26: The accounting standard provides that when pre-1992 direct loans are indirectly modified, they are kept in a liquidating account; and that their bad debt allowance is reassessed and adjusted to

reflect amounts that would not be collected due to the modification. Indirect modifications of pre-1992 direct loans are not illustrated.]

The change in book value of pre-1992 direct loans resulting from a direct or indirect modification and the cost of modification will normally differ, due to the use of different discount rates or the use of different measurement methods. Any difference between the cost of modification and the change in the loans' book value due to modification is recognized as a gain or loss.

Prior to the modification, the book value of the loans was recorded in the liquidating account at \$3,000. Upon modification, the loans are transferred from the liquidating account to the financing account and recorded at their post-modification value of \$2,179. The change in book value is a decrease of \$821. Since the cost of modification is \$993, and the change in book value is \$821, the difference of \$172 is recognized as a gain.

The financing account pays the liquidating account an amount equal to the loans' pre-modification value of \$3,172. This comes from two sources. First, the financing account receives the \$993 that is appropriated for the cost of modification. Second, the financing account borrows from Treasury the remainder, which is \$2,179, the post-modification value of the loans. In exchange, the liquidating account transfers to the financing account the loan assets that had a book value of \$3,000 before the modification was made. The gain to the liquidating account is \$172, which, as shown above, equals the difference between the cost of modification and the change in book value of the loans.

Post-1991 loan guarantees are loan guarantees committed after September 30, 1991. The accounting standards for post-1991 loan guarantees are explained and illustrated through the use of an example described below:

A cohort of 5-year term loans that amounts to \$10 million in face value is guaranteed by a federal loan guarantee program. The guarantee covers 60 percent of the principal and interest payments. The borrowers are required to pay interest annually at 7 percent, and to repay the principal when the loans mature at the end of the 5th year.

The government agrees to pay a 1 percent interest supplement to the lenders at the end of each year over the loans' life. The loans are disbursed on September 30, 1994. The federal loan guarantee program collects a fee of 5 percent, when the loans are disbursed. The average interest rate of marketable Treasury securities of a similar maturity for the period in which the guaranteed loans are disbursed is 6 percent.

All of the amounts used in the text that follows are in thousands of dollars.

#### A. REPORTING THE LIABILITY OF POST-1991 LOAN GUARANTEES AND THEIR SUBSIDY COSTS

The accounting standard for post-1991 loan guarantees requires that for guaranteed loans outstanding, the present value of estimated net cash outflows of the loan guarantees be recognized as a liability. Disclosure is made of the face value of the guaranteed loans outstanding and the amount of the outstanding balance that is guaranteed.

To implement the standard in the example, cash flow estimates and present value calculations are prepared. It is projected that the borrowers would pay interest when due, but would default on 60 percent, or \$6,000, of the principal repayments. Upon default, the federal credit program will pay 60 percent of the defaulted principal, equal to \$3,600, to the lenders. It is projected that a net recovery of \$2,000 will be realized a year later through the foreclosure and sale of pledged assets. The fees of \$500 are received when the guaranteed loans are disbursed.

Table 22 below shows the estimated cash flows and the present values of the cash flows.

TABLE 22: PROJECTED CASH FLOWS DISCOUNTED TO THE TIME OF DISBURSEMENT (IN THOUSANDS OF DOLLARS)

	FEE RECEIPTS	INTEREST SUPPLEMENTS	DEFAULT PAYMENTS	NET RECOVERIES	NET CASH FLOWS
FY1994	\$(500)				\$( 500)
1995		\$100			100
1996		100			100
1997		100			100
1998		100			100
1999		100	\$3,600		3,700
2000				\$(2,000)	(2,000)
PV at 6%	\$(500)	\$421	\$2,690	\$(1,410)	\$1,201

The present value of the estimated net cash outflows of the loan guarantees is \$1,201. This amount is recognized as a liability.

Disclosure is made in a footnote to the financial statements for fiscal year 1994 that guaranteed loans have an outstanding principal of \$10,000, and the guaranteed amount is \$6,000. (A similar disclosure is made in each year so long as the guaranteed loans are outstanding.)

The accounting standard for post-1991 loan guarantees requires that for guaranteed loans disbursed during a fiscal year, a subsidy expense be recognized. The amount of the subsidy expense equals the present value of estimated cash outflows over the life of the guaranteed loans minus the present value of estimated cash inflows, discounted at the interest rate of marketable Treasury securities with a similar maturity term, applicable to the period during which the loans are disbursed (hereinafter referred to as the applicable Treasury interest rate).

In the example, the present value of the cash outflows minus the present value of the cash inflows is \$1,201, which is recognized as a subsidy expense.

The accounting standard for post-1991 loan guarantees requires that for the fiscal year during which new guaranteed loans are disbursed, the components of the

subsidy expense of those new loan guarantees be recognized separately among interest subsidy costs, default costs, fees and other collections, and other subsidy costs.

The interest subsidy cost of the loan guarantees is the present value of the interest supplement payments to the lenders, which, in this example, is \$421.

The default cost is the present value of the projected default payments minus the present value of net recoveries. The present value of the default payments is \$2,690, and the present value of the net recoveries is \$1,410. Thus, the default cost is \$1,280.

The present value of fee collections, which is \$500, is recognized as a deduction from subsidy costs.

There are no other subsidy costs in this example.

