

# REVENUE ESTIMATES AND RETIREMENT POLICY

THE NEED TO CONSIDER PRESENT-VALUE ESTIMATES  
OF CHANGES IN TAX POLICY

## **A REPORT PREPARED FOR:**

The Actuarial Foundation  
American Society of Pension Professionals & Actuaries  
Profit Sharing/401k Council of America  
U.S. Chamber of Commerce  
The ESOP Association  
Committee on Investment of Employee Benefit Assets  
National Conference on Public Employee Retirement Systems  
National Association of State Retirement Administrators  
American Benefits Council  
ERISA Industry Committee  
National Association of Manufacturers

By:

Judy Xanthopoulos

Mary M. Schmitt



# **REVENUE ESTIMATES AND RETIREMENT POLICY**

The Need to Consider Present-Value Estimates of Changes in Tax Policy

Judy Xanthopoulos, Ph.D.

Mary M. Schmitt, Esq.



# Table of Contents

INTRODUCTION.....	1
EXECUTIVE SUMMARY.....	2
I. REVENUE ESTIMATING AND RETIREMENT POLICY.....	4
II. EXPLORING THE EFFECTS OF ESTIMATING RETIREMENT SAVINGS PROPOSALS ON A PRESENT-VALUE BASIS.....	7
A. Present-Value Analysis Compared to Cash-Flow Analysis.....	7
B. Example of Present-Value Analysis.....	8
C. Other Points to Consider.....	9
III. PRESENT-VALUE ESTIMATES FOR OUTLAY PURPOSES – THE CASE OF CREDIT REFORM.....	11
IV. PRESIDENT’S BUDGET PRESENTS TAX EXPENDITURES ON A PRESENT-VALUE BASIS.....	13
V. CONCLUSIONS.....	15
APPENDIX A – BACKGROUND AND KEY CONCEPTS OF FEDERAL BUDGET SCOREKEEPING.....	16
A. Federal Budget Scorekeeping Overview.....	16
B. History of Revenue Estimating Process.....	16
C. Key Concepts of Budget Scorekeeping.....	18
D. Overview of Revenue Estimating Processes.....	19
APPENDIX B – ESTIMATING THE REVENUE EFFECTS OF QUALIFIED RETIREMENT SAVINGS PROPOSALS.....	21
A. Components of Cash-Flow Revenue Estimates for Retirement Savings Proposals.....	21
B. Other Issues.....	24
APPENDIX C – DISCOUNT RATES.....	26
LIST OF TABLES	
Table 1 – Example of Difference Between a Cash-Flow and a Present-Value Revenue Estimate for Retirement Savings Proposal.....	3
Table 2 – Revenue Analysis of Taxpayer Contributions to a Qualified Retirement Plan.....	5
Table 3 – Revenue Analysis of Taxpayer Withdrawals from a Qualified Retirement Plan.....	6
Table 4 – Comparison of Cash-Flow and Present-Value Revenue Losses.....	9
LIST OF GRAPHS	
Graph 1 – Relationship between the Discount Rate and Net Present-Value Estimates.....	26
LIST OF SPONSORS.....	30



## INTRODUCTION

Central to a fair and accurate legislative process is a methodology for estimating revenue effects of proposed legislative changes that accurately takes account of the costs of the proposals. Federal budget constraints require a balancing of priorities and the estimated effects of proposals on federal budget receipts often determine the success or failure of a proposal.<sup>1</sup> Further, congressional tax-writing committees frequently must fit tax legislative packages within specific budget targets, placing even more pressure on the process of estimating the revenue effects of proposals.

In general, budget scorekeeping conventions require that changes in revenues are measured on a cash flow basis (“cash-flow accounting”) and that the cash-flow analysis be provided for a 10-year budget period.<sup>2</sup> Cash-flow accounting works well for proposals that provide a current deduction with no subsequent offsetting revenue increase. Proposals that provide a deferral of tax from one year to a subsequent year raise an additional attribute not contemplated by that accounting methodology.

The problem with cash flow accounting for revenue estimating is acute with many retirement savings proposals that provide a current year deduction or exclusion for contributions to a retirement savings arrangement, deferral of tax on the income attributable to the contributions, and income inclusion when the retirement savings are subsequently withdrawn. Retirement savings proposals are generally long-term in nature, providing current tax incentives to save for retirement by deferring the income tax on contributions until a later date. The income tax deferral simply delays or postpones the income tax collection, often delaying the tax collection to a year that extends beyond the ten-year budget window.

Congress grappled with a similar problem in the late 1980s with federal credit programs. Under the Federal Credit Reform Act of 1990 (FCRA), a present-value measurement is used to measure the costs of federal credit programs. These present-value calculations allow for a fair and accurate comparison of the costs of federal credit programs to the costs of other federal spending programs.

This report explores the problem with cash-flow accounting for estimating the revenue costs of retirement savings proposals and shows how a present-value analysis similar to what is used to evaluate federal credit programs and in the president’s budget for the preparation of tax expenditure estimates might provide a more accurate estimate of the long-term revenue effect of deferral proposals.

---

<sup>1</sup>The Congressional Budget and Impoundment Act of 1974 introduced discipline to the federal budget process and this discipline brought increased importance to the budget scoring process for both outlay and revenue proposals.

<sup>2</sup>The budget rules and scoring conventions apply to outlays as well as revenues. See Appendix A for a detailed discussion of the general scoring conventions as they apply to both budget outlays and revenues.

## EXECUTIVE SUMMARY

- ∞ Revenue estimates play an important role in setting federal policies. Federal budget processes under the Congressional Budget Act require the use of revenue estimates prepared generally by the Joint Committee on Taxation and set the parameters under which the estimates are prepared. Further, federal policies are often set within specific budget constraints that require policymakers to choose among competing policy proposals for the use of available revenue dollars.
- ∞ Revenue estimates are prepared on a cash flow basis measuring how a proposed change in policy affects federal receipts in each year of a 10-year budget scorekeeping period. This approach works well for proposals that provide a current tax benefit that is not offset in a future year.
- ∞ But not all revenue proposals are the same. While some proposals provide a current year tax benefit (e.g., a deduction) that is not offset by a future tax liability, other proposals provide a tax benefit in the current year that is simply delayed until a future year (e.g., a deferral).
- ∞ Many retirement savings proposals provide deferred tax benefits under which a current deduction (or income exclusion) is provided for contributions and earnings attributable to the contributions accumulate tax-free, and all amounts are included in income when the retirement savings are withdrawn.
- ∞ Cash-flow estimates overstate the true revenue cost of retirement savings proposals that provide deferral because cash flow estimates will not reflect the income inclusion for withdrawals, which often occur outside the 10-year budget scorekeeping window.
- ∞ Calculating the revenue costs of pension policy proposals on a present value basis could provide a more accurate measurement of the true costs of these proposals. The simple example below shows the difference in revenue effects of cash flow estimates and present value estimates. Under the example, an individual makes a \$1,000 contribution to a deductible retirement plan each year for 10 years and then withdraws the account balance ratably over the subsequent 10-year period.



**Table 1**  
**Example of Difference between a Cash-Flow and a Present-Value**  
**Revenue Estimate for Retirement Savings Proposal**

<b>Year</b>	<b>Contribution</b>	<b>Cumulative Account Balance</b>	<b>Cash-Flow Revenue Effect</b>	<b>Present-Value Revenue Effect</b>
1	\$1,000	\$ 1,000	-\$250	-\$174
2	\$1,000	\$ 2,080	-\$270	-\$167
3	\$1,000	\$ 3,246	-\$292	-\$161
4	\$1,000	\$ 4,506	-\$315	-\$155
5	\$1,000	\$ 5,867	-\$340	-\$149
6	\$1,000	\$ 7,336	-\$367	-\$143
7	\$1,000	\$ 8,923	-\$397	-\$138
8	\$1,000	\$ 10,637	-\$428	-\$132
9	\$1,000	\$ 12,488	-\$463	-\$127
10	\$1,000	\$ 14,487	-\$500	-\$122
<b>Total Years 1-10</b>			<b>-\$3,622</b>	<b>-\$1,469</b>

- ∞ There is a precedent for using present-value estimates for federal budget scorekeeping purposes. Present-value estimates are used to estimate the outlay effects of federal credit programs for the same reason that they should be considered for changes in retirement savings policy.
- ∞ The tax expenditures estimates in the president’s budget also provide present-value estimates to provide an alternative picture of the revenue effects of various existing tax incentives.
- ∞ While the analysis in this paper looks principally at defined contribution type arrangements, such as Individual Retirement Arrangements (IRAs) and 401(k) plans, present-value estimates also could be done for traditional defined benefit plans as those plans also provide a deferral of federal tax with respect to contributions to a plan. However, when considering potential changes to revenue estimating for retirement plans, those changes should be neutral with respect to defined benefit and defined contribution revenue estimates.

