

PRIMER ON CREDIT REFORM

INTRODUCTION

Credit reform has been portrayed as strictly an accounting change, an innovation in budgetary treatment intended to measure and record more accurately the cost of federal loan programs. But one of the most revolutionary aspects of this accounting change is that it also captures changes in behavior, not just of borrowers, but also that of credit program managers. An extra phone call to a delinquent borrower, a negotiation session with a bank that lowers the federal guarantee on a loan by 10 percentage points, an improvement in an automated accounting system that produces faster, more accurate management information - all can affect the cost of a loan program. Program managers have long known that these kinds of actions have a real effect on program costs, but it was not until credit reform that the effects of credit management actions could be reflected directly in the cost of loans themselves, and not just as entries in a salaries and expenses account.

With an understanding of basic credit reform principles and methodology, agency officials can make better-informed decisions about potential legislative, regulatory, and administrative reforms to loan programs. They can compare the savings possible from improvements in each stage of the credit cycle: from loan underwriting, to loan servicing, to foreclosure and collateral disposition reforms. They can quantify how these reforms

would affect their loan subsidy appropriation request, the different amount of loans they can offer with a given amount of subsidy budget authority, and the budgetary savings that could be shifted to other programs (or the additional cost of more liberal loan terms). This paper is intended as an introduction to the way that credit reform accounting puts the spotlight on credit management, helps add focus to the performance measures that program managers review and are accountable for, and recognition of the budget impact of management changes.

CREDIT REFORM CHANGED HOW LOAN COSTS ARE MEASURED

The Federal Credit Reform Act of 1990 (FCRA) was enacted as part of the Omnibus Budget Reconciliation Act of 1990 and was intended to improve the measurement of the budgetary costs of Federal credit programs. Prior to credit reform, Federal credit program costs were budgeted and accounted for on a cash basis (the amount of cash flowing into or out of the Treasury), like other Federal programs. Cash accounting failed to portray accurately credit activities' long-term costs: direct loan costs were overstated, as annual loan disbursements appeared with a cost equivalent to grant outlays, and there was no recognition that borrower loan repayments would offset some or all of those outlays; guaranteed loan costs were understated, as they appeared as having no cost in the year the guarantee was made, with no recognition that future default outlays could result.

Most loan programs were funded through revolving funds, in which repayments from prior loans offset outlays from new loans, and a program's net cash flows could appear to

be reducing the deficit at the same time that billions of dollars in subsidized loans were being made. Policy makers, therefore, did not have the information with which to make informed budget allocation decisions, and credit program managers often were not fully aware of how their loan origination and servicing actions affected program costs.

Credit reform recognizes that a loan's true cost is not captured by its cash flows in any one year; the true cost is the net value of its cash flows over the life of the loan. This value is the loan's "subsidy cost", which is the net present value of a loan's expected cash inflows and outflows over the life of the loan. For example, if the estimated present value of a direct loan's cash outflows equals \$100 and the present value of its inflows equals \$90, its subsidy cost is \$10 and its subsidy rate is 10 percent. If an agency proposed to make \$2,000 of these loans, it would seek an appropriation of 10 percent of the desired face value, or \$200. Budgeting for loan programs with this present value-based accounting system represented a significant departure for the otherwise cash-based Federal budget.

Many forces can affect a loan's cash flows and, thereby, its cost. These include legislation that changes the prescribed borrower population, interest rates, or agency program regulations that alter grace periods or loan fees, or administrative servicing actions, workout, or collection procedures that reduce delinquencies or increase recoveries on defaults. In addition, certain forces, such as economic events and natural disasters, external to both the agency and Congress can have an impact on a loan's cash flows. Understanding how outside forces and internal agency management actions both affect

loan subsidy costs, can help program managers determine where best to focus their resources and how to shape credit programs to achieve both programmatic and fiscal goals.

BACKGROUND

Federal Loan Programs

The Federal Government provides credit assistance through more than a dozen agencies, targeting assistance to market segments such as housing, businesses, education, and export financing. Federal credit programs are largely intended to provide financial assistance to borrowers who cannot obtain private sector credit, in order to meet specific social and public policy objectives. Some credit programs provide assistance directly to borrowers through two loan types: (1) direct loans, and (2) loan guarantees. Direct loans are defined as funds disbursed by a Federal agency directly to borrowers under contracts that require repayment of the funds with or without interest. Other programs assist borrowers in securing private credit by extending loan guarantees, in this case private lenders originate and service the loans and the Federal Government guarantees full or partial payment to the lenders upon borrower default. A few guaranteed loan programs, such as guaranteed student loans and USDA's farm operating guarantees, also provide interest rate "buydowns" that can pay lenders a portion of the borrowers' interest costs annually. Note that in guaranteed student loans these are only paid if market interest rates rise above a specified level.

