

GAO

Report to the Chairman, Committee on
Government Operations, House of
Representatives

April 1989

BUDGET ISSUES

Budgetary Treatment of Federal Credit Programs





United States
General Accounting Office
Washington, D.C. 20548

Accounting and Financial
Management Division

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The Honorable John Conyers, Jr.
Chairman, Committee on Government
Operations
House of Representatives

Dear Mr. Chairman:

There have been several proposals over the past few years to improve budgeting practices for federal credit programs. Proposals have been made by the Senate Budget Committee, the Congressional Budget Office (CBO), the Office of Management and Budget (OMB), and the General Accounting Office (GAO). All of these proposals were designed to establish better budget control over direct loans and loan guarantees by requiring appropriation approval of associated subsidy costs. This would be a major step forward in improved budgeting for federal credit activities. The differences among the proposals mainly relate to how subsidy costs are calculated.

In this regard, the former Chairman of the House Committee on Government Operations asked for our views on the budgetary treatment of federal credit programs—direct loans and loan guarantees. Specifically, we were asked how we would calculate the subsidy costs of credit programs and to demonstrate these calculations with hypothetical examples. Also, we were asked how our subsidy estimates would affect the reported budget authority, outlay, and deficit totals of the government.

Our report discusses and illustrates the “cost-to-the-government” measurement of subsidy costs, which we favor. It also discusses how appropriated credit subsidies could be reported without altering the overall budget deficit amounts either in the current unified budget or, as we would prefer, in a restructured unified budget. The restructured budget we advocate identifies the budget’s operating and capital components. The report also discusses the alternative “market-valuation” measurement preferred by CBO and OMB. Our comments on CBO’s proposed credit account structure, which would affect budget deficit amounts, are also included.

Background

Major changes in budgeting for federal credit activities have occurred in the 1980s. The first reform occurred in 1980 when OMB included a “credit budget” in the President’s budget submission. The credit budget

proposed limits on the amounts of annual direct loan obligations and loan guarantee commitments. In December 1985, the Congressional Budget Act was amended to require allocations for new direct loan obligations and loan guarantee commitments in the congressional budget. Throughout the 1980s, the Congress increasingly subjected credit activities to annual appropriations controls by placing limitations in appropriations acts on various programs' new direct loan levels and amounts of guarantee commitments.

Even with these changes, credit decisions still are not based on the most important budget data—cost estimates. The current appropriations controls over many credit activities indirectly control future costs by limiting new levels of activity. However, the current limits do not directly control credit costs because appropriations do not include funds for the estimated subsidy costs—the government's anticipated interest subsidy and default losses—associated with proposed direct loans and loan guarantees.

The potential costs could be significant, depending on the levels of credit activity and other factors, such as the economy. At the end of 1988, the government held direct loans with a face value of \$222 billion and had loan guarantees with an outstanding balance of \$550 billion. The predominant use of loan guarantees in federal credit assistance programs is noteworthy because guarantees appear to be cost free initially. This misleading appearance is related to the budget's cash orientation, which recognizes loan guarantee default costs in future budgets at the time of actual loan default, rather than when guarantees are extended.

As we mentioned earlier, in the past few years, several proposals to reform the budgetary treatment of credit programs have been made, notably by the Senate Budget Committee,¹ CBO,² OMB,³ and GAO.⁴ All of the proposals endorse estimating the total credit subsidy costs for proposed

¹The proposal was part of H.J. Res. 324, a joint resolution passed by the Senate on July 31, 1987. In conference, the proposal was replaced by a requirement for a CBO credit reform study in consultation with GAO (Public Law 100-119). We have provided comments to CBO on its draft report.

²Testimony of Edward M. Gramlick, Acting Director, CBO, before the Committee on Small Business, U.S. House of Representatives, March 10, 1987, and July 1988 draft report. Reforming the Budgetary Treatment of Federal Credit Programs.

³Budget of the United States Government, Fiscal Year 1989 (Part 6b) and Budget of the United States Government, Fiscal Year 1990 (Part 6).

⁴Proposals for Improved Credit Program Budgeting (GAO/T-AFMD-87-5, March 4, 1987); Loan Asset Sales: An Assessment of Selected Sales (GAO/AFMD-88-24, February 19, 1988); Budget Issues: Federal Budgeting Practices Should be Reformed (GAO/AFMD-89-5, to be issued).

direct loans and loan guarantees and appropriating funds for the subsidy costs before the loans and guarantees are made. Credit subsidy costs would be recorded and controlled at the time of the decision to extend credit assistance, and information to permit comparisons with other programs when budget decisions are being made would be provided. By establishing better budget control over the cost of credit activities, all of these proposals would represent a step forward.

To implement this approach, all of the proposals would establish credit subsidy accounts in agencies that have credit programs, to which credit subsidy amounts would be appropriated. Also, the proposals would establish credit financing accounts to (1) provide the nonsubsidy portion of the funding for direct loans (the loan outlay minus the subsidy amount) and (2) make default payments for loan guarantees.

The four proposals differ principally only on the method used to calculate credit subsidy costs. We and the Senate Budget Committee propose measuring the direct budgetary costs of credit programs. In our recent reports, we recommend a "cost-to-the-government" model, which measures loan subsidy costs as the difference between the costs to the Treasury of making the loan and the expected receipts flowing back to the Treasury from the loan repayments—calculated on a present-value basis.