## I. REVENUE ESTIMATES AND RETIREMENT POLICY

Revenue estimates measure the effects of proposed changes in law on federal budget receipts. Revenue raising proposals increase receipts relative to current law and revenue losing proposals decrease receipts. Revenue estimates for purposes of the federal budget are measured on a cash-flow basis over a 10-year budget window beginning with the current fiscal year.<sup>3</sup> They quantify the effects of proposed tax policy changes by measuring the year-by-year differences for the 10-year budget period between the federal revenue expected to be collected under current law with the revenue expected to be collected if a proposed change in the law is enacted.<sup>4</sup> This cash-flow basis of accounting for federal revenues relies on the theory that a single method of accounting will allow the comparison of spending and revenue proposals on a consistent basis.

However, cash-flow accounting does not accurately measure the long-term revenue effects of all retirement proposals. Cash-flow accounting does not account for differences between proposals that provide only a current tax benefit, such as the mortgage interest deduction, and those proposals that provide a deferral of taxes from one period to another. For example, many retirement savings proposals provide a current year deduction or exclusion for contributions to a retirement plan, a deferral of tax on earnings on the amounts contributed, and income inclusion when amounts are withdrawn from the retirement plan.<sup>5</sup> While the revenue effect of a deduction proposal and a deferral proposal might show an equivalent revenue loss in one year of the budget period, the deferral proposal will have a lower total revenue loss because of the subsequent income inclusion.

Pension policy operates on a long-run time horizon to encourage retirement saving throughout the earning phases of a taxpayer's life. This long-run time horizon for retirement savings is at odds with the 10-year budget scoring horizon. Consistent with this long-run or forward-looking approach to saving, many pension and retirement tax incentives attempt to encourage savings in current periods to assure adequate retirement income in future periods. Consequently for any taxpayer, retirement savings proposals have an accumulation phase during which tax-favored contributions are made to a retirement savings arrangement, followed by a depletion phase when the retirement savings are withdrawn.

The 10-year budget scorekeeping period will often reflect only part of the accumulation phase and will not take account of the revenue effects during the depletion phase. Thus, cash-flow revenue estimates capture primarily the revenue decreases associated with the savings phases, but not the revenue gains when pension income is subject to taxation.

The following example shows the effects on tax liabilities of a single taxpayer's contributions to a qualified retirement plan. For purposes of this example, it is assumed that (1) the taxpayer

---

<sup>3</sup> Appendix A contains a more detailed overview of the congressional budget process and revenue estimating.

<sup>4</sup> For federal budget purposes, estimates are also prepared for the effects of proposed changes in spending programs on federal outlays.

<sup>5</sup> A more detailed discussion of the methodology for estimating the revenue effects of changes in retirement policy is contained in Appendix B.

contributes \$1,000 per year to a qualified retirement plan for 10 years, (2) the contributions are excluded from the taxpayer's current income, (3) earnings on those contributions are tax deferred and grow at a eight percent interest rate, (4) ratable withdrawals occur during years 11 to 20, and (5) these withdrawals are included in income. We also assume that the taxpayer is subject to a 25 percent marginal tax rate in every year.

**Table 2**  
**Qualified Retirement Plan**

(Assumes annual \$1,000 Contribution made at the end of the year, 8 percent interest rate, 25 percent tax rate)

<b>Year</b>	<b>Cumulative Contributions (Annual \$1,000 Contribution) (a)</b>	<b>Current Period Inside Buildup (b)</b>	<b>Cumulative Account Balance (c)</b>	<b>Tax Deferral on Annual \$1,000 (d)</b>	<b>Annual Tax De-ferral on Inside Buildup (e)</b>	<b>Annual Tax Deferral (f) = (d)+(e)</b>	<b>Flow of Tax Dollars<sup>6</sup> (g)</b>
<b>2008</b>	\$ 1,000	\$ -	\$ 1,000	-\$250	\$ -	-\$250	-\$ 250
<b>2009</b>	\$ 2,000	\$ 80	\$ 2,080	-\$250	-\$ 20	-\$270	-\$ 520
<b>2010</b>	\$ 3,000	\$ 166	\$ 3,246	-\$250	-\$ 42	-\$292	-\$ 812
<b>2011</b>	\$ 4,000	\$ 260	\$ 4,506	-\$250	-\$ 65	-\$315	-\$1,127
<b>2012</b>	\$ 5,000	\$ 360	\$ 5,867	-\$250	-\$ 90	-\$340	-\$1,467
<b>2013</b>	\$ 6,000	\$ 469	\$ 7,336	-\$250	-\$117	-\$367	-\$1,834
<b>2014</b>	\$ 7,000	\$ 587	\$ 8,923	-\$250	-\$147	-\$397	-\$2,231
<b>2015</b>	\$ 8,000	\$ 714	\$ 10,637	-\$250	-\$178	-\$428	-\$2,659
<b>2016</b>	\$ 9,000	\$ 851	\$ 12,488	-\$250	-\$213	-\$463	-\$3,122
<b>2017</b>	\$ 10,000	\$ 999	\$ 14,487	-\$250	-\$250	-\$500	-\$3,622

The following example shows the effects on tax liabilities of a single taxpayer's contributions to a qualified retirement plan. For purposes of this example, it is assumed that (1) the taxpayer contributes \$1,000 per year to a qualified retirement plan for 10 years, (2) the contributions are excluded from the taxpayer's current income, (3) earnings on those contributions are tax deferred and grow at a eight percent interest rate, (4) ratable withdrawals occur during years 11 to 20, and (5) these withdrawals are included in income. We also assume that the taxpayer is subject to a 25 percent marginal tax rate in every year.

As shown in Table 3, the balance that remains in the account continues to earn interest on a tax deferred basis, extending the benefits of retirement savings until the account balance is fully depleted.

<sup>6</sup> The cumulative tax deferral for year n equals the annual tax deferral for year n plus the cumulative tax deferral for year (n-1).

**Table 3**  
**Revenue Analysis of Taxpayer Withdrawals from a Qualified Retirement Plan**  
 (Withdrawals occur at the end of the year, 8 percent interest rate, 25 percent tax rate)

<b>Year</b>	<b>Beginning Account Balance (a)</b>	<b>Withdrawal Amount (b)</b>	<b>Inside Buildup (c)</b>	<b>Ending Account Balance (d)</b>	<b>Tax Liability on Withdrawals (e)</b>	<b>Tax Benefit on Inside Buildup during Withdrawal (f)</b>	<b>Net Cumulative Flow of Tax Dollars during Withdrawal<sup>7</sup> (g)</b>
<b>2018</b>	\$14,487	-\$1,549	\$1,159	\$14,097	\$387	-\$290	-\$3,524
<b>2019</b>	\$14,097	-\$1,695	\$1,128	\$13,530	\$424	-\$282	-\$3,382
<b>2020</b>	\$13,530	-\$1,832	\$1,082	\$12,780	\$458	-\$271	-\$3,195
<b>2021</b>	\$12,780	-\$1,980	\$1,022	\$11,822	\$495	-\$256	-\$2,955
<b>2022</b>	\$11,822	-\$2,141	\$946	\$10,627	\$535	-\$236	-\$2,657
<b>2023</b>	\$10,627	-\$2,315	\$850	\$9,163	\$579	-\$213	-\$2,291
<b>2024</b>	\$9,163	-\$2,503	\$733	\$7,392	\$626	-\$183	-\$1,848
<b>2025</b>	\$7,392	-\$2,708	\$591	\$5,275	\$677	-\$148	-\$1,319
<b>2026</b>	\$5,275	-\$2,933	\$422	\$2,764	\$733	-\$106	-\$691
<b>2027</b>	\$2,764	-\$2,985	\$221	\$0	\$746	-\$55	\$0

During the withdrawal period the taxes paid on withdrawals will equal approximately the deferred taxes on both contributions and inside buildup. However, the cash-flow analysis coupled with the ten-year budget window shows only the tax effect of the current period's activity – never depicting the return to the federal government of the deferred taxes.

It should be noted that the net cumulative tax benefit in this example may or may not be equivalent to the revenue effect that would be estimated with respect to a proposal providing this tax benefit. The example does not incorporate possible behavioral effects that would be included in a revenue estimate, such as the substitution of one form of tax-favored savings for another. However, the example was intentionally kept simple to focus on the specific problem with cash-flow estimating.

<sup>7</sup> This column continues the cumulative tax benefit from Table 2. The net cumulative tax benefit during withdrawal for year n equals the tax liability on withdrawals for year n plus the tax benefit on the inside buildup for year n plus the net cumulative tax benefit for year (n-1).

