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# Federal Credit Programs: Comparing Fair Value and the Federal Credit Reform Act (FCRA)

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## Summary

The U.S. government uses direct loans and loan guarantees in a range of policy areas. More than 100 direct federal loans and private financial institution loans guaranteed by the government, known as federal credit programs, are available to individuals and firms. The credit programs support a wide range of economic activities, including home ownership, education, small business, farming, energy, infrastructure investment, and exports. At the end of fiscal year (FY) 2014, outstanding federal credit totaled \$3.3 trillion, with direct loans at \$1.0 trillion and loan guarantees at \$2.3 trillion.

For budget formulation, the costs or profits of these government programs are estimated as prescribed by the Federal Credit Reform Act of 1990 (FCRA; P.L. 101-508). As measured by FCRA, some of these credit programs generate a profit while others incur costs to the government. The costs of these credit programs are commonly referred to as *subsidy costs*. When these programs generate a profit, they are considered *negative subsidy costs*.

In recent years, Congress has debated the best way to measure subsidy costs. The debate has revolved around whether the subsidy costs should be measured as prescribed by FCRA or by what is referred to as the *fair-value method*. Subsidy costs estimates under FCRA adjust the cash outflows and inflows for the various risks a loan portfolio might face. These cash flows are also discounted using Treasury interest rates for estimating subsidy costs.

One method of estimating the fair-value costs of the credit programs is to use private-market interest rates. Generally, private-sector firms would charge a borrower with a government loan guarantee lower interest rates than they would charge a borrower without the government guarantee. Switching to fair value, therefore, is expected to increase the subsidy costs estimates of credit programs. For example, the Congressional Budget Office (CBO) projects that changing the method of calculating subsidy costs estimates to the fair-value method would increase the 10-year budget cost estimates of student loans by \$223 billion, single-family mortgage insurance by \$93 billion, and the Export-Import Bank by \$16 billion. Many of the credit programs that are estimated to make a profit under FCRA have a subsidy cost (incur loss) under fair value.

Proponents of fair-value cost estimates argue the government's cost of credit programs should reflect market risks. Those risks are currently excluded from FCRA cost estimates. In their view, the risk posed by the borrowers should be considered as a cost to the taxpayers because taxpayers are ultimately responsible for paying the debt of the U.S. government. Supporters of using the FCRA method argue that it is appropriate for the government to discount at the rate at which it borrows and that market risk is not the same as budgetary costs. In their view, including market risks to estimate credit subsidies includes amounts that the government will never incur. Further, adopting fair value for budget estimates does not necessarily imply that there would be a need to raise taxes or to borrow additional funds because such costs affect only the budget projections not the actual amount of cash flows.

Legislation has been introduced in the 114<sup>th</sup> Congress (S. 399 and H.R. 119) that would change the method of calculating subsidy costs to the fair-value method. Similar legislative proposals passed the House in the 113<sup>th</sup> Congress but were not acted on in the Senate. FY2016 budget resolutions in the 114<sup>th</sup> Congress, S.Con.Res. 11 and H.Con.Res. 27, include provisions that would address the issue of fair value in federal credit programs by requiring CBO to provide fair-value estimates for credit programs at the request of the budget committees. S.Con.Res. 11 was adopted by the House on April 30, 2015, and by the Senate on May 5, 2015.

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## Introduction

Federal credit programs are comprised of government direct loans and loan guarantees, which are available to individuals and firms. These credit programs support a wide range of economic activities, including home ownership, education, small business, farming, energy, infrastructure investment, and exports. At the end of fiscal year (FY) 2014, outstanding federal credit totaled \$3.3 trillion, with direct loans at \$1.0 trillion and loan guarantees at \$2.3 trillion.<sup>1</sup>

The Federal Credit Reform Act of 1990 (FCRA; P.L. 101-508)<sup>2</sup> requires that estimated lifetime net costs of new loans and loan guarantees be recorded in the budget year in which the loans are disbursed.<sup>3</sup> The costs of these credit programs, referred to as *subsidy costs*, are measured on a net present value (NPV) basis—which is the value of expected future cash receipts, less expenditures adjusted or discounted, over time using an interest rate. The interest rates used to discount the cash flows are estimated based on Treasury securities yields. The methodology used for measuring the costs of these credit programs might affect how Congress allocates the federal budget and structures the credit programs.

Legislation has been introduced in the 114<sup>th</sup> Congress (including S. 399 and H.R. 119) to change how FCRA subsidy costs are measured. The profitability of individual credit programs, such as the Export-Import Bank, has also been a topic of discussion. At the core of the congressional debate is whether the subsidy costs of the federal credit programs should continue to be measured with the current method. If a different method is used, the subsidy costs could vary substantially from current estimates. Under the existing proposals, the credit programs would be measured based on *fair-value accounting*.

The Congressional Budget Office (CBO) provides subsidy cost estimates using interest rates equivalent to private markets to determine the subsidy costs for its fair-value subsidy cost estimates. Typically, interest rates in the private markets are higher than Treasury rates. In other words, CBO seeks to estimate what it would cost private industry to offer similar types of loans or loan guarantees.<sup>4</sup> Switching to fair value, therefore, is estimated to increase the subsidy costs of credit programs.<sup>5</sup>

This report first provides a brief explanation of federal credit programs. Next, it examines recent legislative proposals and hearings. It assesses several policy issues Congress might consider and the benefits and challenges of remaining on FCRA cost estimates versus using fair-value estimates to determine subsidy costs. **Appendix A** provides a more detailed explanation of subsidy costs valuation methods. **Appendix B** provides an explanation of fair-value accounting requirements for the private sector, SFAS 157 (Topic 820), which would be used for implementing fair value according to some legislative proposals. **Appendix C** contains definitions and acronyms for certain concepts and terminology used in this report.

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<sup>1</sup> Executive Office of the President, Office of Management and Budget (OMB), *Fiscal Year (FY) 2016 Analytical Perspectives of the U.S. Government*, February 2, 2015, p. 323, [https://www.whitehouse.gov/omb/budget/Analytical\\_Perspectives](https://www.whitehouse.gov/omb/budget/Analytical_Perspectives).

<sup>2</sup> P.L. 101-508.

<sup>3</sup> 2 U.S.C. §661c.

<sup>4</sup> Expected cash receipts and expenditures include the amount disbursed, principal repaid, interest received, fees charged, and losses from defaults. Congressional Budget Office (CBO), *Fair-Value Accounting for Federal Credit Programs*, March 2012, [http://www.cbo.gov/sites/default/files/03-05-FairValue\\_Brief.pdf](http://www.cbo.gov/sites/default/files/03-05-FairValue_Brief.pdf).

<sup>5</sup> CBO, *Fair Value Estimates of the Cost of Federal Credit Programs in 2013*, <https://www.cbo.gov/sites/default/files/112th-congress-2011-2012/reports/06-28-FairValue.pdf>.

## Accounting For Federal Credit Programs

The U.S. government uses direct loans and loan guarantees to allocate financial capital for a range of purposes. A direct loan is “a disbursement of funds by the government to a nonfederal borrower under a contract that requires the repayment of such funds with or without interest.”<sup>6</sup> A loan guarantee is “a pledge with respect to the payment of all or part of the principal or interest on any debt obligation of a non-federal borrower to a non-federal lender.”<sup>7</sup>

### FCRA (Treasury Rates)

Effective FY1992, the FCRA changed the basis of accounting for federal credit programs from cash basis to accrual basis.<sup>8</sup> Most of the other items in the federal budget are reported on a cash basis. Before FY1992, for a given fiscal year, the budgetary cost of a direct loan or loan guarantee was the net cash flows for that fiscal year. This cash flow measure did not accurately reflect the ultimate profitability (loss) of the loan, thus the methodology, arguably, did not accurately reflect the overall cost of the loan and loan guarantee on budget documents. Beginning with FY1992, the FCRA required that budget reports for credit programs estimate the subsidy costs (see text box) of the credit programs.

#### Key Concepts

**Subsidy Costs**—FCRA defines subsidy cost as “the estimated long-term cost to the government of a direct loan or a loan guarantee, calculated on a NPV basis, excluding administrative costs.”<sup>9</sup> NPV measures the current value of all cash outflows and inflows at a discounted (interest) rate. The higher the interest rate, the deeper the cash flows in future periods will be discounted.

**Negative Subsidy Costs**—Negative subsidy costs imply that the government is generating positive net income from the loan or loan guarantee program for budgetary purposes. These are recorded on the budget as negative outlays, meaning from a budget perspective they reduce overall spending.

**Discounted Cash Flow**—A means of measuring future cash flows. For example, \$100 received today is worth more than \$100 received a year from now, as the \$100 received today can be invested for a return that is greater than \$100. Thus, \$100 received a year from now would need to be discounted to account for this forgone earning opportunity.

**Net Present Value (NPV)**—The value of expected future cash receipts less expenditures adjusted, or discounted, over time using an interest rate.

The FCRA and fair-value methods discount the payments’ streams using an interest rate to capture the costs *up front*.<sup>10</sup> The subsidy cost estimates under FCRA and fair value differ because the interest rates are not the same. Some of the factors that help determine subsidy costs are the

<sup>6</sup> 2 U.S.C. §661a(1).

<sup>7</sup> 2 U.S.C. §661a(3).