Credit Program Account Structure - Focus on What Is Important

The Federal Credit Reform Act divided loan programs into three new accounts: “liquidating” accounts for pre-credit reform loans; and “program” and “financing” accounts for post-credit reform loans. FY 1992 was the first year that agencies implemented credit reform accounting. The cash flows of pre-1992 loan obligations and commitments are recorded in liquidating accounts on a cash basis, as they were incurred prior to credit reform; balances in these accounts will gradually reach zero as all these prior loans mature, default or otherwise terminate.

Since under credit reform the cost of a loan is its subsidy cost, the only amounts that are recorded in the Federal budget for purposes of calculating the deficit budget are subsidy cost budget authority and outlays; these are recorded in “program accounts.” The program accounts also record the cost of administering the credit program, which are not included in the subsidy. The actual loan disbursement and repayments for direct loans, or guarantee fee collections and default payments for guaranteed loans, are recorded in “financing accounts” and transactions in these accounts are not counted in the total Federal deficit. Through this account structure, the policy focus is on the net cost of loan activity, not the incidental cash inflows and outflows.

For example, when a federal agency disburses a direct loan of \$100 whose subsidy cost is \$10, the program account outlays the \$10 to the financing account. Financing account transactions are not included in the budget totals or the deficit calculation. The financing account takes this \$10, borrows the other \$90 from Treasury, and disburses \$100 to the

borrower. If the loan performs as expected, borrower repayments will enable the \$90 borrowed from Treasury to be repaid over time with interest and the financing account stays a “break-even” operation as intended. For a \$100 guaranteed loan whose subsidy is \$10, the program account outlays the \$10 to the financing account when the private bank provides the loan to the guaranteed borrower. This subsidy is essentially a “loss reserve” that earns interest. If the guarantee performs as expected, when a default does occur the subsidy loss reserve will have grown to equal the claim payment owed under the guarantee terms, and again the financing account breaks even. If loans do not perform as expected, credit reform provides for annual re-estimates of subsidies that are intended to keep financing accounts in a break-even position; these re-estimates are provided through permanent indefinite budget authority under FCRA and do not require congressional action or count against an agency’s discretionary funds allocation.

Loan Cohort Tracking

How do program managers know if the subsidy provided for a group of loans is turning out to be sufficient or excessive over the life of the loans, or that the financing account is maintaining its break-even status? Can this information aid managers in determining how loans are administered? Actual costs are determined through accounting which segregates loans into annual “cohorts” and tracks these cohorts over the life of the loans. A cohort is a particular program’s total group of direct loans or loan guarantees that are funded by one fiscal year’s appropriation, regardless of whether the loans are disbursed in subsequent years. (Cohorts funded with multi-year or no-year appropriations are defined by the year of loan obligation.) For example, one cohort would be the Small Business

Administration's Disaster Program direct loans funded through subsidy appropriations for FY 1998.

Since the cost of a loan or group of loans changes each year, based upon revised forecasts of economic conditions, such as Treasury interest rates, and of technical assumptions, such as delinquency and default rates, the performance of each year's loan cohorts must be tracked separately so that it can be compared with those of the original subsidy estimate. While converting agency accounting systems in order to track cohorts proved difficult in a number of cases, it provided many agencies with valuable management information and insight on where to devote their efforts, such as identifying in what years borrowers appear to be at highest risk of default. Depending upon the accuracy of the information that agencies use, the tracking of cohorts also may enable agencies to track whether their portfolio performance is improving over time, and may provide information that program managers can use to change administration to help improve future subsidy estimates.

MEASURING COSTS UNDER CREDIT REFORM: SUBSIDY ESTIMATES

Subsidy costs measure the Federal Government's net loss or gain from credit activity. The actual cost cannot be known until all the loans in a cohort have matured, but policy and management decisions require the best possible subsidy estimates based upon: historical loan performance data; forecasts of future economic conditions; and judgment about how changes in program terms and management will affect loan performance. There are two main steps in calculating loan subsidy estimates: first estimate the year-by-year cash flows

expected; then determine the present value of these cash flows by discounting them using the Treasury rate of comparable maturity. The subsidy cost is the present value of expected cash out-flows, *minus* the present value of expected cash in-flows. The SBA case study that accompanies this primer contains a numerical example of this process.