The subsidy expense of the loan guarantees is the sum of the above cost components, which is \$1,201, calculated as follows:

Interest subsidy cost	\$ 421
Fee collections	(500)
Loan default cost	1,280
Total subsidy cost	\$1,201

The loan guarantee program receives an appropriation equal to the subsidy cost of \$1,201. When the guaranteed loans are disbursed, the appropriated amount is paid to the loan guarantee financing account and is recorded in fund balance with Treasury. The \$500 of fees are collected at the same time. The amount of the fees is debited to fund balance with Treasury and credited to the liability of the loan guarantees. Thus, the fund balance is raised to \$1,701, on which Treasury pays 6 percent interest. The loan guarantee liability is also raised from \$1,201 to \$1,701.

Table 23 shows the projected cash flows and their present values after the receipt of fees.

**TABLE 23: PROJECTED CASH FLOWS DISCOUNTED TO THE END OF FY 1994, AFTER THE RECEIPT OF FEES  
(IN THOUSANDS OF DOLLARS)**

	INTEREST SUPPLEMENTS	DEFAULT PAYMENTS	NET RECOVERIES	NET CASH FLOWS
FY 1994				
1995	\$100			\$ 100
1996	100			100
1997	100			100
1998	100			100
1999	100	\$3,600		3,700
2000			\$(2,000)	(2,000)
PV at 6%	\$421	\$2,69	\$(1,410)	\$1,701

Table 24 displays the asset and liability balances at the end of the 1994 fiscal year.

TABLE 24: ASSETS AND LIABILITIES AT THE END OF FY 1994 (IN THOUSANDS OF DOLLARS)

ASSETS		LIABILITIES	
Fund balance with Treasury	\$1,701	Loan guarantee liability	\$1,701

## B. LIABILITY REESTIMATION AND INTEREST COMPOUNDING

### (1) THE REESTIMATION OF THE LIABILITY OF LOAN GUARANTEES

The accounting standard for post-1991 loan guarantees requires that the liability for loan guarantees be reestimated each year as of the date of the financial statements. Since the liability represents the present value of the net cash outflows of the underlying loan guarantees, the reestimation takes into account all factors that may have affected the estimate of each component of the cash flows, including prepayments, defaults, delinquencies, and recoveries. Any increase or decrease in the loan guarantee liability resulting from the reestimates is recognized as a subsidy expense (or a reduction in subsidy expense). Reporting the liability of loan guarantees and reestimates by component is not required.

In Appendix A, the Basis of the Board's Conclusions, it is pointed out that the primary factor that causes changes

in the subsidies would be default reestimates. The accounting standard provides a number of risk factors and other default cost criteria to be considered in making the default cost estimates and reestimates.

In the example, it is initially estimated that 60 percent of the loans will default on the principal repayments when the loans mature at the end of fiscal year 1999, and that \$2,000 will be recovered from the sale of foreclosed assets. The first reestimate is made early in fiscal year 1995. Because so little time has passed since the subsidy was initially estimated, the estimated cash flows are unchanged and the reestimate is zero. (This illustration assumes that the interest rates at the time of commitment and disbursement are the same, so no reestimate is needed for the difference in interest rates.)

The second reestimation of the subsidy cost is made early in fiscal year 1996, in preparing financial statements for fiscal year 1995. It reestimates the loan guarantee liability as of the end of fiscal year 1994. It indicates that the initial default estimate is correct. However, it also indicates that the net recovery realized at the end of fiscal year 2000 would be \$1,000, rather than \$2,000. As shown in Table 25, because of the decrease in the amount of recovery, the present value of the net cash outflows discounted to the end of fiscal year 1994, is \$2,406, rather than \$1,701, as previously estimated for the end of fiscal year 1994 and shown in Table 23.

TABLE 25: SUBSIDY COST REESTIMATION: PROJECTED CASH FLOWS DISCOUNTED TO THE END OF FY 1994 (IN THOUSANDS OF DOLLARS)

	INTEREST SUPPLEMENTS	DEFAULT PAYMENTS	NET RECOVERIES	NET CASH FLOWS
FY 1995	\$100			\$ 100
1996	100			100
1997	100			100
1998	100			100
1999	100	\$3,600		3,700
2000			\$(1,000)	(1,000)
PV at 6	\$421	\$2,690	\$( 705)	\$2,406

The reestimated liability is \$2,406, compared to the existing liability of \$1,701, an increase of \$705. The

increase of \$705 is added to the loan guarantee liability and is recognized as a subsidy expense reestimates.

The credit program receives a subsidy payment under permanent indefinite authority equal to \$705 to cover the cost increase resulting from the reestimate. In addition, a payment of \$42 is also received under permanent indefinite authority to cover the interest accrued on the \$705 reestimate payment for the period from the end of fiscal year 1994 to the end of fiscal year 1995, and is reported as interest income. The total amount of \$747 received is added to the fund balance.

## (2) INTEREST COMPOUNDING

The accounting standard for post-1991 loan guarantees requires that interest be accrued and compounded on the liability of loan guarantees at the interest rate that was originally used to calculate the present value of the loan guarantee liabilities when the guaranteed loans were disbursed. The accrued interest is recognized as interest expense.

With the passage of time, the present value of the liability of the loan guarantees increases at a rate equal to the rate of interest used to discount the liability. The increase for fiscal year 1995 is \$144, which equals the balance of the liability of \$2,406, as reestimated, multiplied by the interest rate of 6 percent. The amount of the increase in the present value of the liability is added to the liability balance, and concurrently it is recognized as interest expense. As a result, the liability becomes \$2,550.

