

CREDIT SUBSIDY REESTIMATES,  
1993-1999

September 2000

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## NOTES

Unless otherwise indicated, all years referred to in this paper are fiscal years.

Numbers in the text and the tables may not add up to totals because of rounding.

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## PREFACE

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Nearly a decade has passed since the Federal Credit Reform Act required a new budgetary treatment of federal programs that offer direct loans or loan guarantees. Those programs must initially estimate the cost to the government of subsidizing that credit and periodically issue reestimates as financial conditions change. At the request of the Senate Committee on the Budget, this Congressional Budget Office (CBO) paper compiles and analyzes the cumulative reestimates made for credit programs since 1993. It examines trends in the size and direction of reestimates, looks for possible bias, and discusses ways to prepare and report reestimates more accurately.

David Torregrosa of CBO's Microeconomic and Financial Studies Division wrote the paper under the supervision of Marvin Phaup, Arlene Holen, and Roger Hitchner. Mark Hadley of CBO reviewed the analysis at many stages; his assistance is greatly appreciated. Barry Anderson, Coleman Bazelon, Charles Capone, Sunita D'Monte, Pete Fontaine, Kathy Gramp, Deborah Kalcevic, Susanne Mehlman, Dave Moore, Nathan Musick, and Tim VandenBerg of CBO provided helpful comments, as did Bob Kilpatrick and Courtney Timberlake of the Office of Management and Budget, and Kim Burke of Ernst & Young. In addition, various people helped CBO collect and reconcile the data about reestimates, including Maria Leland and Wanda Lopez of the Department of Agriculture; Karen Weiner, formerly of the Department of Education; Maude Williams and Brenda Davis of the Federal Housing Administration; Winifred Chang of the Office of Management and Budget; Fred Rubin and Joyce Northwood of the Small Business Administration; and Rose Roberts of the Department of Veterans Affairs. Avi Ebenstein, formerly of CBO, provided research assistance.

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## SUMMARY

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The Federal Credit Reform Act of 1990 requires that when a federal agency makes a loan directly or guarantees a loan made by another party, the agency estimates how much of that credit will end up being subsidized by the government. That estimate is recorded in the federal budget when the credit is offered. But projecting losses and costs from federal credit assistance over the uncertain, but often lengthy, life of such loans is difficult, and errors are inevitable. Thus, since fiscal year 1993, agencies have updated their initial subsidy estimates each year through reestimates, which reflect changes in financial conditions and in the performance of individual credit programs to date.

With seven complete years of subsidy reestimates to draw on, the Congressional Budget Office (CBO) has compiled and assessed the record of federal credit reestimates. Some tentative but important findings emerge:

- The reestimates reported in the President's budget between 1993 and 1999 are in such disorder that they cannot be used for analysis. The data that CBO used in this report were corrected with extensive help from the credit agencies and the Office of Management and Budget (OMB).
- Although various incentives may exist for agencies to underestimate credit subsidies, the corrected reestimates do not reveal any pattern of bias in initial subsidy estimates.
- A few modest changes in current practice could improve the accuracy of subsidy estimates and reestimates.

### Deficiencies in Reported Reestimates

Agencies' reestimates account for various factors—such as interest rates, rates of default and other technical assumptions about the performance of loans, and the volume of lending—that may have changed since a credit subsidy was first estimated. Those reestimates are reported in various volumes of the President's budget. However, inconsistencies in the numbers that appear in different volumes and incomplete reporting of default reestimates make monitoring and compiling reestimates difficult.

The *Federal Credit Supplement* to the President's budget is the most detailed source of credit reestimates and the only publication that distinguishes reestimates for interest rates from default reestimates by the year the credit was issued. But the reestimates reported there cannot easily be reconciled with the ones in the *Appendix* to the budget. In fact, fewer than one-third of federal credit programs' reestimates appear to have been correctly reported in the *Federal Credit Supplement* for fiscal year 2000. Inconsistencies arise in part because estimating,

accounting, and reporting are distinct functions that may be handled by different people in an agency. Mistakes can also occur at any stage in the process of producing, recording, and reporting reestimates. For most programs, errors in the reported figures can be corrected, but only with additional, unpublished data from the agencies and OMB.

Errors in reporting and accounting are not limited to the *Federal Credit Supplement*. In one case, the *Appendix* incorrectly reported a loan modification (a change in the estimated cash flow of a loan program that results from new legislation or unanticipated agency actions) as a reestimate. Moreover, an agency mistakenly reported (but later corrected) a \$300 million reestimate in the Treasury Department's *Monthly Treasury Statement*, which tracks the government's cash flows.

### Conflicting Incentives to Estimate Credit Subsidies Accurately

Because reestimates are so difficult to track, agencies may have less incentive to make their initial estimates accurate. In addition, credit reform may give advocates of federal credit programs a reason to understate the expected subsidy of a program; under current rules, initial subsidy estimates are more important costs politically than reestimates. For discretionary credit programs, an initial subsidy estimate requires a Congressional appropriation, whereas later reestimates that raise the cost of a program draw on permanent and indefinite spending authority. Thus, proponents of discretionary programs at an agency might underestimate initial subsidies in order to lend more and then make up the difference with a "costless" reestimate. For mandatory credit programs, which do not require appropriations, low initial estimates could reduce a program's visibility and attractiveness as a target for budgetary savings.

Other considerations, however, may offset any inclination toward bias in estimating credit subsidies. Agencies have incentives to maintain their reputation for integrity. And if their estimates do show bias, OMB's oversight may detect and eliminate it. Further, any gains to an agency from underestimating initial subsidies might be lessened because large upward reestimates can attract increased oversight from the Congress.

### Trends in Reestimates Since 1993

By the end of fiscal year 1999, reestimates had added more than \$8.7 billion to agencies' initial estimates of credit subsidies (see Summary Table 1). Most of the upward revision, however, was for a single program: loans offered to successful bidders in the Federal Communications Commission's auctions of licenses to use the electromagnetic spectrum. The total upward reestimate for all other credit

SUMMARY TABLE 1. CUMULATIVE SUBSIDY REESTIMATES, FISCAL YEARS  
1993-1999 (In millions of dollars)

|                                  | Reason for Reestimate       |   |                                   |             | Total<br>Reestimates |
|----------------------------------|-----------------------------|---|-----------------------------------|-------------|----------------------|
|                                  | Change in<br>Interest Rates | Change in<br>Technical<br>or Default<br>Assumptions | Change in<br>Volume of<br>Lending | Unknown     |                      |
| Discretionary<br>Credit Programs | 1,172                       | -1,198  | n.a.                              | 354         | 327                  |
| Mandatory<br>Credit Programs     |                             |   |                                   |             |                      |
| FCC auctions                     | 0                           | 5,706   | 0                                 | 0           | 5,706                |
| Other                            | <u>62</u>                   | <u>2,179</u>  | <u>719</u>                        | <u>-270</u> | <u>2,691</u>         |
| Total                            | 1,234                       | 6,687   | 719                               | 84          | 8,724                |

SOURCE: Congressional Budget Office based on *Budget of the United States Government, Fiscal Year 2000: Federal Credit Supplement* (Tables 7 and 8), and information from departments and agencies.

NOTE: n.a. = not applicable; FCC = Federal Communications Commission.

programs was \$3.0 billion. That reestimate equals about 8 percent of the initial credit subsidies for all federal loans and loan guarantees extended since 1991.

Reestimates for defaults were on the whole downward for discretionary programs (a total of -\$1.2 billion) and upward for mandatory programs (almost \$2.2 billion, excluding the loans for spectrum licenses). The net upward reestimate for mandatory programs mainly reflected large increases for the Federal Housing Administration's Mutual Mortgage Insurance program.

That pattern of downward default reestimates for discretionary programs and upward ones for mandatory programs is inconsistent with the notion that agencies have greater incentives to understate initial subsidy estimates for discretionary programs than for mandatory ones. However, those results are for reestimates to date, without the benefit of final losses, and could change in the future. For example, economic conditions over the remaining life of the outstanding loans may not be as favorable as during the past nine years. The entire period of credit reform has been marked by continued economic expansion, so low initial subsidy estimates may be hidden by the strong economy.

### Ways to Improve Accuracy

Federal agencies could reduce their errors in preparing, reporting, and accounting for estimates and reestimates in several ways. One approach might be to increase the visibility and consistency of estimates and reestimates in the budget through the following steps:

- The *Federal Credit Supplement* could be expanded to show both initial subsidy estimates and total reestimates by program, agency, and department, with separate entries for interest reestimates and technical or default reestimates. Reestimates for loan volume could also be reported for mandatory programs.
- OMB could adopt an editing check to compare the cumulative credit subsidy reestimates reported for each fiscal year's loans in the *Federal Credit Supplement* with the sum of the annual reestimates for those loans reported in the *Appendix*.
- The *Analytical Perspectives* volume of the budget could report all reestimates to date by program, including interest on the reestimates.

Agencies could also improve their management information systems to enhance their ability to project federal credit costs. In addition, increasing their reliance on the private sector could allow agencies to estimate and manage credit costs more accurately. Today, federal agencies cannot match the performance of private financial institutions in managing loan portfolios. But they could sell loans to the private sector, which would provide a market test of their subsidy estimates and eliminate the need for reestimates. Another approach would be to hire bond-rating agencies to assess and monitor the quality of credit and estimate the probabilities of default for participants in major federal credit programs.

## INTRODUCTION

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In adopting the Federal Credit Reform Act of 1990, the Congress sought to improve budgeting for federal credit programs by making the budgetary costs of direct loans and loan guarantees comparable with those of other programs. Federal credit programs generally cost the federal government money because they require it to pay out more than it gets in return. The aim of credit reform is to report the government's entire expected loss from direct and guaranteed loans when the loans are made.

Credit reform requires officials to identify what percentage of a credit transaction will be subsidized by the government and to record the cost of that subsidy separately in the budget from the cash flows of the transaction.<sup>1</sup> For direct loans, the subsidy cost is the present value (in today's dollars) of the government's expected future losses from net interest costs, late payments, and nonpayments. For loan guarantees, the subsidy is the present value of the government's expected payments in excess of the fees collected for the guarantees.<sup>2</sup> An important provision of credit reform is that for discretionary credit programs, the Congress must provide budget authority for credit subsidies before the government obligates loan funds or commits to guarantee a loan. For new mandatory credit programs and for modifications to existing ones, any added costs must be offset by decreases in other mandatory spending or increases in revenues, as specified in the pay-as-you-go provisions of the Budget Enforcement Act.

From the beginning of credit reform, many budget analysts expressed concern about the ability and willingness of agencies to estimate subsidies accurately. To ensure that the estimates of subsidy costs in the budget are consistent with subsequent cash flows, and to inform policymakers about the performance of federal loans, the Credit Reform Act requires agencies to update those estimates periodically for outstanding direct loans and loan guarantees. Those revisions, or reestimates, appear in the President's annual budget submission to the Congress and other budget documents, such as the Administration's *Mid-Session Review*.

Now that credit reform has been in place for nearly a decade, analysts can begin assessing that policy, especially the early concerns about the accuracy of subsidy estimates. The General Accounting Office has found that many agencies

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1. For more details on credit reform accounting, see Marvin Phaup, "Credit Reform, Negative Subsidies, and FHA," *Public Budgeting and Finance*, vol. 16, no. 1 (1996), pp. 23-36; Congressional Budget Office, *An Explanation of the Budgetary Changes Under Credit Reform*, CBO Staff Memorandum (April 1991); and Congressional Budget Office, *Credit Reform: Comparable Budget Costs for Cash and Credit* (December 1989).
  2. The total cost of making loans or providing loan guarantees should also include the costs of administering the loans; however, the Credit Reform Act specifically prohibits administrative costs from being included in estimates of subsidy costs. See Congressional Budget Office, *Budgeting for Administrative Costs Under Credit Reform* (January 1992).

have had trouble producing reliable subsidy estimates.<sup>3</sup> This analysis focuses on reestimates of subsidy costs—particularly on inaccuracies in the reported figures and incentives that agencies face to underestimate subsidy costs, the patterns visible in reestimates to date, and some ways in which to improve the accuracy of estimates.

## INACCURACIES AND POTENTIAL BIAS IN ESTIMATING CREDIT SUBSIDIES

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The Congress needs information about the accuracy of subsidy estimates for credit programs to control government costs. But incomplete and inaccurate reporting of reestimates in the budget makes it difficult to monitor costs and hold agencies accountable for their estimating errors. Moreover, because of the way in which reestimates are financed under credit reform, agencies may have less incentive to make their initial estimates accurate.

### The Mechanics of Subsidy Reestimates

For each federal credit program, subsidy reestimates are reported in the budget as increases or decreases in outlays at the time of the reestimate. Upward reestimates raise the cost of credit subsidies and thus lower the budget surplus (or increase the deficit). Downward reestimates reduce credit subsidies and thus increase the budget surplus (or lower the deficit) when the reestimate is made.<sup>4</sup> In general, agencies must calculate reestimates annually for each credit cohort—all of the loans or guarantees that a program obligates in a given fiscal year. Ideally, reestimates are based on new information, some of which comes from repayment experience as the loans age.

All credit reestimates have at least two components: revisions for errors in interest rates and reestimates for changes in default rates or other technical assumptions. Interest rate reestimates correct the projected subsidy for the difference between the discount rate (the interest rate used to calculate the present value of a future stream of receipts and spending) that was assumed in the initial estimate and the actual rate prevailing when the credit is disbursed. In most cases, interest reestimates are first made when 90 percent of a loan cohort has been disbursed. Final interest reestimates are made when disbursement is complete,

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3. General Accounting Office, *Credit Reform: Greater Effort Needed to Overcome Persistent Cost Estimation Problems*, GAO/AIMD-98-14 (March 1998), and *Credit Reform: Key Agencies Had Difficulty Making Reasonable Loan Program Cost Estimates*, GAO/AIMD-99-31 (January 1999).

4. Some credit programs take in more money from fees and interest than they pay out and thus have negative subsidies. For such programs, upward reestimates reduce the amount of the negative subsidy and downward reestimates increase it.

which can be several years later. The Office of Management and Budget (OMB) requires agencies to use its forecast of interest rates in formulating initial subsidy estimates. Thus, agencies have no control over the initial interest rate assumption or the errors that may result from it.<sup>5</sup>

Technical or default reestimates correct for borrowers' actual performance in repaying loans. Those revisions adjust the subsidy estimate for unanticipated changes in delinquencies, default rates, recoveries, prepayments, and receipts from fees.<sup>6</sup> Some credit programs require additional adjustments for changes in the interest rates that borrowers pay. (Student loans, for example, are made at variable interest rates, subject to a cap.)<sup>7</sup> For most programs, technical or default reestimates are prepared at the end of each fiscal year; however, OMB may permit agencies to make them less frequently.

Unlike the assumptions about interest rates, agencies control their assumptions about default and other technical factors. Hence, any estimating bias on an agency's part is likely to show up in default reestimates. However, upward default reestimates could also reflect a genuinely unexpected deterioration in the credit performance of borrowers.