<sup>8</sup> Under cash basis accounting, revenue and expenses are recorded when cash is actually paid or received. Under accrual basis accounting, revenue is recorded when it is earned and expenses are reported when they are incurred. See CRS Report R43811, *Cash Versus Accrual Basis of Accounting: An Introduction*, by Raj Gnanarajah for more detailed explanation of cash versus accrual accounting.

<sup>9</sup> 2 U.S.C. §661a(5)(A); P.L. 101-508.

<sup>10</sup> The Balanced Budget Act of 1997 (P.L. 105-33) was enacted, portions of which amended the Federal Credit Reform Act of 1990 (FCRA; P.L. 101-508) to make technical changes, including codifying several guidelines developed by OMB over the previous years.

- amount disbursed,
- principal repaid,
- fees charged,
- interest payments received,
- default risks, and
- discount rate (or interest rate) used to calculate the value of future cash flows.

The interest rate used to discount the cash flows is estimated based on yields of Treasury securities that mature on dates comparable to those on which the loans are substantially disbursed. A two-year loan, for example, is discounted using two-year Treasury rates. Subsidy estimates under FCRA or fair value are only projections of future performance of credit programs. The actual cost of any loans or loan guarantees cannot be determined until the loans have fully matured and all payments have been received.

Government loan programs generally charge borrowers interest rates that are higher than Treasury rates but lower than the rates private lenders may charge. Similarly, government loan guarantees are meant to lower the borrowing costs for loans generated by private lenders by removing default risk. The interest rate and fees charged to borrowers by the government arguably may not reflect the costs borne by private lenders. Private lenders might be more loss averse and have a profit motive; their lending rates might also reflect administrative costs as well, which FCRA omits from subsidy cost estimates. The text box below reflects some of the risks identified by the Export-Import Bank for its credit activities. The risks may or may not reflect risks borne by other credit programs. One type of risk that is common to the estimation process under fair value or FCRA is the default risk.

### Types of Risks

The risk profile for credit activities can be determined based on either an individual loan or the total portfolio. When a decision to lend is made, generally, relevant risks to that individual loan are considered as well as how the loan affects the risk profile of the total portfolio. A change in risk profile affects how much in reserves should be recorded to absorb losses. A description of some of the Export-Import Bank's credit risks is provided as an example of the types of risks in credit programs.

*Default Risk*—The risk that a borrower either is unwilling or does not have sufficient resources to make payments. In the context of Export-Import Bank, default risk (i.e., repayment risk) is synonymous with credit risk.

*Country Risk*—The risk that a borrower's property might be expropriated by a government. Country risk also considers the borrower's inability to pay due to war or being unable to convert domestic currency to U.S. currency.

*Concentration Risk*—Risks from clustering of the credit portfolio by specific industry, geographic region, or borrower.

- *Industry*—Business or lending activity narrowly focused on specific companies or industries. For the Export-Import Bank, nearly 78% of the bank's credit portfolio is concentrated in three industries: air transportation, manufacturing, and oil and gas. Air transportation represents 45% of the bank's total exposure.
- *Geographic Region*—The risk that events could negatively affect not only one country but several countries in an entire region and the ability of the obligors from those countries to repay.
- *Obligor*—The risk that default by one or more borrowers will have a disproportionate impact on the credit portfolio.

*Foreign Currency Risk*—The risk of an appreciation or depreciation in the value of a foreign currency in relation to the U.S. dollar.

*Interest Rate Risk*—There are different types of interest rate risks. The Export-Import Bank's interest rate risks arise from making fixed-rate loan commitments prior to borrowing to fund loans. The risk arises as the Export-Import

Bank borrows at a higher rate than the rate it charges its customers.

*Operational Risk*—The risk of material losses as a result of human errors, system deficiencies, and management oversight weaknesses.<sup>11</sup>

## Fair Value

Legislative proposals in the 114<sup>th</sup> Congress would change subsidy cost estimates to be based on a fair-value accounting standard to incorporate market risks. Fair-value accounting, first, requires the value of assets and liabilities to be estimated based on an objective measurement of how similar types of assets and liabilities are valued in a well-functioning liquid market. If a well-functioning market does not exist, which may be the case for many federal credit programs, then fair-value accounting requires internal modeling. Internal modeling requires estimating NPV of future cash flows by using an interest rate. In certain circumstances, some credit programs might have private-market equivalents. In other instances, the credit programs would require their own internal modeling to determine fair-value subsidy cost estimates. The key difference between CBO's fair-value estimates and FCRA is the use of market interest rates instead of Treasury rates to determine subsidy cost estimates through discounted cash flow analysis. Changing the credit programs subsidy cost estimate methodology to fair value generally increases the subsidy costs.

### Fair Value of Loans and Loan Guarantees

The legislative proposals in the 114<sup>th</sup> Congress, S. 399 and H.R. 119, would require subsidy cost estimates to be based on Statement of Financial Accounting Standard (SFAS) 157 or its successor, Topic 820. The definitions of *fair value of a loan* and *fair value of a loan guarantee* in this text box are defined in the context of Topic 820.

*Fair Value of a Loan*—Fair value of a loan (an asset) is the price that would be received if it were sold in a competitive market in the private sector, which does not involve forced liquidation or a distressed sale. See **Appendix B** for a more detailed discussion.

*Fair Value of a Loan Guarantee*—Fair value of a loan guarantee (a liability) is the price that would have to be paid by the government for the private sector to assume the guarantee commitment.

Another way to consider what constitutes fair value is to examine how government loan guarantees affect the borrower's rate. Federal loan guarantees also have the full faith and credit of the United States. In addition, high-quality credit ratings the United States receives from rating agencies allow it to issue debt and levy taxes to meet its obligations.<sup>12</sup> Private lenders value government-guaranteed loans more than loans with no guarantee. The difference between the value of a government-guaranteed loan and one with no guarantee is the fair value. This difference in valuation could also be considered as market risk.

Private-sector lenders with or without government loan guarantees also consider both administrative costs and profit incentives in determining the value of loans. However, FCRA specifically excludes administrative costs in determining subsidy costs. As required by some legislative proposals, if fair value for government credit programs were determined based on private markets' fair-value accounting standards, then such fair-value measurements would also

<sup>11</sup> Export-Import Bank of the United States, *Export Import Bank of the United States Annual Report 2014*, November 2014, pp. 68-69, <http://www.exim.gov/news/reports/annual-reports>.

<sup>12</sup> The sovereign credit rating of the United States remains one of the highest in the world despite Standard & Poor's lowering the rating to the second-highest rank within their ranking system in 2011. Lisa M. Schineller and John B. Chambers, *United States of America 'AA+/A-1' Ratings Affirmed; Outlook Remains Stable*, Standard & Poor's Rating Services, June 10, 2015, [http://www.standardandpoors.com/spf/upload/Events\\_US/US\\_SV71\\_Webcast\\_art4.pdf](http://www.standardandpoors.com/spf/upload/Events_US/US_SV71_Webcast_art4.pdf).

include administrative costs. To be comparable, administrative costs would either need to be removed from fair-value estimates or included in FCRA estimates. If administrative costs were included with FCRA estimates, then the difference between fair-value estimates and FCRA estimates would diminish. Among the reasons administrative costs were excluded from FCRA may have been that Congress wanted to have direct oversight through appropriations.<sup>13</sup>

Fair-value estimates have been used in official budget estimates in limited cases in the past. For example, government-owned assets acquired through the Trouble Asset Relief Program (TARP) are statutorily required to be valued at fair value.<sup>14</sup> However, there are a few differences to consider in the types of assets generally owned through TARP and other credit programs.<sup>15</sup> With TARP, a significant portion of the activity was linked to the purchase of preferred shares to increase banks' capital levels, with the government taking an ownership interest in those firms. CBO has also used fair value to produce its forecasts for the future activities of Fannie Mae and Freddie Mac.

A more detailed explanation of how the cost estimates are determined based on cash method (or pre-FCRA), FCRA (Treasury rates), and fair value is provided in **Appendix A**. A brief overview of what is discussed in **Appendix A** is provided in the text box below.

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<sup>13</sup> Douglas W. Elmendorf, *Estimates of the Cost of the Credit Programs of the Export-Import Bank*, CBO, June 25, 2014, p. 11, <https://www.cbo.gov/sites/default/files/113th-congress-2013-2014/reports/45468-ExportImportBankTestimony.pdf>.

<sup>14</sup> 12 U.S.C. §5232.

<sup>15</sup> The Troubled Asset Relief Program (TARP) was created as part of the Emergency Economic Stabilization Act of 2008 (P.L. 110-343). For more information, see CRS Report R41427, *Troubled Asset Relief Program (TARP): Implementation and Status*, by Baird Webel.

### Overview of Appendix A: Comparison of Valuation Methods

To highlight the different cost estimates, consider an example in which the federal government lends \$100 million. The \$100 million is expected to be repaid with interest over three years, net of loan defaults.<sup>16</sup> The cash method of accounting for the loan, pre-FCRA, simply allows for the expenditure of the loan in year 0 and repayments in each of the three years. In contrast, FCRA and fair-value estimate the subsidy costs in year 0 with no budget input in the later years. The subsidy cost estimates between FCRA and fair value differ because of the interest rate used to discount the future cash flows.

**Table I. Example of Outlays Recorded on the Federal Budget for \$100 Million in Direct Loans**

(measured in millions)

Accounting Methods	2015	2016	2017	2018
Cash	\$100	\$35	\$-34	\$-34
Treasury Rates	\$-1.6	NA	NA	NA
Fair Value	\$1.3	NA	NA	NA

**Source:** Adopted from Congressional Budget Office (CBO), *Fair Value Accounting for Federal Credit Programs*, March 2012, p. 9, [http://www.cbo.gov/sites/default/files/03-05-FairValue\\_Brief.pdf](http://www.cbo.gov/sites/default/files/03-05-FairValue_Brief.pdf).