## II. EXPLORING THE EFFECTS OF ESTIMATING RETIREMENT SAVINGS PROPOSALS ON A PRESENT-VALUE BASIS

Existing revenue estimating conventions overstate the true cost to the federal government of retirement savings proposals. Cash-flow revenue estimates show significant revenue losses from many retirement savings proposals in early years that are offset by revenue increases when amounts are withdrawn from retirement savings accounts. However, the 10-year budget period combined with cash-flow estimating fails to capture the offsets in revenue losses that occur over the long term.

In fact, the true revenue costs attributable to retirement savings proposals that provide a deferral of tax on contributions is the revenue losses attributable to the inside buildup in the account plus the time value of money on the deferral.<sup>8</sup> Present-value estimates more accurately reflect the long-term revenue costs of some retirement savings proposals that provide for tax deferral.

### A. Present-Value Analysis Compared to Cash-Flow Analysis

A result of the way in which the federal government currently accounts for revenues is that a cash basis system will overestimate the true long-run revenue cost of some retirement proposals. For example, when a revenue estimate is prepared for a proposal to increase the dollar limit on excludible contributions to a retirement savings plan, the revenue estimate will reflect the changes in cash flow to the federal government under the proposal. To the extent that withdrawals relating to the increased contributions are assumed to occur outside the 10-year federal budget window, these offsetting revenue increases will not be captured in the revenue estimate.

For example, a \$1,000 deduction for a contribution to an IRA and a \$1,000 charitable contributions deduction will have equivalent current year revenue effects. However, the \$1,000 IRA contribution eventually will be included in income, whereas the \$1,000 charitable contributions deduction results in a permanent revenue loss. Policymakers end up comparing apples and oranges when they look at the cash-flow estimates for these two proposals.

On the other hand, a present-value approach to preparing revenue estimates allows for a comparison of the overall revenue costs of some retirement proposals. Under a present-value approach, the revenue estimate for any year would be the present value of the revenue effects of these proposals with respect to transactions occurring during the year. Thus, for a retirement savings proposal, the present-value approach would incorporate the current-year deduction or exclusion from income, the present value of the earnings attributable to the current-year

---

<sup>8</sup> In fact, the revenue cost attributable to inside buildup only occurs to the extent that the retirement savings represents a substitution of tax-preferred for taxable savings. If the retirement plan contributions would not have been made in the absence of the incentive, there would be no net revenue effect from the inside buildup. This point is discussed further in Appendix A.

contribution, and the present value of the subsequent income inclusion that occurs when the retirement savings is withdrawn.

The primary issues presented by a present-value analysis are (1) estimating the correct accumulation and distribution phases for retirement savings, and (2) selecting the proper discount rate. The first issue is fairly straightforward because it is possible to estimate with reasonable accuracy what the average accumulation and disbursement periods will be for retirement savings. Thus, the principal issue is the selection of a reasonable discount rate. The greater the discount rate, the lower the ultimate present-value estimate will be and conversely, the lower the discount rate, the higher the present-value estimate.

Even within the current 10-year budget period, it is important to note that the discounted revenue effect of proposals will vary considerably with the choice of discount rate. This variability suggests that those affected by certain proposals would argue in favor (or against) a specific rate, making the discount-rate choice potentially subjective or controversial.

## **B. Example of Present-Value Analysis**

Generally, the present-value approach would consider the exclusion for the contributions, inside buildup, and future withdrawals for each year.<sup>9</sup> Under this approach, each fiscal year would show the present value of the revenue effect of the transactions (i.e., contributions) that occurs in that year.<sup>10</sup>

The following example of the present-value calculations are simplified versions of the calculations that would be required to prepare actual present-value revenue estimates. While a present-value revenue estimate would be a more complicated calculation than presented here, these complexities do not provide insurmountable barriers to a present-value analysis and involve assumptions similar to the types of assumptions that are made for purposes of calculating the following cash flow revenue estimates.

The example in Table 4 shows the comparison of the cash flow and present-value estimates associated with a proposal to permit a \$1,000 annual contribution to a retirement savings plan. The example looks at a single individual who makes a \$1,000 contribution each year for 10 years.<sup>11</sup> It assumes that the contributions earn eight percent interest and the interest is not currently taxable. Withdrawals from the account occur ratably beginning in year 11, after the first contribution is made and the account is depleted after 20 years. It is assumed for purposes of the present-value calculation that withdrawals occur on a first-in, first-out basis.

---

<sup>9</sup> The approach is referred to as the vintage approach, in that it values each year's (i.e., vintage) of exclusions for the contributions, inside buildup, and future withdrawals associated with these contributions. This approach generally would equalize the analysis of front-loaded and back-loaded retirement savings proposals.

<sup>10</sup> The funding rules for defined benefit plans are an appropriate use of present value analysis. While the analysis in this paper extends readily to defined benefit plans, the paper focuses on defined contributions plans.

<sup>11</sup> It is assumed that, in the absence of this tax incentive, the individual would have spent the \$1,000 contribution.

**Table 4**  
**Comparison of Cash-Flow and Present-Value Revenue Losses**

[\$1,000 annual contribution to qualified plan, 25 percent marginal tax rate, 8 percent interest rate, 4 percent discount rate, withdrawals begin 10 years after initial contribution]

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
Cash Flow	-\$250	-\$270	-\$292	-\$315	-\$340	-\$367	-\$397	-\$428	-\$463	-\$500	-\$3,622
Present Value	-174	-167	-161	-155	-149	-143	-138	-132	-127	-122	-\$1,469

As the example in Table 4 illustrates, a cash-flow analysis overstates revenue losses by failing to account for the future revenue offsets inherent in the proposal.

Some will argue that cash-flow accounting is necessary to accurately assess the current impact of proposals on federal receipts and disbursements. But, as the following section discusses, when Congress faced a similar choice in the case of federal credit programs, a present-value calculation was adopted to enable a better comparison of federal spending priorities.

### C. Other Points to Consider

Like cash-flow revenue estimates, present-value revenue estimates depend significantly on a variety of different assumptions that must be made. In addition to the discount rate and the length of time an account is held, present-value estimates will incorporate assumptions concerning current and future income tax rates faced by contributing taxpayers, the type of investment income generated by the account and the rate of return that is realized, the timing of income recognition, and the extent to which contributions to retirement savings substitute for other forms of taxable or nontaxable savings.

If one assumes that the tax rates faced by taxpayers are the same at the time contributions are made and when withdrawals occur and assuming that the rate of return on contributions is equal to the discount rate that is used, in present-value terms, the revenue gain to the government of the tax on distributions will exactly offset the revenue loss that occurs with respect to the contributions. In other words, the net revenue loss that occurs with respect to the contributions is equal to the amount of income earned on the contributions.

All else being equal, the estimated present value revenue costs of amounts contributed to a deductible retirement savings plan are as follows:

- ∞ higher for a younger person than an older person (because there is a longer period of deferral on contributions);
- ∞ higher for the greater effective tax rate on capital income;

- ∞ higher if tax rates on ordinary income are lower at the time of withdrawal than they were at the time of contribution; and
- ∞ lower for an individual facing a higher tax rate than for an individual facing a lower tax rate.

Finally, it should be noted that it is possible to construct a set of assumptions under which the present-value revenue cost of a retirement savings proposal will be higher than the revenue costs under a cash-flow estimate.



### III. PRESENT VALUE ESTIMATES FOR OUTLAY PURPOSES – THE CASE OF CREDIT REFORM

#### Background

For purposes of calculating outlays for federal budget purposes, current law requires a present-value calculation for the costs of credit programs. This approach to accounting for the federal budget effect of loan and credit programs is designed to show the actual long-term cost of programs in situations in which the federal government extends credit prior to making a direct loan or loan guarantee.<sup>12</sup> This change in budgetary accounting was enacted in the FCRA after approximately 20 years of debate about the appropriate way to account for credit programs so that their costs could be compared to the costs of other federal programs.<sup>13</sup>

Credit programs are those federal programs that involve direct federal loans or federal guarantees of private loans. Prior to the change in accounting for these programs, the costs of direct loans and loan guarantees were calculated on a cash-flow basis meaning that loan disbursements and repayments were accounted for in the year the payments were made. However, credit contracts involved long-term costs to the federal government that were not captured in the cash-flow estimates.

For example, under prior law, a direct loan was accounted in the budget as a cash outlay in the year the loan was disbursed. On the other hand, a loan guarantee in which the federal government promised to repay a loan made by a private lender was presumed to have no federal budget effect until a default on the loan occurred and the federal government made cash payments with respect to the defaulted loan. This difference in treatment created a bias in favor of loan guarantees rather than direct loans because the costs to the federal government were deferred.<sup>14</sup>

Furthermore, anticipated default rates in loan repayments were not accounted for at the time a loan was made. As a result, loans with a high expected default rate would have the same estimated cost to the federal government as a loan of the same amount with an expected low default rate.