### Incomplete Reporting of Reestimates

Inconsistencies in the reestimates reported in various parts of the President's budget and incomplete reporting of default reestimates make it difficult—if not impossible—to monitor reestimates. Moreover, no complete listing exists of annual technical or default reestimates for each cohort of each credit program. That missing information may be critical to assessing initial subsidy estimates and program performance because cumulative reestimates, even by cohort, cannot reveal the volatility of yearly reestimates.

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5. OMB is changing the treatment of interest rates in the subsidy estimating process; for more details, see Appendix A.
  6. To ensure that a program's financing account stays in balance, reestimates also include the interest that would have been earned or paid if the reestimate amount had been included in the original estimate. See Office of Management and Budget, *Preparation and Submission of Budget Estimates*, Circular A-11 (July 12, 1999), p. 294.
  7. The Congressional Budget Office's estimates of the subsidy rate for student loans (both direct and guaranteed loans) differ substantially from those produced by the Department of Education, largely because CBO's estimates allow for interest rate volatility and the possibility that rates will rise. CBO's estimates also reflect the possibility that interest rates will exceed the cap placed on the rates that borrowers must pay—generally 8.25 percent. For details of CBO's estimates for student loans, see Congressional Budget Office, *Estimating the Costs of One-Sided Bets: How CBO Analyzes Proposals With Asymmetric Uncertainties*, CBO Memorandum (October 1999), and *A Framework for Projecting Interest Rate Spreads and Volatilities*, CBO Memorandum (January 2000).

A complete set of reestimates can be compiled from various volumes of the budget. Even so, the reported data from those sources differ in format and contain significant discrepancies. The *Federal Credit Supplement* to the President's budget is the most detailed source of credit subsidy reestimates: tables provide the cumulative reestimates for credit cohorts by agency, program, and bureau. For each cohort, the tables generally show the percentage subsidy rate originally estimated, the current reestimated subsidy rate, the distribution of that reestimate between interest rate and technical or default changes, and the total dollar amount of the reestimate. However, for some large programs—such as student loans and the Federal Housing Administration's (FHA's) loan guarantees—the *Supplement* does not separate interest rate and technical or default reestimates because the programs' agencies combine those into a single total. (For a more complete description of problems with the reported data, see Appendix B.)

The *Appendix* volume of the budget also reports reestimates by program, but those figures are not broken out by cohorts, and technical, default, and interest rate reestimates are consolidated into a single number.<sup>8</sup> However, the *Appendix* does list programs' upward and downward reestimates separately.<sup>9</sup> A third volume, *Analytical Perspectives*, reports only the net annual reestimate for each credit program.

Those differences in the format and structure of reported reestimates would not be a serious handicap if the data were consistent between sources. But for several programs, the *Federal Credit Supplement* reports significantly different reestimates than the *Appendix* does. Moreover, the reestimates in the *Analytical Perspectives* sometimes fail to agree with those in either the *Supplement* or the *Appendix*. Discrepancies arise in large part because of reporting errors. A frequent mistake in the *Supplement* is for reestimate rates and dollar amounts to be inconsistent: for example, upward rate reestimates should result in upward dollar reestimates, but that is often not the case for data reported in the *Supplement*. In addition, annual reestimates are occasionally reported as cumulative reestimates.<sup>10</sup>

Reporting errors are not limited to the *Federal Credit Supplement*. In the case of FHA's Mutual Mortgage Insurance program, neither the *Supplement* nor the

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8. For the instructions that agencies are given on preparing credit subsidy estimates and reporting them in the budget, see Office of Management and Budget, *Preparation and Submission of Budget Estimates*, pp. 279-329. For details on financial accounting, see Federal Accounting Standards Advisory Board, *Amendments to Accounting Standards for Direct Loans and Loan Guarantees in Statement of Federal Financial Accounting Standards No. 2*, Exposure Draft (March 1999).

9. Because reestimates are made for each cohort, a program can have upward and downward reestimates in the same year. Upward reestimates are reported in the individual program account, whereas downward reestimates are shown as outlays of the program's nonbudgetary financing account and are paid to a general fund receipt account.

10. Another type of error is excluding interest on the reestimates (see footnote 6).



*Appendix* gives the correct cumulative reestimate: both wrongly report \$1.2 billion in savings for that program in 1996 as a downward reestimate rather than as a loan modification.<sup>11</sup> Further, the Small Business Administration mistakenly reported (but later corrected) a \$300 million reestimate for the disaster direct loan program in the Treasury Department's *Monthly Treasury Statement*, which tallies the government's receipts and payments.

### Mixed Incentives for Accuracy

Agencies face conflicting incentives in the process of estimating subsidies. The strength of those incentives differs for discretionary and mandatory credit programs—largely because of the ways in which the two types of programs are funded or created. On the whole, agencies' impetus to underestimate subsidy costs is considered strong for existing discretionary programs, weak for existing mandatory programs, and probably nonexistent for new credit programs.

The Federal Credit Reform Act provided for reestimates because legislators correctly anticipated that initial estimates would contain errors. In fact, it is impossible to precisely predict subsidy costs because it is impossible to precisely predict future economic growth, personal and other income, inflation, interest rates, and other economic factors that have major effects on credit costs.<sup>12</sup> In addition, some federal credit programs, especially student loans, give borrowers a choice of repayment options, whose costs to the government vary; projecting which option borrowers will select is difficult. Consequently, the Credit Reform Act provides permanent and indefinite budget authority for reestimates. Although that provision is intended to avoid penalizing agencies for revising their initial subsidies, it may also dampen their incentives for accuracy.

Indeed, an agency might have reason to understate the expected cost of credit. Initial subsidy estimates for discretionary programs must compete with other spending programs for appropriations, and those estimates count against the statutory caps on discretionary spending. Reestimates, by contrast, need not compete with other spending priorities and do not count against the caps because of their permanent and indefinite spending authority. (Just as significant, if an agency overestimates a subsidy initially, later downward reestimates do not free up money for other uses.) That incentive to understate subsidy costs would affect only

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11. Loan modifications result from government actions (such as new legislation) that change the estimated cost of an outstanding loan or guarantee. The permanent and indefinite budget authority that governs a reestimate does not extend to a loan modification.

12. For discussion of the consequences of uncertain economic forecasts, see Henry J. Aaron, "Presidential Address—Seeing Through the Fog: Policymaking with Uncertain Forecasts," *Journal of Policy Analysis and Management*, vol. 19, no. 2 (2000), pp. 193-206.

discretionary credit programs, because mandatory programs are not constrained by appropriations.

Agencies may also have a more fundamental incentive to underestimate subsidies for both mandatory and discretionary credit programs: to the extent that agencies are advocates for their programs, they may be inclined to understate costs to reduce a program's visibility and attractiveness as a target for budgetary savings. Since the Credit Reform Act increased the visibility of credit costs, the Congress has frequently taken steps to reduce subsidies for both mandatory and discretionary programs. For example, it lowered the cost of the student loan program by limiting the participation of schools with high default rates and reducing the interest rate subsidy paid to private lenders.<sup>13</sup> The Congress also reduced the percentage of each Small Business Administration (SBA) loan that is guaranteed and raised the fees that SBA charges.<sup>14</sup> If heightened cost-consciousness causes bias to creep into agencies' subsidy estimates for mandatory as well as discretionary programs, mandatory programs will not serve as a useful basis of comparison to identify bias in estimates for discretionary programs.

When agencies are in doubt—which is always the case with subsidy estimates—they may be inclined to err on the low side. If so, reestimates will tend to be upward. However, bias may not be immediately evident from the size and direction of reestimates (see Box 1).

Although the various factors described above suggest a reason for agencies to systematically underestimate credit subsidies, countervailing pressures exist. Agencies may wish to aim for stable estimates and to maintain a reputation for professional integrity. In addition, the expected gains from underestimating subsidies would be diminished by the prospect of detection by OMB, which generally tries to root out bias. Moreover, large reestimates—whether up or down—can attract Congressional oversight. For example, the House Banking Committee has voiced concern about upward subsidy reestimates for FHA's

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13. For details, see Margot A. Schenet, *Federal Student Loans: Program Data and Default Statistics*, CRS Report for Congress RL30048 (Congressional Research Service, December 22, 1999); Katharine Fraser, "Banks' Victory in Adjusting Education Loan Subsidies Would Last Only 3 Years," *American Banker*, December 13, 1999, p. 2; and Congressional Budget Office, *The Profitability of Federally Guaranteed Student Loans*, attachment to a letter to Senator Domenici (March 30, 1998).

14. In addition, SBA has taken steps to improve collections on loans in default. For details, see *Budget of the United States Government, Fiscal Year 2000: Analytical Perspectives*, pp. 191-193; and the statement of Judy A. England-Joseph, Director of Housing and Community Development Issues, Resources, Community, and Economic Development Division, General Accounting Office, before the House Committee on Small Business, published as General Accounting Office, *Small Business Administration: Credit Subsidy Estimates for the Section 7(a) and 504 Business Loan Programs*, GAO/T-RCED-97-197 (July 16, 1997).

BOX 1.  
ARE REESTIMATES MORE ACCURATE THAN INITIAL ESTIMATES?

Like initial estimates, reestimates are subject to error and possibly to bias. Agencies that report low subsidy estimates might also report reestimates that are inaccurate in some systematic way. For instance, low reestimates would make it easier for an agency to justify low subsidy rates on new cohorts of credit.<sup>1</sup> In addition, an agency loses nothing by delaying an upward correction for long-term loans, unless the current estimates are visibly inconsistent with experience. Hence, reestimates for cohorts that are closer to maturity may reveal more about the presence of bias in initial estimates than reestimates for newer cohorts do.<sup>2</sup>

The methods that agencies use to make reestimates may also foster inaccuracies. Currently, most estimates and reestimates rely on a program's average historical cash flows rather than on a specific assessment of the program's risk. But historical averages may present a misleading picture of future performance. For example, the probability of default during the current decade is likely to be higher than the relatively low default rates observed in the economic boom of the 1990s. Some agencies also assume that a predicted default that did not happen in, say, year three—but that may still happen in year four or five—merits a downward reestimate. That type of reestimate raises concern because it may help justify lower subsidy estimates for new cohorts.

The frequency of reestimates, especially for newer cohorts, may also be a source of volatility. In general, agencies produce annual reestimates for a cohort even if there is little new information about its defaults and recoveries. To reduce volatility, the Office of Management and Budget might consider reducing the frequency of reestimates. However, for that change to lighten the administrative burden significantly, the Federal Accounting Standards Advisory Board would also have to alter its financial accounting standards.<sup>3</sup>

1. Concerns also exist about how closely linked upward reestimates are to estimates for new credit. Although reestimates are supposed to factor into new estimates, not all agencies are fully reflecting reestimates for old cohorts in subsidy estimates for new ones.
2. The pattern of default in government programs varies widely, and relatively little is known about the determinants of default. More is known about defaults for the Federal Housing Administration's (FHA's) insured mortgages: five years of experience with a cohort of FHA loans allows analysts to project final default rates with a great deal of confidence; see Charles Capone, "Credit Risk, Capital, and FHA Mortgage Insurance" (draft, Congressional Budget Office, May 2000). Losses in many corporate sectors are also fairly predictable after five to eight years. Evidence suggests the existence of an aging effect—at least for high-yield bonds—independent of the effect of general economic conditions. Default probabilities are low during the early years of a bond's life and then rise during the middle years before dropping off; see Cynthia G. McDonald and Linda M. Van de Gucht, "High-Yield Bond Default and Call Risks," *Review of Economics and Statistics*, vol. 81, no. 3 (August 1999), pp. 409-419; and Standard & Poor's, *Ratings Performance 1999: Stability & Transition* (New York: Standard & Poor's, February 2000).
3. Agencies are required to issue audited annual financial reports, and agencies hope that their reports receive the auditors' unqualified approval. To earn a clean opinion, agencies may be required by auditors to reestimate subsidies, particularly for changes in interest rates, when they

single-family loan program.<sup>15</sup> The Congress later passed legislation to increase the efficiency of FHA's disposal of property, and the committee directed FHA to improve its administrative oversight of loan originations. Also, upward reestimates for older cohorts may force agencies to raise the estimated subsidy cost of new cohorts. Stable cost estimates are less subject to criticism by either the Congress or a program's constituency.

In general, agencies have little to gain by providing low estimates for new mandatory credit programs or for legislative changes to existing ones, because agencies' estimates are not used in the Congressional budget process. Instead, the Congress usually relies on the Congressional Budget Office's (CBO's) estimates of the cost of legislation to create credit programs, such as the direct student loan program, or to modify existing programs. In addition, the Congress generally uses CBO's subsidy estimates for mandatory credit programs.<sup>16</sup> In line with its mandate to provide objective, nonpartisan information, CBO tries to produce accurate and unbiased subsidy estimates.

#### THE SIZE AND DIRECTION OF REESTIMATES SINCE 1993

During the 1990s, reestimates added more than \$8.7 billion to initial credit subsidy estimates (see Table 1). In other words, according to evidence to date, agencies as a whole initially underestimated the cost of federal credit. That underestimate—as measured by the subsequent reestimates—amounted to 24 percent of the initial \$36 billion subsidy for credit issued over the period. (For a summary of total credit amounts and subsidies by fiscal year, see Appendix C.) However, most of the upward reestimate was for a single program: loans offered to successful bidders in the Federal Communications Commission's (FCC's) auctions of licenses to use the radio spectrum. The total upward reestimate for all other credit programs was just \$3.0 billion, or about 8 percent of the initial subsidy estimate.

Default reestimates lowered initial subsidy estimates for discretionary credit programs by \$1.2 billion. That result is inconsistent with the view that, overall, agencies are underestimating subsidies for existing programs that are constrained by the availability of appropriations. Mandatory programs (excluding the FCC's auctions) reported upward reestimates of \$2.2 billion for default losses. Most of those upward reestimates were for FHA's Mutual Mortgage Insurance program,

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15. See House Committee on Banking and Financial Services, *FY2000 Budget Views: Committee Overview* (available at [www.house.gov/banking/fy2000bv.htm](http://www.house.gov/banking/fy2000bv.htm)).

16. OMB's subsidy estimates are more likely to determine how many loans can be made with a given amount of discretionary budget authority, an area in which the Administration's implementation is key. And OMB's reestimates determine the cash flows—and budget outlays—for both discretionary and mandatory programs.

which is the largest federal credit program, with outstanding loan guarantees of \$411 billion in 1999.<sup>17</sup>

The difference between reestimates for discretionary and mandatory programs is not the only split that might reveal systematic under- or overestimating. Reestimates for specific departments, agencies, programs, and cohorts might also disclose such bias, if it exists. Accordingly, this analysis examined reestimates by every available breakdown. However, it found no evidence of bias in any of them.