**Notes:** Positive numbers reflect cash outlays (i.e., costs) to the government, and negative numbers reflect cash receipts (i.e., negative costs). For budgetary purposes, subsidy costs estimates based on Treasury rates or fair value are recognized only in 2015. In subsequent years 2016-2018, the subsidy costs estimates based on Treasury rates or fair value are not reestimated or recognized unless the loan portfolio's performance expectations change substantially. This table is included in **Appendix A** with a more detailed explanation of how the balances are calculated.<sup>17</sup>

## Congressional Debate

Over the past several years, Congress has debated the most appropriate way to measure subsidy costs overall and in the context of reforming specific credit programs. Most recently, on June 17, 2015, the Joint Economic Committee held a hearing on the economic exposure of federal credit programs.<sup>18</sup> The hearing focused on the difference between how costs of government loans and loan guarantees are measured under FCRA and the proposed fair-value method.

Legislation has been introduced to change from FCRA to fair-value subsidy cost estimates, as well as to request CBO to estimate subsidy costs based on both fair value and FCRA. Companion legislative proposals—the Budget and Transparency Act of 2015 (S. 399 and H.R. 119)—were introduced in the 114<sup>th</sup> Congress to change how the subsidy costs of federal credit programs are determined. Similar companion legislative proposals were introduced in the 113<sup>th</sup> Congress, the Budget and Accounting Transparency Act of 2014 (S. 2420 and H.R. 1872). On April 7, 2014, the House passed H.R. 1872 by a recorded vote of 230 yeas and 165 nays, but the bill was not acted on by the Senate. The Honest Budget Act of 2013 (H.R. 1270) was also introduced in the 113<sup>th</sup> Congress. H.R. 1270 included provisions similar to those in S. 399 and H.R. 119. These set of

<sup>16</sup> Default is the failure of a borrower to make interest and principal payments.

<sup>17</sup> CBO, *Fair Value Accounting for Federal Credit Programs*, March 2012, p. 9, [http://www.cbo.gov/sites/default/files/03-05-FairValue\\_Brief.pdf](http://www.cbo.gov/sites/default/files/03-05-FairValue_Brief.pdf).

<sup>18</sup> U.S. Congress, Joint Economic Committee, *The Economic Exposure of Federal Credit Programs*, 114<sup>th</sup> Cong., 1<sup>st</sup> sess., June 17, 2015.

proposals in the 114<sup>th</sup> and 113<sup>th</sup> Congress would require fair-value determination to adhere to SFAS 157 as promulgated by the Financial Accounting Standards Board (FASB), which sets accounting standards for the private sector.<sup>19</sup> The specific requirements of SFAS 157 (Topic 820) are discussed in **Appendix B**.

FY2016 budget resolutions in the 114<sup>th</sup> Congress, S.Con.Res. 11 and H.Con.Res. 27, include provisions that address the issue of fair value in federal credit programs by requiring CBO to provide fair value of assets and liabilities for certain federal credit programs at the request of the Chairman of the House or Senate Budget Committees. S.Con.Res. 11 was adopted by the House on April 30, 2015, and by the Senate on May 5, 2015. In the 113<sup>th</sup> Congress, similar provisions were included in the budget resolutions, S.Con.Res. 11 and H.Con.Res. 25. Legislation introduced in the 114<sup>th</sup> Congress, the Export-Import Bank Termination Act (H.R. 1605), cites the difference between fair value and Treasury-based subsidy rates (see **Figure 2**) as one of the reasons to terminate the Export-Import Bank, an issue Congress has debated over the past several years.

## Policy Considerations

The ongoing congressional debate has focused on whether market risks should be incorporated in the subsidy cost estimates of federal credit programs. Incorporation or exclusion of market risks through fair-value accounting affects the credit programs in several ways. If market risks are incorporated through cost estimates using the fair-value method, from a budgetary perspective many of the credit programs will change from profit-making programs to loss-incurring programs. This section of the report first explains the various policy perspectives on incorporating market risks. Next, it discusses how the changes would affect the budget for the credit programs and presents a discussion on the volatility of cost estimates. Lastly, it discusses some of the policy rationales for using fair value or remaining on FCRA.

## Market Risks Versus Risks to the Government

Opinions vary between fair value and FCRA proponents as to whether market risks incurred by private firms should be included in the federal government's subsidy cost estimates. Proponents of fair-value treatment argue that market risks are risks borne by all investors and lenders that cannot be eliminated through diversification. Thus, the argument goes, the government's credit programs are subject to the same types of market risks as private lenders. Therefore, costs should be estimated based on fair value. According to CBO, "the government is exposed to market risk through its credit programs because, when the economy is weak, borrowers default on their debt obligations more frequently and recoveries from defaulting borrowers are smaller. That market risk is effectively passed along to taxpayers and beneficiaries of government programs because they bear the consequences of the government's financial losses."<sup>20</sup> Debt not paid by the borrowers is a cost to taxpayers because taxpayers are ultimately responsible for paying the debt

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<sup>19</sup> The Financial Accounting Standards Board (FASB) developed Generally Accepted Accounting Principles (GAAP) for nongovernmental entities. Federal Accounting Standards Advisory Board (FASAB) developed GAAP for federal government entities. The Governmental Accounting Standards Board (GASB) developed GAAP for state and local governments.

<sup>20</sup> Douglas W. Elmendorf, *Estimates of the Cost of the Credit Programs of the Export-Import Bank*, CBO, June 25, 2014, p. 1, <https://www.cbo.gov/sites/default/files/113th-congress-2013-2014/reports/45468-ExportImportBankTestimony.pdf>.

of the U.S. government. Treasury rates fail to capture this risk, proponents argue, because they are considered risk-free rates and backed by the full faith and credit of the United States.<sup>21</sup>

Proponents of fair value also contend that current subsidy estimates imply the credit programs are not subject to market risks and argue a higher interest rate should be used to discount the cash flows to reflect the market risks. The higher interest rates used for fair-value estimates are meant to reflect the market risks that Treasury rates do not currently capture. According to CBO, “to incorporate the cost of market risk, the fair-value approach generally entails using the discount rates on expected future cash flows that private financial institutions would use. That approach effectively uses market prices to measure the cost to the public of the lower returns on federal loans and loan guarantees when the economy is weak and incomes are relatively low.”<sup>22</sup>

Proponents of FCRA argue that current cost estimates do not understate the actual cost to the government, because market risks are not the same as budgetary costs. They argue that accounting for market risks in estimating credit subsidies includes amounts that the government will never actually incur and does not necessarily lead to additional taxes or increased borrowing. This is because market costs affect the official budget estimates but not the actual amount of federal cash flows.<sup>23</sup> In this view, credit programs are considered a tool of the U.S. government, not private lenders. Treasury interest rates sufficiently reflect the overall risks borne by the government; thus, there is no need to measure market risks.

According to FCRA supporters, basing estimates on fair-value conflicts with budgetary principles and how the budget is recorded for most other government activities. In their view, the federal budget should reflect how much revenue it receives and how much it disburses; it should not include the risk premium that applies to the private sector.<sup>24</sup> Budgetary cost estimates based on fair value may create a mismatch between how much the Treasury pays out and what it records as a cost of the credit programs.<sup>25</sup>

Supporters of FCRA have also stated that the government has certain rights as a sovereign power to collect payments from borrowers that private lenders do not have. These government rights, arguably, lower the cost of lending for the government as compared with the private sector. One example is the Treasury Offset Program (TOP), which gives the federal government certain

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<sup>21</sup> Deborah Lucas, “Introduction,” in *Measuring and Managing Federal Financial Risk* (University of Chicago Press, 2010), p. 2.

<sup>22</sup> Douglas W. Elmendorf, *Estimates of the Cost of the Credit Programs of the Export-Import Bank*, CBO, June 25, 2014, p. 1, <https://www.cbo.gov/sites/default/files/113th-congress-2013-2014/reports/45468-ExportImportBankTestimony.pdf>.

<sup>23</sup> Richard Kogan, Paul Van de Water, and James Horney, *House Bill Would Artificially Inflate Cost Of Federal Credit Programs*, Center on Budget and Policy Priorities, June 18, 2013, at <http://www.cbpp.org/research/house-bill-would-artificially-inflate-cost-of-federal-credit-programs>.

<sup>24</sup> To illustrate why using Treasury rates for FCRA cost estimates closely aligns with most other government activities, consider the following example. Fair-value approach would make the subsidy cost of federal credit programs appear more costly for budget estimates than providing the same funds through a grant. As an example, consider \$1 million as the actual cash outflow for the government (including debt service for the government) to provide loan guarantees for \$100 million in loans. Arguably, it is the equivalent of the government giving \$1 million as grants to the borrowers for them to obtain loans up to \$100 million, which would be recorded on the budget as a \$1 million outlay. Cost estimates based on FCRA would record the subsidy cost as a \$1 million outlay. If fair-value method was applied, the outlay recorded in the budget would include an additional premium that would exceed \$1 million, although the cash outflows are still \$1 million.