A final issue with credit programs was the distortion of the cost of a direct loan compared to a grant program. Prior to the enactment of FCRA, a direct loan was treated, for federal budget purposes, as having the same cost as a grant of the same dollar amount even though some percentage of loans made would be repaid at a later time. Thus, the long-term cost of a direct loan could be much lower than the cost of a grant, but they were treated as having equal costs for federal budget purposes.

---

<sup>12</sup> The Congressional Budget Process, An Explanation. Committee on the Budget, United States Senate. S. Prt. 105-67, December 1998.

<sup>13</sup> Public Law number 101-508.

<sup>14</sup> Credit Reform: Comparable Budget Costs for Cash and Credit. Congressional Budget Office, December 1989.

The FCRA applies to nearly all federal direct loan and loan guarantee programs, but excludes certain credit or insurance activities of deposit insurance programs, such as the Pension Benefit Guaranty Corporation.

## **Estimating the Budget Effects of Credit Programs**

Credit reform generally requires that all of the costs attributable to a credit program be accounted for at the time credit is extended. Under credit reform, the following costs will be accounted for: direct-loan payments, effects of below-market interest rates, estimated delinquent payments, and loan defaults. By fully accounting for these costs on a present-value basis at the time credit is extended, policymakers are able to compare the costs of a credit program to a grant program or to other competing credit programs. Thus, under the FCRA, the budgetary cost of a loan or loan guarantee is reflected for budget purposes at the time of origination and is calculated as the present value of the loan's expected subsidy cost and default risk.

Credit reform demonstrates the difficulty of accounting for credit programs on an accrual basis. Credit reform requires the creation of five different types of accounts for budget reporting purposes – the credit program account, the noncredit account, the credit financing account, the liquidating account, and the receipts account. All of these accounts will be used both in the president's budget and in reports prepared by the Congressional Budget Office (CBO); four of the accounts are on-budget, while one (the credit financing account) is a nonbudgetary means of financing.

The key costs that must be measured in the context of credit reform are the “subsidy costs” of credit programs. The subsidy costs attributable to credit programs are the government's losses on the exchange of cash for a promise to pay at a later date.<sup>15</sup> The goal of identifying subsidy costs is to create a “unit of measure” that treats credit and cash transactions equally.<sup>16</sup> Prior to credit reform legislation, there was a general concern about the ability to measure accurately the subsidy costs of credit programs.

The experience with credit reform demonstrates that a pure cash-flow analysis of budget effects can distort both the overall costs to the federal government and the relative costs of one policy versus another. Credit reform introduced a present-value concept into the budget scorekeeping process in order to improve the accuracy of estimating the costs of federal credit programs.

---

<sup>15</sup> Credit Reform: Comparable Budget Costs for Cash and Credit. Congressional Budget Office, December 1989.

<sup>16</sup> *Id.*

## IV. PRESIDENT’S BUDGET PRESENTS TAX EXPENDITURES ON A PRESENT-VALUE BASIS

### Overview

Each year, the president’s budget includes a list of tax expenditure estimates. In addition, the Congressional Budget Act requires the Joint Committee on Taxation to produce an annual list of tax expenditure estimates. These estimates are provided for information purposes only and have no specific relevance for budget scoring purposes.

Under the Congressional Budget Act, tax expenditures are defined as follows:

“Revenue losses attributable to provisions of the Federal tax laws which allow a special exclusion, exemption, or deduction from gross income or which provide a special credit, a preferential rate of tax, or a deferral of liability.”<sup>17</sup>

Tax expenditure estimates for a specific provision are not the same as a revenue estimate for repealing the provision. This is because the size of the tax expenditure estimate does not account for the behavioral effects that might occur if the provision were repealed, whereas a revenue estimate would take behavioral effects into account.

### Present-Value Estimates

The president’s budget submission notes that tax expenditure estimates are prepared on a cash-value basis to show a useful measure of the cash flows into the government. However, the president’s budget submission also provides present-value estimates for certain tax expenditures in order to show the “true economic cost” of these tax provisions.<sup>18</sup> The Joint Committee on Taxation does not prepare any comparable analysis on a present-value basis in presenting its estimates of tax expenditures.

For example, the president’s budget notes that the cash-flow tax expenditure estimate for a newly enacted provision that defers the payment of tax will overstate the effects on federal budget receipts by not taking into account the payment of tax that will occur at a later date. In addition, some provisions may appear as negative tax expenditures on a cash-flow basis because the incoming tax receipts from deferred taxes may more than offset current deferrals. This could occur, for example, if a provision allowing for the deferral of tax is phasing down so that fewer taxpayers can utilize it or a small dollar amount of deferral currently is being allowed than in the past.

---

<sup>17</sup> Sec. 3(3) of the Congressional Budget and Impoundment Control Act of 1974, Public Law 93-344.

<sup>18</sup> Federal Receipts and Collections, Tax Expenditures. Analytical Perspectives, Budget of the United States Government, Fiscal Year 2008. p. 290, February 5, 2007.

The president's budget provides present-value estimates for certain tax expenditures that involve tax deferrals or have other long-term revenue effects.

The present-value estimates of tax expenditures in the president's budget show the present value of the revenue effects for activities undertaken in calendar year 2006 that provide for either a deferral of tax to a later date or have a long-term revenue effect. As an example, a salary reduction contribution to a 401(k) plan made in 2006 would be reflected in the tax expenditure estimates as the revenue effect from the deferral of tax on the 2006 contribution, the present-value estimate of the deferral of tax on earnings that occur in 2006 and later years, and the present-value estimate of the subsequent payment of tax on these deferred amounts when they are withdrawn from the plan. The 2006 tax expenditure estimates for the exclusion of 401(k) contributions and for pension contributions for other employer plans are \$110 billion and \$76 billion, respectively.

These numbers cannot be directly compared to the tax expenditure estimates prepared on a cash-flow basis because the present-value estimates are done solely with respect to activity arising in 2006 whereas the cash-flow estimates will take account of revenue effects from activity taking place in 2006 and in prior years.

For example, the cash-flow estimates with respect to the exclusion from tax of pension contributions and earnings will include the contributions made during 2006, the deferral of tax on 2006 earnings attributable to contributions made in 2006 and prior years, and the taxation of amounts withdrawn from a pension plan during 2006. On the other hand, the present-value estimate of the exclusion for pension contributions will take account of the contributions made during 2006, the present value of the deferral of tax on earnings with respect to the 2006 contributions, and the present value of the income tax that will be paid in the future with respect to the 2006 contributions.

## V. CONCLUSIONS

Cash-flow revenue estimates currently used for scoring revenue proposals overstate the revenue losses attributable to some retirement proposals that provide a deferral of tax. As a result, these estimates can distort the process by which policymakers consider legislative changes by over valuing some policies relative to others.

This same type of problem was faced in the 1980s with the scoring of federal credit programs. The problem was addressed by introducing a present-value analysis to estimate the effects of federal credit programs on outlays. A present-value analysis of deferral proposals could provide policymakers with a more accurate measure of the long-term revenue costs attributable to these retirement policy changes.

# APPENDIX A – BACKGROUND AND KEY CONCEPTS OF FEDERAL BUDGET SCOREKEEPING

## A. Federal Budget Scorekeeping Overview

The budget of the federal government generally consists of several components:

- ∞ Receipts, the amount of money the federal government collects, primarily from taxes, fees, and duties;
- ∞ Outlays, the amount of money the federal government spends, minus business-like collections; and
- ∞ Interest on the national debt.

The federal budget is measured on a fiscal year basis beginning on October 1 of each year and ending on the subsequent September 30.

Each year the president submits a proposed budget to the Congress that contains recommendations for change in various federal tax provisions or other provisions affecting federal government receipts. Even without the president's budget, the Congress normally considers hundreds of bills each year that would modify the law in a way that alters federal budget receipts.

In order to assess the impact of proposed changes in the law, revenue estimates are prepared for each proposed change. Revenue estimates compare the revenue that is expected to be collected by the federal government under current laws and policies with the revenue that is estimated to be collected if there is a change in law or policy. Although the concept of revenue estimates may seem simple and relatively unimportant at first blush, the process of preparing estimates of the revenue effects of proposed changes in federal tax law is complex and has become an increasingly important element of federal tax policy.