### Discretionary Versus Mandatory Programs

Among discretionary credit programs, the Department of Agriculture (USDA) and FHA's General and Special Risk Insurance program are the major sources of upward technical or default reestimates, and the amounts are small. Within USDA, the size and sign of reestimates vary considerably among different agencies and different types of credit (see Table 2). Thus, even for departments whose overall data might be consistent with bias, program data do not suggest a pattern of bias. Specifically, USDA's direct loan programs (with one exception) reported downward technical or default reestimates, whereas the revisions for loan guarantee programs were all upward. Further, the default reestimates were not consistently upward even within a single agency. The Farm Service Agency's Agricultural Credit Insurance Fund, for example, reported upward cumulative default reestimates for four programs and downward ones for five programs (see Table 3).

Unlike the overall downward default reestimate for discretionary programs, default reestimates for mandatory programs as a whole raised costs by nearly \$2.2 billion (excluding the \$5.7 billion reestimate for the FCC's auctions). That distinction between types of credit programs, however, may be less sharp than it appears. The \$3.2 billion upward technical/default reestimate for Mutual Mortgage Insurance more than accounts for the entire positive reestimate for mandatory programs.<sup>18</sup> Other mandatory programs had upward or downward reestimates roughly comparable with those reported by discretionary programs. For example,

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17. Although the Mutual Mortgage Insurance program receives an appropriated negative subsidy and is subject to a cap on lending, the program is treated as mandatory for two reasons. First, the cap is not binding; it is bumped up whenever the level of lending activity approaches it. Second, the receipts generated by new loan guarantees are deposited into the liquidating account to help cover losses associated with guarantees issued prior to credit reform. Before 2000, part of the receipts were used to offset the discretionary administrative expenses of running the program. However, that practice has changed; now all of the receipts are deposited into the liquidating account, and all funds required to administer the program must be appropriated.

18. FHA does not distinguish between technical/default and interest reestimates. However, the entire reestimate for Mutual Mortgage Insurance in the 1999 *Mid-Session Review*, which reflected unexpectedly poor performance of the program's loan portfolio, was assumed to result from technical or default assumptions.

TABLE 1. CUMULATIVE SUBSIDY REESTIMATES, BY DEPARTMENT OR AGENCY, FISCAL YEARS 1993-1999 (In millions of dollars)

| Department or Agency                              | Reason for Reestimate <sup>a</sup> |  |                             |             | Total Reestimates |
|---|------------------------------------|--|-----------------------------|-------------|-------------------|
|   | Change in Interest Rates           | Change in Technical or Default Assumptions | Change in Volume of Lending | Unknown     |                   |
| <b>Discretionary Credit Programs</b>              |                                    |  |                             |             |                   |
| Agency for International Development              | *                                  | *  | n.a.                        | -10         | -11               |
| Department of Agriculture                         | 438                                | 73   | n.a.                        | 44          | 555               |
| Department of the Interior <sup>b</sup>           | 2                                  | *  | n.a.                        | 14          | 16                |
| Department of State                               |                                    |  |                             |             |                   |
| (Foreign Military Financing) <sup>c</sup>         | 15                                 | 0  | n.a.                        | 0           | 15                |
| Export-Import Bank                                | 0                                  | 0  | n.a.                        | -93         | -93               |
| Federal Housing Administration                    |                                    |  |                             |             |                   |
| (General and Special Risk Insurance) <sup>d</sup> | 0                                  | 79   | n.a.                        | 399         | 478               |
| Maritime Administration                           | 1                                  | -86  | n.a.                        | 0           | -85               |
| Small Business Administration                     | <u>716</u>                         | <u>-1,265</u>                              | <u>n.a.</u>                 | <u>0</u>    | <u>-548</u>       |
| Total   | 1,172                              | -1,198                                     | n.a.                        | 354         | 327               |
| <b>Mandatory Credit Programs</b>                  |                                    |  |                             |             |                   |
| Department of Agriculture                         |                                    |  |                             |             |                   |
| (Commodity Credit Corporation)                    | -15                                | 30   | 0                           | 0           | 15                |
| Department of Education                           | 0                                  | 0  | 388                         | 181         | 569               |
| Department of Veterans Affairs                    |                                    |  |                             |             |                   |
| (Housing) <sup>e</sup>                            | 77                                 | -1,082                                     | 332                         | 5           | -668              |
| Federal Housing Administration                    |                                    |  |                             |             |                   |
| (Mutual Mortgage Insurance) <sup>d</sup>          | <u>0</u>                           | <u>3,230</u>                               | <u>0</u>                    | <u>-456</u> | <u>2,775</u>      |
| Subtotal  | 62                                 | 2,179                                      | 719                         | -270        | 2,691             |
| Federal Communications                            |                                    |  |                             |             |                   |
| Commission (Auctions) <sup>f</sup>                | <u>0</u>                           | <u>5,706</u>                               | <u>0</u>                    | <u>0</u>    | <u>5,706</u>      |
| Total   | 62                                 | 7,885                                      | 719                         | -270        | 8,397             |

(Continued)

TABLE 1. CONTINUED

| Department or Agency       | Reason for Reestimate <sup>a</sup> |  |                                   |         | Total<br>Reestimates |
|----------------------------|------------------------------------|--|-----------------------------------|---------|----------------------|
|                            | Change in<br>Interest<br>Rates     | Technical<br>or Default<br>Assumptions | Change in<br>Volume of<br>Lending | Unknown |                      |
| <b>All Credit Programs</b> |                                    |  |                                   |         |                      |
| Total                      | 1,234                              | 6,687                                  | 719                               | 84      | 8,724                |

SOURCE: Congressional Budget Office based on *Budget of the United States Government, Fiscal Year 2000: Federal Credit Supplement*, and data from agencies.

NOTE: n.a. = not applicable; \* = between -\$500,000 and \$500,000.

- a. CBO divided the subsidy reestimates according to the reason for the reestimate on the basis of information in the *Federal Credit Supplement* and information from the agencies. When the reason for a reestimate could not be identified because of lack of information, the reestimate is identified as "unknown." The Department of Education, the Federal Housing Administration, and the Export-Import Bank do not separate interest and technical reestimates, and the Department of Agriculture's Farm Service Agency did not always do so. In addition, if the direction of the reported subsidy-rate reestimate and the sign on the reported reestimate amount are inconsistent in the *Supplement* and cannot be confirmed, the cohort's reestimate is not separated into types but is identified as "unknown." In general, all types include interest on the reestimates.
- b. Numbers for the Bureau of Indian Affairs come from the *Appendix* to the President's budget. The data reported in the *Supplement* could not be used for that agency.
- c. Although the State Department requests and receives the annual appropriation for Foreign Military Financing, the program is administered by the Defense Security Cooperation Agency in the Department of Defense.
- d. The 1999 midsession reestimates are included in the totals and are identified as technical or default reestimates. All other reestimates by the Federal Housing Administration (FHA) are "unknown." The Mutual Mortgage Insurance totals exclude \$1,227 million in savings associated with the passage of assignment reform in 1996, which FHA classifies as a reestimate rather than a loan modification. Most of the unidentified upward reestimate of \$399 million for the General and Special Risk Insurance program probably results from technical or default assumptions.
- e. Although the Department of Veterans Affairs generally identifies subsidy reestimates by type, not all reestimates for the Veterans Housing Benefit Program could be separated into interest and technical or default reestimates. They are included in the total for the program, however. The 1999 midsession reestimates, all of which are technical, are also included. Volume reestimates include interest on the reestimates.
- f. The reestimates for the Federal Communications Commission's auctions of licenses to use the radio spectrum include the actual 1999 reestimate, which was made at the end of the year.

TABLE 2. CUMULATIVE SUBSIDY REESTIMATES FOR THE DEPARTMENT OF AGRICULTURE, BY AGENCY, FISCAL YEARS 1993-1999  
(In millions of dollars)

| Agency  | Reason for Reestimate <sup>a</sup> |  |          | Total Reestimates |
|---|------------------------------------|--|----------|-------------------|
|   | Change in Interest Rates           | Change in Technical or Default Assumptions | Unknown  |                   |
| <b>Direct Loans</b>                                 |                                    |  |          |                   |
| Farm Service Agency <sup>b</sup>                    | 2                                  | -37  | 44       | 10                |
| Foreign Agriculture Service (P.L. 480) <sup>c</sup> | -9                                 | -29  | 0        | -37               |
| Rural Business-Cooperative Service <sup>d</sup>     | 10                                 | -17  | *        | -7                |
| Rural Community Advancement Program                 | 151                                | -38  | 0        | 113               |
| Rural Housing Service                               | 122                                | 133  | 0        | 255               |
| Rural Utility Service                               | <u>227</u>                         | <u>-159</u>                                | <u>0</u> | <u>68</u>         |
| Total   | 505                                | -147                                       | 44       | 402               |
| <b>Guaranteed Loans</b>                             |                                    |  |          |                   |
| Farm Service Agency                                 | -81                                | 121  | *        | 40                |
| Rural Community Advancement Program                 | -2                                 | 34   | *        | 32                |
| Rural Housing Service                               | <u>1</u>                           | <u>94</u>                                  | *        | <u>96</u>         |
| Total   | -82                                | 250  | *        | 168               |
| <b>All Department of Agriculture Loans</b>          |                                    |  |          |                   |
| Total   | 422                                | 104  | 44       | 570               |

SOURCE: Congressional Budget Office based on *Budget of the United States Government, Fiscal Year 2000: Federal Credit Supplement*.

NOTES: All agricultural credit programs are discretionary with the exception of the loan guarantees from the Commodity Credit Corporation in the Farm Service Agency.

\* = between -\$500,000 and \$500,000.

- CBO estimated the division between interest and technical or default reestimates on the basis of information in the *Supplement* and additional information from the Department of Agriculture. When that division was not possible because of lack of information, the reestimate is identified as "unknown."
- Includes amounts for three programs that are no longer part of the Agricultural Credit Insurance Fund and that may not be currently funded: Credit Sales of Acquired Property (-\$37 million), Soil and Water (-\$2 million), and Watershed (less than \$500,000). Those amounts are not included in the *Federal Credit Supplement* but are included in previous years' budget totals.
- Estimates for the P.L. 480 program are inconsistent with those in the *Appendix* to the budget.
- The estimates may be unreliable because of inconsistent data reported for the Rural Economic Development Program.



TABLE 3. CUMULATIVE SUBSIDY REESTIMATES FOR THE FARM SERVICE AGENCY'S AGRICULTURAL CREDIT INSURANCE FUND PROGRAMS, FISCAL YEARS 1993-1999 (In millions of dollars)

| Program   | Interest Rate Re-estimates | Technical or Default Reestimates | Interest on the Re-estimates | Total Reestimates | Total Loans | Initial Subsidy Cost | Technical or Default Reestimates as a Percentage of Subsidy Cost |
|---|----------------------------|----------------------------------|------------------------------|-------------------|-------------|----------------------|--|
| <b>Direct Loans</b>                                 |                            |                                  |                              |                   |             |                      |  |
| Boll Weevil   | 18                         | -15                              | 1                            | 3                 | 180         | 1                    | -1,595   |
| Credit Sales  | 1                          | -16                              | *                            | -15               | 168         | 33                   | -45  |
| Emergency   | 47                         | -39                              | 4                            | 11                | 1,097       | 249                  | -16  |
| Farm Operating                                      | 153                        | 109                              | 26                           | 287               | 4,632       | 531                  | 21   |
| Farm Ownership                                      | 31                         | 25                               | 16                           | 72                | 700         | 120                  | 21   |
| Indian Land Acquisition                             | *                          | *                                | *                            | *                 | 4           | 1                    | 2  |
| Soil and Water Watershed                            | 0                          | -1                               | *                            | -1                | 8           | 1                    | -55  |
|   | *                          | *                                | *                            | *                 | 1           | 0                    | 0  |
| Total   | 249                        | 64                               | 46                           | 358               | 6,790       | 936                  | 7  |
| <b>Guaranteed Loans</b>                             |                            |                                  |                              |                   |             |                      |  |
| Farm Operating Subsidized                           | 5                          | 41                               | 13                           | 59                | 1,899       | 182                  | 23   |
| Unsubsidized  | -3                         | 71                               | 21                           | 89                | 8,048       | 77                   | 92   |
| Farm Ownership Subsidized                           | *                          | *                                | *                            | *                 | 1           | *                    | -80  |
| Unsubsidized  | -55                        | -79                              | -27                          | -162              | 4,267       | 688                  | -12  |
| Soil and Water                                      | *                          | *                                | *                            | *                 | 2           | *                    | -26  |
| Total   | -53                        | 33                               | 7                            | -14               | 14,216      | 947                  | 3  |
| <b>All Agricultural Credit Insurance Fund Loans</b> |                            |                                  |                              |                   |             |                      |  |
| Total   | 196                        | 96                               | 53                           | 345               | 21,006      | 1,883                | 5  |

SOURCE: Congressional Budget Office based on data from the Department of Agriculture.

NOTES: \* = between -\$500,000 and \$500,000.

The Farm Service Agency divided each reestimate into interest, technical or default, and interest on the reestimates.

These numbers differ from the ones in Table 2 for several reasons. First, the Farm Service Agency also manages the Commodity Credit Corporation's Export Guarantee Loan program, which is not part of the Agricultural Credit Insurance Fund. Thus, reestimates for that program are not reported above. Second, the agency provided reestimates for 1998 and 1999 that were prepared after the release of the *Federal Credit Supplement* for fiscal year 2000. Those reestimates also include the 1999 cohorts. Third, CBO did not have to estimate the division of the subsidy reestimate into components; the agency already did so.

the technical or default reestimate for the Department of Veterans Affairs (VA) program that guarantees loan sales raised that program's cost by more than \$500 million, but the technical or default reestimates for the other two mandatory VA housing programs lowered costs by more than \$1.5 billion.<sup>19</sup>

In examining mandatory credit programs, exclusion of the installment loan program created for the FCC's auctions of spectrum licenses may be appropriate because that program is no longer extending credit, and its original subsidy estimate did not affect the decision to conduct the auctions. That estimate was made after the fact and consequently had no impact on policy or spending. Moreover, the FCC no longer provides installment loans or other forms of credit to bidders. (For more details on that program, see Box 2.)

Besides default reestimates, another difference between discretionary and mandatory programs is the possibility of unexpected changes in the volume of credit. Loan volume is not a source of reestimates for discretionary programs because their total volume of lending is constrained by the size of the appropriation for subsidies. But mandatory programs saw a significant upward reestimate (\$719 million) between 1993 and 1999 for unexpected credit volumes. That revision is noteworthy because volume reestimates were not anticipated by the Credit Reform Act. Consequently, there are no budgetary or financial reporting requirements for volume reestimates. CBO separated the volume reestimates from total reestimates for mandatory programs using unpublished agency data.

Although changes in program volume do not affect subsidy rates and are largely beyond an agency's control, they do affect total costs for VA's housing programs and the Department of Education's student loans. Volumes for both VA direct loans and loan guarantees were underestimated; as a result, costs rose by more than \$330 million and were reported as reestimates. Higher-than-expected volume in the guaranteed student loan program increased subsidy costs by \$418 million, whereas lower-than-expected volume in the direct student loan program reduced spending by \$30 million. (For more details about how credit subsidy reestimates differed for direct loan and loan guarantee programs, see Appendix D.)