<sup>25</sup> Richard Kogan, Paul Van de Water, and James Horney, *House Bill Would Artificially Inflate Cost of Federal Credit Programs*, Center on Budget and Policy Priorities, June 18, 2013, at <http://www.cbpp.org/research/house-bill-would-artificially-inflate-cost-of-federal-credit-programs>.

advantages over the private sector for collecting debt defaults. If delinquent nontax debt is owed by a borrower to a federal or state agency, many types of government payments to the debtor can be withheld or reduced until the debt obligation is met.<sup>26</sup> Federal agencies are required to notify TOP if a debt is more than 120 days delinquent.<sup>27</sup> The Treasury's ability to collect on debt owed to the federal government might result in higher recoveries, which could result in higher loan valuations than loans originated in the private sector. However, because federal credit programs are generally not driven by a profit motive, the government's incentive to maximize collections might be lower.

## Budgetary Implications

A CBO comparison of 2013 subsidy cost estimates between FCRA and the fair-value method resulted in a \$55.9 billion increase in budgetary costs under fair value (see **Figure 1**). The perspective on whether the federal government makes a profit on credit programs, arguably, is a matter of perception. For many programs, if Treasury rates are used, the government would make a profit, but if fair-value estimates are considered, the government would not make a profit. As discussed, higher interest rates under fair value result in higher subsidy costs, which are recorded as outlays on the budget.

The increased budgetary cost estimates under fair value may or may not add to the U.S. debt, but they must still be accounted for in the budget. One option is to increase the amount appropriated for credit programs. The increased appropriation absent any other policy changes will reflect higher deficit spending from a budgetary perspective, but actual cash outlay might be less than appropriated. Alternatively, these increased costs could be required to be accounted for within the program without increasing the budget. The increased costs due to market risks could be passed on to borrowers through higher interest rates or additional fees required to offset the increased budgetary costs. Alternatively, the government could offset the increased costs by reducing the amount spent on these credit programs. One consequence might be that some borrowers are priced out of these programs.

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<sup>26</sup> The types of federal payments that maybe used to offset delinquent government debt are tax refunds, travel-related payments, federal salary, retirement pay, Social Security payments, railroad retirement benefits, and state payments of all kinds. 26 U.S.C. §6402.

<sup>27</sup> The Internal Revenue Service (IRS) has separate legal authority to levy Treasury Offset Program (TOP) to collect tax debts that is distinct from legal authority for nontax debt obligations. U.S. Department of the Treasury, Bureau of the Fiscal Service, *Fact Sheet, Treasury Offset Program, Summary of Program Rules and Requirements*, [https://fiscal.treasury.gov/fservices/gov/debtColl/pdf/top/TOP\\_rules\\_reqs\\_fact\\_sheet.pdf](https://fiscal.treasury.gov/fservices/gov/debtColl/pdf/top/TOP_rules_reqs_fact_sheet.pdf).

**Figure 1. Difference in Subsidy Costs Using FCRA and Fair-Value Discount Approaches, by Department or Agency, FY2013**

(in billions of dollars)

	FCRA	Fair Value	Difference	\$Billions
Education	-\$36.3	-\$5.5		\$30.8
Housing and Urban Development	-\$9.1	\$4.7		\$13.8
Small Business Administration	\$0.5	\$3.0		\$2.5
Energy	*	\$2.5		\$2.5
Agriculture	-\$0.2	\$2.1		\$2.3
Transportation	\$0.5	\$2.1		\$1.5
Export-Import Bank	-\$1.0	-\$0.1		\$1.0
Veterans Affairs	\$0.1	\$0.9		\$0.8
International Assistance Programs	-\$0.2	\$0.3		\$0.5
Other	\$0.7	\$1.1		\$0.4
Total	-\$44.9	\$11.0		\$55.9

**Source:** Adopted from CBO, *Fair Value Estimates of the Cost of Federal Credit Programs in 2013*, <https://www.cbo.gov/sites/default/files/112th-congress-2011-2012/reports/06-28-FairValue.pdf>.

**Notes:** From CBO—FCRA estimates of subsidy costs were provided by Office of Management and Budget, except for two programs. Student loan information was provided by Department of Education. Guarantees of single-family mortgage information were provided by the Department of Housing and Urban Development, FCRA estimates were prepared by CBO. Negative values indicate profits. Positive values indicate losses (subsidies). “The figure excludes the Troubled Asset Relief Program, guarantees on securities backed by federally guaranteed loans, and consolidation loans administered by the Department of Education.... International assistance programs include ones administered by the Agency for International Development and the Overseas Private Investment Corporation. Other departments include Commerce, Health and Human Services, Homeland Security, the Interior, State, and the Treasury.”

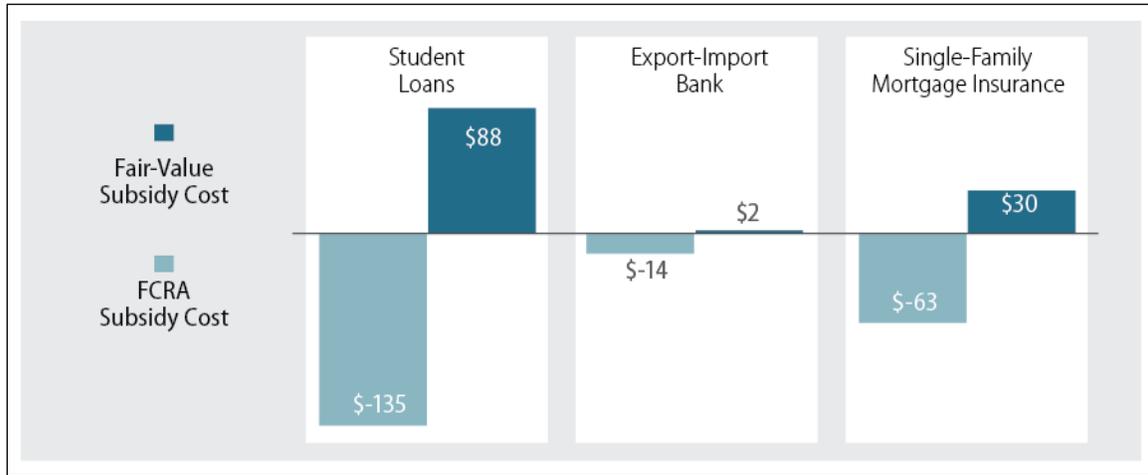
Although federal credit programs may record lower profit or subsidy costs, if the higher costs are passed onto the borrowers, the federal government might actually make more profit than estimates based on Treasury rates. In such circumstances, those that are most in need of government credit programs, arguably, might pay for costs associated with market risks through either higher fees or interest rates. Some argue that, if policymakers choose to pass on the higher budgetary costs to borrowers, the social benefits of these programs might be reduced.<sup>28</sup> Another option is that the government could increase tax rates or reduce spending in other program areas.<sup>29</sup>

**Figure 2** illustrates how the use of Treasury rates versus fair value affects CBO’s cost estimates of specific programs. The three programs—student loans, Export-Import Bank, and single family mortgage insurance—change from reporting profits under Treasury rates to losses under fair value over the 10-year period.

<sup>28</sup> David Kamin, “Risky Returns: Accounting for Risk in the Federal Budget,” *Indiana Law Journal*, vol. 88, no. 2 (2013).

<sup>29</sup> Ibid.

**Figure 2. Estimated Total Budgetary Costs of Selected Federal Credit Programs Under FCRA and Fair-Value Approach from 2015 to 2024**  
(in billions of dollars)



**Source:** Adopted from CBO, *Fair Value Estimates of the Cost of Selected Federal Credit Programs for 2015-2024*, <https://www.cbo.gov/sites/default/files/113th-congress-2013-2014/reports/45383-FairValue.pdf>.

**Notes:** From CBO—For the Export-Import Bank, the figure shows FCRA and fair-value estimates computed from projected obligations (for direct loans), commitments (for guaranteed loans), and cash flows under current law provided by Office of Management and Budget and the agency. For student loans and guarantees of single-family mortgages, the current-law projections were prepared by CBO. To simplify the analysis, the budgetary estimates for the Department of Education are based on the obligations that CBO estimates the department will incur each year for student loans, rather than on the amount of loan disbursements (which would be the basis for official estimates). Estimates reflecting the timing of loan disbursements would differ slightly from those shown here.

## Volatility of Estimates

Fair-value subsidy estimates, arguably, are more volatile as compared with subsidy estimates based on Treasury rates. Thus, subsequent reestimates in future budgets will be higher. Fair-value estimates must respond to market risks. Current legislative proposals specifically require subsidy cost estimates to be based on SFAS 157, which requires that fair-value estimates to be calculated annually.

As discussed earlier in the report, TARP cost estimates have been estimated using market risks. Market-based TARP cost estimates over the past seven years illustrate the challenge of incorporating market risks in cost estimates, although, the changes in cost estimates are not solely a result of change in market risks. The largest disparity is between the March 2009 subsidy cost estimate of \$356 billion and \$28 billion as of March 2015, a difference of \$328 billion. The significant downward revision in cost estimates is a result of higher than expected repayments of principal and interest or dividend payments that Treasury has collected. As the principal is paid back, the amount of risk is reduced, which has resulted in decreased cost estimates. Further, any amount that is written off or losses realized on sales of stock no longer represent uncertainty.<sup>30</sup>

Cost estimates for TARP programs inherently had more uncertainty than typical credit programs. Over the life of the TARP programs, CBO identified several factors affecting its revised

<sup>30</sup> CBO, *Report on the Troubled Asset Relief Program*, March 2015, p. 2, <https://www.cbo.gov/sites/default/files/114th-congress-2015-2016/reports/50034-TARP.pdf>.

estimates, including changes in financial market conditions, new transactions, and timing of disbursements. Although disbursements were a factor in revised cost estimates, the changing market conditions also contributed to the increase in the revised cost estimates.<sup>31</sup> To some extent, the change in default risks would have positively affected TARP estimates in later years regardless of whether it was estimated based on market risks or Treasury rates.