On the other hand, CBO and OMB prefer a market-valuation oriented measurement approach which calculates the economic benefit borrowers receive as a result of obtaining federal, rather than private sector, loans. OMB believes that the economic subsidy offered to borrowers is the most important aspect of federal credit, and it proposes putting this economic subsidy measure in the federal budget. OMB computes subsidy costs as the present value of the additional payments that a federal borrower would be required to pay for a similar loan from the private sector. CBO's preference for market-valuation subsidy costs is based on the assumption that government credit program costs appropriately measured are comparable to costs incurred by private sector financial institutions.

As stated in our prior reports, we prefer the cost-to-the-government measure of credit subsidy costs because it measures future cash outlays. We believe that market-valuation subsidy costs will overstate the actual cost to the government. Subsidies measured in terms of market values will generally be larger than subsidies measured in terms of the cost to the government because they will include some costs, such as premiums for liquidity and risk (above and beyond expected default costs), which

would not be reflected in budget outlays. Although market-valuation measures may be useful in some circumstances (discussed in appendix I), generally we favor the cost-to-the-government approach.

Objectives, Scope, and Methodology

The primary objectives of this report are to (1) explain how we would measure the subsidy costs of credit programs, using hypothetical examples and (2) explain how the method of calculation we favor would affect the budget authority, outlay, and deficit totals under the various credit reform proposals.

For the first objective, we explain the cost-to-the-government measurement approach set forth in the GAO testimony and reports cited previously, using hypothetical examples. In developing the additional detail to explain and expand on this measure, we considered the views of numerous experts in financial industry, academia, and public policy research.

For our second objective, we reviewed the various credit reform proposals and met with CBO and OMB officials to discuss them. In this report, we discuss conceptually the effect that reforming the budgetary treatment of credit programs would have on reported budget totals in the current unified budget. We also explain how credit reform would affect budget totals if implemented in GAO's restructured budget involving operating and capital parts.

As agreed with the Committee, we did not obtain formal comments on this report from OMB or CBO. However, we discussed the various credit reform proposals with CBO and OMB officials and incorporated their comments where appropriate in the report. Our work was performed in Washington, D.C., in accordance with generally accepted government auditing standards between December 1987 and July 1988.

GAO Favors Measuring Direct Budgetary Costs

As stated above, we generally favor the cost-to-the-government subsidy measurement approach because we believe that the budget should report only direct budgetary costs. This measure is consistent with the way other program costs are measured, and it would place credit program costs on a budgetary basis more comparable with grants and other federal programs.

Measurement of Direct Loan Subsidy Costs

The budget costs which we believe should be measured are the total long-term interest and default costs the government may incur as a result of the direct loans proposed for a given year. Interest subsidy costs normally are incurred over the life of direct loans to the extent that funds are loaned to borrowers at interest rates lower than the government's own borrowing cost. In addition, the government incurs default losses when borrowers do not make the payments specified in loan agreements.

The government also incurs administrative costs in connection with direct loans. These costs are a component of the subsidy cost to the government for loan programs. At this time, however, we do not include administrative costs in our subsidy computation because of the complexities of measuring and allocating prospective administrative costs. For example, some agencies do not allocate administrative costs to specific credit programs. We discuss administrative cost issues further in appendix I.

Focusing on the government's interest and default costs, we measure direct loan subsidy costs as the difference between (1) the amount loaned out and (2) the present value of the amount expected to be paid back over the life of the loan. The amount expected to be paid back is the contractual repayments (principal and interest), adjusted for expected defaults.

To produce a meaningful subsidy cost, we use present-value concepts which facilitate the comparison of future loan repayments with current outlays of principal. The basic idea is to estimate what the future total income stream from the repayments will be and then determine how much that income stream is worth today (its present value) to the government. The present value is obtained by "discounting" the expected income stream of the loan using the interest rate paid by Treasury on its borrowing for securities with maturities equivalent to the loans being extended. We use the Treasury rate because we are measuring the subsidy in terms of its cost to the government. In appendix I, we discuss the use of present-value concepts in our measurement model.

Direct Loan Subsidy Illustration

Table 1 presents the subsidy computation for a hypothetical \$100,000 direct loan with a 3-year term, an 8-percent annual interest charge, and a balloon repayment of principal at the end of the 3 years. We assume that this loan is part of an established portfolio consisting of a large

number of loans with similar characteristics, and that the government's borrowing rate for securities with an equivalent maturity is 10 percent.

At 8-percent interest, the contractual repayment amount (principal and interest) is \$124,000. To acknowledge default risk, the contractual amount is reduced by an estimated level of default. In this example, we assume a 4-percent probability that this loan will go into default, based on experience with similar loans in the portfolio. We also assume default will occur within the first year. Thus, expected loan receipts are \$119,040, or 96 percent of the contractual amount. Default measurement issues are discussed further in appendix I.

Discounted at the government's 10-percent cost of borrowing, the present value of the \$119,040 in expected loan receipts is \$91,225. Thus, after making adjustments for estimated defaults and the time value of money, the contractual loan receipts of \$124,000 are only worth \$91,225 at the time the loan is made. Subtracting the \$100,000 loan outlay from the \$91,225 present value of the loan results in an \$8,775 subsidy cost.

Additional examples of subsidy costs which would result from altering the terms of this \$100,000 direct loan are provided in appendix II.

