

Appendix B: Funding Mechanics, Credit Scoring, and the TIFIA Capital Allocation Model

B.0 Introduction

This appendix explains the TIFIA funding mechanics and accounting for TIFIA credit instruments. It also describes DOT's capital allocation model, which estimates the subsidy amount for individual TIFIA credit instruments.

B.1 Funding Mechanics

Chapter One of this Report to Congress summarizes the "dual controls" on TIFIA funding; Congress limits not only the maximum annual credit assistance amounts, but also the annual spending on TIFIA subsidy costs, or "budget authority." To understand the TIFIA funding mechanics, it is useful to examine the Federal Credit Reform Act (FCRA), terminology for the TIFIA program, and the flow of funds for TIFIA credit instruments.

B.2 Background on the Federal Credit Reform Act of 1990

Since enactment of the FCRA in 1990, Federal agencies have been required to set aside capital reserves to cover the expected long-term cost to the Government in advance of issuing a direct loan, line of credit, or loan guarantee. This reserve is often called the "subsidy cost," "budget score," or "credit reform score."

Prior to the FCRA, loan costs were recognized in the Federal budget on a cash basis. This generated numerous distortions in the annual budget process. The cost of direct loans was overstated while the cost of loan guarantees was understated. Direct loans required budget authority for the full loan amount in the year the loans were made, while subsequent loan repayments were counted as receipts in future budget years. Loan guarantees were extended with no immediate budget impact, but upon default by the borrower, the Government was required to provide the funding to cover the guarantee.

The FCRA was enacted to address these problems. The purposes of the FCRA are to: (i) measure the costs of Federal credit programs more accurately; (ii) place the cost of credit programs on a budgetary basis equivalent to other Government spending; (iii) encourage the use of credit assistance in the form most appropriate to the needs of recipients; and (iv) improve the allocation of resources among credit programs and between credit and other spending programs. Information on budgeting for Federal credit programs is included in OMB Circulars A-11 and A-34, and information on accounting for Federal credit is included in OMB Circular A-34 and the Statement of Federal Financial Accounting Standards (SFFAS) accounting standards #2.

B.3 Subsidy Cost Estimates, Re-estimates and Modifications

A cornerstone of credit reform is the subsidy cost estimate, which is the estimated long-term cost to the Government of a direct loan, loan guarantee, or line of credit, calculated on a net present value basis, excluding administrative expenses. For the TIFIA program, the subsidy cost generally represents the present value of the Government's expected credit losses.

The form of credit does not, in itself, materially affect the subsidy cost. Rather, the risk profile of the individual project, coupled with particulars of the financing structure, will determine the subsidy cost.

The TIFIA authorizes subsidy budget authority of \$80 million in fiscal year 1999; \$90 million in fiscal year 2000; \$110 million in fiscal year 2001; \$120 million in fiscal year 2002; and \$130 million in fiscal year 2003. This subsidy budget authority is subject to annual obligation limitations that may be established in appropriations law. Of the amounts made available, the Secretary may use up to \$2 million in each of the fiscal years for administrative expenses. Unobligated budget authority remains available for obligation in subsequent years.

The nominal amount of Federal credit assistance that may be disbursed in the form of direct loans and loan guarantees is determined at origination. For standby lines of credit, the nominal amount is the principal amount of potential draws (direct loans) that may be funded during the period of availability. Total annual Federal credit assistance authorized under the TIFIA program is limited to \$1.6 billion in fiscal year 1999; \$1.8 billion in fiscal year 2000; \$2.2 billion in fiscal year 2001; \$2.4 billion in fiscal year 2002; and \$2.6 billion in fiscal year 2003. These amounts are no longer available if not awarded by the end of the fiscal year for which they were provided. Exhibit B-1 provides information regarding the total amount of budget authority and credit assistance used in each fiscal year to date.

Exhibit B-1: TIFIA Program Funding Summary (in millions of dollars)

TIFIA Program Funding			
(Millions of dollars)			
Subsidy Contract (Budget) Authority	FY 1999	FY 2000	FY 2001
New contract authority	80.000	90.000	110.000
Obligation limitation reduction	-9.360	-11.610	-15.310
Administrative expense takedown	-2.000	-2.000	-2.000
Rescission (0.22%)			-0.213
Amount available after reductions	68.640	76.390	92.477
Subsidy obligations(-)/deobligations(+)	-46.715	-52.890	-89.246
Outlays of contract authority		7.770	0.000
Credit Assistance Authority	FY 1999	FY 2000	FY 2001
Authorized by TEA 21	1,600.000	1,800.000	2,200.000
Obligated by the DOT	1,492.752	771.068	873.500

Re-estimates measure the changes in the subsidy amounts that occur over time. As part of its ongoing portfolio monitoring, the DOT is statutorily required to annually adjust the original subsidy cost estimates. A re-estimate results when subsidy costs are estimated to have increased or decreased. If the subsidy cost is estimated to have increased, additional funds are provided through permanent indefinite budget authority from the U.S. Treasury. If the subsidy cost is estimated to have decreased, excess subsidy is returned to Treasury's General Fund.