Interest is also accrued on the credit program's fund balance of \$1,701 at 6 percent. The amount of interest accrued is \$102, which is added to the fund balance, and is recognized as interest income. As mentioned previously, the payments of \$747 to cover the reestimated subsidy cost and the accrued interest are also added to the fund balance.

The interest supplement of \$100 is paid for fiscal year 1995. Both the fund balance and the liability are reduced by \$100.



As a result of the above transactions, the fund balance becomes \$2,450, calculated as follows:

Fund balance at the end of FY 1994	\$1,701
Interest on the fund balance	102
Subsidy payment reestimates	705
Interest on subsidy payment reestimates	42
Interest supplement paid	(100)
Fund balance at the end of FY 1995	\$2,450

The loan guarantee liability is also \$2,450 at the end of fiscal year 1995, calculated as follows:

Liability balance at the end of FY 1994, as reestimated	\$2,406
Increase due to passage of time	144
Interest supplement paid	(100)
Liability balance at the end of FY 1995	\$2,450

Table 26 displays the asset and liability balances at the end of the 1995 fiscal year.

TABLE 26: ASSETS AND LIABILITIES AFTER INTEREST ACCUMULATIONS AT THE END OF FY 1995 (IN THOUSANDS OF DOLLARS)

ASSETS		LIABILITIES	
Fund balance with Treasury	\$2,450	Loan guarantee liability	\$2,450

### C. REVENUES AND EXPENSES

The accounting standard for post-1991 loan guarantees requires that interest accrued on the liability of loan guarantees be recognized as interest expense, and that interest due from Treasury on uninvested funds be recognized as interest income. Interest accrued on debt to Treasury, if any, is recognized as interest expense.

In the example, interest accrued on the liability of loan guarantees is \$144, which equals the reestimated liability of \$2,406 times 6 percent. The amount is recognized as interest expense, and the same amount is added

to the liability, as explained above.

Interest income recognized for fiscal year 1995 is also \$144, consisting of (a) interest income of \$102 on the fund balance, which equals the fund balance of \$1,701 times 6 percent, and (b) interest income of \$42 on the subsidy payment reestimates.

Costs of administering loan guarantee activities, such as salaries, legal fees, and office costs, that are incurred for credit policy evaluation, origination, closing, servicing, monitoring, maintaining accounting and computer systems, and other credit administrative purposes, are recognized separately as administrative expenses. Administrative expenses are not included in calculating the subsidy costs of loan guarantees.

#### **D. MODIFICATION OF POST-1991 LOAN GUARANTEES**

Assume that in October 1995, shortly after the close of fiscal year 1995, the loan guarantee program takes action to expand its guarantee from 60 percent of the outstanding loan principal to 80 percent. This action is within the definition of direct modification because it is a government action that directly changes the estimated subsidy cost and the present value of the loan guarantee liability by altering the terms of the loan guarantee agreement.

The accounting standard on modifications of loan guarantees states that with respect to a direct or indirect modification of pre-1992 or post-1991 loan guarantees, the cost of modification is the excess of the post-modification liability of the loan guarantees over their pre-modification liability. The modification cost is recognized as modification expense when the loan guarantees are modified.

The accounting is implemented in the steps described below.

##### **(1) CALCULATE THE PRE-MODIFICATION LIABILITY**

The pre-modification liability is the present value of the net cash outflows of loan guarantees estimated at the time of modification under the pre-modification terms and discounted at the current discount rate.

As used in this part and Part IV of this Appendix, the current discount rate is the interest rate applicable at the time of modification on marketable Treasury securities with a similar maturity to the remaining maturity of the guaranteed loans under pre-modification terms or post-modification terms, whichever is appropriate. [Footnote 27]

[Footnote 27: The definition of the current discount rate is provided in Appendix C, Glossary.]

The cash flows for the loan guarantees under pre-modification terms during 1996-2000 are assumed to be the same as the cash flows that were reestimated early in fiscal year 1996 for these years and that are shown in Table 25. Assume that the current discount rate for a comparable maturity (4 remaining years) is 4 percent. As Table 27 shows, the present value of the pre-modification net cash outflows discounted at 4 percent is \$2,618.

TABLE 27: PRE-MODIFICATION LIABILITY (IN THOUSANDS OF DOLLARS; CALCULATED AT THE CURRENT DISCOUNT RATE)

	INTEREST SUPPLEMENTS	DEFAULT PAYMENTS	NET RECOVERIES	NET CASH FLOWS
FY 1996	\$100			\$ 100
1997	100			100
1998	100			100
1999	100	\$3,600		3,700
2000			\$(1,000)	(1,000)
PV at 4%	\$363	\$3,077	\$( 822)	\$2,618

## (2) CALCULATE POST-MODIFICATION LIABILITY

The loan guarantees' post-modification liability is the present value of the loan guarantees' net cash outflows estimated at the time of modification under post-modification terms and discounted at the current discount rate.

The modification increases the guarantee percentage from 60 percent to 80 percent. It is estimated that 60 percent or \$6,000 in principal repayments will default.

This estimate is not affected by the modification. However, with the expansion of the guarantee percentage, the credit program will pay 80 percent of the defaulted amounts, equal to \$4,800, to the lenders. The net cash outflows estimated under the post-modification terms are discounted at the current rate of 4 percent. As shown in Table 28 below, the present value of the estimated net cash outflows is \$3,644. This is the post-modification liability of the loan guarantees.