Table 1: Sample Cost-to-the-Government Credit Subsidy for a \$100,000 Direct Loan

Present Value of Expected Receipts	Year 1	Year 2	Year 3	Total receipts
Contractual receipts	\$8,000	\$8,000	\$108,000	\$124,000
Expected receipts	7,680	7,680	103,680	119,040
Present value of expected receipts	6,982	6,347	77,896	91,225
Credit Subsidy				
Present value of expected receipts				\$91,225
Loan principal outlay				(100,000)
Net present value of credit subsidy				\$(8,775)

Notes:

1. The following terms apply to our sample direct loan: 3-year loan, 8-percent interest rate, and balloon repayment of principal.
2. The estimated default rate is 4 percent. Default occurs in the first year of the loan term.
3. The government borrowing cost used to discount receipts is 10 percent.

Measurement of Loan
Guarantee Subsidy Costs

When borrowers with federally guaranteed loans default on their payments to private lenders, the government pays the lenders interest and principal according to the terms of the loan guarantee agreement. The guarantee may be for all of the principal and interest or for some portion of the principal and/or interest.

We compute the credit subsidy for a loan guarantee as the difference between fees received, if any, from federally insured borrowers and the present value of the estimated default costs. As with direct loan programs, we use present-value methodology because it provides a meaningful measure for activities with receipts and outlays occurring in different time periods. We also do not include administrative costs in our subsidy measure for loan guarantees.

Loan Guarantee Subsidy
Illustration

Table 2 presents the subsidy computation for a hypothetical guarantee on a \$100,000 loan originated by a commercial bank. We assume that the default occurs in the first year of the loan term and that the government guarantee covers both principal and interest payments. The loan terms are the same as those used in the direct loan example provided in table 1, except that the borrower's interest rate (11 percent) is higher than the government's borrowing cost (10 percent).⁵

⁵The higher interest rate reflects the fact that commercial loan rates generally exceed the government's cost of borrowing.

**Table 2: Sample Cost-to-the-Government
Credit Subsidy for a \$100,000 Loan
Guarantee**

	Year 1
Government's default liability to bank	\$111,000 (principal and interest)
Estimated defaults	4,440
Present value of estimated defaults	4,036
Credit Subsidy	
Present value of estimated default risk	\$(4,036)
Fee receipts	1,000
Net present value of estimated defaults	\$(3,036)

Notes:

1. The following terms apply to our sample loan guarantee: 3-year loan, 11-percent interest rate and balloon repayment of principal.
2. Guarantee terms: 100-percent of principal and interest payments.
3. The estimated default rate is 4 percent. Default occurs within the first year of the loan term.
4. The government borrowing cost used to discount receipts is 10 percent.
5. A fee of 1 percent of the loan amount is paid by the borrower when the loan guarantee is extended.

Additional examples of loan guarantee subsidy costs based on other default estimates are provided in appendix II.

Effects of Credit Reform Proposals on Budget Totals

We have stated in prior reports that credit subsidy costs should be estimated for the new credit activities proposed in each year's budget, preferably using a cost-to-the-government measure along the lines presented above. We have also stated that appropriations for those amounts should be made when credit activities are approved by the Congress.⁶ Furthermore, we believe that credit reform can, and should be, implemented in a way that does not change the overall federal deficit. We believe that the budget should continue to generally reflect the total cash flows to and from the public so that the close link between the federal deficit and the government's borrowing needs is maintained.

In this section, we discuss the Senate Budget Committee, OMB, and GAO proposals, which would replace the current cash-based measure of credit programs with appropriated credit subsidy amounts. None of these proposals change the government's reported deficit. We then discuss the initial need for increased amounts of budget authority required under these credit reform proposals. Lastly, we discuss how a deficit-

⁶See footnote 4.

neutral approach could also be implemented within our proposed restructured budget. The CBO proposal, which would alter the deficit amount, is discussed in appendix III.

Credit Reform in the Current Budget

In the deficit-neutral credit reform proposals of the Senate Budget Committee, OMB, and GAO, new subsidy accounts would be established to receive appropriations from the Congress for the subsidy costs of the direct loans and loan guarantees proposed for that year. When direct loans are disbursed to borrowers, agencies would pay the appropriated subsidy component into a new direct loan financing account. The financing account would make the loan outlay to the borrower, using the subsidy amount plus appropriations or borrowings from the Treasury for the balance of the loan disbursement—the nonsubsidy portion of the loan. For loan guarantees, the appropriated subsidy would be transferred to a new loan guarantee financing account when the federally guaranteed loan is disbursed. This amount, along with any fees paid by the borrower, would be used for future default payments.⁷

If this structure were used within the unified budget, outlays would be the same as under current budgetary practices. That is, outlays would still reflect loan disbursements. For example, currently a \$100,000 direct loan disbursement results in a \$100,000 outlay. Under credit reform, the \$100,000 disbursement would still be recorded as a \$100,000 outlay, but it would be comprised of (1) an appropriated subsidy cost amount and (2) a nonsubsidy amount—the amount expected to be repaid. Using the loan described in table 1 as an example, the \$100,000 loan outlay would be comprised of the subsidy amount (\$8,775) and the nonsubsidy amount (\$91,225) funded with Treasury borrowing.

For loan guarantees, default costs would continue to be included in budget outlay totals when default payments are made. The initial payment from the subsidy account to the financing account when the underlying loan is executed would not affect total budget outlays, because the outlay from the subsidy account would be offset by a corresponding

⁷This report describes the broad structure of the proposals and their impact on budget totals. There are some differences among the proposals. The Senate Budget Committee and OMB proposals vary, for example, in the location of the financing accounts (in the agencies or in the Department of the Treasury) and the treatment of existing (pre-credit reform) loans. These technical differences are outside the scope of this review and, therefore, are not addressed in this report.

receipt in the financing account.⁸ As is the current practice, the budget would reflect an outlay when a default payment is made to a private lender.