In the same manner that revenue estimates are prepared, estimates of projected outlays from proposed changes in the law are also prepared. However, for many proposals, it is a much more complex and difficult task to project how federal budget receipts will change because of tax law changes than to project how federal outlays will be affected by a change in a spending program. This is at least in part due to the fact that many federal spending programs will have caps on outlays imposed and many will be authorized on a year-by-year basis, making the size of the federal expenditure much more predictable.

## B. History of Revenue Estimating Process

Revenue estimates in essence quantify the effects of proposed changes in tax policy. Thus, when Congress considers a change in the law affecting federal receipts, a revenue estimate is prepared.

In addition, revenue estimates are prepared by the administration and included in the president's annual budget to provide the administration's estimates of the effects of the president's budget proposals.

Prior to 1974, revenue estimates were prepared, but in reality the revenue estimating function was a relatively small component of the legislative process. Revenue estimates were viewed as providing informational assistance to members of Congress as they considered legislation.

Several events contributed to a significant shift in the importance of the revenue estimating process during the 1970s and 1980s. First, the enactment of the Congressional Budget and Impoundment Control Act of 1974 (the Budget Act) introduced discipline to the annual federal budget process.<sup>19</sup> Prior to the enactment of the Budget Act, Congress often struggled with how to effectively oversee the process of government spending. Under the Budget Act, the congressional budget process requires Congress to establish the level of total spending and revenues and to specify the allocation of spending among the various budget functions.

Second, the enactment of indexing of the income tax brackets in the Economic Recovery Tax Act of 1981 eliminated the "automatic" tax increases that occurred because the tax brackets were not adjusted for inflation. As a result of bracket indexing, Congress did not have an automatic source of additional federal revenue to use for increases in spending.

The Balanced Budget and Emergency Deficit Control Act of 1985 (Gramm-Rudman-Hollings) established maximum deficit amounts and provided that, if the deficit exceeded the statutory limits, the president would be required to issue a sequestration order under which discretionary spending would be reduced by a uniform percentage. Gramm-Rudman-Hollings also made changes to the congressional budget process designed to strengthen budget enforcement procedures and enforce maximum deficit amounts.

These legislative changes made it more difficult for Congress to enact revenue losing measures. Members of Congress who wanted to offer a specific tax incentive provision were generally required to find a revenue increasing offset to their proposal. Thus, the specific size of a revenue losing provision became a much more important consideration in the legislative process. In addition, revenue-losing provisions often were paired with an offsetting revenue raiser to ensure that a revenue-neutral amendment could be offered. Members of Congress often needed the assistance of the revenue estimators to help them "score" multiple proposals as they tried to find legislative options that would be accepted by the relevant committees.

In addition to the increased pressure placed on the need for and accuracy of revenue estimates,

---

<sup>19</sup> Public Law 93-344.

subsequent amendments to the Budget Act also introduced more discipline to the revenue estimating process. Section 201 of the Budget Act (as amended) provides that

“For the purposes of revenue legislation which is income, estate and gift, excise, and payroll taxes (i.e., Social Security), considered or enacted in any session of Congress, the Congressional Budget Office shall use exclusively during that session of Congress revenue estimates provided to it by the Joint Committee on Taxation.”

Taken together, the changes that occurred during the 1974 to 1985 time period resulted in significantly more pressure on the revenue estimates produced for proposed legislation. The Joint Committee on Taxation (Joint Committee) staff of economists responsible for preparing revenue estimates grew from approximately four economists and one statistical assistant in 1978 to approximately 15 economists and one assistant in 1986. Currently, the Joint Committee employs approximately 20 economists, two statistical analysts, and three computer specialists. The Joint Committee typically receives approximately 4,500 requests for revenue estimates each year, compared to approximately 1,500 requests during 1986, when the Tax Reform Act of 1986 was enacted.

The CBO staff has responsibility for a relatively small number of revenue proposals, primarily based on a historical division of responsibilities between the Joint Committee and the CBO.

Finally, there is a staff of economists with revenue estimating responsibility employed by the Office of Tax Analysis at the U.S. Department of the Treasury. These economists prepare revenue estimates for the revenue proposals contained in the president’s budget proposals and engage in various studies and data analysis activities.

## **C. Key Concepts of Budget Scorekeeping**

### **Revenue Baseline**

The starting point for many revenue estimates is the revenue baseline, which is the benchmark against which proposed changes in the law are measured.<sup>20</sup> This is a 10-year projection of federal revenues under present law; thus, the revenue baseline generally is constructed assuming no changes in current policies. The revenue baseline represents the best estimate of the receipts that are projected to be received by the federal government based on various macroeconomic forecasts, such as interest rates, growth in the economy, and changes in employment levels.

---

<sup>20</sup> There are two revenue baselines – one prepared by the CBO and one prepared by the Office of Management and Budget (OMB) in connection with the annual budget submitted to the Congress by the president. There are two ways in which the revenue baselines of these two organizations may differ. First, the revenue baselines may differ depending upon the macroeconomic forecasts used by each office. Second, the revenue baselines will invariably differ because the OMB includes in its revenue baseline an assumption that the president’s budget proposals are all enacted into law. The CBO baseline does not include such an assumption.



## **Budget Window**

Revenue estimates are generally required to be provided as point estimates, specifying a dollar amount, rather than a range of possibilities for each year in the “budget window.” This budget window generally is the current fiscal year and the following nine fiscal years. Historically, revenue estimates were prepared for a five-year period, but the period was extended to 10 years in the late 1980s. While many revenue proposals are effective on a taxable year or calendar year basis, revenue estimates for each year within the budget window are calculated as fiscal year estimates (for the period from October 1 to September 30, which is the federal government’s fiscal year). In addition, revenue estimates are required to be expressed in nominal dollars.

## **Cash Method of Accounting**

In general, the estimates of revenues and outlays for purposes of the federal budget are measured on a cash basis – thus, the budget measures the cash flows that occur with the collection of taxes and other forms of federal income during each fiscal year during the budget scorekeeping window and the disbursement of funds for various federal programs and activities, such as entitlement programs like Social Security, defense spending, transportation programs, etc., for the same period.

The theory is that utilizing a single method of accounting for revenues and outlays will allow the comparison of spending and revenue proposals on a comparable basis. Although federal revenues and outlays generally are calculated on a cash basis, there are two notable exceptions to this cash basis accounting for outlay purposes.<sup>21</sup> The FCRA requires that the budget recognize the present value of expected cash flows from new direct loans and loan guarantees at the time the loans are disbursed, rather than over the life of the loans. In addition, interest on federal debt is included in the federal budget as an outlay when the debt is incurred, rather than when the interest is paid.

## **D. General Overview of Revenue Estimating Processes**

For many revenue estimates, an econometric model is used to measure receipts projected under present law for a particular provision of current law and also to measure how such receipts will change if a specific change in the law is enacted. These models range from large complex computerized models of the federal income tax and the economy to small desktop computer spreadsheets that measure very narrow changes in the law.

The individual income tax model is the largest computer model employed by the Joint Committee on Taxation.<sup>22</sup> This microsimulation model essentially duplicates a federal individual income tax

---

<sup>21</sup> Comparing Budget and Accounting Measures of the Federal Government’s Fiscal Condition. Congressional Budget Office. December 2006.

<sup>22</sup> For a more detailed description of the Joint Committee on Taxation individual income tax model, see Joint Committee on Taxation, “Overview of Revenue Estimating Procedures and Methodologies Used by the Staff of the Joint Committee on Taxation,” JCX-1-05, February 2, 2005.

return, taking into account the regular tax, individual alternative minimum tax, and payroll taxes (FICA and SECA). The model is programmed to assume that taxpayers will always make decisions that minimize their federal tax liability. Thus, for example, the model assumes that taxpayers will utilize deductions or credits that are available to them. The model incorporates approximately 200,000 data files from the 2004 Individual and Sole Proprietorship file created by the Internal Revenue Service Statistics of Income Division (SOI). These files are then statistically weighted to represent 132 million individual income tax returns. The U.S. Department of the Treasury has a similar, but not identical, individual income tax model. Other large computerized models based on SOI files of actual tax returns files include a corporate tax model and an estate and gift tax model.

## **Behavioral Effects in Revenue Estimates**

Revenue estimates generally take into account potential behavioral effects that will occur if a proposed change in the law is enacted. For example, suppose that the tax law provided a limited deduction for the purchase of a specific energy saving appliance and a proposed legislative change would increase the amount of the deduction taxpayers can claim for their purchases. The revenue estimate for the proposal to increase the tax deduction will include the revenue effects attributable to the likelihood that more taxpayers will purchase the energy saving appliance if the larger deduction is provided. This type of behavioral effect is a microeconomic behavioral effect and is routinely accounted for in revenue estimates.