TABLE 28: POST-MODIFICATION LIABILITY (IN THOUSANDS OF DOLLARS; CALCULATED AT THE CURRENT DISCOUNT RATE)

	INTEREST SUPPLEMENTS	DEFAULT PAYMENTS	NET RECOVERIES	NET CASH FLOWS
FY 1996	\$100			\$ 100
1997	100			100
1998	100			100
1999	100	\$4,800		4,900
2000			\$(1,000)	(1,000)
PV at 4%	\$363	\$4,103	\$( 822 )	\$3,644

### (3) CALCULATE AND RECOGNIZE THE COST OF MODIFICATION

The cost of modification is the excess of the loan guarantee's post-modification liability over their pre-modification liability. Since the loan guarantees' post-modification liability is \$3,644, and their pre-modification liability is \$2,618, the cost of modification is \$1,026, which is recognized as a subsidy expense for modifications.

### (4) CALCULATE THE CHANGE IN THE BOOK VALUE OF THE LIABILITY

The accounting standard on loan guarantee modifications requires that the existing book value of the liability of modified post-1991 loan guarantees be changed to an amount equal to the present value of the net cash outflows projected under the modified terms from the time of modification to the loans' maturity, and discounted at the original discount rate (the rate that is originally used to calculate the present value of the liability, when the

guaranteed loans were disbursed).

In this example, the original discount rate is 6 percent. The present value of the loan guarantees' net cash outflows estimated under the modified terms and discounted at 6 percent is \$3,401. (See Table 29.)

TABLE 29: POST-MODIFICATION BOOK VALUE LIABILITY (IN THOUSANDS OF DOLLARS; CALCULATED AT THE ORIGINAL DISCOUNT RATE)

	INTEREST SUPPLEMENTS	DEFAULT PAYMENTS	NET RECOVERIES	NET CASH FLOWS
FY 1996	\$100			\$ 100
1997	100			100
1998	100			100
1999	100	\$4,800		4,900
2000			\$(1,000)	(1,000)
PV at 6	\$346	\$3,802	\$( 747)	\$3,40

At the time the modification action was taken, the existing book value of the loan guarantee liability was \$2,450 (See Table 26). The book value is changed to \$3,401. This is an increase of \$951 in the book value of the loan guarantee liability.

#### (5) RECOGNIZE A GAIN OR LOSS

The accounting standard on loan guarantee modifications states that the change in the amount of liability of both pre-1992 and post-1991 loan guarantees resulting from a direct or indirect modification and the cost of modification will normally differ, due to the use of different discount rates or the use of different measurement methods. Any difference between the change in liability and the cost of modification is recognized as a gain or loss. For post-1991 loan guarantees, the modification adjustment transfer [Footnote 28] paid or received to offset the gain or loss is recognized as a financing source (or a reduction in financing source).

[Footnote 28: OMB instructions provide that if the increase in liability exceeds the cost of modification, the reporting entity receives from the Treasury an amount of modification adjustment transfer equal to the excess; and

if the cost of modification exceeds the increase in liability, the reporting entity pays to Treasury an amount of modification adjustment transfer to offset the excess. (See OMB Circular A-11.)]

The change in book value in this case is \$951, compared to the cost of modification of \$1,026. The difference between those two amounts is \$75, which is recognized as a gain.

The credit program receives a subsidy appropriation equal to the cost of modification. Since the cost of modification exceeds the increase in book value by \$75, the credit program pays to Treasury a modification adjustment transfer of \$75 to offset the gain. This is reported as a reduction in financing source. The net effect of the modification is to increase the fund balance of the credit program by \$951 to \$3,401.

Table 30 displays the asset and liability balances after the modification in October 1995.

TABLE 30: ASSETS AND LIABILITIES AFTER THE MODIFICATION IN OCTOBER 1995 (IN THOUSANDS OF DOLLARS)

ASSETS	LIABILITIES
Fund balance with Treasury	Loan guarantee liability
\$3,401	\$3,401

#### E. DEFAULT AND FORECLOSURE

Assume that for fiscal year 1996 and thereafter, annual reestimations do not result in any changes in cash flow estimates. [Footnote 29] After accumulating interest at 6 percent and paying the \$100 interest supplement annually, the credit program has \$3,856 in its fund balance with Treasury at the end of fiscal year 1999, prior to paying any default claims. Table 31 shows annual changes in the fund balance.

[Footnote 29: This assumption is made only to avoid repetitious illustrations.]

TABLE 31: FUND BALANCE (IN THOUSANDS OF DOLLARS)

AT THE END OF	INTEREST ACCRUED	INTEREST SUPPLEMENT PAID	FUND BALANCE
FY 1995			\$3,401
1996	\$204	\$(100)	3,505
1997	210	(100)	3,615
1998	217	(100)	3,732
1999	22	(100)	3,856

At the same time, the program's loan guarantee liability at the end of fiscal year 1999 is also \$3,856, which equals the estimated default claim payment of \$4,800 minus \$943, the present value of the estimated net recovery from foreclosing assets. It has been estimated that the net recovery would be \$1,000 and would be realized at the end of fiscal year 2000. The present value of the net recovery discounted to the end of fiscal year 1999 at the original discount rate of 6 percent is \$943.