Although these proposals are deficit neutral,⁹ we believe that they could result in budget authority increases, at least initially. There could be a one-time increase in budget authority amounts relating to direct loans.¹⁰ This is because budget authority for the new subsidy and financing accounts initially would be needed for gross loan outlays rather than for net loan outlays, as reported in the current budget. At this time, many loan programs obtain budget authority to fund new loan disbursements in excess of their receipts from loan repayments and other sources—in other words, to fund the accounts' net outlays. A credit program could make new loan disbursements without using new budget authority, if loan repayments in a given year exceeded disbursements.

With credit reform, budget authority for the full amount of new loan disbursements would be necessary. This budget authority would be comprised of an appropriation to the new subsidy account, plus the borrowing by the new financing account for the nonsubsidy portion. The proposed budget accounting would produce increased levels of budget authority, assuming a continuation of the most recent year's levels of new loans, cash flows in the old accounts, and reimbursements for losses. However, this would be a one-time increase and, in any case, would not affect the deficit, which compares revenues to outlays rather than to budget authority.

The budget authority related to loan guarantee programs also would increase initially under these proposals. Budget authority would be required for the total estimated default costs of the new loan guarantees as well as for the annual default costs incurred under guarantees extended prior to credit reform. Currently, budget authority is only required for loan default costs for existing loans on a "pay-as-you-go" basis and not for the estimated default costs for new loan guarantees.

⁸Balances in the loan guarantee financing account(s) may be invested in Treasury securities. The interest income earned would be used, along with the initial subsidy amount, to pay future default claims.

⁹The budget structures outlined in these proposals would be deficit neutral using either the cost-to-the-government or the market-valuation subsidy measure.

¹⁰Budget authority is authority provided by law to enter into obligations that will result in immediate or future outlays involving federal government funds. By law, budget authority does not include authority to guarantee loans. Credit reform legislation would have to amend the definition of budget authority to include loan guarantee subsidy costs.

Credit Reform in GAO's Restructured Budget

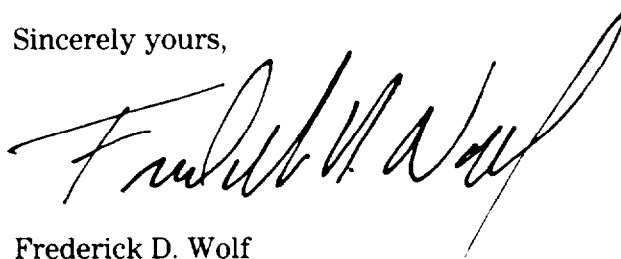
While our preferred cost-to-the-government subsidy measure could be included in the current budget as described above, it could also be used in GAO's proposed restructured budget. We have advocated restructuring the current budget into operating and capital parts and highlighting trust and enterprise-type activities. We believe that a budget restructured along these lines would improve the quality of budget information and enhance decision-making.¹¹ Our restructured budget would identify the revenues, expenses, and "capital financing" needs for federal capital investment activities, and it would clearly distinguish them from current operating amounts and the "operating deficit."¹²

We believe the subsidy costs of credit programs would be most effectively incorporated into our restructured unified budget. The subsidy cost for the budget year's new loans would be reported as an expense in the operating budget. Furthermore, cash disbursements, less their related subsidy cost, would be reported as financial investments in a capital budget. In appendix IV, we provide additional information on our budget proposal and illustrate how credit reform could be incorporated into a restructured unified budget.

We are sending copies of this report to the Director of the Congressional Budget Office, the Director of the Office of Management and Budget, and interested congressional committees. Copies will be made available to other parties on request.

This report was prepared under the direction of James L. Kirkman, Director, Budget Issues. Other major contributors are listed in appendix V.

Sincerely yours,



Frederick D. Wolf
Assistant Comptroller General

¹¹Transition Series: Financial Management Issues (GAO/OCG-89-7TR, November 1988); Budget Reform for the Federal Government (GAO/T-AFMD-88-13, June 7, 1988); Budget Issues: Capital Budgeting for the Federal Government (GAO/AFMD-88-44, July 1988).

¹²The total financing requirements which we report in the restructured budget is a sum of the operating deficit and capital financing amounts, less items not affecting funds. It is equivalent to the deficit amount currently reported in the budget.

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Abbreviations

CBO	Congressional Budget Office
GAO	General Accounting Office
OMB	Office of Management and Budget

Subsidy Measurement Issues

In this appendix, we discuss the use of present-value methodology in the cost-to-the-government subsidy measurement model. In addition, we discuss some default and administrative cost measurement issues.

Present-Value Concept

To determine the subsidy cost of credit programs, we use a net present-value measurement model. The present-value approach reflects the fact that a dollar received today is worth more than a dollar received in the future because today's dollar can be invested at a current market interest rate or, in the government's current net deficit situation, can be used to reduce borrowing costs. Present-value concepts facilitate the comparison of transactions which occur in different time periods, as with credit programs where cash outlays and receipts occur at different times.

As stated earlier, we estimate the future total income stream from loan payments and determine how much that income stream is worth today (its present value) to the government. This amount is then deducted from the cash outlay for the loan to provide the subsidy amount. This approach basically simulates the analysis an investor would undertake when considering the sale of some security holdings. For example, present-value calculations are used to determine the price at which an investor would be prepared to sell some Treasury bonds, thereby forgoing their future income streams, in order to obtain a lump sum payment today. The price, or present value, would be the amount which would produce an income stream equal to what could be expected on the existing portfolio. The present value would be obtained by "discounting" (reducing) the expected income stream of the securities using the interest rates which the investor could obtain on comparable Treasury securities.