Estimating Cash Flows

Loan cash flow estimates start with those due under the contractual loan terms, and then they are adjusted for risk. Factors that affect the contractual cash flows for direct loans include:

1. the interest rate charged to borrowers (i.e., the borrower rate);
2. the term of the loan (maturity) and how often payments are due;
3. fees collected, upfront and/or annual;
4. grace periods or deferments of either principal and or interest; and
5. other “borrower rights” regarding repayment and prepayments.

Factors that affect the contractual cash flows for guaranteed loans include:

1. guarantee fees charged to borrowers or lenders;
2. the percent of the private loan that is covered by the Federal guarantee if a borrower defaults;
3. whether the government takes back the loan or collateral if a borrower defaults or whether a private lender is responsible for collecting; and

4. "borrower rights" regarding repayment and prepayments.

Risk adjustments to these contractual cash flows include:

1. the default rate; and
2. the recovery rate.

These risk adjustments are heavily based on historical data from similar loans to similar borrowers. Some agencies have loan performance data covering the last ten years or more, while some have essentially no cohort data on loans made before credit reform. In these cases, or when a new loan program is created, analysts can use performance data from similar private sector loans, or take clues from the interest rate that private lenders charge for similar loans (such as an adjusted bond rate for that industry). Subsidy estimates for Federal export loans use foreign country bond ratings in their risk adjustments as a proxy for measuring country risk.

The timing of cash flows is critical to the subsidy estimate; for example, a key component is estimating when loan defaults and recoveries will occur. For direct loans, delinquent payments can delay cash flows and contribute to an increase in the subsidy rate. Because annual cash flows are discounted in determining subsidy costs, government losses or gains in year ten of a loan have less of an effect on subsidy rates than losses or gains in year two (due to the "time value of money"). Therefore, administrative actions that cause recoveries to occur sooner rather than later by even a year can considerably reduce subsidy costs. For example, a 5%, 30 year direct loan program experienced a 15% default rate and recoveries were historically 40% the subsidy rate as stated in the teaching tool is

16.1 %. If credit managers increased recoveries from 40% to 60%, through more rapid property disposition, the subsidy estimate would drop to 14.1%.

Cash flow estimates must also take into account unique program characteristics, particularly those for resolving troubled or defaulted loans. Some direct loan programs provide extensive borrower rights, such as loan interest rates that vary with borrower income, payment “moratoria” or grace periods on delinquent loans, and loan write-downs to keep borrowers current. Many guaranteed loan programs take over ownership of the loan or collateral when a borrower defaults, and are responsible for foreclosing on the property, while others require the private lender to foreclose and then submit a claim payment for the Federal share of any net losses. These differences in procedure can make significant differences in annual cash flows and subsidy estimates. The following charts illustrate how different loan programs characteristics and borrower performance factors typically affect program subsidy rates.

Components of Direct Loan Credit Subsidy Estimate

PROGRAM FACTORS AFFECTING CONTRACTUAL CASH FLOWS	IMPACT
• Borrower Interest Rate	↑ ↓ as interest rate increases, subsidy decreases
• Loan Maturity	↑ ↑ as maturity increases, subsidy increases
• Upfront Fees	↑ ↓ as upfront fees increase, subsidy decreases
• Annual Fees	↑ ↓ as annual fees increase, subsidy decreases
• Grace Periods	↑ ↑ as grace period increases, subsidy increases

PERFORMANCE FACTORS AFFECTING CONTRACTUAL CASH FLOWS	IMPACT
• Prepayment Rate	↑ ↑ as prepayment rate increases, subsidy increases (assuming interest is above Treasury Rates)
• Delinquency Rate	↑ ↑ as delinquency rate increases, subsidy increases
• Default Rate	↑ ↑ as default increases, subsidy increases
• Timing of Defaults	Earlier ↑, Later ↓ the earlier default occurs, subsidy increases
• Recovery Rate	↑ ↓ as recovery rate increases, subsidy decreases
• Timing of Recoveries	Earlier ↓, Later ↑ the earlier the recovery, subsidy decreases
• Borrower Characteristics	Low risk ↓, High risk ↑ the lower the risk of the borrower, subsidy decreases

Components of Loan Guarantee Credit Subsidy Estimate

PROGRAM FACTORS AFFECTING CONTRACTUAL CASH FLOWS	IMPACT
• Borrower Interest Rate	None, unless rate is so high that it increases default risk
• Loan Maturity	↑ ↑ as maturity increases, subsidy increases
• Upfront Fees	↑ ↓ as upfront fees increase, subsidy decreases
• Annual Fees	↑ ↓ as annual fees increase, subsidy decreases
• Percent of Loan Guaranteed	↑ ↑ as guarantee percentage increases, subsidy increases (w/ default rate greater than 0)