Current legislative proposals require fair-value cost estimates to adhere to accounting standard Topic 820. Topic 820 specifically states that if an insufficient market exists to determine fair value then internal modeling is required (see **Appendix B**). Insufficient markets to determine fair value might imply that risks borne by a specific credit program are high or that there is a lack of private-firm interest. If markets freeze for one or more asset class, then the interest rate to fund such transactions in the private markets would rise. In such circumstances, fair-value estimates based on internal modeling would reflect the higher discount rate. Thus, the cost of credit programs is likely to be even higher when markets are volatile. Although FCRA does not use fair-value estimates even when the equivalent fair-value markets might exist, neither is it subject to market volatility, as it relies on internal modeling.

For certain programs, when a market that has been previously liquid becomes less liquid or freezes, under fair value, estimated subsidy costs are likely to be higher. If the markets become liquid again in the future, the estimated cost of credit programs could see substantial change. The volatility of cost estimates under such market conditions might make it challenging for policymakers and agencies to estimate costs and thus evaluate programs accurately. Even under normal circumstances, government agencies may need time to develop more accurate financial models that estimate subsidy costs based on fair value.

## Aligning Costs with Policy Rationales

Choosing between FCRA and fair value may depend in part on one's underlying view of the purpose of federal credit programs. Fair-value proponents argue that the transaction price the government pays to purchase private-sector goods, such as electricity, military hardware, computers, and buildings, is at a fair-value price and that federal credit programs should be as well. The transfer of federal funds through loans enables the borrower to purchase goods at fair value; therefore, subsidy cost estimates should reflect that.<sup>32</sup> A corollary to this line of reasoning is grounded in the idea that government is expected to compensate property owners at fair value—not at a value determined by the government—when its power of eminent domain is used to acquire properties.<sup>33</sup>

Fair-value supporters also argue that federal credit programs could crowd out private-market activity if federal credit programs are competing with private lending. Further, federal credit programs could encourage higher debt levels by lowering borrowing costs and increase market risks by encouraging excessive risk-taking.<sup>34</sup> The more the government becomes involved in the

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<sup>31</sup> CBO, *A Preliminary Analysis of the President's Budget and an Update of CBO's Budget and Economic Outlook*, March 2009, pp. 8-9, <https://www.cbo.gov/sites/default/files/111th-congress-2009-2010/reports/03-20-presidentbudget.pdf>.

<sup>32</sup> Deborah Lucas, "Introduction" in *Measuring and Managing Federal Financial Risk* (University of Chicago Press, 2010), p. 4.

<sup>33</sup> Jason Delisle, *Credit Reform Act: Another Budget Loophole*, e21 Economics Policies for the 21<sup>st</sup> Century at the Manhattan Institute, September 17, 2010, p. 2, <http://economics21.org/commentary/credit-reform-loophole>.

<sup>34</sup> Deborah Lucas, *Credit Policy as Fiscal Policy*, Massachusetts Institute of Technology and National Bureau of Economic Research, First Draft, November 15, 2011.

credit market, the greater the concentration of various risks, including market risks on the government's balance sheet.<sup>35</sup>

Proponents of FCRA argue that adjusting for private-sector risks could be a significant barrier to the federal government taking action in markets that involve risks. It might discourage or undermine support for the federal government to take action in programs such as student loans, mortgage guarantees, and many others. In addition, supporters of FCRA state that the effective functioning of federal credit programs can reduce existing market failures economically through equity and efficiency. Equity addresses the issues of distribution of income, consumption, and wealth. Efficiency focuses on how private financial intermediaries should allocate capital to its most productive uses. Despite private financial intermediation, market imperfections may exist when social costs and benefits are not equal to private costs and benefits. According to the Office of Management and Budget (OMB), certain private-market imperfections, such as “information failures, monitoring problems, limited ability to secure resources, insufficient competition, externalities, and financial market instability,” might justify federal intervention.<sup>36</sup>

Supporters of federal credit programs suggest that trying to capture the increased costs may affect the availability of government credit negatively and that fair-value estimates ignore the societal benefits of the credit programs.<sup>37</sup> There are many reasons why an individual or business may need to access credit programs. One reason might be lower borrowing costs; another might be the inability to obtain credit from the private market.

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<sup>35</sup> Supporters of fair value have also stated, because the government makes profit on certain credit programs using Treasury discount rates, if all other market factors remain the same, the government, in essence, could substantially expand these credit programs and pay off the debt and avoid deficit spending. U.S. Congress, Joint Economic Committee, *The Economic Exposure of Federal Credit Programs*, 114<sup>th</sup> Cong., 1<sup>st</sup> sess., June 17, 2015.

<sup>36</sup> Executive Office of the President, Office of Management and Budget, *FY2016- Analytical Perspectives of the U.S. Government*, February 2, 2015, pp. 301-302, [https://www.whitehouse.gov/sites/default/files/omb/budget/fy2016/assets/ap\\_20\\_credit.pdf](https://www.whitehouse.gov/sites/default/files/omb/budget/fy2016/assets/ap_20_credit.pdf).

<sup>37</sup> Richard Kogan, Paul Van de Water, and James Horney, *House Bill Would Artificially Inflate Cost of Federal Credit Programs*, Center on Budget and Policy Priorities, June 18, 2013. <http://www.cbpp.org/research/house-bill-would-artificially-inflate-cost-of-federal-credit-programs>.

## Appendix A. Comparison of Valuation Methods

This appendix explains the three different methods of estimating the federal credit programs' costs—cash, FCRA, and fair value. The amount disbursed, cash lent to borrowers and received as repayments of principal and interest, is the same under each method. The amount recorded as costs (outlays) for the budget is different under each method.

For example, consider a \$100 million portfolio of direct loans made by the government. The first method, the cash method, does not recognize the lifetime costs of the loan at inception. It records the costs of the loan each year based on cash flows (see **Table A-1**). The cash method recognizes the cash outlay of \$100 million as costs to the government in 2015 (the current year) and in subsequent years, the cash method recognizes the principal and interest payments as negative cash outlays.

By contrast, both FCRA and fair-value methods recognize the lifetime costs (subsidy costs) of the loan at inception. FCRA defines subsidy costs as “the estimated long-term cost to the Government of a direct loan or loan guarantee, calculated on a net present value basis,<sup>38</sup> excluding administrative costs.”<sup>39</sup> In **Table A-1**, the \$100 million direct loan has an estimated negative subsidy cost (positive return) of \$1.6 million based on FCRA estimates, whereas the subsidy cost to the government is \$1.3 million based on fair-value estimates. Unlike the cash method, neither FCRA nor fair value generally records budget outlays in subsequent years once the loans have been substantially disbursed. If the estimated value of the loan portfolio changes, then subsidy costs would also need to be reestimated. The reestimated costs are incorporated into the budget for future years.<sup>40</sup>

**Table A-1. Outlays Recorded on the Federal Budget for \$100 Million**  
(measured in millions)

Accounting Methods	2015	2016	2017	2018
<b>Cash</b>	\$100	\$-35	\$-34	\$-34
<b>Treasury Rates</b>	\$-1.6	NA	NA	NA
<b>Fair Value</b>	\$1.3	NA	NA	NA

**Source:** Adopted from Congressional Budget Office (CBO), *Fair Value Accounting for Federal Credit Programs*, March 2012, p. 9, [http://www.cbo.gov/sites/default/files/03-05-FairValue\\_Brief.pdf](http://www.cbo.gov/sites/default/files/03-05-FairValue_Brief.pdf).

**Notes:** Positive numbers reflect cash outlays (costs) to the government and negative numbers reflect cash receipts (negative costs). For budgetary purposes, subsidy costs estimates based on Treasury rates or fair value are recognized only in 2015. In subsequent years 2016-2018, the subsidy costs estimates based on Treasury rates or fair value are not reestimated or recognized unless the loan portfolio's performance expectations change substantially.

The rest of this appendix discusses in more detail how the outlays in **Table A-1** are determined for the same loan under each of these approaches. It begins with the cash method, which was used prior to the enactment of FCRA; explains how credit programs' costs are currently determined under FCRA; and lastly explains the proposed fair-value method.

<sup>38</sup> Net Present Value (NPV, net basis) measures the current value of all cash outflows and inflows at a discounted (interest) rate. It is a way to measure against competing investment choices over different time horizons.

<sup>39</sup> 2 U.S.C. §661a (5)(A).

<sup>40</sup> Congressional Budget Office, *Estimating the Value of Subsidies for Federal Loans and Loan Guarantees*, August 2004, p. 3, <http://www.cbo.gov/sites/default/files/08-19-creditsubsidies.pdf>.