For determining the present value of federal loans, we use the same basic procedure. We use the interest rate paid by Treasury on its borrowings for securities with comparable maturities to discount the expected loan income stream. This reflects the idea that, because the government has debts, the present value to the government of an expected income stream relates to interest-cost avoidance. If the government sells the loan assets, it receives cash which enables it to pay off existing debt and avoid future interest payments. Alternatively, if the government makes additional loans, depending on whether it is in a deficit or surplus situation, it either incurs additional debt or forgoes revenues that could be used to avoid future interest costs.

Default Measurement

The government incurs losses when (1) borrowers do not make the payments specified in the direct loan agreements and (2) the government makes guarantee payments in excess of fee receipts, if any, to lending institutions after federally insured borrowers default on their payments. These potential costs are recognized in GAO's credit subsidy measurement models.

As shown in table 1 in the preceding letter, the repayment stream for each direct loan issued is reduced by an estimated probability of default, reflecting the default experience of similar loans in the portfolio. Table I.1 shows this subsidy computation in greater detail to separately identify the two subsidy cost components measured in the computation—the interest subsidy and the expected default costs. This more detailed presentation permits analysis of the individual subsidy cost components associated with direct loans.

Appendix I
Subsidy Measurement Issues

Table I.1: Sample Interest Subsidy and Default Cost for a \$100,000 Direct Loan

	Year 1	Year 2	Year 3	Total receipts
Present Value of Contractual Loan Receipts				
Contractual receipts	\$8,000	\$8,000	\$108,000	\$124,000
Present value of contractual receipts	7,273	6,612	81,142	95,027
Interest Subsidy				
Present value of contractual receipts				\$95,027
Loan principal outlay				(100,000)
Net present value of interest subsidy				\$(4,973)
Default Cost				
4 percent of contractual interest and principal	320	320	4,320	4,960
Present value of default cost	291	264	3,246	\$3,801
Total Subsidy Costs				
Interest Subsidy				\$4,973
Default Cost				3,801
Credit Subsidy				\$8,774^a

Notes:

1. The following terms apply to our sample direct loan: 3-year loan, 8-percent interest rate, and balloon repayment of principal.
2. The estimated default rate is 4 percent of all contractual receipts. Default occurs in the first year of the loan term.
3. The government borrowing cost used to discount receipts is 10 percent.

^aThe \$1 difference between this subsidy amount and the amount in table 1 is due to rounding.

For loan guarantees, estimated default costs are also recognized for each guarantee extended. As shown in table 2 in the preceding letter, each loan guarantee is assessed a subsidy cost based on the government's default liability to the commercial lender and the estimated probability of loan default by the federally insured borrower. Because each direct loan and loan guarantee is assessed an estimated amount for default costs based on the likelihood of default, the total subsidy costs for each direct loan and loan guarantee program account—the sum of the individual credit subsidy amounts—would include the estimated default costs for that year's credit activities.

The most challenging aspect of measuring credit subsidy costs is developing prospective default estimates at the time new loans are made. For many loan programs, we believe that it is feasible to estimate a default rate using historical data because the loan programs have two common characteristics: (1) they have been in existence for a sufficient period to have a historical default history and (2) they involve large numbers of individual loans with similar characteristics and terms. For these types of programs, we believe that a historical default rate can be used to project future defaults, adjusted as appropriate to reflect expected default-rate changes due to changing circumstances, such as economic conditions or program modifications.

In a limited number of cases, however, a historical default record will not be available or will not be pertinent. For example, large loans or guarantees of an exceptional nature to single entities could be treated differently.¹ Estimating default risk in such cases is a difficult matter and could involve a number of approaches, including the use of market-valuation subsidy measures. As previously discussed, we believe market-valuation subsidy measurements will generally be larger than subsidies measured in terms of the cost to the government. Market-based subsidies will include some costs, such as premiums for liquidity and risk above and beyond expected default costs, which would not be reflected in budget outlays. To address this difference, any market-based approach would have to reduce market rates for the risk and liquidity premiums generally reflected in these rates to obtain an estimate more appropriate for federal budgeting purposes.

In addition to being useful for estimating the risk associated with loans and guarantees to specific one-time borrowers, market-valuation techniques may also be used to reflect the effects of changing economic conditions on historic payment rates. Market rates could provide a benchmark against which historical default rates could be evaluated to more accurately estimate the current default risk used in the cost-to-the-government calculation.

We believe reasonable estimates can be developed using these approaches as appropriate. Because they are prospective and dependent upon such things as the state of the economy, we recognize that it is unrealistic to expect all default estimates to be accurate in the long run.

¹For example, in 1971, the government authorized emergency loan guarantees of up to \$250 million to major business enterprises, such as Lockheed Corporation (Public Law 92-70). In 1980, the government authorized up to \$1.5 billion in loan guarantees for Chrysler Corporation (Public Law 96-185).

Rather, the focus should be on developing reasonable, supportable default assessments each year which allow for meaningful subsidy cost estimates. In instances where historical-based default rates do not provide adequate reserves to cover default costs, periodic adjustments would be necessary to reflect significant changing conditions.