In providing conventional estimates, the general estimating assumption is that a proposal will not change total income and, therefore, for estimating purposes, Gross National Product (GNP) is held fixed. The use of fixed economic assumptions does not prevent the incorporation of the behavioral effects from taking into account possible shifts in economic activity across sectors or markets and/or changes in the timing of such activity in response to the proposed tax change, so long as total GNP remains unaffected.

Another type of potential effect – the macroeconomic effect – is not routinely incorporated into revenue estimates. Macroeconomic effects estimate the potential for a legislative change to have measurable effects on the overall economy. Thus, a macroeconomic effect of a legislative proposal might account for the changes that would occur in such macroeconomic variables as interest rates, job growth, etc. Macroeconomic effects are most likely to occur with respect to major changes in policy, such as the adoption of a consumption tax or a significant restructuring of the income tax. Most legislative proposals would not have measurable effects on the overall economy.

## **APPENDIX B – ESTIMATING THE REVENUE EFFECTS OF QUALIFIED RETIREMENT SAVINGS PROPOSALS**

The specific methodology that is used for preparing a revenue estimate will vary depending upon the type of proposal involved. Some types of proposals have greater behavioral effects. Some types of proposals interact directly or indirectly with other tax provisions and this interaction must be taken into account. The discussion below details the general methodology employed to estimate the revenue effects attributable to retirement savings proposals and provides a detailed example.

Revenue estimates for changes in pension policy, like all other revenue estimates, are calculated on a cash-flow basis. This means that revenue effects of proposed changes in policy are taken into account only when the effects actually take place. For example, under this cash-flow method, a proposal to defer the taxation of an item of income from one year to the next year will account for the revenue loss from the deferral of income in year one and will account for the revenue gain from the inclusion of the item of income in year two. The net revenue effect will be zero, but there could be substantial revenue effects in both year one and year two. In the case of a proposal allowing a deferral of tax for contributions to a qualified retirement savings plan, the offsetting income inclusion frequently occurs outside the 10-year budget scorekeeping window.

Revenue estimates for retirement savings proposals contain both an income tax component and, sometimes, a payroll tax component because many proposals affect the amount of taxes paid for social security and Medicare.

In order to better understand the potential revenue effects of any specific retirement savings proposal, the following sections describe the variety of revenue effects that can be observed.

### **A. Components of Cash-Flow Revenue Estimates for Retirement Savings Proposals**

#### **Employer Deductions**

As a general rule, revenue estimates assume that compensation paid to employees is fixed and does not change in response to a change in policy. Thus, it is generally assumed that employers are willing to pay a specific amount for compensation to employees and that this total compensation will be divided between taxable and nontaxable forms of compensation. If pension policy is changed, then the overall mix of compensation between wages and compensation in the form of employer contributions to a qualified pension plan may change, but it is assumed that total compensation remains unchanged. The assumption that compensation remains fixed is used generally when estimating the revenue effects of proposed policy changes that affect taxable or nontaxable forms of compensation.

Because of this principle, revenue estimates for changes in pension policies do not take account of changes in the deduction that employers generally are entitled to claim for contributions to qualified pension plans. Thus, the increases or decreases in an employer's contributions to a qualified pension plan are assumed to be offset by increases or decreases in other forms of compensation. Because employers generally are entitled to deduct all compensation expenses as ordinary and necessary business expenses, there is no net revenue effect for the employer from this shifting of the form of compensation.

## **Changes in Taxable Compensation**

The revenue estimate (consistent with the cash method approach generally used for preparing revenue estimates) will take into account changes in the amount of compensation that is currently taxable. For example, a revenue estimate for a proposal to increase the dollar limit on contributions to a 401(k) plan will assume that some compensation that is currently taxable will become currently nontaxable. The revenue estimate for this portion of the proposal would show a revenue loss in the year in which compensation is assumed to be re-characterized from taxable to nontaxable. In addition, the revenue estimate might also assume that there will be a conversion from one form of nontaxable compensation to 401(k) contributions; the estimate might assume, for example, that employees will elect to make smaller contributions to a flexible spending arrangement in order to make larger contributions to a 401(k) plan. Because there is merely a substitution of one form of currently nontaxable compensation for another, the revenue estimate would not show any revenue effect with respect to this substitution effect.

If a proposed change in pension policy does not provide for a current exclusion from income for employees with respect to contributions to a qualified pension plan, then the revenue estimating assumptions will be a bit more complicated, but the analysis is generally the same.<sup>23</sup> The revenue estimate will assume that there will be some shifting of forms of compensation – there may be a shift from current wages to contributions to the qualified pension plan, which will not result in a change in the amount of compensation that is currently taxable. On the other hand, there may be a shift from a currently nontaxable form of compensation (e.g., contributions to a flexible spending arrangement) to contributions to a qualified plan, which are currently taxable. This effect would result in a current revenue increase to the extent of this shifting.

## **Individual Deductions**

Some retirement savings-related proposals offer a deduction to an individual for contributions to a qualified retirement savings vehicle. This occurs, for example, with respect to proposals that alter the amounts that individuals can contribute to IRAs. In this situation, the revenue estimate will take

---

<sup>23</sup> This could occur, for example, with a proposal that permits after-tax contributions to be made to a qualified retirement plan, such as a Roth 401(k) plan.

into account the revenue effects attributable to changes in deductions. The revenue estimate also would consider whether individuals will substitute one form of tax-favored saving for another so that overall savings remains unchanged. This is a particularly important concept that is discussed further below.

## **Inside Buildup**

A key element of qualified retirement savings plans under current law is that income earned (otherwise known as inside buildup) on amounts contributed to such plans is not taxable when earned.<sup>24</sup> Depending upon the type of plan, this income may or may not be taxed when the amounts are withdrawn from the plan.

Revenue estimates for changes in pension policy will account for the changes in inside buildup that occur as a result of a change in policy. If the policy change increases total contributions to qualified plans, then the inside buildup will increase and there will be a revenue loss in the year the additional inside buildup is earned. If the policy change decreases total contributions, then there will be a revenue increase in each year to account for lower inside buildup earned. Revenue estimating conventions assume that contributions to retirement plans represent a 100 percent substitution between tax preferred-savings and taxable savings.

## **Income Inclusion upon Withdrawal**

To the extent that an employee is permitted to defer paying current tax on contributions made by or on behalf of the employee to a qualified pension plan, cash accounting for pension revenue estimates dictates that a revenue effect is taken into account when withdrawals are assumed to occur from the plan. Thus, a revenue estimate for a proposed change in pension policy will make assumptions about the timing of withdrawals from a qualified pension plan. These withdrawals will result in a revenue increase in the year the withdrawals are assumed to occur. These revenue increases will not be captured by the revenue estimate to the extent that the withdrawals occur outside the budget scorekeeping period (the 10-year period beginning with the current federal fiscal year).

If an employee is not permitted to defer paying current tax on the contributions made by or on behalf of the employee to a qualified pension plan, then withdrawals from the plan generally are not included in income. This treatment has the effect of making the tax treatment of qualified pension plans permitting current deferral generally equivalent to the tax treatment of qualified pension plans that do not permit current deferral. A proposed change in policy affecting this type of plan will reflect no revenue effect with respect to withdrawals.

---

<sup>24</sup> As we have demonstrated below, the net effect of most qualified retirement savings proposals is to provide an exemption from tax for the earnings (inside buildup) on the amounts saved. This effect is obvious for Roth IRAs, under which contributions are made on an after-tax basis, accumulate free of tax, and are not subject to tax upon withdrawal. The same result occurs with deductible retirement savings, even though it is less intuitively obvious.

## Penalty Taxes for Early Withdrawals

Additional taxes apply to certain withdrawals from qualified pension plans that are not used for retirement purposes. Thus, an additional 10 percent tax applies to early withdrawals from qualified pension plans that are not used for specified purposes. In the case of a proposed change in policy, the revenue estimate will take into account the possibility of increased or decreased revenues from these early withdrawal penalty taxes that may occur during the 10-year budget scorekeeping period. These changes in revenue can occur directly from a change in the application of the early withdrawal penalty taxes or indirectly through changes in policy that affect total contributions being made to qualified pension plans and the total early withdrawals from such plans.

## B. Other Issues

### Retirement Savings Proposals Generally Provide Tax-Free Rate of Return as Primary Tax Benefit

There are two primary advantages of qualified retirement accounts over fully taxable savings. The first advantage is the tax-free rate of return earned on the account. The second advantage is the deferral of income tax on contributions and earnings until withdrawal, at which time the taxpayer may face a lower income tax rate.<sup>25</sup> It should be noted that cash-flow revenue estimates do not accurately reflect either of these two tax advantages.