## Cash Method

The federal government generally records revenue (i.e., cash receipts) and spending (i.e., cash outlays) on a cash basis. The difference between revenue and spending results in either a budget deficit or a surplus. As shown in **Table A-2**, under the cash method, disbursements are recorded as outlays and interest and principal repayments are recorded as cash inflows (or negative outlays), in the respective fiscal years in which the transaction occurs.<sup>41</sup>

**Table A-2** provides an example of how federal *direct loans*<sup>42</sup> and repayments with interest would be recorded under the cash method over three years. The positive numbers reflect cash expenditure by the government and negative numbers reflect cash receipts. In FY2015, the example assumes that \$100 million in direct loans is recorded as cash outlays. Over the next three years (FY2016-FY2018), the principal with interest at 3% is repaid to the government while recognizing \$1 million in expected loan defaults each year.

**Table A-2. Disbursements and Receipts Under the Cash Method**  
(measured in millions)

Year	2015	2016	2017	2018
A. Disbursements <sup>a</sup>	\$100	\$0	\$0	\$0
B. Scheduled Interest Payments <sup>b</sup>	\$0	\$-3	\$-2	\$-1
C. Scheduled Principal Repayments <sup>c</sup>	\$0	\$-33	\$-33	\$-34
D. Default Losses <sup>d</sup>	\$0	\$1	\$1	\$1
E. Cash Flows for the Federal Government, (sum of A+B+C+D), <sup>e</sup>	<b>\$100</b>	<b>\$-35</b>	<b>\$-34</b>	<b>\$-34</b>

**Source:** Adopted from CBO, *Fair Value Accounting for Federal Credit Programs*, March 2012, p. 9, [http://www.cbo.gov/sites/default/files/03-05-FairValue\\_Brief.pdf](http://www.cbo.gov/sites/default/files/03-05-FairValue_Brief.pdf).

**Notes:** Positive numbers reflect cash outlays (costs) to the government and negative numbers reflect cash inflows (negative costs).

- The \$100 million in the first year is considered an expense to the government.
- Interest payments are calculated at 3% of the principal. In subsequent years, the interest payments decline as a portion of the principal is repaid. For example, in FY2016 interest is determined as 3% of the \$100 million principal, \$100 million x 3% = \$3 million. In FY2017 as \$33 million was repaid the previous year the interest is calculated on the remaining balance, \$66 million x 3% = \$2 million. In FY2018 as an additional \$33 million was repaid in the previous year (total of \$66 million repaid) interest is determined based on \$33 million x 3% = \$1 million.
- Repayment of the original loan.
- Default losses are the amount that is not expected to be repaid by the borrower.
- The \$100 million in direct loans at inception is considered an expenditure. In subsequent years, the amount recorded reflects the portion of the loan principal repaid, net of interest payments and defaults. For FY2016, the amount received by the government is as follows: interest payment \$3 million + \$33 million principal repayment - \$1 million default, results in the government receiving \$35 million.

<sup>41</sup> Neill Perry and Puja Seam, "Accrual Accounting for Federal Credit Programs - The Federal Credit Reform Act of 1990," Harvard Law School - Federal Budget Policy Seminar, April 20, 2005, p. 2.

<sup>42</sup> Direct loans are defined by the Federal Credit Reform Act of 1990 as "a disbursement of funds by the Government to a non-Federal borrower under a contract that requires the repayment of such funds with or without interest." 2 U.S.C. §661a (1).

The cash method did not accurately measure the estimated long-term costs of the credit programs to the government. Before FCRA, \$100 million in direct loans had the same effect on the budget estimates in the first year as \$100 million in federal grants. Direct loans had a significantly smaller impact than grants on the budget outlays over the term of the loan, but budget estimates under the cash method did not account for the cash the government received in subsequent years for principal repayment and interest. In other words, the costs to the government are exaggerated when loans are disbursed, because the cash flows over the life of the loan are not considered for the respective year's budget. Similarly, revenues received by the government are exaggerated in subsequent years as the initial cash outflow is not taken into consideration. If the loan matured outside of the budget windows, the loan could appear to have a cost even if it were profitable to the government.

By contrast, loan guarantees appeared to produce income for the government, because borrowers were required to pay a premium or origination fee at inception without any cash outlays by the government. In subsequent years, if the borrower defaulted, then cash outlays by the government were recorded as an expense. The cash method favored loan guarantees over direct loans, because it appeared to reflect lower costs. Even when direct loans might have been the most feasible way for Congress to achieve its policy objectives, the more favorable budgetary treatment of loan guarantees, arguably, made it difficult for Congress to justify direct loans over loan guarantees. The cash method also has no discounting for net present value determination. If interest payments were greater than loan defaults, then all loans appear to be moneymakers. For these reasons, cash basis accounting made it challenging to measure the actual cost of the credit programs and led Congress to enact FCRA.

## FCRA (Treasury Rates)

Unlike the cash method, FCRA recognizes subsidy costs of the loans at inception. Currently, subsidy costs are estimated as the Net Present Value (NPV) of future cash flows using a method prescribed in FCRA. NPV helps analyze financial information by making loan inflows and outflows over the life of the loan comparable. Subsidy costs are estimated using Treasury interest rates at the time loans or loan guarantees are substantially disbursed.<sup>43</sup> The interest rate charged to the borrowers varies, but they are generally higher than Treasury rates. The difference between the two interest rates results in credit programs generally reporting positive net cash flows even after considering loan losses. Positive net cash flow is called negative subsidy. In the private sector, these gains would be equivalent to firms making profits. FCRA estimates exclude administrative costs when determining subsidy costs, giving Congress flexibility to have greater input on administrative costs through appropriations, but reducing subsidy cost estimates if viewed in isolation.

The discount rate applied to determine the NPV of disbursed loans is based on the average interest rate of Treasury securities of similar maturity dates as the loans. The NPV of cash flows takes into consideration both cash outflows (e.g., disbursements, adjustments for defaults, delinquencies, and interest subsidies) and inflows (e.g., repayments of principal and interest, prepayments, fees, and penalties).<sup>44</sup>

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<sup>43</sup> The federal government borrows at the Treasury interest rates to finance its operations when revenue (tax assessment) is not sufficient to meet spending.

<sup>44</sup> 2 U.S.C. §661.

**Table A-3** provides an example of how subsidy costs of federal *direct loans*<sup>45</sup> are determined using Treasury rates. The Treasury discount rates are higher in later years to account for various risk factors. Generally, the longer the repayment terms of the loan, the higher the interest rate to account for the risks. To determine the subsidy costs, the net cash flows for each year are discounted based on the Treasury rate applicable to that year (see **Table A-3**, row G). The sum of these cash flows determines the subsidy costs (see **Table A-3**, row H).

**Table A-3. FCRA (Treasury Rate) Subsidy Costs**  
(measured in millions)

Year	2015	2016	2017	2018
A. Disbursements <sup>a</sup>	\$100	\$ 0	\$0	\$0
B. Scheduled Interest Payments <sup>b</sup>	\$0	\$-3	\$-2	\$-1
C. Scheduled Principal Payments <sup>c</sup>	\$0	\$-33	\$-33	\$-34
D. Default Losses <sup>d</sup>	\$ 0	\$1	\$1	\$1
E. Cash Flows Before Discounting <sup>e</sup> (Sum of rows A+B+C+D)	<b>\$100</b>	<b>\$-35</b>	<b>\$-34</b>	<b>\$-34</b>
F. Treasury Discount Rate (percentage per annum) <sup>f</sup>	0	0.25	0.50	1.00
G. Discounted Cash Flow Based on Treasury Rates <sup>g</sup> (row E discounted based on treasury rates)	<b>\$100</b>	<b>\$-34.9</b>	<b>\$-33.7</b>	<b>\$-33.0</b>
H. Subsidy Costs	<b>\$-1.6</b>	NA	NA	NA
Sum of row G (\$100-\$34.9-\$33.7-\$33.0)= \$-1.6				

**Source:** Adopted from CBO, *Fair Value Accounting for Federal Credit Programs*, March 2012, p. 9, [http://www.cbo.gov/sites/default/files/03-05-FairValue\\_Brief.pdf](http://www.cbo.gov/sites/default/files/03-05-FairValue_Brief.pdf).

**Notes:** Positive numbers reflect cash outlays (costs) to the government whereas negative numbers reflect cash receipts (negative costs). For budgetary purposes, subsidy costs estimates based on Treasury rates or fair value are recognized only in 2015. In subsequent years 2016-2018, the subsidy costs estimates based on Treasury rates or fair value are not reestimated or recognized unless the loan portfolio's performance expectations change substantially.

- The amount disbursed by the government, \$100 million.
- Interest payments received per year at 3% of principal, as **Table A-3** reflects the interest payments decline in subsequent years as a portion of the principal is repaid. For example, in FY2016 interest is determined as 3% of the \$100 million principal, \$100 million x 3% = \$3 million. In FY2017 as \$33 million was repaid in the previous year, the interest is calculated for the remaining balance, \$66 million x 3% = \$2 million. In FY2018 as an additional \$33 million is repaid in the previous year (total of \$66 million repaid) interest is determined based on \$33 million x 3% = \$1 million.
- Repayment of the original loan.
- Default Losses are the amount that is not expected to be repaid by the borrower.
- For each respective year, row E reflects the amount disbursed or the amount expected to be received by the government.
- Treasury discount rates for each year. Generally, the longer the repayment terms of a loan, the higher the interest rate that is charged to the borrower to account for various risks borne by the lender.
- The balance from row E discounted based on Treasury rates, Net Present Value (NPV). For example, as the Treasury discount rate is 0.25% in FY2016, the discounted cash flow rate is determined by  $1 + 1.0025 = 0.998$ . Thus, the discounted cash flow is \$35 million x 0.998 = \$34.9 million, which is remitted to the Treasury.