### Reestimates by Cohort

The reestimates reported in budget documents consolidate figures for various cohorts in a way that could mask estimating bias.<sup>20</sup> In other words, subsidies for

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19. For more information, see General Accounting Office, *Internal Controls: VA Lacked Accountability Over Its Direct Loan and Loan Sale Activities*, GAO/AIMD-99-24 (March 1999).

20. The General Accounting Office has analyzed the volatility of subsidy rates over time by type of reestimate for cohorts of selected programs; see General Accounting Office, *Credit Reform: Greater Effort Needed to Overcome Persistent Cost Estimation Problems*, GAO/AIMD-98-14 (March 1998).

## BOX 2.

## THE FCC'S CREDIT PROGRAM FOR BUYERS OF SPECTRUM LICENSES

The Federal Communications Commission (FCC) auctions off licenses to use the radio spectrum (the part of the electromagnetic spectrum that can be used for telecommunications services). In most cases, winning bids are paid in cash, but the FCC has sometimes allowed installment payments. The most notable example was the July 1996 auction—the C block auction—in which the FCC allowed some winning bidders to pay in installments over 10 years. The winning bids exceeded \$10 billion. Not until after the auction rules were established and the bids accepted did the Office of Management and Budget (OMB) and the Congressional Budget Office (CBO) decide that the installment payments constituted a mandatory direct loan program. OMB estimated a 12 percent subsidy rate for the loans.

Later spectrum auctions yielded significantly lower prices, and the market value of the C block licenses fell below the debt owed to the government. To avoid massive defaults, the FCC offered debtors various forms of financial relief. Most license holders exercised one of those options. However, two of the most successful winning bidders—who committed to \$5.8 billion in license payments—chose to file for bankruptcy, as did other winning bidders.<sup>1</sup> The administrative arrangements and the bankruptcy filings resulted in upward reestimates for those loans of \$4.6 billion in 1998 and nearly \$1 billion in 1999. (Some license holders chose to restructure their payments. Exercising that option required a \$116 million loan modification in 1998.) Subsequently, the market turned around, and the value of some licenses appears to have rebounded close to, or even higher than, the amounts originally bid. Consequently, OMB expects to record a downward reestimate of -\$1.8 billion for the program for 2000.<sup>2</sup> CBO anticipates an additional downward reestimate of -\$1.6 billion for 2001 because of the favorable outlook for recoveries on certain loans.

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1. See Congressional Budget Office, *Impending Defaults by Winning Bidders in the FCC's C Block Auction: Issues and Options*, CBO Memorandum (September 1997).
  2. See Congressional Budget Office, *The Economic and Budget Outlook: Fiscal Years 2001-2010* (January 2000), pp. 117-120.

some but not all cohorts might be understated initially and then corrected with reestimates that would not seem excessive when spread over all cohorts. However, examining annual reestimates by cohort for the Mutual Mortgage Insurance program and SBA's Section 7(a) general business loan program fails to show any consistent pattern of upward reestimates.<sup>21</sup>

Federal Housing Administration. Mutual Mortgage Insurance, the biggest federal credit program, has had the largest upward revisions (apart from the spectrum auction program). Through 1999, those reestimates totaled almost \$2.8 billion, or 0.5 percent of total loan guarantees and 23 percent of the original subsidy estimate (see Table 4). All cohorts except that of 1992 had upward total reestimates. More-

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21. To track reestimates for individual cohorts over time, CBO used unpublished data from several agencies. The numbers reported here are annual totals that include all types of reestimates, but after the first few years they should primarily reflect defaults. No reestimates for interest rate changes are made after loan cohorts have been fully disbursed.

TABLE 4. ANNUAL SUBSIDY REESTIMATES FOR FHA'S MUTUAL MORTGAGE INSURANCE PROGRAM, BY COHORT, FISCAL YEARS 1993-1999  
(In millions of dollars)

|             | Year of Reestimate <sup>a</sup> |             |             |             |             |               | Total Reestimates | Total Reesti-<br>mates as a<br>Percentage<br>of Loan<br>Commitments | Total Reesti-<br>mates as a<br>Percentage of<br>Initial<br>Subsidy Cost |
|-------------|---------------------------------|-------------|-------------|-------------|-------------|---------------|-------------------|---|---|
|             | 1993                            | 1995        | 1996        | 1997        | 1999        | 1999<br>(MSR) |                   |   |   |
| 1992 Cohort | -334                            | *           | -139        | -126        | -305        | -29           | -932              | -1.7  | -98   |
| 1993 Cohort | n.a.                            | -788        | 129         | -50         | 504         | 476           | 272               | 0.3   | 15  |
| 1994 Cohort | n.a.                            | -439        | 143         | -107        | 641         | 641           | 878               | 1.0   | 41  |
| 1995 Cohort | n.a.                            | n.a.        | 48          | -201        | 15          | 625           | 487               | 1.0   | 61  |
| 1996 Cohort | n.a.                            | n.a.        | n.a.        | 144         | 336         | 873           | 1,354             | 1.8   | 76  |
| 1997 Cohort | n.a.                            | n.a.        | n.a.        | n.a.        | 73          | 554           | 627               | 0.8   | 32  |
| 1998 Cohort | <u>n.a.</u>                     | <u>n.a.</u> | <u>n.a.</u> | <u>n.a.</u> | <u>n.a.</u> | <u>90</u>     | <u>90</u>         | 0.1   | 3   |
| Total       | -334                            | -1,227      | 181         | -340        | 1,264       | 3,230         | 2,775             | 0.5   | 23  |

SOURCE: Congressional Budget Office based on data from the Federal Housing Administration (FHA). CBO calculated total reestimates as a share of loan commitments and of the initial subsidy cost on the basis of information from FHA.

NOTES: MSR = *Mid-Session Review*; \* = less than \$500,000; n.a. = not applicable.

These numbers exclude \$1,227 million reported in 1996 for legislative savings associated with assignment reform. FHA classifies those savings as a "reestimate," and they are reported that way in the budget, but CBO believes that any savings that arise because of legislative action should be classified as loan modifications.

a. No reestimates were prepared in 1994. Also, FHA sometimes completed reestimates too late to be reported in the budget, but that delay does not affect total reestimates. The reestimate for fiscal year 1998 appeared as the estimate for fiscal year 1999 in the *Appendix* to the budget for fiscal year 2000.

over, the annual reestimates for individual cohorts appear to follow a cyclical pattern: consecutive downward reestimates followed by a run of upward revisions.

The program's largest upward reestimate for any year was reported in the 1999 *Mid-Session Review* following poor performance of the program's portfolio in 1998. In particular, losses on adjustable-rate mortgages in California were much larger than expected, and housing prices nationwide rose less than anticipated. Thus, the \$3.2 billion upward reestimate in mid-1999 appears to be justified by new information rather than to reflect systematic underestimates earlier. Nevertheless, that reestimate was quite large: about the same size as the program's total negative subsidy for 1999 (\$3.1 billion). However, no reestimate for the program is anticipated in 2000.

TABLE 5. ANNUAL SUBSIDY REESTIMATES FOR SBA'S SECTION 7(A) GENERAL BUSINESS LOANS, BY COHORT, FISCAL YEARS 1995-1998  
(In millions of dollars)

|             | Year of Reestimate <sup>a</sup> |             |             |            | Total Reestimates | Change in Subsidy Rate (Percentage points) <sup>b</sup> |
|-------------|---------------------------------|-------------|-------------|------------|-------------------|---|
|             | 1995                            | 1996        | 1997        | 1998       |                   |   |
| 1992 Cohort | 6                               | -75         | -43         | -114       | -226              | -2.95   |
| 1993 Cohort | -16                             | -98         | -67         | -112       | -293              | -3.73   |
| 1994 Cohort | 58                              | -16         | -80         | -81        | -119              | -1.17   |
| 1995 Cohort | 11                              | 54          | -102        | -75        | -112              | -0.97   |
| 1996 Cohort | n.a.                            | 34          | 40          | -116       | -42               | -0.48   |
| 1997 Cohort | n.a.                            | n.a.        | -25         | -94        | -119              | -1.49   |
| 1998 Cohort | <u>n.a.</u>                     | <u>n.a.</u> | <u>n.a.</u> | <u>-55</u> | <u>-55</u>        | -1.14   |
| Total       | 59                              | -100        | -277        | -647       | -965              | n.a.  |

SOURCE: Congressional Budget Office based on data from the Small Business Administration.

NOTE: n.a. = not applicable.

- a. The agency did not make any reestimates before 1995.
- b. The percentage-point changes in the subsidy rate because of technical or default reestimates were generally larger than the changes because of total reestimates: 1992 cohort, -3.48; 1993 cohort, -3.95; 1994 cohort, -1.21; 1995 cohort, -1.20; 1996 cohort, -0.49; 1997 cohort, -1.49; and 1998 cohort, -1.14.

Small Business Administration. SBA's Section 7(a) program, which is discretionary, guarantees about \$10 billion in new business loans annually. Downward reestimates for that program have been getting successively larger and extending to more cohorts (see Table 5). Unlike the generally upward reestimates for cohorts of the Mutual Mortgage Insurance program, all SBA cohorts showed downward reestimates in the most recent available data. In all, reestimates for the program totaled -\$965 million, or more than 1 percentage point of the program's original subsidy rate. SBA has already recorded a reestimate of about -\$300 million for its various business loan programs in 2000.

### Comparing Reestimates with Actual Losses

Another way to determine whether initial subsidy estimates are systematically too high or too low is to compare them with programs' final losses. Unfortunately, since credit reform took effect, no major federal credit program has had a loan cohort that has been completely retired; all have outstanding unpaid balances. Three smaller programs of USDA's Farm Service Agency—Direct Farm Operating Loans, Unsubsidized Guaranteed Farm Operating Loans, and Subsidized Guaranteed Farm Operating Loans—have statutory loan terms of seven years, so actual losses (and presumably reestimates) for their early cohorts may be approaching final values.<sup>22</sup> But refinancings and bankruptcies have extended effective maturities in those programs, so the early cohorts still have some time to go before reaching final maturity.<sup>23</sup>

The Unsubsidized Guaranteed Farm Operating Loan program is the Farm Service Agency's largest credit program, with more than \$8 billion in loan commitments made between 1992 and 1999 (see Table 6). It does not subsidize borrowers' interest payments; instead, borrowers pay the same rate of interest on their loans as the government pays on its debt. (That feature distinguishes the program from the Subsidized Guaranteed Farm Operating Loan program, in which the government pays some of the borrowers' interest costs.) The unsubsidized loan program has had a net upward technical/default reestimate totaling \$71 million, or about 1 percent of loan principal. All of the early cohorts (1992 through 1995) show upward reestimates for default losses, which are equivalent to 1 percent to 2 percent of loans but 137 percent to 318 percent of the original subsidy cost.

Although those large upward reestimates for early cohorts suggest bias, reestimates have been much smaller for later cohorts. Moreover, default reestimates for the first three cohorts were revised downward in 1998 and 1999 (see Table 7). Thus, the overall pattern of reestimates does not provide strong support for the notion that initial subsidy estimates were systematically understated.

Analyzing reestimates for the other two short-term loan programs of the Farm Service Agency also reveals no evidence of bias. However, for both programs, early reestimates appear to move the estimated credit subsidy farther away from the final value rather than closer to it. (For more details on reestimates for those programs, see Appendix E.)

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22. The Farm Service Agency gave CBO a complete set of reestimates, by cohort, for those programs and identified the types of reestimates. That information included annual reestimates for all cohorts for 1998 and 1999, which were prepared too late to be included in the *Federal Credit Supplement* for 2000, and reestimates for the 1999 cohort of each program.

23. Bankruptcies can involve lengthy court proceedings and result in the rescheduling of payments to debtors and write-offs of debt.

TABLE 6. CUMULATIVE SUBSIDY REESTIMATES FOR THE DEPARTMENT OF AGRICULTURE'S UNSUBSIDIZED GUARANTEED FARM OPERATING LOANS, BY COHORT (In millions of dollars)

|             | Total<br>Amount of<br>Loans | Initial<br>Subsidy<br>Cost | Technical<br>or Default<br>Reestimates | Total<br>Reestimates | Technical<br>or Default<br>Reestimates<br>as a Percent-<br>age of Loans | Technical<br>or Default<br>Reestimates<br>as a Percent-<br>age of Sub-<br>sidy Cost |
|-------------|-----------------------------|----------------------------|--|----------------------|---|---|
| 1992 Cohort | 957                         | 11                         | 21                                     | 10                   | 2   | 188   |
| 1993 Cohort | 874                         | 11                         | 14                                     | 12                   | 2   | 137   |
| 1994 Cohort | 1,069                       | 5                          | 13                                     | 29                   | 1   | 255   |
| 1995 Cohort | 1,190                       | 5                          | 17                                     | 33                   | 1   | 318   |
| 1996 Cohort | 1,125                       | 12                         | 9                                      | 12                   | 1   | 72  |
| 1997 Cohort | 829                         | 9                          | *                                      | 2                    | *   | 5   |
| 1998 Cohort | 754                         | 9                          | 1                                      | -3                   | *   | 13  |
| 1999 Cohort | <u>1,251</u>                | <u>15</u>                  | <u>-6</u>                              | <u>-6</u>            | *   | -38   |
| Total       | 8,048                       | 77                         | 71                                     | 89                   | 1   | 92  |

SOURCE: Congressional Budget Office based on data from the Department of Agriculture.

NOTE: \* = less than \$500,000 or 0.5 percent.

### Overall Trends in Reestimates

Agencies can be expected to improve their initial estimates over time as they gain more experience with the estimating process and as information about the performance of loans and the characteristics of borrowers increases. More accurate estimates should mean smaller reestimates, divided more evenly between positive and negative values. However, reestimates for recent cohorts suggest that although agencies may be making smaller revisions to subsidies for discretionary programs, they are making more numerous and larger upward revisions to subsidies for mandatory programs than in the early years of credit reform.