Many people do not understand the fact that most retirement savings proposals provide a tax-free rate of return on amounts contributed. In the case of a Roth IRA, this effect is fairly obvious. Taxpayers are not permitted a deduction for contributions to the Roth IRA, the earnings are allowed to accumulate on a tax-free basis, and withdrawals from the account generally are not taxable. Thus, taxes are not paid on the earnings on Roth IRA assets. On the other hand, it is not intuitively obvious that the same result occurs with contributions to a deductible retirement savings arrangement. However, the following example demonstrates that the primary tax benefit of deductible retirement savings arrangements is also the exemption from tax of the earnings on account assets:

Assume that a taxpayer faces a marginal tax rate of 25 percent and makes a \$2,000 deductible contribution to the taxpayer's qualified retirement account. The initial tax savings from the contribution is \$500, as a reduction in taxes that would have been paid on the \$2,000. If the taxpayer earns eight percent interest on the account, after one year, the account is worth \$2,160. If these amounts are then withdrawn (without penalty), the amount available after taxes is \$1,620, with total taxes due of \$540.

---

<sup>25</sup> Some taxpayers will face a higher rate of tax in retirement, some will face a lower rate, and some will face the same rate of tax.

If the taxpayer had paid the initial tax, the amount available for savings would have been \$1,500 and earnings on this amount after one year would have been \$120, making the account worth \$1,620. If the income had not been invested in a retirement plan, the earnings would be subject to tax ( $\$120 \times .25 = \$30$ ) at the current tax rate.

Thus, the benefit of a qualified retirement plan that defers the tax on contribution amounts plus earnings is that the taxpayer receives a tax-free rate of return on \$1,500. This analysis is independent of the number of years the retirement account investment is held. However, the value of the tax exemption increases over time. In other words, retirement account balances accumulate at a faster rate than other fully taxable savings.

### **Taxpayers May Face Lower Tax Rates When Qualified Retirement Savings Are Withdrawn**

A second advantage, deferring the tax on contributions and earnings, occurs only if a taxpayer faces a lower tax rate in retirement.<sup>26</sup> Using the provided example, if the taxpayer faced a 15 percent tax rate at the time of withdrawal, the tax on the qualified plan withdrawal would have been only \$324 instead of \$540. Taxpayers may face a lower marginal tax rate in retirement, particularly if they receive Social Security benefits that are not subject to tax as well as lower taxable income from other sources.<sup>27</sup>

### **Qualified Retirement Savings Proposals Do Not Result in Net Revenue Losses to the Extent Overall Retirement Savings Increase**

The true long-term revenue cost to the government, with regard to a proposal to change a tax incentive for retirement savings, depends upon what taxpayers would have done in the absence of the change. If a taxpayer would not have saved any money in the absence of a tax incentive for retirement savings, then there is no net cost to the government from the addition of the tax incentive. We know from the example that the revenue loss from a qualified retirement plan savings provision is the exemption of tax on the earnings on plan contributions. If a taxpayer would not otherwise have saved the money that was contributed to the retirement savings arrangement, then there is no net revenue loss relative to current law. On the other hand, if the amount contributed to the retirement savings arrangement would otherwise have been invested in a taxable savings account, then the revenue loss will be equivalent to the tax on the earnings in the retirement savings account.

Cash-flow accounting does not capture this effect with regard to retirement savings because a cash-flow analysis looks only at the net effect of a retirement savings proposal on federal receipts on a year-by-year basis and does not capture the true long-run costs.

---

<sup>26</sup> Conversely, with regard to retirement savings vehicles, such as Roth IRAs, that permit no up-front tax deduction or exclusion, but exempt withdrawals from taxation, there is an advantage for taxpayers who face a higher marginal rate of tax when the withdrawals occur.

<sup>27</sup> However, in some cases, certain taxpayers may face higher tax rates in retirement. This might occur if tax rates increase over time or if their taxable retirement income (from all sources) exceeds their taxable income at the time the contributions were made.

## APPENDIX C – DISCOUNT RATES

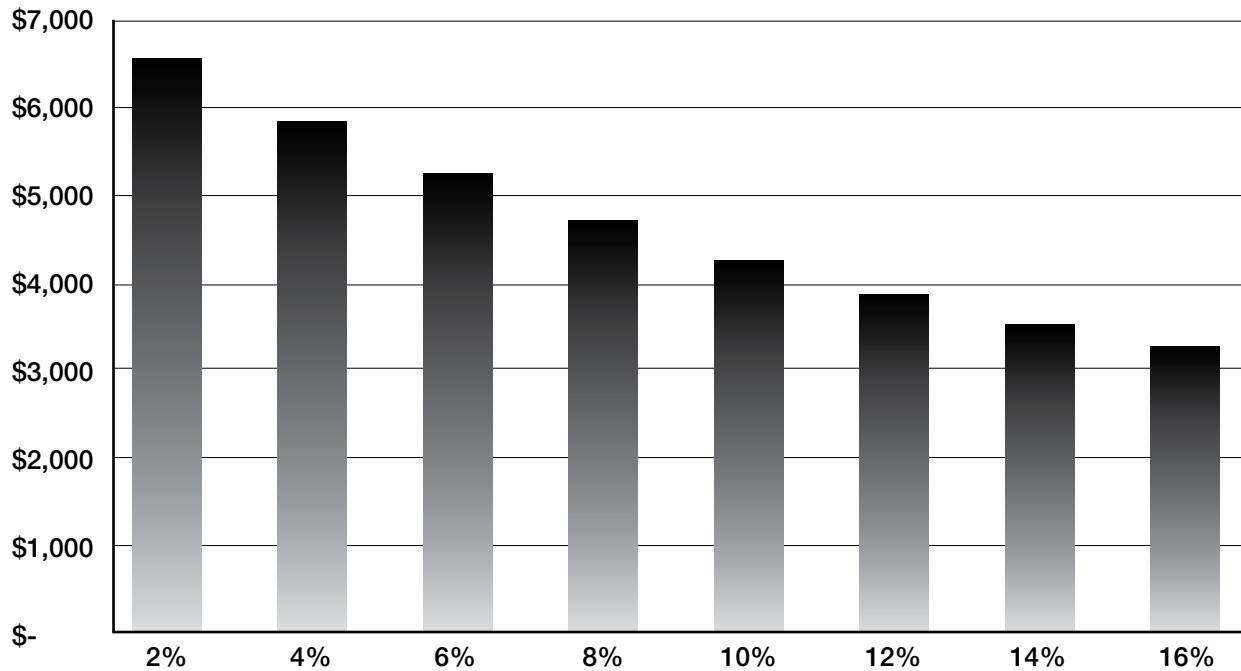
The choice of an appropriate discount rate is an important consideration for purposes of present-value revenue analyses. The FCRA provides statutorily the discount rate for the present value analysis used to measure the costs of federal credit programs.

Generally, there is an inverse relationship between the discount rate and the present value estimate. In other words, a very low discount rate provides a higher net present value revenue estimate compared to the present value estimate from a very high discount rate. Graph 1 displays the inverse relationship between the choice of the discount rate and the resulting net present value estimate (point estimates).

### Sample Revenue Stream Supporting Present Value Calculation

2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
\$499	\$544	\$593	\$644	\$699	\$758	\$821	\$888	\$959	\$ 1,035

**Graph 1**  
**Relationship between the Discount Rate and Net Present-Value Estimates**  
 (Net present value estimates rely on the sample estimate)





## SELECTED BIBLIOGRAPHY

Balanced Budget and Emergency Deficit Control Act of 1985 (Gramm-Rudman-Hollings, P.L. 99-177), 99 Stat. 1037, Section 201(g).

Bickley, James M., Credit Reform: Implementation of the Changed Budgetary Treatment of Direct Loans and Loan Guarantees, Congressional Research Service, Library of Congress, RL30346, June 23, 2003.

Colloton, J. Edmund Jr., Budgetary Treatment of Federal Credit Programs, Harvard Journal on Legislation, vol. 28, Winter 1991: pp. 219-233.

Congressional Budget and Impoundment Control Act of 1974, Public Law 93-344.

Congressional Budget Office, Budgeting for Eximbank: A Case Study of Credit Reform, January 1990.

Congressional Budget Office, Credit Reform: Comparable Budget Costs for Cash and Credit, December 1989.

Congressional Budget Office, An Explanation of the Budgetary Changes Under Credit Reform, CBO Staff Memorandum, April 1991.

Joint Committee on Taxation, Present Law, Proposals, and Issues Relating to Individual Retirement Arrangements and Other Savings Incentives, JCS-11-90, March 26, 1990.

Joint Committee on Taxation, Discussion of Revenue Estimation Methodology and Process, JCX-31-92, August 4, 1992 and JCS-14-92, August 13, 1992.