<sup>45</sup> Direct loans are defined by FCRA as "a disbursement of funds by the Government to a non-Federal borrower under a contract that requires the repayment of such funds with or without interest." 2 U.S.C. §661a (1).

FY2017 discounted rate is determined by  $1 \div 1.005^{12} = 0.990$ . The discounted cash flow for FY2017 is \$34 million  $\times 0.99 = \$33.7$  million. FY2018 cash flows are determined similar to FY2016 and FY2017.

The same Treasury discount rate tables are used across all federal credit programs for loans of similar maturity dates. Use of Treasury rates creates a certain degree of consistency in how credit programs subsidy costs are determined and increases comparability across programs. The same discount rate tables are also used for budget formulation and financial reporting by the federal government, arguably, creating further consistency in how financial transactions within the government are measured.<sup>46</sup>

After the enactment of FCRA, the Office and Management Budget (OMB) created new guidelines for determining subsidy costs. Congress codified several of the OMB guidelines through the Balanced Budget Act of 1997.<sup>47</sup> One of those requirements is for government agencies to have a data-driven decisionmaking model, which includes statistical models to predict loan defaults and other deviations from loan contracts. Further, prior to making loans or issuing loan guarantees, the agencies are required to regularly analyze and provide estimated subsidy costs to obtain budgetary approval.<sup>48</sup>

## Fair Value

Treasury discount rates are the interest rates at which the federal government borrows. Fair-value rates are the interest rates private lenders charge borrowers. Interest rates that private lenders charge are higher than Treasury rates. Higher interest rates result in cash flows being discounted more in later years. Which interest rates are used to determine the subsidy costs is a significant driver in whether most credit programs show an annual gain from their lending activities.

**Table A-4** provides an example of how subsidy costs of federal *direct loans* might be determined using private-market interest rates. Similar to FCRA, subsidy costs of the loans would be determined at inception. To determine subsidy costs, net cash flows for each year are discounted based on the market rates applicable to that year (see **Table A-4** row G). The sum of these cash flows determines the subsidy costs (see **Table A-4** row H). Similar to Treasury discount rates, market rates are higher in later years to account for various risk factors. In this example, the switch from Treasury rates to market rates reduces the discounted value of inflows (row G) in FY2016-2018 enough to switch the program from a negative subsidy to a positive subsidy.

**Table A-4. Fair-Value Subsidy Costs**  
(measured in millions)

Year	2015	2016	2017	2018
A. Disbursements <sup>a</sup>	\$100	\$0	\$0	\$0
B. Scheduled Interest Payments <sup>b</sup>	\$0	\$-3	\$-2	\$-1
C. Scheduled Principal Payments <sup>c</sup>	\$0	\$-33	\$-33	\$-34

<sup>46</sup> Anthony Curcio and Roger Von Elm, *Fair Value in Federal Credit*, Summit llc and Clifton Larson Allen, April 2015, [http://cdn2.hubspot.net/hubfs/355318/FCMF\\_Knowledge\\_Base/Federal\\_Credit\\_Fair\\_Value\\_White\\_Paper.pdf?t=1433429114841](http://cdn2.hubspot.net/hubfs/355318/FCMF_Knowledge_Base/Federal_Credit_Fair_Value_White_Paper.pdf?t=1433429114841).

<sup>47</sup> P.L. 105-33.

<sup>48</sup> Executive Office of the President - Office of Management and Budget, *Circular No. A-129, Policies for Federal Credit Programs and Non-Tax Receivables*, January 2013, pp. 6-9, [https://www.whitehouse.gov/sites/default/files/omb/assets/a129/rev\\_2013/pdf/a-129.pdf](https://www.whitehouse.gov/sites/default/files/omb/assets/a129/rev_2013/pdf/a-129.pdf).

Year	2015	2016	2017	2018
D. Default Losses <sup>d</sup>	\$0	\$1	\$1	\$1
E. Cash Flows before discounting <sup>e</sup> (Sum of rows A+B+C+D)	\$100	\$-35	\$-34	\$-34
F. Fair-Value Discount Rate (Percent per annum) <sup>f</sup>	0	1.75	2.00	2.50
G. Discounted Cash Flow Based on Fair Value <sup>g</sup> (Row E discounted based on fair value)	\$100	\$-34.4	\$-32.7	\$-31.6
H. Subsidy Costs	\$1.3	NA	NA	NA
Sum of row G. (\$100-\$34.4-\$32.7-\$31.6)= -\$1.3 <sup>h</sup>				

**Source:** Adopted from CBO, *Fair Value Accounting for Federal Credit Programs*, March 2012, p. 9, [http://www.cbo.gov/sites/default/files/03-05-FairValue\\_Brief.pdf](http://www.cbo.gov/sites/default/files/03-05-FairValue_Brief.pdf).

**Notes:** Positive numbers reflect cash outlays (costs) to the government whereas negative numbers reflect cash receipts (negative costs). For budgetary purposes, subsidy costs estimates based on Treasury rates or fair value are recognized only in 2015. In subsequent years 2016-2018, the subsidy costs estimates based on Treasury rates or fair value are not reestimated or recognized unless the loan portfolio's performance expectations change substantially.

- a. The amount disbursed by the government, \$100 million.
- b. Interest payments received per year at 3% of principal, as **Table A-4** reflects the interest payments decline in subsequent years as a portion of the principal is repaid. For example, in FY2016 interest is determined as 3% of the \$100 million principal, \$100 million x 3% = \$3 million. In FY2017 as \$33 million was repaid in the previous year, the interest is calculated for the remaining balance, \$66 million x 3% = \$2 million. In FY2018 as an additional \$33 million is repaid in the previous year (total of \$66 million repaid) interest is determined based on \$33 million x 3% = \$1 million.
- c. Repayment of the original loan.
- d. Default Losses are the amount that is not expected to be repaid by the borrower.
- e. For each respective year, row E reflects the amount disbursed or the amount expected to be received by the government.
- f. Fair-Value discount rates for each year. Generally, the longer the repayment terms of a loan, the higher the interest rate that is charged to the borrower to account for various risks borne by the lender.
- g. The balance from row E discounted based on fair-value rates, Net Present Value (NPV). As an example, since the fair-value rate is 1.75% in FY2016, the discounted cash flow rate is determined by  $1 \div 1.0175 = 0.983$ . Thus, the discounted cash flow is \$35 million x 0.983 = \$34.4 million, which is remitted to the treasury. FY2017 discounted rate is determined by  $1 \div 1.0200^2 = 0.961$ . The discounted cash flow for FY2017 is \$34 million x 0.961 = \$32.7 million. FY2018 cash flows are determined similar to FY2016 and FY2017.
- h. As in this example, when there is a negative cash flow, it is a budgetary expense. Thus in the table the cost is recorded as a positive number reflecting the budgetary cost.

Unlike FCRA requirements in which Treasury discount rates apply across all federal credit programs, fair value takes into consideration the various risks that are unique to each type of loan portfolio. Consequently, various credit programs and loan categories within each program would use different market rates. Further, the credit programs interest rates will no longer be the same rates used for budget formulation and financial reporting.

## Appendix B. SFAS 157 (Topic 820)

Legislative proposals such as S. 399 and H.R. 119 require that fair market values be determined as specified by Statement of Financial Accounting Standard 157 or its successor, currently identified as *Topic 820*. In 2009, the Financial Accounting Standards Board (FASB) adopted a new codification system and reclassified previous accounting standards.<sup>49</sup> Accounting Standards Codification Topic 820 has superseded Statement of Financial Accounting Standards 157 (SFAS 157) for fair-value accounting.

Topic 820 defines fair value as “the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.”<sup>50</sup>

Market participants are defined as buyers and sellers that are (1) not related parties; (2) knowledgeable about the asset or liability and the transaction; and (3) willing and able to enter into the transaction. In simpler terms, fair value might be described as how much someone, who is not influenced by any other incentives, is willing to pay for an asset or receive for a liability. Alternatively, it is the entry or exit price at which a willing buyer or seller would agree to exchange an asset or liability.<sup>51</sup>

Topic 820 does not specify how to develop a fair-value model. It does not have specific rules on how to identify active markets nor does it specify which model or how many models to use when valuing assets or liabilities.<sup>52</sup> Topic 820 specifies disclosure objectives but does not specify disclosure requirements.

Federal financial reporting standards are promulgated by the Federal Accounting Standards Advisory Board (FASAB). Should legislative proposals requiring fair value be adopted by Congress, FASAB would need to update the federal government’s accounting standards in conjunction with OMB. Currently, Statement of Federal Financial Accounting Standards (SFFAS) 2 specifies how to account for loans and loan guarantees. SFFAS 2 was customized to meet the requirements of FCRA. As further explained below, should private markets not exist for a specific loan program, FASAB would need to develop accounting standards that are specific to the needs of the federal government. Alternatively, Congress could require FASAB to create accounting standards that are similar to SFAS 157 for federal credit programs, without specifically requiring SFAS 157. The remainder of this section provides an overview of the two main parts of Topic 820, levels 1 through 3 fair-value hierarchy and disclosure objectives.

### Three Levels of Fair-Value Hierarchy

Topic 820 does create a 3-level fair-value hierarchy based on the type of information (inputs) available to determine the fair value. In essence, based on the available information level 1 is the most preferred whereas level 3 is the least preferred because it is the most subjective. At level 3,

<sup>49</sup> The Securities and Exchange Commission recognizes the Financial Accounting Standards Board (FASB) as the designated organization for establishing U.S. GAAP in the United States for the *private sector*. Financial Accounting Standards Board, *Facts About FASB*, <http://www.fasb.org/facts/>.