As expected, when the guaranteed loans mature at the end of 1999, \$6,000 of the principal is in default. To meet its guarantee obligation, the loan guarantee program must pay 80 percent of the default amount, or \$4,800, to the lenders. When the defaults occur, the loan guarantee program in this example has the options to foreclose property pledged by the borrowers who defaulted, and/or to acquire the loans involved, as a compensation for the default payment.

The accounting standard on foreclosure requires that when property is transferred from borrowers to a federal credit program, through foreclosure or other means, as a compensation for losses that the government sustained under post-1991 loan guarantees,[Footnote 30] the foreclosed property be recognized as an asset at the present value of its estimated future net cash inflows discounted at the original discount rate.

[Footnote 30: The accounting standard is the same for property transferred in partial or full settlement of post-1991 direct loans, and the application of the standard to direct loans is illustrated by the present example of loan guarantees.]

The accounting standard states that at a foreclosure of guaranteed loans, a federal guarantor may acquire the loans involved. The acquired loans are recognized at the present value of their estimated net cash inflows from selling the loans or from collecting payments from the borrowers, discounted at the original discount rate.

In this example, the default occurs at the loans' maturity and virtually no cash inflows can be realized either from selling the loans or collecting payments from the borrowers. The loan guarantee program therefore forecloses the assets. It continues to estimate that the net cash inflow from possessing and selling the foreclosed property will be \$1,000 and will be received at the end of fiscal year 2000. The present value of the estimated net cash inflow discounted at the original rate of 6 percent to the end of fiscal year 1999 is \$943.

The accounting standard requires that if a legitimate claim exists by a third party or by the borrower to a part of the recognized value of the foreclosed assets, the present value of the estimated claim be recognized as a special contra valuation allowance.

In this example, no such claim is assumed. Thus, the present value of the foreclosed property is recorded as an asset at \$943. Concurrently, the amount of \$943 is credited to the loan guarantee liability, so that the loan guarantee liability is increased from \$3,856 to \$4,800.

The default payment of \$4,800 is more than the fund balance of \$3,856, and the loan guarantee program does not receive cash from selling the foreclosed assets until one year later. The loan guarantee program borrows the difference of \$943 from Treasury. [Footnote 31] Thus, the fund balance is increased by \$943 to \$4,800, allowing the default payment to be made.

[Footnote 31: Borrowing from Treasury is necessary in this example because all default payments occur at the same time. If they occurred in different years, the default payments in most cases might be covered by the fund balance and the proceeds from selling foreclosed assets. Borrowing would only be needed for defaults near the maturity date of the guaranteed loans.]



When the default payment is made, both the fund balance and the loan guarantee liability are reduced to zero. The credit program takes collection action against the borrowers. However, further recovery is not anticipated. At this time, the loan guarantee program has the following asset and liability balances as shown in Table 32.

TABLE 32: ASSETS AND LIABILITIES AT THE END OF FY 1999 (IN THOUSANDS OF DOLLARS)

ASSETS	LIABILITIES
Foreclosed property \$943	Debt to Treasury \$943

#### F. DISPOSITION OF THE FORECLOSED PROPERTY

The foreclosed property is initially recorded at the present value of the estimated net cash inflows. Until the property is sold, the present value of the property must be updated to recognize changes in value due to the passage of time. The recognition is made through an accrual of interest at the original discount rate. The amount of interest accrued for fiscal year 2000 is \$57, which equals the book value of the foreclosed property at the beginning of the fiscal year, which is \$943, times the original discount rate of 6 percent. This amount of interest is recognized as interest income, and is added to the book value of the foreclosed property. As a result, the book value of the foreclosed property becomes \$1,000 at the end of fiscal year 2000.

Interest is also accrued on the debt to Treasury of \$943 at the rate of 6 percent. The amount of interest for fiscal year 2000 is \$57, and is recognized as interest expense. The amount is added to the debt to Treasury. As a result the debt to Treasury becomes \$1,000 at the end of fiscal year 2000.

It is assumed that the property is sold at the end of fiscal year 2000 and the amount of net proceeds from the sale is \$1,000. The amount of the net proceeds is used to pay off the debt to Treasury. As a result, the asset and liability balances for this cohort of loan guarantees are reduced to zero.

A reestimation should be performed for the net cash flow of the property after the end of fiscal year 2000. If the reestimation resulted in a reduction of the present value of the property, the amount of the reduction would be recognized as subsidy expense reestimates. As illustrated in preceding sections on reestimates, a payment from permanent indefinite authority would be available to cover the subsidy reestimate expense. In this case, because the property was sold at the estimated time for the estimated amount, there is no reestimate subsidy expense.

#### PART IV PRE-1992 LOAN GUARANTEES

Pre-1992 loan guarantees are loan guarantees committed prior to October 1, 1991, and the liabilities under pre-1992 loan guarantees are recorded in liquidating accounts. The accounting standard requires that the liabilities of pre-1992 loan guarantees be recognized when it is more likely than not that the loan guarantees will require a future cash outflow to pay default claims. The liability of loan guarantees should be reestimated each year as of the date of the financial statements. In estimating liabilities, the risk factors discussed in the standard for post-1991 loan guarantees should be considered. Disclosure is made of the face value of guaranteed loans outstanding and the amount guaranteed.

The standard states that restatement of pre-1992 loan guarantees on a present value basis is permitted but not required.

All of the amounts used in the text that follows are in thousands of dollars.