A subsidy cost modification occurs when a specific Government action (by Congress or an agency) alters the estimated subsidy cost of the loan. If the action increases the subsidy cost of the credit instrument, there must be sufficient budget authority available to set aside to cover the increased cost.

B.4 Program and Financing Accounts

Credit programs require special funding accounts. The budget authority that is required to fund the subsidy costs and the administrative expenses associated with the TIFIA program resides in the Federal-Aid-to-Highways account, known in FCRA parlance as the "Program Account." Budget authority (either new budget authority provided that year or unobligated balances of budget authority provided in a previous year) must be available in the program account before the DOT can incur a direct loan or line of credit obligation or make a loan guarantee commitment. The subsidy amount for a particular TIFIA credit instrument is transferred from the Program Account to the "Financing Account" when the loan is disbursed to the borrower. The Financing Account is the account from which all funds are disbursed and all repayments are collected. All cash flows related to a TIFIA credit instrument will flow through the Financing Account. The TIFIA program has three Financing Accounts, one for each type of credit instrument it offers.

B.5 Flow of Funds for TIFIA Credit Instruments

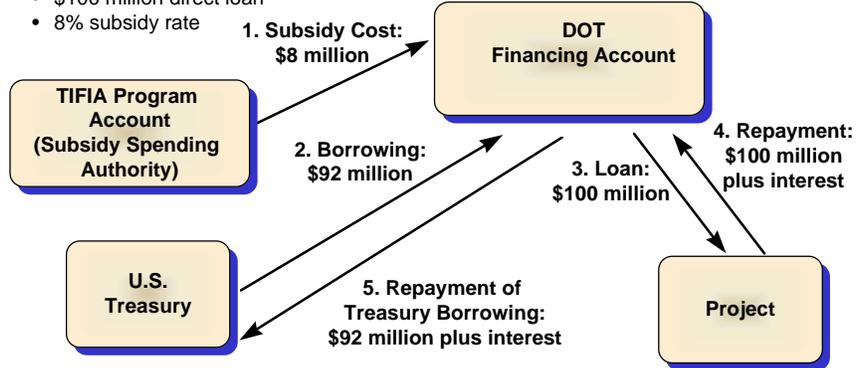
For all TIFIA credit instruments, the DOT obligates budget authority to cover the subsidy estimate and the nominal credit amount on the day that the DOT issues the term sheet, not on the day that the project sponsor actually draws down funds. However, outlays of budget authority occur simultaneously with disbursement of the loan.

The flow of funds for the various TIFIA credit instruments is illustrated in the following diagrams. As shown below in Exhibit B-2, for direct loans and lines of credit, when a borrower requests a disbursement of funds, the Financing Account receives the subsidy budget authority from the Program Account and borrows the unsubsidized portion of the loan from Treasury. The Financing Account then disburses the loans to borrowers. Collections of principal and interest payments and fees flow through the Financing Account as do DOT's repayments of its borrowing to Treasury, plus interest. If a loan is fully repaid, any excess subsidy amounts deposited in the Financing Account are transferred to a receipt account in Treasury's General Fund. (These funds offset DOT's budget authority and outlays but are not available for expenditure.) If loan repayments are less than anticipated and the estimated subsidy cost is exceeded, the shortfall is made up through the re-estimate process described in Section B.3 above.

Exhibit B-2: Illustration of Funding for Direct Loans and Lines of Credit

EXAMPLE:

- \$100 million direct loan
- 8% subsidy rate



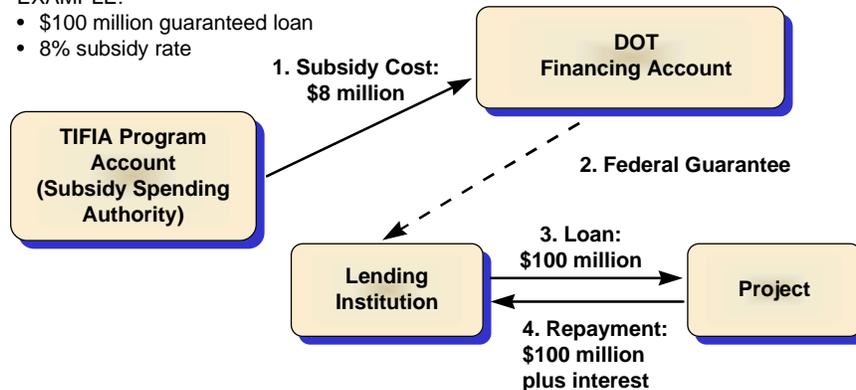
As shown in Exhibit B-3, for loan guarantees, the Financing Account receives the subsidy from the Program Account; collects fees from borrowers (if any); acts as a reserve for default claims; receives interest on reserves from Treasury; and pays default claims. The project sponsor pays principal and interest to the lending institution according to the terms of the loan agreement.

Subsidy reserves for outstanding TIFIA loan guarantees are held in the interest-bearing Financing Account. If the project sponsor defaults, the reserves are used to make claim payments to the lending institution. If the default amount exceeds the amount in the reserves, this shortfall is captured in the re-estimate process.

Exhibit B-3: Illustration of Funding for Guaranteed Loans*

EXAMPLE:

- \$100 million guaranteed loan
- 8% subsidy rate



* Diagram assumes subsidy reserves in financing account are sufficient to cover all losses.

B.6 Credit Risk Assessment Framework: The TIFIA Capital Allocation Model

The DOT, drawing upon the expertise of nationally recognized rating agencies and financial consultants, developed a framework for assessing the risk associated with TIFIA credit instruments – direct loans, lines of credit, and loan guarantees. The capital allocation framework relies on annually-reported historical default experience on corporate bonds, and is designed to ensure that sufficient Federal resources are set aside to cover the Government's expected credit risk.

The DOT's credit risk assessment framework relies upon the major rating agencies to provide an independent assessment of the default risk of TIFIA-assisted projects. Project sponsors are required to obtain a rating agency opinion on the default risk of the TIFIA credit instrument. These credit ratings serve as inputs to a discounted cash flow model developed for quantifying a TIFIA instrument's subsidy cost.

While the financial markets have relied on the credit rating agencies for independent assessments of credit risk since the early 1900s, the TIFIA program is the first domestic Federal credit program to link explicitly subsidy cost estimates with credit ratings.

B.6.1. Background on Capital Allocation

Federal regulators require financial institutions to maintain adequate capital to protect a financial institution's depositors and counterparties from the risks undertaken by the institution. A bank's primary risks are credit risk and market (interest rate) risk. Regulators require banks to retain sufficient capital to absorb both expected losses and "unexpected" losses – or losses in a "high stress" scenario.

Similarly, the Federal Government requires its agencies to allocate capital to cover risk associated with their credit portfolios. However, unlike private lending institutions, Federal credit agencies are only required to set aside capital to absorb expected credit losses, since the risk of insolvency due to unexpected losses is not a concern for individual Federal agencies.¹ In addition, the U.S. Treasury (not individual agencies) retains the Government's interest rate risk.

B.6.2. Federal Capital Allocation Terminology

As noted above, the Federal Credit Reform Act of 1990 (FCRA) requires agencies to allocate risk-based capital for each new credit instrument (e.g., a direct loan, loan guarantee, or line of credit). Since a primary purpose of the FCRA is to put Federal credit programs on an equal budgetary basis with other forms of Federal assistance, allocated capital represents the expected present value cost of extending credit assistance, excluding operating costs. In addition to expected credit losses, it reflects the cost of any interest subsidies and fees collected, resulting in an estimate of the net subsidy cost to the Government.²

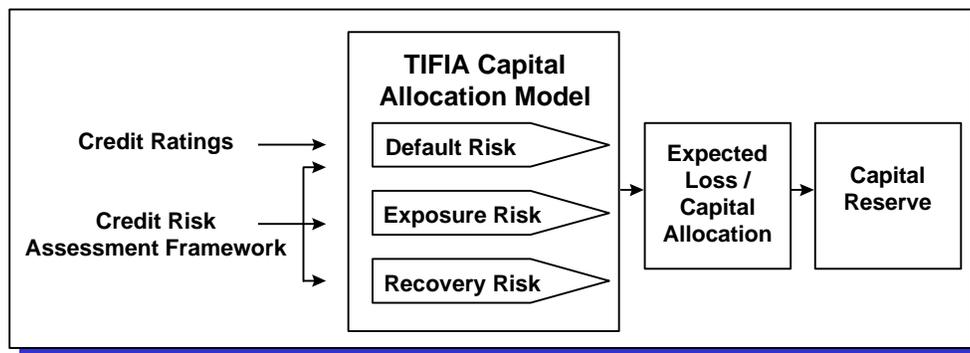
¹ Private financial institutions maintain capital to absorb expected, or routine, losses, as well as an additional layer of capital to ensure that they maintain solvency during a "high stress" environment. Individual Federal agencies are only required to maintain reserves for expected losses, with unexpected losses managed on a government-wide basis.