<sup>50</sup> Financial Accounting Standards Board, *Fair Value Measurement (Topic 820)*, Norwalk, CT, May 2011, <https://asc.fasb.org/imageRoot/00/7534500.pdf>.

<sup>51</sup> Anthony Curcio and Roger Von Elm, *Fair Value in Federal Credit*, Summit llc and Clifton Larson Allen, Washington, DC, April 2015, [http://cdn2.hubspot.net/hubfs/355318/FCMF\\_Knowledge\\_Base/Federal\\_Credit\\_Fair\\_Value\\_White\\_Paper.pdf?t=1433429114841](http://cdn2.hubspot.net/hubfs/355318/FCMF_Knowledge_Base/Federal_Credit_Fair_Value_White_Paper.pdf?t=1433429114841).

<sup>52</sup> CCH - Commerce Clearing House - Accounting Research Manager, *Fair Value Measurement - Measurement of Fair Value*, Riverwoods, IL, May 29, 2015, <http://www.accountingresearchmanager.com>.

Topic 820 allows the management substantial discretion in how fair value is determined and interpreted.<sup>53</sup>

*Level 1*—Represents the most objective fair-value estimate, and it includes assets and liabilities that have an active market.

Inputs for determining the fair value for level 1 are measured based on active independent markets (e.g., equity that is actively traded on a major exchange, such as the New York Stock Exchange [NYSE] or Chicago Board of Exchange [CBOE]). The markets must be active and trade in identical assets or liabilities regularly.

*Level 2*—Assets and liabilities at Level 2 have no active markets, but they have either a parallel market or alternate means to estimate fair value.

Inputs for determining the fair value for level 2 are observable data elements, but they are not from an active independent market as with level 1. Quotes from similar but not identical assets or liabilities that were recently traded or transferred between external entities might be used to determine fair value. Other observable inputs, such as interest rates and default rates, may also be used. Unlike level 3 inputs, level 2 inputs are not influenced or provided by the reporting entity, but rather they are all external and independent.

*Level 3*—Fair-value estimates for assets and liabilities are based on agencies own internal assumption about how the market would price the asset or liability. There are no observable (market) data on the asset or liability but may include data such as interest rates and default rates.

Inputs for determining the fair value for level 3 are provided by the reporting entity. Inputs might include entity's estimation of future cash flows, earnings, revenue, or sales as well as other information.

Unlike Topic 820, the majority of the accounting standards as promulgated by FASB are considered rules based. Topic 820 is considered principles based and does not include specific rules on how agencies should adopt fair-value measures.

Further, most federal direct loans and loan guarantees issued by the government are held to maturity. By contrast, private lenders often sell their loan portfolios to third parties at fair value. Fair value considers the price someone is willing to pay to buy the asset or to assume the liability.<sup>54</sup> Similar to how the federal government currently holds loans and loan guarantees to maturity, certain investments in state and local governments and private entities are also held to maturity. Topic 820 as promulgated by FASB for the private sector requires that investments held to maturity be valued at amortized cost.<sup>55</sup> Similarly, Statement Number 72 promulgated by the Governmental Accounting Standards Board (GASB) also requires that investments held to maturity be valued at amortized cost.<sup>56</sup>

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<sup>53</sup> CCH - Commerce Clearing House - Accounting Research Manager, *Overview and Scope of Topic 820*, May 29, 2015, <http://www.accountingresearchmanager.com>.

<sup>54</sup> Roger Von Elm and Anthony Curcio, *What Agencies Need to Know About Fair Value Budgeting and How to Plan for Its Potential*, Association of Government Accountants, April 13, 2015, [http://www.agacfm.org/AGA/Topics/2015/041315/fair\\_value\\_budgeting\\_13april\\_topics.pdf](http://www.agacfm.org/AGA/Topics/2015/041315/fair_value_budgeting_13april_topics.pdf).

<sup>55</sup> Amortization refers to increase or decrease in investments or debt as a result of interest and principal payments. John Downes and Jordan Elliot Goodman, *Dictionary of Finance and Investment Terms*, 7<sup>th</sup> ed. (Hauppauge, NY: Barron's Educational Series, Inc., 2006), p. 27.

<sup>56</sup> The Governmental Accounting Standards Board (GASB) establishes the accounting standards, Generally Accepted Accounting Principles (GAAP), for state and local municipalities. GASB, *Fair Value Measurement and Application - Statement No. 72*, February 2015, [http://gasb.org/jsp/GASB/Document\\_C/GASBDocumentPage?cid=](http://gasb.org/jsp/GASB/Document_C/GASBDocumentPage?cid=) (continued...)

## Disclosure Requirements

Topic 820 states that disclosure in financial statements should help users of financial statements understand the valuation technique and inputs used to develop fair-value measurements. Disclosures should communicate the effects on net assets of the entity due to fair-value measurements.<sup>57</sup> If an asset or a liability is measured at a different level than how it was reported in the prior period, the circumstances that led to the change should be disclosed. For levels 2 and 3, any changes to the approach (e.g., market, income, or the cost) and any changes to inputs should be disclosed. The reason for the changes in the methodology should also be sufficiently explained.

Credit risks and counterparty credit risks are required to be disclosed. Credit risks in the private sector take into consideration any changes to the reporting entity's credit ratings and how it affects the fair value of its assets and liabilities. Counterparty credit risks account for the borrower's ability to meet its debt obligation. For federal credit programs, arguably, it will be difficult to gauge the credit risks of individual programs. Each credit program needs to be evaluated based on the overall credit risk of the U.S. government, because credit programs are backed by the full faith and credit of the United States. The credit risk of the United States is generally assumed to be zero. Counterparty risks for each credit program would need to be individually evaluated, as each program might have unique factors that are applicable to its portfolio. Many of these types of disclosures are not relevant under FCRA.

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(...continued)

1176165840291&acceptedDisclaimer=true. The Federal Accounting Standards Advisory Board (FASAB) is the designated organization for promulgating GAAP for federal entities. FASAB, *FASAB Facts*, September 2012, p. 1, [http://www.fasab.gov/pdffiles/fasab\\_facts.pdf](http://www.fasab.gov/pdffiles/fasab_facts.pdf).

<sup>57</sup> Net assets is the equity or net worth of for-profit companies reported on the balance sheet (Assets-Liabilities = Net Assets). For the federal government, the equivalent of net assets is Total Net Position reported on the Balance Sheet of the Financial Report of the United States Government. Department of the Treasury, *Financial Report of the United States Government - Fiscal Year 2014*, February 26, 2015, p. 48, [https://www.fiscal.treasury.gov/fsreports/rpt/finrep/ft/14frusg/FR\\_02252015\\_Final.pdf](https://www.fiscal.treasury.gov/fsreports/rpt/finrep/ft/14frusg/FR_02252015_Final.pdf).

## Appendix C. Key Definitions and Acronyms

The following definitions are described in the context of how they are discussed in this report; they are not meant to be precise legal or finance definitions.

**Amortized Cost**—Amortization refers to increase or decrease in investments or debt as a result of interest and principal payments.

**Default**—The failure of a borrower to make interest and principal payments.

**Direct Loans**—FCRA defines direct loans as “a disbursement of funds by the Government to a non-Federal borrower under a contract that requires the repayment of such funds with or without interest.”<sup>58</sup>

**Discounted Cash Flows**—Measures the value of future cash flows based on a discounted rate (i.e., interest rate).

**Efficiency**—How private financial intermediaries should allocate capital to its most productive uses.

**Equity**—The issues of distribution of income, consumption, and wealth.

**Federal Grants**—A financial asset transferred or awarded by the federal government to an eligible state, municipality, or an individual, and not expected to be repaid.

**Loan Guarantees**—FCRA defines loan guarantee as “any guarantee, insurance, or other pledge with respect to the payment of all or a part of the principal or interest on any debt obligation of a non-Federal borrower to a non-Federal lender, but does not include the insurance of deposits, shares, or other withdrawable accounts in financial institutions.”<sup>59</sup>

**Negative Subsidy Costs**—Opposite of subsidy costs, which imply that for budgetary purposes the government is generating income from the loan or loan guarantee programs, see Subsidy Costs.

**Net Present Value (NPV)**—Measures the current value of all cash outflows and inflows at a discounted rate (or interest rate). It is a way to measure against competing investment choices.<sup>60</sup>

**Subsidy Costs**—The estimated long-term cost to the government of a direct loan or loan guarantee, calculated on a net present basis, excluding administrative costs.

### Frequently Used Abbreviations

<b>CBO</b>	Congressional Budget Office
<b>FCRA</b>	Federal Credit Reform Act of 1990 or federal credit programs defined by the act.
<b>FV</b>	Fair Value
<b>GSE</b>	Government Sponsored Enterprise (GSE)
<b>NPV</b>	Net Present Value
<b>OMB</b>	Office of Management and Budget

<sup>58</sup> 2 U.S.C. §661a(1).

<sup>59</sup> 2 U.S.C. §661a(3).

<sup>60</sup> John Downes and Jordan Elliot Goodman, *Dictionary of Finance and Investment Terms*, 7<sup>th</sup> ed. (Hauppauge, NY: Barron’s Educational Series, Inc., 2006), p. 456.

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