Joint Committee on Taxation, Description and Analysis of Tax Proposals Relating to Individual Savings and IRAs, JCS-2-97, March 3, 1997.

Joint Committee on Taxation, Description and Analysis of Tax Proposals Relating to Savings and Investment (Capital Gains, IRAs, and Estate and Gift Tax), JCS-5-97, March 18, 1997.

Joint Committee on Taxation, Written Testimony of the Staff of the Joint Committee on Taxation at a Hearing of the Subcommittee on Oversight of the House Committee on Ways and Means Concerning Modeling the Economic Effects of Changes in Tax Policy, Presented by Lindy L. Paull, Chief of Staff, JCX-36-02, May 6, 2002.

Joint Committee on Taxation, Overview of Work of the Staff of the Joint Committee on Taxation to Model the Macroeconomic Effects of Proposed Tax Legislation to Comply with House Rule X111.3.(h)(2), (JCX-105-03), December 22, 2003

Joint Committee on Taxation, Overview of Revenue Estimating Procedures and Methodologies Used by the Staff of the Joint Committee on Taxation, JCX-1-05, February 2, 2005.

Omnibus Budget Reconciliation Act of 1990 (P.L.101-508) [OBRA 1990 added Title V to the Congressional Budget Act and Title V is referred to as the Federal Credit Reform Act of 1990.]

Pariser, David B., Implementing Federal Credit Reform: Challenges Facing Public Sector Financial Managers, Public Budgeting and Finance, vol. 12, no. 4, Winter 1992: pp. 19-34.

U .S. Congressional Budget Office, Credit Reform: Comparable Budget Costs for Cash and Credit, Washington, December 1989, p. 119.

U.S. Congressional Budget Office, Comparing Budget and Accounting Measures of the Federal Government's Fiscal Condition, December 2006.

U.S. General Accounting Office, Credit Reform: Greater Effort Needed to Overcome Persistent Cost Estimation Problems, Report no. AIMD-98-14, Washington: U.S. Govt. Print. Off., March 1998, p. 120.

## MARY M. SCHMITT



Mary M. Schmitt left her position as Deputy Chief of Staff with the Congressional Joint Committee on Taxation in 2004 after 22 years of service on Capitol Hill. Ms. Schmitt has extensive experience in all areas of Federal tax policy, with an emphasis on issues relating to retirement plans and employee benefits and insurance companies and products. She has substantial experience on projects relating to health care issues, including President Clinton's health care reform plan. In her position as Deputy Chief of Staff for the Joint Committee, Ms. Schmitt oversaw all substantive work done by the staff on Federal tax legislation. In addition to the staff's day to day work, she was responsible for coordinating a number special projects completed by the Joint Committee, including a three-volume report on simplification of the Federal tax system, a three-volume report relating to a Congressional investigation of the Enron Corporation, a study on reporting and disclosure, and an investigation of the handling of tax -exempt organization matters by the Internal Revenue Service.

Prior to joining the Joint Committee in 1982, Ms. Schmitt worked for five years for the Internal Revenue Service first, in a key district office reviewing the first round of ERISA determination letter requests and later writing employee benefit regulations in the Office of Chief Counsel.

Ms. Schmitt has a BS in mathematics from South Dakota State University, a JD from the University of Minnesota Law School, and an LLM from Georgetown University Law Center.

## JUDY XANTHOPOULOS



Judy Xanthopoulos is an economist providing independent consulting and research. She is a principal in Quantria Strategies, LLC and Optimal Benefit Strategies, LLC, where she works developing micro simulation models for tax and pension policy analysis. Prior to founding her own businesses, she spent nearly ten years with the Joint Committee on Taxation of the U.S. Congress as an economist analyzing tax policy and legislative proposals, with particular emphasis on health care and employer pension plan issues. In addition, she has approximately five years combined experience working for the National Center for Health Services Research and the Medicare Payment Advisory Commission.

She earned a PhD in economics from the University of Maryland, College Park, with an emphasis in corporate taxation and depreciation policy. She has a MS in Mathematical Economics from Tulane University and a BA in Economics and Accounting from Lafayette College.

## LIST OF SPONSORS



The Actuarial Foundation, a 501(c)(3) organization, was established in 1994 to help facilitate and broaden the profession's contribution to society. The Foundation explores innovative ways to apply actuarial skills in the public interest and brings together broad partnerships of individuals and organizations to address social problems in creative ways. The mission of The Actuarial Foundation is to develop, fund and execute education and research programs that serve the public by harnessing the talents of actuaries. Funding from The Actuarial Foundation was provided for the development of this research.



ASPPA is a national organization of more than 6,000 members who provide consulting and administrative services for qualified retirement plans covering millions of American workers. ASPPA members are retirement professionals of all disciplines, including consultants, investment professionals, administrators, actuaries, accountants and attorneys. Our large and broad-based membership gives ASPPA a unique insight into current practical applications of ERISA and qualified retirement plans, with a particular focus on the issues faced by small- to medium-sized employers. ASPPA's membership is diverse but united by a common dedication to the employer-sponsored retirement plan system.



Established in 1947, The Profit Sharing / 401k Council of America (PSCA) is a national, non-profit association of 1,200 companies and their 6 million plan participants. PSCA represents its members' interests to federal policymakers and offers practical, cost-effective assistance with profit sharing and 401(k) plan design, administration, investment, compliance and communication. PSCA's services are tailored to meet the needs of both large and small companies. Members range in size from Fortune 100 firms to small, entrepreneurial businesses.



The U.S. Chamber of Commerce is the world's largest business federation, representing more than three million businesses and organizations of every size, sector, and region. The Chamber represents a wide management spectrum by type of business and location. Each major classification of American business - manufacturing, retailing, services, construction, wholesaling, and finance - is represented. Also, the Chamber has substantial membership in all 50 states, as well as 105 American Chambers of Commerce abroad. Positions on national issues are developed by a cross-section of Chamber members serving on committees, subcommittees, and task forces. More than 1,000 business people participate in this process.



The ESOP Association, founded in 1978, is a national non-profit membership organization, with 18 local Chapters, serving approximately 2,500 employee stock ownership plan (ESOP) companies, professionals with a commitment to ESOPs, and companies considering the implementation of an ESOP. The Association is the only association devoted solely to ESOPs. Promoting and enhancing laws before Congress and regulatory agencies that govern ESOPs and providing its members with expert educational ESOP programming and information are its main focuses. The Association also has an active involvement in monitoring and expressing views on laws, regulations, and practices impacting defined contribution plans in general. For more information regarding The ESOP Association visit their Web site at [www.esopassociation.org](http://www.esopassociation.org).



The Committee on Investment of Employee Benefit Assets (CIEBA) is the voice of the Association for Financial Professionals (AFP) on employee benefit plan asset management and investment issues. CIEBA is a nationally recognized forum for ERISA-governed corporate pension plan sponsors on fiduciary and investment matters. CIEBA members represent 110 of the nation's largest corporate retirement plans, managing \$1.5 trillion in assets on behalf of 17 million plan participants and beneficiaries.



The National Conference on Public Employee Retirement Systems (NCPERS) is the largest trade association for public sector pension funds, representing more than 500 funds throughout the United States. We are a unique network of public trustees, administrators, public officials and investment professionals who collectively manage over \$3 trillion in pension assets. Our core missions are federal Advocacy, conducting Research vital to the public pension community, and Educating pension trustees and officials—it's who we ARE.



The National Association of State Retirement Administrators is a non-profit association whose members are the directors of the nation's State, territory, and largest statewide public employee retirement systems. NASRA members oversee retirement systems that provide pension and other benefits to more than two-thirds of all State and local government employees in the U.S., and hold in trust retirement assets of more than \$2.4 trillion.



The American Benefits Council is the national trade association for companies concerned about federal legislation and regulations affecting all aspects of the employee benefits system. The Council's members represent the entire spectrum of the private employee benefits community and either sponsor directly or administer retirement and health plans covering more than 100 million Americans.



The ERISA Industry Committee (ERIC) is a non-profit association committed to representing the advancement of the employee retirement, health, and compensation plans of America's largest employers. ERIC's members provide benchmark retirement, health care coverage, compensation, and other economic security benefits directly to tens of millions of active and retired workers and their families. ERIC has a strong interest in proposals affecting its members' ability to deliver those benefits, their cost and their effectiveness, as well as the role of those benefits in the American economy.



The National Association of Manufacturers is the nation's largest industrial trade association, representing small and large manufacturers in every industrial sector and in all 50 states. Headquartered in Washington, D.C., the NAM has 11 additional offices across the country. Visit the NAM's award-winning web site at [www.nam.org](http://www.nam.org) for more information about manufacturing and the economy.