In addition, we recognize that more precise models can be developed to estimate default costs. For example, all borrowers who default do not do so immediately. The approach illustrated in this report is a conservative measure. For example, rather than attempting to predict the timing of direct loan defaults, i.e., the number of defaults in year 1, year 2, etc., we reduce all annual contractual receipts by the estimated default risk throughout the entire loan term. In our opinion, this default measurement technique can be easily applied, and it could be used at least initially for budgetary purposes. For agencies with existing default measurement models which more precisely measure default costs, these models may be incorporated into our overall framework. In any event, as all agencies develop expertise in measuring and estimating default costs, we would expect and encourage improvements in default measurement techniques.

The default costs measured in our illustrations reflect uncollateralized loans. However, many government loans are secured by capital assets such as houses. In these cases, estimated default rates would be adjusted to reflect the proceeds from the sale of collateral. For example, if a loan program generally recovers 50 percent of its default costs due to collateral sales, the default rate in the subsidy computation would be decreased by half.

Administrative Costs

The government incurs administrative costs for loan origination, servicing, and collection activities throughout the life of direct loans and loan guarantees. Accordingly, as we have stated in prior reports, credit program administrative costs, along with interest subsidy and default costs, are a part of loan subsidy costs. Like the other cost components, administrative costs could be projected over the loan term, adjusted for the time value of money, and added to estimated interest subsidy and default costs. However, a number of practical considerations, which we discuss below, have led us to conclude that budgetary credit reform could be implemented by focusing initially on the other cost components—the interest subsidy and default costs.

Identifying the annual administrative costs associated with individual loan programs could be difficult. Administrative costs may be appropriated in one account for an entire agency or similar organization, and the organization may not at this time have a system that allocates administrative costs to individual credit programs.

Furthermore, even if such allocations could be made and models developed to project the future administrative costs of particular programs, a conceptual problem arises if these amounts are included in the appropriated subsidy and used to make loan disbursements (as under the current proposals). In effect, future administrative costs would be double-counted in the budget, once at the time of the subsidy appropriation and again in future years when regular appropriations are received for administrative expenses. We do not believe that an alternative solution—such as separating out the administrative component of the subsidy appropriation for use in future years—is practical at this time.

In many cases, we expect administrative costs to be the least significant subsidy cost component. Because of the complexities in estimating and allocating these costs over the terms of new loans and using these appropriations for administrative costs in future years, we are not including them in our model at this time.

In addition, the inclusion of prospective administrative costs in the credit subsidy measure could decrease the comparability of credit costs with those of grants. Administrative costs for grant programs are now appropriated annually, even though, as for loan programs, such costs may be incurred over a number of years.

Subsidy Costs Under Varying Loan Terms and Default Estimates

Currently, all direct loans are measured alike in the budget regardless of varying loan terms and default risks. For example, a \$100,000 loan results in a \$100,000 loan outlay, regardless of the interest rate charged the borrower in relation to the government's borrowing cost, the length of the loan, the loan repayment basis (balloon or mortgage), or the default risk. However, these variables will result in different subsidy costs to the government. Our subsidy measure corrects this cost distortion by recognizing both the long-term costs and the variances in cost which result from different loan characteristics.

To illustrate the subsidy cost impact of varying loan terms, table II.1 presents the subsidy costs for nine different \$100,000 direct loan portfolios. The variable terms are the interest rates charged borrowers, the repayment basis (balloon or mortgage payments), and the length of the loans. The estimated default costs remain constant in this example, but we demonstrate the impact of this variable on loan guarantees in table II.2.

Table II.1: Credit Subsidies for \$100,000 Direct Loans With Varying Loan Characteristics

Terms	Portfolio variables		
	Interest rate charged borrower	6 percent	8 percent
Estimated default on principal and interest	4 percent	4 percent	4 percent
Government borrowing cost used to discount receipts	10 percent	10 percent	10 percent
Repayment basis	Balloon	Balloon	Mortgage
	Credit subsidy		
Length of loan:			
3 years	\$13,550	\$8,775	\$7,362
10 years	27,595	15,798	12,091
20 years	36,692	20,346	16,756

Table II.1 shows that larger interest-rate subsidies and longer loan terms increase total direct loan subsidy costs. Mortgage loans for which the principal is repaid throughout the life of the loan, have decreased subsidy costs—assuming the default rates and other terms are the same as those for balloon loans.

Similarly, loan guarantee subsidy costs are distorted in the current budget. Loan guarantees are excluded from budget cost estimates when authorized. Instead, the actual default costs are recorded in a future budget(s) as defaults occur. Thus, a low-risk mortgage guarantee is treated the same as a high-risk guarantee on an experimental energy

**Appendix II
Subsidy Costs Under Varying Loan Terms and
Default Estimates**

development project—and both appear cost free. A subsidy measure corrects this deficiency by recognizing in the budget the estimated costs which will be associated with loan guarantee programs proposed for that budget year. Table II.2 shows that higher default estimates result in larger subsidy cost estimates.

**Table II.2: Credit Subsidies for \$100,000
Loan Guarantees With Varying Default
Risks**

Estimated default rate	Credit subsidy
4 percent	\$3,036
8 percent	\$7,073
12 percent	\$11,109
16 percent	\$15,145
20 percent	\$19,182

Notes:

1. The following terms apply to the loans included in our sample loan guarantees: 3-year loans, 11-percent interest rate, and balloon repayment of principal.
2. The guarantee applies to 100 percent of the principal and interest payments.
3. Default occurs within the first year of the loan term.
4. The government borrowing cost used to discount receipts is 10 percent.
5. A fee of 1 percent of the loan amount is paid by the borrower when the loan guarantee is made.