Looking at all credit programs (except the FCC's auctions) combined, recent cohorts are more likely to have upward reestimates, which offset the downward

TABLE 7. ANNUAL SUBSIDY REESTIMATES FOR THE DEPARTMENT OF AGRICULTURE'S UNSUBSIDIZED GUARANTEED FARM OPERATING LOANS, BY COHORT, FISCAL YEARS 1992-1999 (In millions of dollars)

| Components of Reestimate        | Year of Reestimate |          |           |           |          |          |                            | Total Reestimates |
|---------------------------------|--------------------|----------|-----------|-----------|----------|----------|----------------------------|-------------------|
|                                 | 1992               | 1993     | 1994      | 1995      | 1996     | 1997     | 1998 and 1999 <sup>a</sup> |                   |
| <b>1992 Cohort</b>              |                    |          |           |           |          |          |                            |                   |
| Interest Rate Reestimate        | -2                 | 4        | -5        | -7        | -4       | 0        | 0                          | -14               |
| Technical or Default Reestimate | -2                 | -7       | 1         | 4         | 27       | 17       | -20                        | 21                |
| Interest on the Reestimate      | <u>0</u>           | <u>*</u> | <u>-1</u> | <u>-1</u> | <u>8</u> | <u>7</u> | <u>-11</u>                 | <u>3</u>          |
| Total                           | -3                 | -3       | -5        | -4        | 31       | 24       | -31                        | 10                |
| <b>1993 Cohort</b>              |                    |          |           |           |          |          |                            |                   |
| Interest Rate Reestimate        | n.a.               | -2       | *         | -5        | *        | *        | 0                          | -6                |
| Technical or Default Reestimate | n.a.               | -5       | *         | 5         | 5        | 21       | -12                        | 14                |
| Interest on the Reestimate      | n.a.               | <u>*</u> | <u>*</u>  | <u>*</u>  | <u>2</u> | <u>8</u> | <u>-5</u>                  | <u>4</u>          |
| Total                           | n.a.               | -7       | *         | *         | 7        | 29       | -17                        | 12                |
| <b>1994 Cohort</b>              |                    |          |           |           |          |          |                            |                   |
| Interest Rate Reestimate        | n.a.               | n.a.     | 6         | 1         | 4        | *        | *                          | 11                |
| Technical or Default Reestimate | n.a.               | n.a.     | *         | *         | -4       | 29       | -13                        | 13                |
| Interest on the Reestimate      | n.a.               | n.a.     | <u>*</u>  | <u>*</u>  | <u>*</u> | <u>9</u> | <u>-5</u>                  | <u>5</u>          |
| Total                           | n.a.               | n.a.     | 7         | 2         | *        | 38       | -17                        | 29                |

SOURCE: Congressional Budget Office based on data from the Department of Agriculture.

NOTE: \* = between -\$500,000, and \$500,000; n.a. = not applicable.

a. Reestimates for 1998 and 1999 were prepared at the same time.



reestimates for earlier cohorts. The first two cohorts since credit reform have large downward technical or default reestimates: -\$857 million for the 1992 cohort and -\$509 million for the 1993 group (see Table 8). The next five cohorts all have positive reestimates for defaults.

Looked at by cohort, discretionary credit programs gradually shift from consistently downward technical or default reestimates to a mix of upward and downward changes (see Table 9). The size of those reestimates is also declining, which suggests that the accuracy of initial estimates may be improving.<sup>24</sup> The large swings in unidentified (“unknown”) reestimates, however, make any interpretation tentative.

Based on the Office of Management and Budget’s projections, -\$4.4 billion in new downward reestimates for all credit programs are expected in 2000 (see Table 10). The largest expected reestimates for mandatory programs are for student loans—a reestimate of -\$2.4 billion for direct student loans and a revision of nearly \$800 million for loan guarantees, mainly because of higher projected interest rates. The largest discretionary reestimate is for the Small Business Administration, which has already recorded reestimates of more than -\$800 million in this fiscal year.<sup>25</sup> USDA remains one of the few departments expected to report upward reestimates.

### Conclusions of CBO’s Analysis

The pattern of reestimates under credit reform provides no visible evidence to support the idea that departments and agencies are abusing the permanent and indefinite spending authority provided for reestimates. Moreover, most reestimates have not substantially raised overall spending. (The multibillion-dollar reestimates for the FCC’s auctions of spectrum licenses and FHA’s mortgage insurance programs, which together total \$9 billion over seven years, are the exceptions.)

Mandatory programs have seen net upward reestimates for defaults. But again, no strong indication of bias exists. The Mutual Mortgage Insurance program, which has a negative subsidy, accounts for the bulk of those upward reestimates. The revisions for mandatory programs cast doubt on claims that similar reestimates for discretionary programs are evidence of gimmickry. In both

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24. In general, spikes in reestimates occur when new estimating models are used. Thus, the swings in reestimates may also be declining because analysts are less likely now than they were earlier to completely change their models.

25. After a \$326 million revision for the disaster assistance program in September 1999, SBA recorded a -\$516 million revision in February 2000. That decline partly resulted from the use of a new estimating model with lower default rates.

TABLE 8. CUMULATIVE SUBSIDY REESTIMATES FOR ALL CREDIT PROGRAMS EXCEPT FCC AUCTIONS, BY COHORT (In millions of dollars)

|                | Reason for Reestimate <sup>a</sup> |  |                             |            | Total Reestimates |
|----------------|------------------------------------|--|-----------------------------|------------|-------------------|
|                | Change in Interest Rates           | Change in Technical or Default Assumptions | Change in Volume of Lending | Unknown    |                   |
| 1992 Cohort    | 163                                | -857                                       | -3                          | -856       | -1,553            |
| 1993 Cohort    | 356                                | -509                                       | 58                          | -49        | -144              |
| 1994 Cohort    | 547                                | 25   | 108                         | 1,140      | 1,819             |
| 1995 Cohort    | 20                                 | 532  | 384                         | -691       | 245               |
| 1996 Cohort    | 56                                 | 941  | 169                         | -156       | 1,009             |
| 1997 Cohort    | 97                                 | 541  | 4                           | 124        | 765               |
| 1998 Cohort    | -3                                 | 433  | 0                           | 597        | 1,027             |
| Unknown Cohort | <u>0</u>                           | <u>-125</u>                                | <u>0</u>                    | <u>-25</u> | <u>-150</u>       |
| Total          | 1,234                              | 981  | 719                         | 84         | 3,018             |

SOURCE: Congressional Budget Office based on *Budget of the United States Government, Fiscal Year 2000: Federal Credit Supplement*, and data from agencies.

NOTE: Excludes the \$5,706 million in reestimates for the Federal Communications Commission's (FCC's) auctions of licenses to use the radio spectrum.

a. The Federal Housing Administration, the Department of Education, and the Export-Import Bank do not differentiate between interest and technical or default reestimates, so all of their reestimates are reported here as unknown. The unknowns also include the Bureau of Indian Affairs' reestimate of \$14 million that was reported in the budget but incorrectly shown in the *Federal Credit Supplement* as well as six programs in the Department of Agriculture's Agricultural Credit Insurance Fund whose reestimates sum to -\$39 million. Also, the Department of Veterans Affairs' midsession reestimate of -\$125 million was not allocated to any cohort.

types of programs, upward reestimates could result from the same random shocks or analytic imprecision.

Three other findings of CBO's analysis stand out. First, taking all credit programs as a whole, reestimates for earlier cohorts (especially in mandatory programs) are downward, whereas those for later cohorts are upward. That trend may reflect changes in the general economy since the early 1990s, when credit reform took effect. Initial estimates for those early cohorts may have been influenced by the recession and slow recovery at the beginning of the decade, and their downward reestimates may be explained by the subsequent booming econ-

TABLE 9. CUMULATIVE SUBSIDY REESTIMATES FOR ALL DISCRETIONARY CREDIT PROGRAMS, BY COHORT (In millions of dollars)

|                | Reason for Reestimate    |  |                      | Total Reestimates |
|----------------|--------------------------|--|----------------------|-------------------|
|                | Change in Interest Rates | Change in Technical or Default Assumptions | Unknown <sup>a</sup> |                   |
| 1992 Cohort    | 58                       | -221                                       | -79                  | -242              |
| 1993 Cohort    | 371                      | -426                                       | 21                   | -34               |
| 1994 Cohort    | 568                      | -471                                       | 430                  | 527               |
| 1995 Cohort    | 68                       | -180                                       | 39                   | -74               |
| 1996 Cohort    | 38                       | 47   | -426                 | -342              |
| 1997 Cohort    | 72                       | -68  | 394                  | 397               |
| 1998 Cohort    | -3                       | 122  | 0                    | 119               |
| Unknown Cohort | <u>0</u>                 | <u>0</u>                                   | <u>-25</u>           | <u>-25</u>        |
| Total          | 1,172                    | -1,198                                     | 354                  | 327               |

SOURCE: Congressional Budget Office based on *Budget of the United States Government, Fiscal Year 2000: Federal Credit Supplement*, and data from agencies.

- a. This category includes reestimates for six programs in the Department of Agriculture's Agricultural Credit Insurance Fund, which are not listed in the *Federal Credit Supplement*, and the reestimate for the Bureau of Indian Affairs, which is taken from the budget.

omy. Second, early default reestimates are unlikely to contain much new information and are more likely to reflect random factors, as indicated by the fact that the direction of those reestimates often changes from year to year. Third, the significant upward reestimates made for some housing programs in mid-1999 show how rapidly expected subsidy costs can change.

### Limitations of the Analysis

The above conclusions are necessarily tentative, and the situation may look different five years hence, for several reasons. First, no final actual losses are yet available to compare with the initial or revised subsidy estimates. Big surprises could lie ahead.

TABLE 10. ANTICIPATED REESTIMATES FOR FISCAL YEAR 2000, BY DEPARTMENT OR AGENCY (In millions of dollars)

| Department or Agency   | Total Reestimates |
|--|-------------------|
| <b>Discretionary Credit Programs</b>   |                   |
| Agency for International Development (Assistance to new states of the former Soviet Union) | -30               |
| Department of Agriculture <sup>a</sup>   | 257               |
| Department of Interior <sup>b</sup>  | -11               |
| Department of State (Foreign Military Financing) <sup>c</sup>                              | 189               |
| Department of Transportation <sup>d</sup>  | -36               |
| Export-Import Bank   | -574              |
| Federal Emergency Management Agency (Disaster loans)                                       | 68                |
| Federal Housing Administration (General and Special Risk Insurance)                        | e                 |
| Small Business Administration  | <u>-802</u>       |
| Total  | -939              |
| <b>Mandatory Credit Programs</b>   |                   |
| Department of Agriculture (Commodity Credit Corporation)                                   | -256              |
| Department of Education  |                   |
| Direct student loans   | -2,442            |
| Guaranteed student loans   | 776               |
| Department of Veterans Affairs   |                   |
| Direct loans   | 5                 |
| Guaranteed loans   | 194               |
| Federal Housing Administration (Mutual Mortgage Insurance)                                 | <u>e</u>          |
| Subtotal   | -1,723            |
| Federal Communications Commission (Auctions)   | <u>-1,785</u>     |
| Total  | -3,508            |
| <b>All Credit Programs</b>   |                   |
| Total  | -4,447            |

SOURCE: *Budget of the United States Government, Fiscal Year 2001: Appendix*, and Department of the Treasury, *Monthly Treasury Statement* (for the Small Business Administration).

- a. No reestimates were prepared for the Rural Housing Service and most programs of the Rural Utilities Service.
- b. Includes the Bureau of Indian Affairs and the Bureau of Reclamation.
- c. Although the State Department requests and receives the annual appropriations for Foreign Military Financing, the program is administered by the Defense Security Cooperation Agency in the Department of Defense.
- d. Includes the Alameda Corridor Office and the Maritime Administration.
- e. No reestimates were prepared by the Federal Housing Administration.

Second, the entire period of credit reform has been one of continued economic expansion. Default rates for corporate bonds show a dramatic connection between economic expansion and defaults. For example, cumulative default rates for bonds rated BBB, the lowest investment-grade rating by Standard & Poor's, are thought to be several times higher during recessions than during economic expansions.<sup>26</sup> Thus, subsidy estimates that may have been biased downward could be hidden by the strong economy.

Third, CBO has little confidence in the reestimate data for some of the programs it analyzed because of inconsistencies that could not be resolved. For example, CBO could not reconcile the cumulative reestimates reported in the *Federal Credit Supplement* with those reported in the *Appendix* for the Agency for International Development and three USDA agencies. In the largest unexplained discrepancy, the *Appendix* reports a reestimate of \$50 million for USDA's P.L. 480 direct loan program, but the *Supplement* reports a reestimate of -\$37 million. The unresolved differences for other programs are smaller. (For more details, see Appendix B.) No matter how those remaining discrepancies were resolved, however, the basic results reported here about the direction of reestimates for discretionary and mandatory programs would not change.

## WAYS TO IMPROVE THE ACCURACY OF SUBSIDY ESTIMATES

CBO's analysis and other reports illustrate the need for more accuracy in estimating credit subsidies. In auditing the government's 1999 financial statements, the General Accounting Office (GAO) cited agencies' inability to estimate the cost of some important federal credit programs as one of the government's "major problems."<sup>27</sup> That problem could be ameliorated in at least three ways. First, increasing the visibility of estimates and reestimates in agencies' budget submissions to OMB and in the President's budget request to the Congress could encourage more oversight. Second, agencies could improve the quality of their management information systems more quickly than they are now. Third, agencies could derive better estimates of the cost of federal credit programs by increasing their reliance on private-sector credit evaluation.

### Improving the Presentation of Reestimates in Budget Documents

Ideally, reestimates should give policymakers a timely, accurate indication of how a loan program is performing compared with expectations. The current budget

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26. That conclusion comes from an analysis of cumulative five-year default rates by Nathan Musick of CBO.

27. In its financial audit, GAO singled out the Department of Agriculture as the primary source of estimating problems. See Department of the Treasury, *Financial Report of the United States Government, 1999*, p. 20.

documents do not do that effectively, however. The reported reestimates contain many errors. Moreover, assessing loan performance requires having reestimates for defaults separate from those for interest rates, but not all agencies provide that. Finally, no published document or unpublished source shows all of the default reestimates for each cohort.

The following specific steps could improve the budget presentation of reestimates.

- OMB should check the cumulative credit subsidy reestimates in the *Federal Credit Supplement* against those reported in the *Appendix* and *Analytical Perspectives* volumes of the budget.
- The *Supplement* should report initial subsidy estimates and total reestimates to date by program, with separate entries for interest reestimates and technical or default changes. Volume reestimates should also be shown for mandatory programs. Subtotals should be included for agencies, bureaus, and departments.
- Periodically (perhaps every five years), agencies should report how their estimates of various loan characteristics—such as default and recovery rates—for individual cohorts match experience.

Developing and maintaining an accurate set of reestimates, however, would entail increased costs for agencies as well as OMB.

### Improving the Quality of Management Information

The basic tool for developing accurate subsidy estimates—a good management information system—is not in place at many federal agencies. Without the capacity to monitor loan performance according to the characteristics of borrowers and loans, agencies cannot predict or effectively manage federal credit costs. As GAO has documented, most agencies have been making progress in improving their information systems, but major deficiencies remain.<sup>28</sup> Developing integrated financial databases requires spending large sums of money up front, which must compete with other priorities for scarce budgetary resources.

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28. General Accounting Office, *Internal Controls: VA Lacked Accountability Over Its Direct Loan and Loan Sale Activities*, GAO/AIMD-99-24 (March 1999).

### Increasing the Use of Private-Sector Information

Relying more heavily on the private sector could permit agencies to estimate and manage credit costs more accurately. Federal agencies lack the personnel, motivation, training, and systems to match the performance of private financial institutions.<sup>29</sup> Consequently, many agencies contract with consulting firms for the creation and maintenance of databases and software to predict default losses. Others, including the Department of Education, have contracted out the servicing of loans.