##### A. RECOGNITION OF LIABILITIES

Assume that a federal credit program guarantees a group of loans and the guarantee was committed prior to October 1, 1991. At the end of fiscal year 1994, the loans have outstanding principal of \$5,000 at 7 percent interest rate, maturing in three years. The borrowers are required to pay interest annually and to repay the principal at the end of 1997. The guarantee covers 60 percent of the principal.

[Footnote 32]

[Footnote 32: A loan guarantee may guarantee both principal and interest payments. In that case, the estimate and recognition of loan guarantee liabilities should be based on defaults on both principal and interest payments.]

Disclosure is made in a footnote to the financial statements for fiscal year 1994 that guaranteed loans have an outstanding principal of \$5,000, and the guaranteed amount is \$3,000. (A similar disclosure is made in each year so long as the guaranteed loans are outstanding.)

The program management evaluates the risk factors enumerated in the accounting standard, and estimates that \$2,500 of the loans' principal repayments would be defaulted when the loans mature. The program will pay 60 percent of the defaulted amount, equal to \$1,500. It is also estimated that the credit program would realize a net recovery of \$500 through acquiring and selling pledged assets. Thus, the program management recognizes a liability of \$1,000, which equals the estimated default payment minus the net recovery. The \$1,000 is charged to default expense. [Footnote 33]

[Footnote 33: This assumes that no liability was previously recognized. If a liability has been recognized for the loan guarantees, the liability should be adjusted to the current estimate, and any increase in liability should be charged to default expense.]

## B. MODIFICATION OF PRE-1992 LOAN GUARANTEES

Assume that in October 1994, shortly after the close of fiscal year 1994, a decision is made to increase the guarantee from 60 percent of the loan payments to 80 percent. This action is within the definition of direct modification because it is a federal government action that directly changes the estimated subsidy cost and the present value of outstanding loan guarantees by altering the terms of existing contracts.

The accounting standard on modifications of loan guarantees states that with respect to a direct or indirect modification of pre-1992 or post-1991 loan guarantees, the cost of modification is the excess of the post-modification

liability of the loan guarantees over their pre-modification liability. The modification cost is recognized as modification expense when the loan guarantees are modified.

Accounting for the cost of modification takes the following steps:

**(1) CALCULATE THE PRE-MODIFICATION LIABILITY**

The pre-modification liability is the present value of the net cash outflows of the loan guarantees estimated at the time of modification under pre-modification terms and discounted at the current discount rate.

It is estimated that under the pre-modification terms, a default payment of \$1,500 would be made at the end of fiscal year 1997, and a net recovery of \$500 from the sale of foreclosed assets would be received at the end of fiscal year 1998. The current discount rate for a maturity of 3 years is 4 percent. As shown in Table 33, the present value of the estimated net cash outflows discounted at 4 percent is \$906. This is the pre-modification liability of the loan guarantees.

**TABLE 33: PRE-MODIFICATION LIABILITY (IN THOUSANDS OF DOLLARS,CALCULATED AT THE CURRENT DISCOUNT RATE)**

	DEFAULT PAYMENTS	NET RECOVERIES	NET CASH OUTFLOW
FY 1995			
1996			
1997	\$1,500		\$1,500
1998		\$(500)	( 500)
PV at 4%	\$1,333	\$(427)	\$906

**(2) CALCULATE THE POST-MODIFICATION LIABILITY**

The loan guarantees' post-modification liability is the present value of the loan guarantees' net cash outflows estimated at the time of modification under post-modification terms and discounted at the current discount rate.

The modification expands the guarantee from 60 percent

to 80 percent. It is estimated that \$2,500 of the principal repayments will default when the loans mature. With the expansion of the guarantee percentage, the credit program will pay 80 percent of the defaulted amounts, equal to \$2,000, to lenders at the end of fiscal year 1997. A net recovery of \$500 would be received from selling foreclosed assets at the end of fiscal year 1998. The cash outflows estimated under the post-modification terms are discounted at the current discount rate of 4 percent. As shown in Table 34 below, The present value of the estimated net cash outflow is \$1,351. This is the post-modification liability of the loan guarantees.

TABLE 34: POST-MODIFICATION LIABILITY (IN THOUSANDS OF DOLLARS,CALCULATED AT THE CURRENT DISCOUNT RATE)

	Default Payments	Net Recoveries	Net Cash Outflow
FY 1995			
1996			
1997	\$2,000		\$2,000
1998	\$(500)		(500)
PV at 4%	\$1,778	\$(427)	\$1,351

### (3) CALCULATE AND RECOGNIZE THE COST OF MODIFICATION

The cost of modification is the excess of the loan guarantees' post-modification liability over their pre-modification liability. Since the loan guarantees' post-modification liability is \$1,351, and their pre-modification liability is \$906, the cost of modification is \$445, which is recognized as a subsidy expense for modifications. A subsidy appropriation of that amount is required before the modification can take place. The appropriated amount is paid to the financing account.

### (4) CALCULATE THE CHANGE IN THE BOOK VALUE OF THE LIABILITY

With respect to modifications of pre-1992 loan guarantees, the standard requires that when pre-1992 loan guarantees are directly modified, they be transferred to a financing account and the existing book value of the liability of the modified loan guarantees be changed to an

amount equal to their post-modification liability. Any subsequent modification is treated as a modification of post-1991 loan guarantees. [Footnote 34]

[Footnote 34: The accounting standard states that when pre-1992 loan guarantees are indirectly modified, they are kept in a liquidating account, and that the liability of those loan guarantees is reassessed and adjusted to reflect any change in the liability resulting from the modification. Indirect modifications of pre-1992 loan guarantees are not illustrated in the Appendix.]