PERFORMANCE FACTORS AFFECTING CONTRACTUAL CASH FLOWS	IMPACT
• Prepayment Rate	↑ ↓ as prepayment rate increases, subsidy decreases
• Default Rate	↑ ↑ as default rate increases, subsidy increases
• Timing of Defaults	Earlier ↑, Later ↓ the earlier default occurs, subsidy increases
• Recovery Rate	↑ ↓ as recovery rate increases, subsidy decreases
• Timing of Recoveries	Earlier ↓, Later ↑ the earlier the recovery, subsidy decreases
• Borrower Characteristics	Low risk ↓, High risk ↑ the lower the risk of the borrower, subsidy increases

Loan Levels

As subsidy rates change, program managers must also anticipate changes in the program's loan levels. One dollar of subsidy provides funding for a specific number of loans. For example, if an agency receives a subsidy appropriation of \$50,000 and the program's subsidy rate is 5%, the agency can obligate or commit \$1,000,000 in loans (Subsidy Budget Authority \div Subsidy Rate = Supportable Loan Level). If for example, the subsidy rate *decreases* to 4%, that \$50,000 subsidy appropriation will allow the agency to obligate or commit \$1,250,000 an increase of \$250,000 in loans. If the average loan size for this program is \$45,000, the program can serve 28 borrowers ($\$1,250,000 \div 45,000$), six more than if the program had a 5% subsidy rate. If on the other hand, the subsidy rate *increases* to 6%, that \$50,000 appropriation will only support \$833,333 and 19 borrowers.

Discount Rates

Once a loan cohort's expected annual cash flows are estimated, they are discounted at the Treasury rate to determine the cohort's present value. The present value as a measure of costs is a better measure to the nominal sum of the cash flows because it better reflects the change in the government's financial resources over time, and the simple fact that "a dollar today is worth more than a dollar tomorrow." This point is perhaps most clear in guaranteed loan subsidy estimates, in which the analyst has to estimate how much subsidy must be provided up-front in order to cover expected losses in the future. For example:

A guarantee claim is expected to cost \$100 in year one; the Treasury interest rate is 6 percent; how much subsidy needs to be appropriated into the financing

account today in order to have \$100 in a year? The formula below illustrates this simple example.

Present value (PV) = future value divided by (1 + interest rate)

$$PV = \$100 \div 1.06$$

PV = \$94.34 = the subsidy cost for this guarantee.

Note that if interest rates increase, it would lower the subsidy cost of the guarantee program: for example, if the Treasury rate were 10 percent the subsidy cost would drop to \$90.90. Conversely, the subsidy cost of direct loans *increases* with higher discount rates. Extending a direct loan at 5 percent, for example, costs the government more when Treasury borrowing rates are 8 percent than when they are 6 percent. Relatively minor changes in the Treasury discount rate can have significant effects on subsidy rates; a drop from 8 to 6 percent can cut the subsidy rate almost in half for some direct loan programs.

OMB provides agencies with the Treasury discount rates to be used in subsidy rate estimates, consistent with the Budget's overall economic forecast for the coming fiscal year. The rate is not changed for program implementation purposes, as current law no longer requires agencies to re-estimate subsidy rates at the beginning of the fiscal year (or quarterly in some cases). In prior years, re-estimates using updated Treasury rates resulted in some significant changes in the amount of loans able to be financed with given subsidy amounts. The effect on subsidy costs of changes from forecast interest rates and

technical assumptions are captured after obligation, through agencies' annual subsidy "true-up" re-estimates.

In general, there are two basic ways to value financial investments such as loans: discount risk-adjusted cash flows by the risk-free Treasury rate, as Federal loan subsidies are determined; or discount risk-free cash flows by a risk-adjusted discount rate, as private lenders generally do. With private sector credit, borrowers with greater risk of default must pay a higher interest rate in order for the lender to be assured of its target return on investment.

From the time credit reform was drafted there has been periodic debate over whether Treasury rates should be used to discount loan cash flows. The 1990 FCRA requires the Treasury rate to be used as the discount rate because it reflects the government's cost of funds. The subsidy cost, therefore, is intended to reflect the loan's cost to the government, not the subsidy's benefit to the borrower. Hence, a program that lends to borrowers at the Treasury rate and has no defaults would have a zero subsidy cost, even though the borrowers receive subsidies by getting credit at a lower rate than they could secure in the private credit market.