Most federal agencies could make further use of private-sector capabilities by increasing the sale of federal loans. Those sales would provide a market test of subsidy estimates and eliminate the need for reestimates.<sup>30</sup> Loan sales would also encourage federal credit managers to adopt practices that enhanced the value of loans.

When SBA began selling its loans on the secondary market, for example, its information about those loans improved dramatically because of demands from buyers. The agency now intends to stop servicing loans itself and focus on soliciting and processing loan applications—areas in which it may have an advantage over the private sector. In fact, in its first auction, SBA received nearly \$95 million above its anticipated value of \$100 million for those loans. However, most federal loan sales are not expected to result in realized gains.<sup>31</sup>

Agencies could also hire private-sector bond-rating agencies or investment banks to assess and monitor credit quality and estimate probabilities of default for participants in major federal credit programs. Private credit-rating agencies are experienced in identifying weaknesses in credit portfolios, and several investment banks have developed credit-scoring and portfolio-management systems. Moreover, their ratings could provide a more accessible source of information than current data do. Downgrades would be an unmistakable and public signal of the worsening quality of a credit portfolio.

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29. Peter O. Davis and Jozelyn R. Davis, "Realigning Incentives: Improving the Management of the U.S. Government's Trillion Dollar Loan Portfolio," May 25, 1999 (available at [www.homestead.com/jpdavis/files/RealigningIncentives5-25-99.pdf](http://www.homestead.com/jpdavis/files/RealigningIncentives5-25-99.pdf)). Peter Davis is a manager in Ernst & Young's risk-management and regulatory practice; Jozelyn Davis is a graduate student in economics at Columbia University and a summer associate in Lehman Brothers' risk-management and credit divisions.

30. Thomas H. Stanton, "Using Loan Asset Sales to Improve the Management of Federal Credit Portfolios," *The Financier*, vol. 5, no. 1 (Spring 1998), pp. 5-16.

31. Because SBA already had authority to sell those loans, the sale will result in a subsidy reestimate rather than a loan modification. For details of SBA's transactions, see Scott Barancik, "Small Business Administration Auctioning \$8.5 Billion of Loans," *American Banker*, August 16, 1999, pp. 1, 3.

Some budget analysts already use bond ratings to project default rates, especially when estimating the cost of new programs. For example, CBO considered the credit ratings of firms in the satellite television business when it estimated the subsidy cost of loan guarantees for rural television service.<sup>32</sup> In addition, the Department of Transportation uses external credit ratings to assess federal credit risk for assistance provided under the Transportation Infrastructure Finance and Innovation Act of 1998 (TIFIA). The Congress requires all TIFIA projects to get an investment-grade credit rating before receiving federal assistance. Reestimates are based on rating agencies' updated assessments of the government's default risk.<sup>33</sup>

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32. Statement of Dan L. Crippen, Director, Congressional Budget Office, before the Subcommittee on Telecommunications, Trade, and Consumer Protection, House Committee on Commerce, March 16, 2000.

33. Additional details of the TIFIA project and the Department of Transportation's Quick Score model are available at the TIFIA Web site (<http://tifa.fhwa.dot.gov>).



## APPENDIX A: OMB'S NEW ESTIMATING PROCEDURES

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The Office of Management and Budget (OMB) is taking two steps to improve and simplify the process for estimating and reestimating credit subsidies. First, it is phasing in the use of a new approach to subsidy reestimates, which compares the net present value of a program's remaining cash flows with the net balance owed to the Treasury (for direct loan programs) or the net balance deposited with the Treasury (for loan guarantee programs).

That method, known as the "balances approach," eliminates the separate calculation of interest on the reestimates. Its main advantage is simplification, since that separate calculation complicated the estimating process and introduced a source of reporting error. A disadvantage of the balances approach is that it does not involve determining what portions of a reestimate represent interest rate changes and technical or default reestimates. However, agencies still have the necessary information to make that determination, if desired.

Second, OMB is revising the method that agencies use for calculating present values to make it more accurate. In the past, the interest rate used to determine the present value of a future stream of receipts and spending—known as the discount rate—was the rate on a single Treasury security of similar maturity. Now, instead of a single discount rate, OMB requires that agencies use a separate zero-coupon Treasury rate for each year's expected cash flows.<sup>1</sup> Thus, the first year's cash flows on a 20-year loan are discounted using the interest rate on a one-year zero-coupon bill, and the expected cash flows in year 20 are discounted using the interest rate on a 20-year zero-coupon bond. That method improves cost comparisons by ensuring that expected cash flows are discounted using the relevant rate of interest. Because that method is incorporated in the credit subsidy calculator that OMB provides to agencies, and the interest rates are drawn from a file also provided by OMB, agencies' work will be much simpler.

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1. A zero-coupon bond is issued at a fraction of its redemption, or par, value, and its value increases as it approaches maturity. The increase in value is the implicit interest; no periodic interest payments are made to the bondholder.



## APPENDIX B: CORRECTING AND CONFIRMING REPORTED CREDIT SUBSIDY REESTIMATES

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In principle, the cumulative subsidy reestimates reported in the *Federal Credit Supplement* to the budget for each cohort of a credit program should be the sum of the annual reestimates for that program reported in the *Appendix* to the budget. The annual reestimates appearing in the *Appendix* should also match those reported in the *Analytical Perspectives* volume of the budget. In reality, however, the subsidy figures printed in those documents are frequently inconsistent—partly because estimating, accounting, and reporting are distinct functions that may be handled by different parts of an agency. Errors can crop up at any stage in the process.

The reestimates for most credit programs can be corrected, but only with additional, unpublished data from the programs' agencies and the Office of Management and Budget (OMB). Figures for the Federal Housing Administration (FHA) illustrate the type of correction process that was made to most of the data used in this analysis.

The *Federal Credit Supplement* for fiscal year 2000 reports total cumulative reestimates of \$742 million for FHA's General and Special Risk Insurance program (see Table B-1). However, the annual reestimates reported in the *Appendix* to various years' budgets total only \$399 million (see Table B-2). (The reestimates in the *Appendix* agree with those in the *Analytical Perspectives* volume, except that the latter does not report the reestimates made in 1993.)<sup>1</sup>

The Congressional Budget Office (CBO) was able to resolve that discrepancy using additional information provided by FHA. The true figure is the \$399 million reported in the *Appendix*; the 2000 *Supplement* mistakenly showed the annual reestimate made in 1998 for each cohort as the cumulative reestimate for that cohort (see Table B-3 for the correct cohort reestimates). Including a further reestimate of \$79 million prepared for the 1999 *Mid-Session Review*, the current cumulative reestimate for the General and Special Risk Insurance program is \$478 million, which is the figure used in this analysis.

In a similar fashion, CBO resolved most inconsistencies between the reestimates reported in the *Supplement* and those in the *Appendix*. When discrepancies could not be explained, CBO used the *Supplement's* reestimate. Those unexplained discrepancies, however, are unlikely to matter for the overall conclusions of this analysis. Nonetheless, the data inconsistencies observed throughout the budget suggest a decided lack of care and attention in the preparation, reporting, and monitoring of reestimates.

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1. The *Analytical Perspectives* volume does not show reestimates for any program for 1993. See *Budget of the United States Government, Fiscal Year 2000: Analytical Perspectives*, Table 8-2, p. 203.

TABLE B-1. CUMULATIVE REESTIMATES FOR FHA'S GENERAL AND SPECIAL RISK INSURANCE PROGRAM AS REPORTED IN THE *FEDERAL CREDIT SUPPLEMENT*, BY COHORT (In millions of dollars)

|             | Cumulative Reestimate |
|-------------|-----------------------|
| 1992 Cohort | 86.5                  |
| 1993 Cohort | 130.9                 |
| 1994 Cohort | 419.7                 |
| 1995 Cohort | 44.7                  |
| 1996 Cohort | -333.2                |
| 1997 Cohort | 393.6                 |
| 1998 Cohort | — <sup>a</sup>        |
| Total       | 742.2                 |

SOURCE: *Budget of the United States Government, Fiscal Year 2000: Federal Credit Supplement*, Table 8, p. 37.

a. The Federal Housing Administration (FHA) has not yet made a reestimate for the 1998 cohort of loans.

### Inconsistencies That Were Corrected

Fewer than one-third of the credit programs listed in the *Federal Credit Supplement* had reestimates reported correctly. After adjusting those figures with information from the agencies and OMB, reestimates for most major programs have been confirmed as correct. Besides the FHA insurance program mentioned above, the most significant corrections were for several agricultural programs, direct student loans, and Small Business Administration loans (see Table B-4).

The Department of Agriculture's Credit Programs. CBO and various agencies of the Department of Agriculture (USDA) corrected reestimates for the Agricultural Credit Insurance Fund, programs of the Rural Utilities Service, and the Commodity Credit Corporation's loan guarantees. After USDA analysts made some revisions, the reestimates for the Rural Electric and Telephone program were also corrected. USDA believes that the *Appendix* double-counted a reestimate of -\$55 million for that program in 1996, when it was first estimated, and again in 1997, when the obligations and outlays occurred. The department also argues that the correct

TABLE B-2. ANNUAL REESTIMATES FOR FHA'S GENERAL AND SPECIAL RISK INSURANCE PROGRAM AS REPORTED IN THE BUDGET APPENDIX (By fiscal year, in millions of dollars)

| Year of Reestimate | Annual Reestimates |
|--------------------|--------------------|
| 1993               | -33.7              |
| 1994               | -175               |
| 1995               | a                  |
| 1996               | -110               |
| 1997               | -25                |
| 1998               | 743                |
| 1999               | <u>b</u>           |
| Total              | 399.3              |

SOURCE: *Budget of the United States Government, Fiscal Year 1995: Appendix*, p. 477; *Fiscal Year 1996*, p. 528; *Fiscal Year 1998*, p. 558; *Fiscal Year 1999*, p. 471; and *Fiscal Year 2000*, pp. 510-511.

a. No reestimate was made that year.

b. The reestimate for fiscal year 1999 was not made until the *Mid-Session Review*.

reestimate for 1999 is a revision of -\$72 million, not -\$79 million as reported in the *Appendix* for fiscal year 2000.<sup>2</sup> CBO used those corrections in its analysis.

Adjustments were also made to the reestimates reported in the *Appendix* for Rural Telephone Bank loans. In 1996, the *Appendix* combined the direct loan subsidy and an upward reestimate of \$3.5 million rather than accounting for them separately, according to USDA.

The Department of Education's Direct Student Loans. In 1999, the Department of Education discovered an error in its downward reestimates for the direct student loan program: they should have been larger by \$181.7 million. The cumulative

2. Both of those numbers represented the best estimates at the time they were made. The *Supplement* and the *Appendix* for fiscal year 2000 report programs' anticipated reestimates in 1999. In most cases, the anticipated reestimates match the actual reestimates, but exceptions occur. In fact, the Rural Electric and Telephone program's actual reestimate for 1999 was -\$68 million, as reported in the *Appendix* for fiscal year 2001.

TABLE B-3. CORRECTED ANNUAL REESTIMATES FOR FHA'S GENERAL AND SPECIAL RISK INSURANCE PROGRAM, BY COHORT, FISCAL YEARS 1993-1998 (In millions of dollars)

|             | Year of Reestimate |             |             |             |             |          | Total Reestimates |
|-------------|--------------------|-------------|-------------|-------------|-------------|----------|-------------------|
|             | 1993               | 1994        | 1995        | 1996        | 1997        | 1998     |                   |
| 1992 Cohort | -34.4              | -25.4       | a           | a           | -49.6       | 86.5     | -23.0             |
| 1993 Cohort | n.a.               | -168.6      | -35.5       | a           | 44.6        | 130.9    | -28.7             |
| 1994 Cohort | n.a.               | n.a.        | -30.4       | -12.5       | -39.0       | 419.7    | 337.8             |
| 1995 Cohort | n.a.               | n.a.        | n.a.        | -11.3       | 40.3        | 44.7     | 73.7              |
| 1996 Cohort | n.a.               | n.a.        | n.a.        | n.a.        | -21.2       | -333.2   | -354.4            |
| 1997 Cohort | n.a.               | n.a.        | n.a.        | n.a.        | n.a.        | 393.6    | 393.6             |
| 1998 Cohort | <u>n.a.</u>        | <u>n.a.</u> | <u>n.a.</u> | <u>n.a.</u> | <u>n.a.</u> | <u>a</u> | <u>a</u>          |
| Total       | -34.4              | -194.1      | -65.9       | -23.8       | -25.0       | 742.2    | 399.0             |

SOURCE: Congressional Budget Office based on information from the Federal Housing Administration.

NOTES: These numbers do not include *Mid-Session Review* estimates for fiscal year 1999.

n.a. = not applicable.

a. No reestimate was made that year for that cohort.

corrected reestimate now stands at -\$451.7 million, which is the figure used here, although it is not reported in the *Appendix*.

Small Business Administration. The *Appendix* may have double-counted a -\$16 million revision in the agency's business loan program. The reestimate was calculated in 1997 but not paid by the program's financing account in that year. It should appear only as part of the 1998 reestimate. CBO's corrected totals make that adjustment.

Bureau of Reclamation. The small discrepancy that exists for the bureau's direct loan program, like most of the small differences reported in Table B-4, results from rounding. The *Federal Credit Supplement* rounds entries to the nearest \$100,000, but the *Appendix* rounds to the nearest \$1 million. The Bureau of Reclamation reported an upward reestimate of \$2.6 million in the program account and a downward reestimate of -\$0.4 million in the financing account for 1999, but the

*Appendix* shows that actual net estimate of \$2.2 million as \$3 million. (The reestimate of \$2.6 million rounds to \$3 million in the program account, and the reestimate of -\$0.4 million rounds to zero in the financing account.) For that program, CBO's corrected figures show a more precise reestimate. In other cases, however, CBO did not have enough information to make such adjustments, and rounding errors are uncorrected.

### Inconsistencies That Could Not Be Corrected

Despite those revisions, some discrepancies remain. In the case of FHA's Mutual Mortgage Insurance program, no source accurately reports reestimates. When a reestimate is inconsistent between the *Appendix* and the *Federal Credit Supplement*, CBO generally relied on the figure in the *Supplement* since that volume is the only published source that allows analysts to separate technical or default reestimates from total reestimates.

The Department of Agriculture's Credit Programs. Inconsistencies in the reestimates for the Rural Development program and the P.L. 480 direct loan program could not be resolved. The *Supplement* reports a reestimate of -\$6.9 million for the Rural Development program, but the *Appendix* reports -\$3.7 million. The *Supplement* may be reporting only the annual reestimate for 1999, but neither the Department of Agriculture nor OMB would confirm that inference. The unexplained difference in reporting is greater for the P.L. 480 program; the two sources do not even agree on the sign of the reestimate. The *Supplement* reports a reestimate of -\$37.3 million, but the *Appendix* reports a change of \$50 million.