CBO's Credit Reform Proposal Would Affect Deficit Amounts

The Congressional Budget Office's (CBO) credit reform proposal is similar to the other credit proposals discussed in our report. CBO's proposal, like the others, requires that federal agencies obtain appropriations for the subsidy costs of the direct loans and loan guarantees proposed for the budget year. When direct loans and loans with federal guarantees are disbursed, agencies would pay an appropriated subsidy amount into a financing account. The CBO proposal is different from the others in that it keeps the subsidy component of loan programs on-budget but effectively moves the financing accounts off-budget. That is, rather than including the financing accounts' cash flows in budget outlays, CBO has proposed redefining these amounts as new elements in the "means of financing the deficit."¹ We believe that all credit activities should be kept on-budget.

Under CBO's plan, only the appropriated subsidy amounts would be included in budget outlays. Financing account cash flows, such as direct loan disbursements in excess of estimated subsidy costs, loan repayment receipts, and loan asset sale receipts, would not be reflected in budget outlays.² In CBO's opinion, credit reform is more likely to improve budgeting if these financing flows are redefined as a "means of financing the deficit." The conceptual basis for this proposal is that the deficit should measure the change in the government's financial condition and, as such, the deficit should not be affected by the receipt of anticipated loan repayments or the acceleration of such repayments through loan asset sales.

CBO's proposal also affects outlays and the deficit by moving transactions associated with existing loan portfolios off-budget. That is, outlays for losses on existing (pre-credit reform) loans would not be recorded in the unified budget. Based on the assumption that the financing flows from both new and old (pre-credit reform) credit activities are redefined as a "means of financing the deficit," CBO projected lower outlays for fiscal years 1989 and 1990 and higher outlays for fiscal year 1991 in its July 1988 draft report on credit reform.

¹Currently, items included in the "means of financing the deficit" definition include borrowing from the public, reductions of operating cash, and other miscellaneous items such as seigniorage and profit on the sale of gold.

²Unified budget outlays and deficit amounts include these cash flows. However, by law, most loan asset sale receipts are not included in outlays and the deficit amount calculated according to Gramm-Rudman-Hollings Act deficit calculation procedures.

We suggest implementing credit reform in a deficit-neutral manner. However, CBO's proposal, which does affect the deficit, is not inconsistent conceptually with certain features of our restructured budget proposal discussed in this report. We agree with CBO that subsidy costs are a better measure for credit programs than cash flows because subsidy costs properly focus on the government's losses.

Under the CBO plan, credit subsidy costs would be included in the unified budget. Similarly, in our restructured budget proposal, we highlight credit subsidy costs in an operating budget included within the unified budget. However, as discussed above, CBO would not include the financing account cash flows (the nonsubsidy portion of credit activities) in budget outlays. In our proposal, we include the nonsubsidy portions in a separate capital budget within the unified budget. In a capital budget, these amounts are more properly presented as financial assets with expected benefits to the government, i.e., repayments.

We believe that credit reform should be effected in a deficit-neutral manner. All subsidy and nonsubsidy amounts should remain on-budget. Such an approach maintains an important link between the federal government's overall budget deficit and its borrowing needs. Our approach recognizes the important differences between credit subsidy and nonsubsidy amounts by classifying the former in the operating part of the budget and the latter in the capital part. (See discussion in appendix IV.)

Also, we believe that subsidy estimates will and should be open to question and review, particularly in the early years of credit reform. Over time, improvements should be made in both estimating techniques and credit accounting records, thus providing a sounder basis for subsidy estimates. Therefore, we expect a steady improvement in and acceptance of the accuracy of subsidy cost estimates. In the interim, while subsidy estimates are receiving close scrutiny and review, it is especially important to keep the nonsubsidy financing activities on-budget. Furthermore, moving the financing activities off-budget could create an incentive to understate on-budget credit costs—the subsidy amounts.

Credit Reform in GAO's Restructured Budget

In recent reports, we have advocated a restructured budget which would distinguish between operating expenses and capital investments and better highlight trust and enterprise-type activities. We have also stated that credit program information would be improved under our restructured budget.¹ For example, the amount of the credit disbursement that represents a cost to the government would be identified separately from that amount which represents a financial asset promising future benefits.

This separate identification of a financial asset from its cost would permit a better understanding of the government's total financing requirements. In addition, outlays for current operations would be distinguished from outlays for physical and financial investments, and the portion of the debt related to these differing expenditures would also be readily identifiable.

At the budget account level, the subsidy and financing accounts would operate as described previously in this report. The feature which distinguishes our proposal from the other deficit-neutral proposals is that, in our restructured budget, the operating budget would include the new subsidy accounts, while the capital budget would include the financing accounts. Outlays for estimated subsidy costs would be made from the relevant subsidy account(s) to a new loan financing account in the capital budget.² Subsequent loan payments from borrowers would be used to repay Treasury borrowing incurred by the financing account(s).

Table IV.1 illustrates, in the shaded area, how credit subsidies could be reported in the operating budget within the unified restructured budget using mostly fiscal year 1987 actual amounts, separated into capital and operating components and showing gross receipts and outlays.³ The direct loan and loan guarantee subsidy amounts used for illustrative purposes are based on OMB subsidy estimates for fiscal year 1989—the first time that OMB proposed appropriating subsidy costs and included estimates in the budget for individual credit program accounts. The \$150.4 billion total at the bottom of the first column is the amount

¹See footnote 11 in the preceding letter.