Prior to the modification, the liability of the loan guarantees was recorded in a liquidating account at \$1,000. Upon modification, the loan guarantees are transferred from the liquidating account to a financing account, since this is a direct modification. The liability is recorded in the financing account at the post-modification liability of \$1,351. The change in book value of the liability is an increase of \$351.

#### (5) RECOGNIZE A GAIN OR LOSS

The accounting standard on loan guarantee modifications states that the change in the amount of liability of both pre-1992 and post-1991 loan guarantees resulting from a direct or indirect modification and the cost of modification will normally differ, due to the use of different discount rates or the use of different measurement methods. Any difference between the change in liability and the cost of modification is recognized as a gain or loss.

In this case, the cost of modification is \$445, and the change in book value is \$351. The difference of \$94 is recognized as a gain.

When the loan guarantees are transferred from the liquidating account to the financing account, the liquidating account pays the financing account an amount equal to the loan guarantees' pre-modification liability of \$906. The transfer of the loan guarantees has the following effects on the liquidating account: (1) the existing liability of the transferred loan guarantees equal to \$1,000 is removed, (2) the fund balance is reduced by \$906, which is the amount paid to the financing account, and (3) a gain of \$94 is recognized.

The financing account records the liability of the loan guarantees at \$1,351, which is their post-modification liability. It also records a fund balance of \$1,351, which consists of the \$906 received from the liquidating account, and the \$445 appropriated to cover the cost of modification.

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## APPENDIX C: GLOSSARY

The glossary defines many terms used in this Statement. The definitions may be modified or superseded when relevant terms are considered or defined by the FASAB in future projects.

**Book value:** The net amount at which an asset or liability is carried on the books of account (also referred to as carrying value or amount). It equals the gross or nominal amount of any asset or liability minus any allowance or valuation amount.

**Cohort:** Those direct loans obligated or loan guarantees committed by a program in the same year even if disbursements occur in subsequent years. Post-1991 direct loans or loan guarantees will remain with their original cohort throughout the life of the loan, even if the loan is modified. Pre-1992 loans and loan guarantees that are modified shall each, respectively, constitute a single cohort. (OMB Circular No. A-11, Preparation and Submission of Budget Estimates, Executive Office of the President, Office of Management and Budget, July 1992, hereafter cited as OMB Circular No. A-11.)

**Credit program:** For the purpose of this Statement, a federal program that makes loans and/or loan guarantees to nonfederal borrowers.

**Direct loan:** A disbursement of funds by the government to a nonfederal borrower under a contract that requires the repayment of such funds within a certain time, with or without interest. The term includes the purchase of, or participation in, a loan made by another lender. (Adapted from OMB Circular No. A-11)

Econometric model: An equation or a set of related equations used to analyze economic data through mathematical and statistical techniques. Such models may be devised in order to depict the essential quantitative impact of alternative assumptions or government policies. (Dictionary of Banking and Finance, Jerry M. Rosenberg, Ph.D., Wiley & Sons, New York, 1982, hereafter cited as Rosenberg's Dictionary.)

Financing account: A non-budget account associated with each credit program account. The financing account holds fund balances, receives the subsidy cost payment from the credit program account, and includes all other cash flows to and from the government resulting from post-1991 direct loans or loan guarantees. (OMB Circular No. A-11, and OMB Circular No. A-34, Instructions on Budget Execution, Part VI, Credit Apportionment and Budget Execution, September, 1991, hereafter cited as OMB Circular No. A-34.)

Foreclosure: A method of enforcing payment of a debt secured by a mortgage by seizing the mortgaged property. Foreclosure terminates all rights that the mortgagor has in the mortgaged property upon completion of due process through the courts. (Treasury Financial Manual Supplement)

Interest method: A method used to amortize the premium or discount of an investment in bonds, or, as used in this Statement, to amortize the subsidy cost allowance of direct loans. Under this method, the amortization amount of the subsidy cost allowance equals the effective interest minus the nominal interest of the direct loans. The effective interest equals the present value of the direct loans times the effective interest rate (the discount rate). The nominal interest equals the nominal amount (face amount) of the direct loans times the stated interest rate (the rate stated in the loan agreements).

Liquidating account: The budget account that includes all cash flows to and from the government resulting from pre-1992 direct loans or loan guarantees (those originally obligated or committed before Oct. 1, 1991), except those pre-1992 direct loans and loan guarantees that have been directly modified and transferred to a financing account. (See OMB Circular No. A-11)



Loan guarantee: Any guarantee, insurance, or other pledge with respect to the payment of all or part of the principal or interest on any debt obligation of a nonfederal borrower to a nonfederal lender, but does not include the insurance of deposits, shares, or other withdrawable accounts in financial institutions. (OMB Circular No. A-11)

Loan guarantee commitment: A binding agreement by a federal agency to make a loan guarantee when specified conditions are fulfilled by the borrower, the lender, or any other party to the guarantee agreement. (OMB Circular No. A-11)

Modification: A federal government action, including new legislation or administrative action, that directly or indirectly alters the estimated subsidy cost and the present value of outstanding direct loans (or direct loan obligations), or the liability of loan guarantees (or loan guarantee commitments). Direct modifications are actions that change the subsidy cost by altering the terms of existing contracts or by selling loan assets. Indirect modifications are actions that change the subsidy cost by legislation that alters the way in which an outstanding portfolio of direct loans or loan guarantees is administered. The term modification does not include subsidy cost reestimates, the routine administrative workouts of troubled loans, and actions that are permitted within the existing contract terms.