The Department of Education's Student Loan Guarantees. A discrepancy of \$22.6 million—less than 2.5 percent of the cumulative reestimate—exists between the *Supplement* and the *Appendix* for the guaranteed student loan program. The Department of Education believes that the difference results from the reestimate for 1999. It contends that the reestimate it prepared for the *Appendix* is based on policy proposals, whereas the reestimates it prepared for the *Supplement* are based on current law.<sup>3</sup> CBO's analysis uses the *Supplement* figures.

FHA's Mutual Mortgage Insurance Program. The *Appendix* and the *Supplement* disagree on the reporting of a -\$255 million revision made in 1995 for the Mutual Mortgage Insurance program to adjust the subsidy rate for the 1992 cohort. The

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3. The *Appendix* generally shows the changes caused by legislative proposals separately, so the department's explanation may not be correct.

TABLE B-4. COMPARISON OF CUMULATIVE REESTIMATES OF CREDIT SUBSIDIES FOR LOANS DISBURSED BETWEEN FISCAL YEARS 1992 AND 1998 (In millions of dollars)

| Agency and Program               | 2000<br><i>Federal<br/>Credit<br/>Supplement</i> | 1999<br><i>Mid-Session<br/>Review</i> | CBO's<br>Correction of<br><i>Supplement<br/>Figure</i> | Corrected<br>Total from<br><i>Budget<br/>Appendix</i> | Difference<br>Between<br>Corrected<br><i>Supplement<br/>and<br/>Appendix<br/>Figures</i> |
|----------------------------------|--|---------------------------------------|--|---|--|
| <b>Direct Loans</b>              |  |                                       |  |   |  |
| Bureau of Indian Affairs         | a  | n.a.                                  | a  | 18  | n.a.   |
| Bureau of Reclamation            | 2.2  | n.a.                                  | 2.2  | 2   | 0.2  |
| Department of Agriculture        |  |                                       |  |   |  |
| Agricultural Credit              |  |                                       |  |   |  |
| Insurance Fund                   | 48.0   | n.a.                                  | 9.5  | 9.5   | 0  |
| P.L. 480 Direct Loans            | -37.3  | n.a.                                  | -37.3  | 50  | -87.3  |
| P.L. 480 Food for Progress       |  |                                       |  |   |  |
| Credits                          | a  | n.a.                                  | a  | 45  | n.a.   |
| Rural Community                  |  |                                       |  |   |  |
| Advancement                      | 113.4  | n.a.                                  | 113.4  | 131   | -17.6  |
| Rural Development                | -6.9   | n.a.                                  | -6.9   | -3.7  | -3.2   |
| Rural Economic                   |  |                                       |  |   |  |
| Development                      | 0.2  | n.a.                                  | 0.2  | -0.2  | 0.4  |
| Rural Electric and Telephone     | 186.4  | n.a.                                  | 67.0   | 67  | 0  |
| Rural Housing                    | 254.9  | n.a.                                  | 254.9  | 256   | -1.1   |
| Rural Telephone Bank             | -11.3  | n.a.                                  | 0.8  | 2.5   | -1.7   |
| Department of Education          |  |                                       |  |   |  |
| (Student loans) <sup>b</sup>     | -256.8   | n.a.                                  | -451.7   | -270  | -181.7   |
| Department of State (Foreign     |  |                                       |  |   |  |
| Military Financing) <sup>c</sup> | 15.3   | n.a.                                  | 15.3   | 19  | 3.7  |
| Department of Veterans           |  |                                       |  |   |  |
| Affairs (Housing)                | 181.3  | -125                                  | 56.4   | 57  | -0.6   |
| Export-Import Bank               | -3.8   | n.a.                                  | -3.8   | -3.8  | 0  |
| Federal Communications           |  |                                       |  |   |  |
| Commission (Auctions)            | a  | 1,156                                 | 5,706  | 5,706   | n.a.   |
| Small Business Administration    |  |                                       |  |   |  |
| (Disaster loans)                 | -248.6   | 326.8                                 | 133.0  | 133   | 0  |

(Continued)



TABLE B-4. CONTINUED

| Agency and Program   | 2000<br><i>Federal<br/>Credit<br/>Supplement</i> | 1999<br><i>Mid-Session<br/>Review</i> | CBO's<br>Correction of<br><i>Supplement<br/>Figure</i> | Corrected<br>Total from<br><i>Budget<br/>Appendix</i> | Difference<br>Between<br>Corrected<br><i>Supplement<br/>and<br/>Appendix<br/>Figures</i> |
|--|--|---------------------------------------|--|---|--|
| <b>Guaranteed Loans</b>  |  |                                       |  |   |  |
| Agency for International<br>Development                        | -10.8  | n.a.                                  | -10.8  | -25   | -14.2  |
| Bureau of Indian Affairs                                       | -20.8  | n.a.                                  | unreliable   | 14  | n.a.   |
| Department of Agriculture                                      |  |                                       |  |   |  |
| Agricultural Credit  |  |                                       |  |   |  |
| Insurance Fund   | 25.1   | n.a.                                  | 25.1   | 24.5  | 0.6  |
| Commodity Credit<br>Corporation                                | 15.0   | n.a.                                  | 15.0   | 15  | 0  |
| Rural Community<br>Advancement                                 | 32.0   | n.a.                                  | 32.0   | 36  | -4.0   |
| Rural Housing  | 95.9   | n.a.                                  | 95.9   | 96  | -0.1   |
| Department of Education<br>(Student loans)                     | 1,020.6  | n.a.                                  | 1,020.6  | 998   | 22.6   |
| Department of Veterans Affairs                                 |  |                                       |  |   |  |
| Housing loans  | -1,230.7   | n.a.                                  | -1,230.7   | -1,229  | -1.7   |
| Loan Sale Securities<br>Account                                | a  | 506.3                                 | 506.3  | 506   | 0.3  |
| Export-Import Bank   | -89.7  | n.a.                                  | -89.7  | -89.7   | 0  |
| Federal Housing Administration                                 |  |                                       |  |   |  |
| General and Special Risk                                       |  |                                       |  |   |  |
| Insurance  | 742.2  | 79.2                                  | 478.2  | 478   | 0.2  |
| Mutual Mortgage Insurance <sup>d</sup>                         | -889.8   | 3,230                                 | 2,775  | 3,029   | -254   |
| Maritime Administration  | -71.6  | n.a.                                  | -84.8  | -85   | 0.2  |
| Small Business Administration<br>(Business loans) <sup>e</sup> | -449.7   | n.a.                                  | -681.4   | -681  | -0.4   |

SOURCE: Congressional Budget Office based on *Budget of the United States Government, Fiscal Years 1995-2000: Appendix* and *Federal Credit Supplement*, and data provided by the agencies.

NOTES: These numbers include interest on the reestimates. CBO could not confirm the reestimates for all programs, including Rural Development and P.L. 480 in the Department of Agriculture and the Agency for International Development. When faced with unresolved inconsistencies, CBO used the data from the *Federal Credit Supplement* rather than the *Appendix*. That rule was adopted because the *Supplement* is the only published source that separates default reestimates from total reestimates and provides reestimates for cohorts. However, the reestimates appearing in the *Appendix* were generally more accurate than those appearing in the *Supplement*. n.a. = not applicable.

- a. No figures reported.
- b. The Department of Education discovered an error in its reestimates and provided CBO with new reestimates for the direct student loan program. The *Appendix* reports the uncorrected reestimates.
- c. Although the State Department requests and receives the annual appropriation for Foreign Military Financing, the program is administered by the Defense Security Cooperation Agency in the Department of Defense.
- d. The corrected *Supplement* and the *Appendix* disagree on whether to include or exclude reestimates from a transaction for FHA's Mutual Mortgage Insurance program. The *Appendix* excludes a reestimate of -\$255 million to adjust the subsidy rate used for execution of the 1992 cohort of credits.
- e. Includes Section 7(m) direct micro loans.

*Supplement* reports that revision, but the *Appendix* does not.<sup>4</sup> FHA includes that downward reestimate in its totals, as do the figures used in this analysis.

The corrected reestimates for both the *Supplement* and the *Appendix* exclude another \$1,227 million in savings in 1996 from assignment reform legislation, which improved FHA's ability to manage troubled loans and avoid costly foreclosures. (The *Supplement* actually included \$1,022 in savings from that measure but excluded \$205 million in savings in the liquidating account that were not attributed to any of the cohorts.)<sup>5</sup> Because those savings were a direct result of legislation, they should have been reported as a modification. The *Supplement* for 2000 also mistakenly reversed the sign on the lifetime reestimate for the 1995 cohort, which should have been reported as -\$294 million (before adjusting for the incorrect reporting of the assignment reform savings). The corrected *Supplement* and *Appendix* figures in Table B-4 include a *Mid-Session Review* reestimate of \$3,230 million for 1999.

The Agency for International Development. Differences in reestimates for agency programs could not be resolved. The cumulative reestimates reported in the *Supplement* for the Urban and Environmental credit program may not have been updated to reflect the annual reestimates reported in the *Appendix* in 1998 and 1999. This analysis uses the *Supplement's* figure of a -\$10.8 million revision.

Bureau of Indian Affairs. The bureau acknowledges that the reestimates reported in the *Supplement* for its guaranteed loan program are unreliable. It plans to recalculate the reestimates after assembling the loan histories for all of the individual cohorts. Consequently, this analysis uses the reestimates reported in the *Appendix* for the Bureau of Indian Affairs—an exception to the general rule that CBO relies on figures from the *Supplement* when discrepancies cannot be resolved.

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4. The *Appendix* did not consistently label reestimates and interest on reestimates in the first few years after credit reform.
  5. Credit reform established liquidating accounts to track cash flows from pre-credit-reform loans and guarantees. However, the Congress requires FHA to maintain capital reserves in the liquidating account for Mutual Mortgage Insurance to protect against future losses from postreform guarantees. Other credit programs do not have that capital requirement. Because the financing account also maintains balances to cover expected future losses, the capital requirement is redundant. The 1996 transaction had the liquidating account repaying funds to the financing account, which in turn repaid the funds to the Treasury. See Marvin Phaup, "Credit Reform, Negative Subsidies, and FHA," *Public Budgeting & Finance* (Spring 1996), pp. 23-36.

APPENDIX C: SUMMARY OF CREDIT AMOUNTS AND SUBSIDIES  
BY FISCAL YEAR

Most federally assisted credit takes the form of loan guarantees. Direct loans account for less than 15 percent of the \$1.6 trillion in assisted credit provided between 1992 and 1999 (see Table C-1). The budget authority needed to subsidize both forms of credit has generally declined over that period, while the volume of direct loan obligations and loan guarantee commitments has expanded. Initial subsidies for federal credit programs totaled \$36.4 billion from 1993 through 1999.

TABLE C-1. SUMMARY OF FEDERAL DIRECT LOANS AND LOAN GUARANTEES BY FISCAL YEAR, 1992-1999 (In billions of dollars)

|                              | 1992  | 1993  | 1994  | 1995  | 1996  | 1997  | 1998  | 1999  | Total   |
|------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|---------|
| Direct Loans                 |       |       |       |       |       |       |       |       |         |
| Obligations                  | 16.1  | 22.1  | 22.7  | 30.9  | 23.4  | 33.6  | 28.8  | 38.4  | 216.0   |
| Subsidy (Budget authority)   | N.A.  | 2.1   | 2.8   | 2.6   | 1.8   | 2.4   | 1.4   | 1.8   | 14.9    |
| Loan Guarantees <sup>a</sup> |       |       |       |       |       |       |       |       |         |
| Commitments                  | 106.9 | 169.9 | 204.1 | 138.5 | 175.4 | 172.3 | 218.4 | 216.5 | 1,402.0 |
| Subsidy (Budget authority)   | N.A.  | 4.1   | 2.6   | 4.6   | 4.0   | 3.6   | 2.0   | 0.6   | 21.5    |
| Total Credit Subsidy         | N.A.  | 6.2   | 5.4   | 7.2   | 5.8   | 6.0   | 3.4   | 2.4   | 36.4    |

SOURCE: Congressional Budget Office based on *Budget of the United States Government, Fiscal Year 2001: Analytical Perspectives*, Table 8-6, p. 213, and *Fiscal Year 1997: Analytical Perspectives*, Table 8-5, p. 149. Amounts for 1992 are from *Budget of the United States Government, Fiscal Year 1994*, p. 54. Reestimates for 1998 and 1999 were subtracted from the subsidy amounts using the entries recorded in *Budget of the United States Government, Fiscal Year 2001: Analytical Perspectives*, Table 8-3, p. 210.

NOTE: N.A. = not available.

a. Secondary guarantees by Ginnie Mae of loans that are issued or guaranteed by the Federal Housing Administration, Department of Veterans Affairs, or Rural Housing Service are excluded from these totals to avoid double-counting.



## APPENDIX D: CUMULATIVE REESTIMATES FOR DIRECT LOANS AND LOAN GUARANTEES

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Federal programs that offer direct loans have had a different experience with credit subsidy reestimates than programs that guarantee loans. Reestimates for defaults reduced the subsidy cost of direct loans (excluding those offered by the Federal Communications Commission to bidders for spectrum licenses) by just over \$700 million. But they raised the cost of loan guarantees by nearly \$1.7 billion (see Table D-1). In addition, direct loan programs experienced a net upward reestimate of almost \$1.2 billion for interest rates. Most of that upward correction occurred for the Department of Agriculture's programs and the Small Business Administration's disaster loans. Interest rate reestimates for loan guarantees, in contrast, have been negligible.