² An interest subsidy should not be confused with interest rate risk, which is the potential impact on a firm's earnings and net asset values of changes in interest rates. An interest subsidy results from a Federal agency lending at an interest rate below the rate on U.S. Treasury securities of comparable maturity.

The "subsidy rate" is the subsidy cost expressed as a percent of the credit instrument at origination. The FCRA requires a Federal agency to set aside budgetary resources to cover the estimated subsidy cost at the time of entering into a new credit agreement. Similar to other Federal subsidy cost models, the approach for estimating TIFIA subsidy costs relies upon a discounted cash flow model (See Exhibit B-4). The subsidy cost of a TIFIA credit instrument can be estimated in a five-step process:

1. Identify the requested TIFIA credit instrument terms and conditions.
2. Estimate default risk by obtaining a credit opinion on the Government's default risk from one or more of the nationally recognized credit rating agencies.
3. Use the historical default experience for like-rated corporate bonds as a conservative proxy for the TIFIA instrument's expected default risk.
4. Estimate recoveries in the event of a default based on Standard & Poor's Bond Insurer Capital Adequacy Model.
5. Discount projected cash flows at the rate on Treasury securities of comparable maturity to the point(s) of disbursement using the OMB Subsidy Model.

Exhibit B-4: Illustration of the TIFIA Capital Allocation Model



B.6.3 Assessing the Probability of Default

In estimating default risk for a TIFIA instrument, the DOT relies upon the opinion of one or more of the major rating agencies. These opinions are communicated through a preliminary opinion letter and a formal credit rating.

- *Preliminary Opinion Letter:* When applying for TIFIA assistance, project sponsors are required to submit to the DOT a preliminary opinion letter from at least one major rating agency, or, if available, a formal credit rating.³ The letter should provide a preliminary assessment of the overall project strength, including the default risk associated with the proposed TIFIA credit instrument(s),

³ If a formal credit rating opinion is available, this will serve as the basis for the preliminary and final TIFIA capital allocation.

and the potential for the project to receive an investment grade rating on its senior debt.⁴ This opinion letter is used for the DOT's initial estimate of the required allocation of capital for the proposed TIFIA credit instrument(s).

- *Formal Credit Rating:* By statute and separate from capital allocation requirements, a TIFIA-supported project must receive a formal investment grade rating on its senior debt obligations before the DOT can extend credit assistance. In conjunction with the assignment of this rating, the DOT revises its initial capital allocation based on an updated rating agency assessment of the Government's default risk on the TIFIA credit instrument(s).

In the event that a TIFIA project receives different credit opinions from the rating agencies, the DOT takes the average of those ratings.

B.6.4. Assessing Exposure Risk

In order to estimate the severity of default, annual conditional default rates are applied against the outstanding balance of principal and accrued interest. This results in a slightly higher present value default expectation for projects following a slower repayment schedule for the TIFIA credit instrument.

B.6.5. Assessing Expected Recovery

The expected credit loss to the DOT is calculated as expected defaults less expected recoveries. The DOT drew upon the analysis undertaken by Standard & Poor's in developing its Bond Insurance Capital Adequacy Model to estimate expected recoveries in the event of a default on a TIFIA instrument.⁵ Recovery rates are estimated for each TIFIA transaction based upon its unique risk characteristics.

B.7 Estimating TIFIA Subsidy Costs

The subsidy cost of each TIFIA instrument reflects the scheduled terms of the deal, the default risk supported by an external credit rating, the exposure risk based on the repayment schedule and the recovery potential based on the risk characteristics of the transaction. The DOT has developed a "quick score" cost estimation model, which is available to project sponsors via the TIFIA web site (<http://tifa.fhwa.dot.gov>), to provide interested parties with an understanding of the relationship between repayment schedules, credit ratings and recovery rates. This tool provides insight into how key risk factors affect the TIFIA cost allocation.

⁴ Applications lacking a preliminary opinion letter will be considered incomplete and will not be evaluated.

⁵ Standard & Poor's uses its Bond Insurance Capital Adequacy Model to rate monoline insurers.