Modification adjustment transfer: A non-expenditure transfer from a financing account to the Treasury, or vice versa, to offset the difference between the cost of modification of direct loans (or loan guarantees) and the change in the book value of direct loans (or loan guarantee liabilities). (See also OMB Circular A-11)

Nominal (or face or par) value or amount: The amount of a bond, note, mortgage, or other security as stated in the instrument itself, exclusive of interest or dividend accumulations. The nominal amount may or may not coincide with the price at which the instrument was first sold, its present market value, or its redemption price. Often referred to as the stated value. (Adapted from Kohler's Dictionary for Accountants, 6th ed., hereafter cited as

Kohler's Dictionary.)

Present value (PV): The value of future cash flows discounted to the present at a certain interest rate (such as the reporting entity's cost of capital), assuming compound interest. (Adapted from Kieso and Weygandt, Intermediate Accounting, 7th ed., p. 264.)

Program account: The budget account into which an appropriation to cover the subsidy cost of a direct loan or loan guarantee program is made and from which such cost is disbursed to the financing account. Usually, a separate amount for administrative expenses is also appropriated to the program account. (OMB Circular No. A-11)

Recourse: The rights of a holder in due course of a financial instrument (such as a loan) to force the endorser on the instrument to meet his or her legal obligations for making good the payment of the instrument if dishonored by the maker or acceptor. The holder in due course must have met the legal requirements of presentation and delivery of the instrument to the maker of a note or acceptor of a draft and must have found that this legal entity has refused to pay for or defaulted in payment of the instrument. (Rosenberg's Dictionary)

Reestimate: Refers to estimates of the subsidy costs performed subsequent to their initial estimates made at the time of a loan's disbursement.

Restatement (of direct loans or loan guarantees): Refers to establishing a new book value of a direct loan or the liability of a loan guarantee.

Risk category: Subdivisions of a cohort of direct loans or loan guarantees into groups of loans that are relatively homogeneous in cost, given the facts known at the time of obligation or commitment. Risk categories will group all loans obligated or committed for a program during the fiscal year that share characteristics predictive of defaults and other costs. (OMB Circular No. A-11)

Subsidy cost: The cost of a grant of financial aid, usually by a governmental body, to some person or institution for particular purposes. (Kohler's Dictionary)

Credit subsidy cost is the estimated long-term cost to the government of direct loans or loan guarantees

calculated on a net present value basis, excluding administrative costs. (Adapted from OMB Circular No. A-11)

Direct loan subsidy cost is the estimated long-term cost to the government of direct loans calculated on a present value basis, excluding administrative costs. The cost is the present value of estimated net cash outflows at the time the direct loans are disbursed. The discount rate used for the calculation is the average interest rate (yield) on marketable Treasury securities of similar maturity to the loan, applicable to the time when the loans are disbursed. (Adapted from OMB Circular No. A-11)

Loan guarantee subsidy cost is the estimated long-term cost to the government of loan guarantees calculated on a present value basis, excluding administrative costs. The cost is the present value of estimated net cash outflows at the time the guaranteed loans are disbursed by the lender. The discount rate used for the calculation is the average interest rate (yield) on marketable Treasury securities of similar maturity to the loan guarantees, applicable to the time when the guaranteed loans are disbursed. (Adapted from OMB Circular No. A-11)

Write-off: An action to remove an amount from an entity's assets. A write-off of a loan occurs when an agency official determines, after all appropriate collection tools have been used, that a debt is uncollectible. Active collection on an account ceases, and the account is removed from an entity's receivables. (Treasury Financial Manual Supplement)

The following additional terms have been defined specifically for the standard for modifications provided in this Statement. These terms are not intended for general application to other federal financial transactions.

Current discount rate: With respect to the modification of direct loans or loan guarantees, it is the discount rate used to measure the cost of a modification. It is the interest rate applicable at the time of modification on marketable Treasury securities with a similar maturity to the remaining maturity of the direct or guaranteed loans, under either pre-modification terms, or post-modification

terms, whichever is appropriate.

**Original discount rate:** The discount rate originally used to calculate the present value of direct loans or loan guarantee liabilities, when the direct or guaranteed loans were disbursed.

**Pre-modification liability:** The present value of net cash outflows of loan guarantees estimated at the time of modification under the pre-modification terms, discounted at the current discount rate.

**Pre-modification value:** The present value of net cash inflows of direct loans estimated at the time of modification under pre-modification terms, discounted at the current discount rate.

**Pre-1992 direct loans:** Direct loans obligated before October 1, 1992.

**Pre-1992 loan guarantees:** Loan guarantees committed before October 1, 1992.

**Post-modification liability:** The present value of net cash outflows of loan guarantees estimated at the time of modification under the post-modification terms, discounted at the current discount rate.

**Post-modification value:** The present value of net cash inflows of direct loans estimated at the time of modification under the post-modification terms, discounted at the current discount rate.

**Post-1991 direct loans:** Direct loans obligated after September 30, 1992.

**Post-1991 loan guarantees:** Loan guarantees committed after September 30, 1992.