TABLE D-1. CUMULATIVE SUBSIDY REESTIMATES FOR DIRECT LOANS AND LOAN GUARANTEES, BY DEPARTMENT OR AGENCY, FISCAL YEARS 1993-1999 (In millions of dollars)

| Department or Agency   | Reason for Reestimate <sup>a</sup> |  |                             |          | Total Reestimates |
|--|------------------------------------|--|-----------------------------|----------|-------------------|
|  | Change in Interest Rates           | Change in Technical or Default Assumptions | Change in Volume of Lending | Unknown  |                   |
| <b>Direct Loans</b>  |                                    |  |                             |          |                   |
| Bureau of Reclamation  | 2                                  | *  | n.a.                        | 0        | 2                 |
| Department of Agriculture  | 505                                | -147                                       | n.a.                        | 44       | 402               |
| Department of Education  | 0                                  | 0  | -30                         | -421     | -452              |
| Department of State<br>(Foreign Military Financing) <sup>b</sup> | 15                                 | 0  | n.a.                        | 0        | 15                |
| Department of Veterans Affairs <sup>c</sup>                      | 19                                 | -64  | 101                         | 0        | 56                |
| Export-Import Bank   | 0                                  | 0  | n.a.                        | -4       | -4                |
| Small Business Administration                                    | <u>627</u>                         | <u>-496</u>                                | <u>n.a.</u>                 | <u>0</u> | <u>131</u>        |
| Subtotal   | 1,168                              | -706                                       | 70                          | -381     | 151               |
| Federal Communications Commission (Auctions) <sup>d</sup>        | <u>0</u>                           | <u>5,706</u>                               | <u>n.a.</u>                 | <u>0</u> | <u>5,706</u>      |
| Total  | 1,168                              | 5,000                                      | 70                          | -381     | 5,857             |
| <b>Guaranteed Loans</b>  |                                    |  |                             |          |                   |
| Agency for International Development                             | *                                  | *  | n.a.                        | -10      | -11               |
| Bureau of Indian Affairs <sup>e</sup>                            | 0                                  | 0  | n.a.                        | 14       | 14                |
| Department of Agriculture  | -82                                | 250  | n.a.                        | *        | 168               |
| Department of Education  | 0                                  | 0  | 418                         | 603      | 1,021             |
| Department of Veterans Affairs <sup>c</sup>                      | 58                                 | -1,018                                     | 231                         | 5        | -724              |
| Export-Import Bank   | 0                                  | 0  | n.a.                        | -90      | -90               |
| Federal Housing Administration <sup>f</sup>                      | 0                                  | 3,310                                      | 0                           | -57      | 3,253             |
| Maritime Administration  | 1                                  | -86  | n.a.                        | 0        | -85               |
| Small Business Administration                                    | <u>89</u>                          | <u>-769</u>                                | <u>n.a.</u>                 | <u>0</u> | <u>-680</u>       |
| Total  | 66                                 | 1,687                                      | 649                         | 465      | 2,866             |

(Continued)

TABLE D-1. CONTINUED

| Department or Agency       | Reason for Reestimate <sup>a</sup> |  |                             |         | Total Reestimates |
|----------------------------|------------------------------------|--|-----------------------------|---------|-------------------|
|                            | Change in Interest Rates           | Change in Technical or Default Assumptions | Change in Volume of Lending | Unknown |                   |
| <b>All Credit Programs</b> |                                    |  |                             |         |                   |
| Total                      | 1,234                              | 6,687                                      | 719                         | 84      | 8,724             |

SOURCE: Congressional Budget Office based on *Budget of the United States Government, Fiscal Year 2000: Federal Credit Supplement*, and data provided by the agencies.

NOTE: \* = between -\$500,000 and \$500,000; n.a. = not applicable.

- a. CBO divided the subsidy reestimates according to the reason for the reestimates on the basis of information in the *Federal Credit Supplement* and information from the agencies. Where the reason for the reestimates was not clear because of lack of information, the reestimates are identified as "unknown." The Department of Education, the Federal Housing Administration, and the Export-Import Bank do not separate interest and technical reestimates, and the Farm Service Agency in the Department of Agriculture does not always do so. In addition, if the direction of the reported subsidy rate reestimate and the sign on the reported reestimate amount were inconsistently reported in the *Supplement* and could not be confirmed, the cohort's reestimate is identified as "unknown." In general, all types of reestimates include interest on the reestimates.
- b. Although the State Department requests and receives the annual appropriation for Foreign Military Financing, the program is administered by the Defense Security Cooperation Agency in the Department of Defense.
- c. Although the Department of Veterans Affairs generally identifies subsidy reestimates by type, not all reestimates for the Veterans Housing Benefit Program could be separated into interest and technical or default reestimates (they are included in the total for the program, however). The 1999 midsession reestimates, all of which are technical, are also included. Volume reestimates include interest on the reestimates. (The volume reestimates for the direct loan program are based on the assumptions used in the *Mid-Session Review*.)
- d. The reestimates for the Federal Communications Commission's auctions of licenses to use the radio spectrum include the actual 1999 reestimate, which was made at the end of the year.
- e. Numbers for the Bureau of Indian Affairs come from the budget *Appendix*. The data reported in the *Supplement* could not be used for this program.
- f. Both the General and Special Risk Insurance and the Mutual Mortgage Insurance programs provide guarantees. The 1999 midsession reestimates are included in the totals and are identified as technical or default; all other reestimates by the Federal Housing Administration (FHA) are "unknown." The Mutual Mortgage Insurance totals exclude \$1,227 million in savings associated with the passage of assignment reform in 1996, which FHA classifies as a reestimate rather than a loan modification.





## APPENDIX E: REESTIMATES FOR COHORTS THAT ARE CLOSE TO MATURITY

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Because there are no final reestimates for cohorts that have closed or matured, reestimates for cohorts that are close to maturity must serve as proxies for final losses in comparing subsidy estimates with actual subsidy costs. The Direct Farm Operating Loan program and the Subsidized Guaranteed Farm Operating Loan program both offer short-term loans. Their latest reestimates for older cohorts may serve as a measure of the accuracy of initial estimates and early reestimates. Analysis of those cohorts reveals little or no evidence of bias.

Overall, the Direct Farm Operating Loan program had upward reestimates in the 1990s for default, but reestimates for the early cohorts show a different pattern (see Table E-1). The initial estimates for the first three cohorts have required relatively small changes for default, on net, even though they had sizable reestimates in some years (see Table E-2).

The reestimates for the 1992 cohort may not have been reported correctly, however. In particular, the Farm Service Agency cannot explain why an \$85 million interest rate reestimate was made in 1997 for that cohort. Normally, no interest rate reestimate is made so long after loans have been disbursed. For each of the first three cohorts of that program, interest rate reestimates sum almost exactly to zero.

Total cumulative reestimates are smaller (closer to the original estimates) for the oldest cohorts than for the most recent ones. That pattern suggests that early reestimates may move the initial estimate farther away from its actual value—a suggestion that supports the notion that reestimates are made too frequently, especially in the early years of a cohort's borrowing.

The Subsidized Guaranteed Farm Operating Loan program also had a net upward reestimate for default losses. That total, \$41 million, represents 2 percent of the total loan amount and over 20 percent of the initial subsidy estimate (see Table E-3). The 1992 cohort is notable because it is the only cohort with a downward reestimate for defaults over its lifetime (see Table E-4). But before the reestimates for 1998 and 1999, which were reported at the same time, lifetime technical or default reestimates for all cohorts were downward. The recent change in the direction of those reestimates points out how time-sensitive analyses such as this one can be, and it also supports reducing the number of early reestimates.

TABLE E-1. CUMULATIVE SUBSIDY REESTIMATES FOR THE DEPARTMENT OF AGRICULTURE'S DIRECT FARM OPERATING LOANS, BY COHORT  
(In millions of dollars)

|             | Total<br>Amount<br>of Loans | Initial<br>Subsidy<br>Cost | Technical<br>or Default<br>Reestimates | Total<br>Reestimates | Technical<br>or Default<br>Reestimates<br>as a Percent-<br>age of Loans | Technical<br>or Default<br>Reestimates<br>as a Percent-<br>age of Sub-<br>sidy Cost |
|-------------|-----------------------------|----------------------------|--|----------------------|---|---|
| 1992 Cohort | 571                         | 86                         | -32                                    | -44                  | -6  | -37   |
| 1993 Cohort | 545                         | 78                         | *                                      | -3                   | *   | *   |
| 1994 Cohort | 651                         | 81                         | 11                                     | 5                    | 2   | 14  |
| 1995 Cohort | 438                         | 56                         | 31                                     | 41                   | 7   | 54  |
| 1996 Cohort | 567                         | 74                         | 43                                     | 60                   | 8   | 58  |
| 1997 Cohort | 516                         | 65                         | 63                                     | 75                   | 12  | 96  |
| 1998 Cohort | 557                         | 37                         | -32                                    | 40                   | -6  | -86   |
| 1999 Cohort | <u>789</u>                  | <u>54</u>                  | <u>25</u>                              | <u>112</u>           | 3   | 47  |
| Total       | 4,633                       | 531                        | 109                                    | 287                  | 2   | 21  |

SOURCE: Congressional Budget Office based on data from the Department of Agriculture.

NOTE: \* = less than \$500,000 or 0.5 percent.

TABLE E-2. ANNUAL SUBSIDY REESTIMATES FOR THE DEPARTMENT OF AGRICULTURE'S DIRECT FARM OPERATING LOANS, BY COHORT, FISCAL YEARS 1992-1999 (In millions of dollars)

| Components of Reestimate                         | Year of Reestimate |           |           |          |           |           |            | 1998<br>and<br>1999 <sup>a</sup> | Total<br>Reestimates |
|--|--------------------|-----------|-----------|----------|-----------|-----------|------------|----------------------------------|----------------------|
|  | 1992               | 1993      | 1994      | 1995     | 1996      | 1997      |            |                                  |                      |
| <b>1992 Cohort</b>                               |                    |           |           |          |           |           |            |                                  |                      |
| Interest Rate Reestimate<br>Technical or Default | *                  | -17       | 3         | -54      | -17       | 85        | 0          | *                                |                      |
| Reestimate                                       | *                  | -17       | -7        | 84       | 40        | -101      | -31        | -32                              |                      |
| Interest on the Reestimate                       | <u>0</u>           | <u>-3</u> | <u>-1</u> | <u>8</u> | <u>8</u>  | <u>-7</u> | <u>-17</u> | <u>-11</u>                       |                      |
| Total  | 1                  | -37       | -5        | 38       | 30        | -22       | -48        | -44                              |                      |
| <b>1993 Cohort</b>                               |                    |           |           |          |           |           |            |                                  |                      |
| Interest Rate Reestimate<br>Technical or Default | n.a.               | -6        | -3        | -4       | 3         | 11        | 0          | 0                                |                      |
| Reestimate                                       | n.a.               | -6        | 3         | 6        | 41        | -10       | -33        | *                                |                      |
| Interest on the Reestimate                       | n.a.               | <u>-1</u> | <u>*</u>  | <u>*</u> | <u>10</u> | <u>*</u>  | <u>-13</u> | <u>-3</u>                        |                      |
| Total  | n.a.               | -12       | -1        | 1        | 53        | 2         | -46        | -3                               |                      |
| <b>1994 Cohort</b>                               |                    |           |           |          |           |           |            |                                  |                      |
| Interest Rate Reestimate<br>Technical or Default | n.a.               | n.a.      | -2        | 12       | 2         | -12       | 0          | 0                                |                      |
| Reestimate                                       | n.a.               | n.a.      | 13        | -11      | *         | 80        | -70        | 11                               |                      |
| Interest on the Reestimate                       | n.a.               | n.a.      | <u>1</u>  | <u>*</u> | <u>*</u>  | <u>18</u> | <u>-26</u> | <u>-6</u>                        |                      |
| Total  | n.a.               | n.a.      | 11        | 1        | 1         | 87        | -95        | 5                                |                      |

SOURCE: Congressional Budget Office based on data from the Department of Agriculture.

NOTE: \* = between -\$500,000 and \$500,000; n.a.= not applicable.

a. Reestimates for 1998 and 1999 were prepared at the same time.

TABLE E-3. CUMULATIVE SUBSIDY REESTIMATES FOR THE DEPARTMENT OF AGRICULTURE'S SUBSIDIZED GUARANTEED FARM OPERATING LOANS, BY COHORT (In millions of dollars)

|             | Total<br>Amount<br>of Loans | Initial<br>Subsidy<br>Cost | Technical<br>or Default<br>Reestimates | Total<br>Reestimates | Technical<br>or Default<br>Reestimates<br>as a Percent-<br>age of Loans | Technical<br>or Default<br>Reestimates<br>as a Percent-<br>age of Sub-<br>sidy Cost |
|-------------|-----------------------------|----------------------------|--|----------------------|---|---|
| 1992 Cohort | 151                         | 13                         | -2                                     | 6                    | -2  | -19   |
| 1993 Cohort | 139                         | 12                         | 4                                      | 6                    | 3   | 30  |
| 1994 Cohort | 231                         | 28                         | 11                                     | 12                   | 5   | 39  |
| 1995 Cohort | 189                         | 24                         | 2                                      | -1                   | 1   | 9   |
| 1996 Cohort | 191                         | 17                         | 4                                      | 5                    | 2   | 23  |
| 1997 Cohort | 216                         | 20                         | 5                                      | 6                    | 3   | 28  |
| 1998 Cohort | 257                         | 22                         | *                                      | 7                    | *   | 1   |
| 1999 Cohort | <u>526</u>                  | <u>46</u>                  | <u>18</u>                              | <u>18</u>            | 3   | 38  |
| Total       | 1,899                       | 182                        | 41                                     | 59                   | 2   | 23  |

SOURCE: Congressional Budget Office based on data from the Department of Agriculture.

NOTE: \* = less than \$500,000 or 0.5 percent.

TABLE E-4. ANNUAL SUBSIDY REESTIMATES FOR THE DEPARTMENT OF AGRICULTURE'S SUBSIDIZED GUARANTEED FARM OPERATING LOANS, BY COHORT, FISCAL YEARS 1992-1999 (In millions of dollars)

| Components of Reestimate        | Year of Reestimate |          |          |          |           |           |                            | Total Reestimates |
|---------------------------------|--------------------|----------|----------|----------|-----------|-----------|----------------------------|-------------------|
|                                 | 1992               | 1993     | 1994     | 1995     | 1996      | 1997      | 1998 and 1999 <sup>a</sup> |                   |
| <b>1992 Cohort</b>              |                    |          |          |          |           |           |                            |                   |
| Interest Rate Reestimate        | 2                  | 4        | -6       | 6        | 1         | *         | *                          | 7                 |
| Technical or Default Reestimate | 2                  | -2       | 7        | -6       | -13       | -1        | 11                         | -2                |
| Interest on the Reestimate      | <u>0</u>           | <u>*</u> | <u>*</u> | <u>*</u> | <u>-4</u> | <u>-1</u> | <u>6</u>                   | <u>1</u>          |
| Total                           | 3                  | 2        | 1        | 1        | -16       | -2        | 17                         | 6                 |
| <b>1993 Cohort</b>              |                    |          |          |          |           |           |                            |                   |
| Interest Rate Reestimate        | n.a.               | -2       | 2        | *        | 1         | 0         | 0                          | 1                 |
| Technical or Default Reestimate | n.a.               | 5        | -4       | -1       | -7        | *         | 10                         | 4                 |
| Interest on the Reestimate      | n.a.               | <u>*</u> | <u>*</u> | <u>*</u> | <u>-2</u> | <u>*</u>  | <u>4</u>                   | <u>2</u>          |
| Total                           | n.a.               | 3        | -2       | -1       | -8        | 1         | 14                         | 6                 |
| <b>1994 Cohort</b>              |                    |          |          |          |           |           |                            |                   |
| Interest Rate Reestimate        | n.a.               | n.a.     | -6       | 2        | *         | *         | 0                          | -5                |
| Technical or Default Reestimate | n.a.               | n.a.     | 2        | -2       | -13       | -1        | 25                         | 11                |
| Interest on the Reestimate      | n.a.               | n.a.     | <u>*</u> | <u>0</u> | <u>-3</u> | <u>*</u>  | <u>9</u>                   | <u>5</u>          |
| Total                           | n.a.               | n.a.     | -5       | *        | -17       | -2        | 35                         | 12                |

SOURCE: Congressional Budget Office based on data from the Department of Agriculture.

NOTE: \* = between -\$500,000 and \$500,000; n.a. = not applicable.

a. Reestimates for 1998 and 1999 were prepared at the same time.