FORCES AFFECTING SUBSIDY RATES

The discussion above and use of the training tool provide indications of how subsidy costs fluctuate and how they can be changed based on legislative and administrative actions. A

program's authorization and appropriations language generally dictates certain program terms and conditions, and often determines how much administrative authority an agency has to implement changes affecting subsidy costs, and which proposed changes would require legislation. Agencies may want to propose legislative changes in order to serve a different borrower population or to increase or decrease the amount of subsidy extended to borrowers. They may seek to reduce subsidy rates in order to further leverage credit reform subsidy authority and make more loans. Agencies may also alter program operations for other reasons, such as to improve servicing or reduce administrative costs, and once in place, these actions can eventually impact subsidy rates.

Legislative Changes

Legislation is generally required to change target populations and loan terms. For example, legislation may require a higher percentage of annual loans to be directed to low-income borrowers, which could increase the expected delinquency and default rates, or it could specify that borrower interest rates should be a constant percentage-point spread above or below Treasury rates rather than fixed permanently at a certain rate. Legislation or, for some programs, regulations can initiate guarantee fees to help defray a greater percentage of default costs. Take for example a 5 percent, ten year guaranteed loan with a 10% default rate and a 60% recovery rate; the teaching tool shows a 21.6 % subsidy rate. If Congress were to enact legislation requiring the agency to collect an upfront fee of 3% of loan principal from borrowers the new subsidy rate, according to the teaching tool, would be reduced to 18.6%

When legislation changes the loan terms or expected performance of loans that have already been made, including pre-credit reform loans in liquidating accounts, it results in a “loan modification”. For example, legislation has reduced contractual prepayment penalties for some programs, increasing the government’s loss on the loans. Under FCRA, any legislation that results in a loan modification that increases loan costs must also appropriate or provide direct spending authority to cover the additional subsidy cost. Conversely, legislation that reduces expected loan costs, such as by eliminating loan deferrals or permitting faster sales of agency inventory property acquired from defaults, is a modification that results in budgetary savings being scored to the legislation.

Administrative Changes

Facing shrinking or flat credit subsidy and salaries and expenses appropriations, many credit agencies are taking administrative steps within existing authority to reduce loan costs. For example, some are improving loan underwriting through more careful screening of applicants, such as by buying commercial credit reports on prospective borrowers. Some guaranteed loan program administrators are likewise increasing their screening of lenders, tracking the performance of loans originated by each lender to weed out lenders who originate loans with higher than average default rates. The Department of Education case study on credit management improvements and the effects on budget estimates illustrates how by terminating high-default schools’ eligibility to participate in the program, has reduced the defaults occurring early in a loan’s life.

Other guarantee programs are more closely matching the percentage of private loans they guarantee with borrower and lender requirements: if a lender is willing to extend a loan on the basis of an 80 percent Federal guarantee, an agency can reduce its subsidy cost by not providing a 90 percent guarantee. The subsidy rate changes to reflect the changes in default rate that result from the increase in private risk sharing. Using our guaranteed loan example, if the guarantee percentage were reduced from 100% to 80% the subsidy rate would experience a modest reduction from 21.6% to 20.7%.

Improved loan servicing also can reduce subsidy costs, often while improving customer service to borrowers. For example, when USDA's single family housing loan program centralized its servicing, an added expected benefit is a reduction to its subsidy costs in addition to offering the ability to escrow borrower real estate taxes and insurance costs. Borrowers in this program now have better access to their loan data, without worrying about setting aside large lump-sum payments; the agency now has better management information regarding delinquencies and is following up faster on delinquent payments.

Contacting delinquent borrowers promptly is a proven method to reduce default rates. A related benefit is that the agency also can reduce its salaries and expenses for loan servicing staff, which cannot be reflected in subsidy rates but could yield annual savings in required salaries appropriations or a redirection of servicing staff to other critical areas.

Many programs show potential for improvements in their “back-end” servicing of defaulted loans and property acquired through default. The cash flows associated with honoring guarantee claims, maintaining and selling acquired property can have the greatest impact on the subsidy estimate. Increasing the speed of recoveries through well designed loan asset sales can accelerate sale proceeds to the government while reducing holding and maintenance costs (maintenance costs are included in subsidy estimates if they are considered “recoverable costs” that get capitalized into the property sales price).

It is important that there be open and frequent communication among agency personnel responsible for estimating loan subsidy rates, loan accounting personnel who understand loan performance data and who may be asked to perform reestimates of subsidy rates, and program experts who manage the program and understand borrower behavior and the effects of program changes on it. This feedback between often-disparate parts of an agency is necessary to provide the most accurate subsidy rates and for program managers’ understanding of how their actions affect costs.