²The financing account could be an agency or a central, governmentwide account at Treasury. See footnote 7 in the preceding letter.

³In the President's budget, "proprietary receipts" and "offsetting collections" are not reported as budget receipts. They are netted against gross outlays to produce the net outlay totals in the budget. We have long recommended against netting such amounts against gross outlays because the resulting outlay totals understate the true level of federal outlays. See Federal Budget Totals Are Understated Because of Current Budget Practices (GAO/PAD-81-22, December 31, 1980).

reported by OMB as the actual "deficit" for fiscal year 1987. In our table, we label this amount as "total financing requirements."

Table IV.1 shows how credit subsidy costs could be reported in governmentwide totals. For direct loans, the estimated subsidy cost for the budget year's new loans is reported as an expense (outlay) in the operating budget. This is the \$1-billion amount in the shaded area of the table. Direct loan cash disbursements, less the related subsidy cost amounts, are reported as financial investments in the capital budget. This is the \$34.2-billion amount in the shaded area of the table. The sum of the amounts in the operating and capital budgets is equal to the cash disbursements for new direct loans.

Budgeting for direct loans would be improved under this approach. The estimated costs of the new direct loans proposed by the President would be reported in the budget and acted upon by the Congress up-front—that is, as the Congress decides on the President's credit proposals. This could improve the Congress' control over long-term budget costs because the Congress could approve or modify proposed loan levels based on an explicit consideration of expected costs.

Additionally, the credit subsidy cost would be separated from the non-subsidy financial investment, which is consistent with our capital budgeting approach. As seen in table IV.1, the restructured budget separately identifies operating expenses and capital investments, and restricts the term "deficit" to the operating side of the budget. We believe outlays for physical assets and the nonsubsidy portion of loans should not be seen as contributing to the deficit, because these outlays result in the acquisition of government assets which provide benefits in the future.

Table IV.1 also shows subsidy costs for loan guarantees in the operating budget. Under our proposal, the operating budget would reflect a subsidy expense associated with loan guarantees when they are made. This is the \$8.7-billion amount in the table.

At the account level, there would be agency subsidy accounts in the operating budget to receive appropriations in advance for anticipated

Appendix IV
Credit Reform in GAO's Restructured Budget

Table IV.1: Reporting of Credit Subsidies in GAO's Restructured Unified Budget, Fiscal Year 1987

Dollars in billions

Operating Budget	Total	General	Trusts	Enterprises
Operating revenues				
General taxes	\$498.4	\$498.4	\$0	\$0
Payroll and earmarked taxes	304.6	0.1	304.5	0
Fees, royalties, and earnings	154.8	74.4	21.4	59.0
Total operating revenues	957.8	572.9	325.9	59.0
Operating expenses				
Civil functions	640.7	208.1	372.5	60.1
Defense functions	199.8	199.4	0.4	0
Interest on debt	160.3	160.3	0	0
Asset consumption charge	50.0	50.0	0	0
Credit subsidy costs				
Direct loans	1.0	1.0	0	0
Loan Guarantees	8.7	8.7	0	0
Total operating expenses	1060.5	627.5	372.9	60.1
Operating surplus/deficit(-) before interfund transfers	-102.7	-54.6	-47.0	-1.1
Interfund transfers	-2.2	-117.2	115.0	0
Operating surplus/deficit(-)	-104.9	-171.8	68.0	-1.1
Capital Budget				
Capital revenues				
Loan receipts	37.6	31.5	0.1	6.0
Other capital receipts	16.9	0	16.9	0
Total capital revenues	54.5	31.5	17.0	6.0
Capital investments				
Financial asset disbursements, less subsidy costs	34.2	34.2	0	0
Physical asset additions	126.7	104.9	15.6	6.2
Total capital investments	160.9	139.1	15.6	6.2
Asset consumption charge	-50.0	-50.0	0	0
Net capital investments	110.9	89.1	15.6	6.2
Interfund transfers	2.2	0	2.2	0
Capital financing requirements	-54.2	-57.6	3.6	0.2
Items Not Affecting Funds				
Loan guarantee subsidy costs	8.7	8.7	0	0
Total financing requirements	-\$150.4	-\$220.7	\$71.6	-\$1.3

costs. As federally guaranteed loans are disbursed, the subsidy accounts would report expenses for the expected costs. For example, assuming a guarantee of a \$100,000 loan and an expected default payment by the government of \$3,036 (per the example in table 2 in the preceding letter), the relevant subsidy account in the operating budget would, using its appropriation, reflect the \$3,036 as an operating expense when the federally guaranteed loan is disbursed.

However, unlike most other expenses in the operating budget, this expense would not initially be an outlay to the public. It would be an intragovernmental outlay made to either a central account or an agency account for making eventual default payments. Following current budgetary practices, this intragovernmental transfer amount would not be reflected in budget outlay totals. We believe these amounts are significant and warrant being highlighted in the budget totals. Because of our approach, we must then adjust the budget totals by subtracting these intragovernmental outlays to maintain reported outlay totals as outlays to the public. (See the shaded area of table IV.1, "Items not affecting funds: Loan guarantee subsidy costs.") We make this adjustment to eliminate intragovernmental transfers to develop the government's "total financing requirements."

Budgeting for loan guarantees would be improved under this approach. As with direct loans, the estimated costs of the new loan guarantees proposed in the budget would be reported up-front, and the Congress would approve or modify the proposed guarantee levels based on the subsidy appropriations it is prepared to provide. Under our proposal, the budget would no longer suggest, in effect, that loan guarantees are cost free when they are made.

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