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Tax Expenditures: Trends and Critiques

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Tax Expenditures: Trends and Critiques

Summary

Special deductions, exclusions, and exemptions (sometimes characterized as "loopholes") have always been in the tax code. In the mid-1960s, the Department of the Treasury became interested in tracking and accounting for these tax subsidies. Indeed, the term "tax expenditures" was first used at this time. Both the Department of the Treasury and the Joint Committee on Taxation prepare annual lists and estimates of tax expenditures, and Treasury's list is included in the President's annual budget submission. For FY2006, the Joint Committee on Taxation (JCT) estimates that tax expenditures will amount to $945 billion — over three times the projected FY2006 federal budget deficit. Despite their widespread use, several concerns about tax expenditures have been voiced over the past 30 years.

One key "flaw" in the budget process identified by critics of tax expenditures is the divided treatment of tax expenditures and direct expenditure programs. In the executive branch, the Treasury draws up the tax expenditure budget for review by the Office of Management and Budget (OMB), and other administrative agencies prepare the direct expenditure budgets. In Congress, the Budget and Appropriations Committees fix the discretionary spending levels for each functional budget category, while the tax-writing committees (the Ways and Means Committee in the House, and the Senate Finance Committee) are given a revenue floor. Within this revenue level, the tax-writing committees can trade off tax rate changes with tax expenditures, and the appropriations committees can trade-off one direct expenditure program for another. Typically replacing a tax expenditure with a direct expenditure would involve moving a bill through multiple committees. Consequently, tax expenditures often either overlap or conflict with direct expenditures because they have not been integrated into the budget process for appropriations.

Tax expenditures are often alternatives to other policy instruments such as grants. Consequently, national social and economic goals are sometimes met through the tax code rather than through direct expenditures. Regardless, many experts argue tax expenditures are often less efficient than direct expenditure programs in promoting these important economic and social goals. At the same time, still other tax expenditures appear not to meet any social or economic goal. In general, tax expenditures tend to reduce the progressivity of the income tax system, and add to the complexity of the tax system from the taxpayer's point of view. Furthermore, unlike direct expenditures, the benefits of much of the tax expenditures go to taxpayers in the upper part of the income distribution, and they often subsidize an activity for which the taxpayer receives a benefit.

This report will be updated as legislative developments warrant.

Contents

List of Figures

List of Tables

Tax Expenditures: Trends and Critiques

Special deductions, exclusions, and exemptions (sometimes characterized as "loopholes") have been in the tax code since the passage of the progressive income tax in 1913.[1] Since then, over 100 special deductions, exemptions, and credits have been added to the tax code. Of course, for the first 25 years of the income tax, tax expenditures were relatively unimportant. Prior to World War II, the federal income tax was of little economic importance — individual and corporate income tax receipts amounted to less than 2% of gross domestic product (GDP). By 1945, however, income tax receipts accounted for over 15% of GDP. And as the income tax became more economically important, so did the tax subsidies from the special deductions, exemptions, exclusions, and credits. The Joint Committee on Taxation (JCT) estimates that these tax subsidies, also known as tax expenditures, will amount to $945 billion in 2006 — over three times the projected 2006 federal budget deficit.[2]

In the mid-1960s, the Department of the Treasury became interested in tracking and accounting for these tax subsidies. Indeed, the term "tax expenditures" was first used at this time.[3] With the enactment of the Congressional Budget and Impoundment Act of 1974 (P.L. 93-344), tax expenditures were officially defined as "those 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 tax liability."[4] Both the Department of the Treasury and the JCT prepare annual lists and estimates of tax expenditures. Further, the Treasury's list is included in the President's annual budget submission.

Tax expenditures are often alternatives to other policy instruments such as grants. Consequently, national social and economic goals are sometimes met through

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[1] The United States had an income tax in the years during and immediately following the Civil War. The income tax was repealed in 1872 because the revenue was no longer needed. An income tax was re-established in 1894, but was declared unconstitutional by the Supreme Court in 1895. After the 16th Amendment was ratified on Feb. 3, 1913, which permitted Congress to tax income, the graduated income tax was established on Oct. 3, 1913. See Roy G. Blakey and Gladys C. Blakey, *The Federal Income Tax* (New York: Longmans, Green and Co., 1940) for a history of early years of the income tax.

[2] Eliminating all of the tax expenditures could result in more or in less than $945 billion in additional federal revenue. This issue of uncertainty in the valuation of aggregate tax expenditures is discussed in detail below.

[3] See Stanley S. Surrey and Paul R. McDaniel, *Tax Expenditures* (Cambridge, MA: Harvard University Press, 1985). The first author was the Assistant Secretary for Tax Analysis at the time.

[4] 2 U.S.C. § 622.

the tax code rather through direct expenditures. Examples of tax expenditures range from the earned income credit (EIC), which raises the after-tax income of low- and moderate-income families, to the expensing of multiperiod timber-growing costs, which lowers the effective tax rate on timber growing.

Several concerns about tax expenditures have been voiced over the past 30 years. First, tax expenditures represent a substantial commitment of support in terms of forgone revenues on the part of the federal government.[5] Second, tax expenditures are another form of entitlement spending, since they are not examined in the annual budget process.[6] Third, more well-off taxpayers benefit disproportionately from tax expenditures because of the progressive nature of the income tax system.[7] This report examines the trends in tax expenditures, the arguments for and against tax exemptions, the composition of tax expenditures, and who benefits from selected tax expenditures.

Estimates and Trends

Tax expenditures include reductions in tax liability resulting from special tax provisions. To determine if a provision is a tax expenditure, the JCT defines a baseline or reference income tax structure referred to as the "normal income tax law," which has a broader concept of income than under U.S. tax law.[8] The committee staff uses its judgement to distinguish between what are normal income tax provisions and what are special provisions.

The Department of the Treasury uses a similar procedure to identify tax expenditures, but uses two baseline income tax structures: the normal income tax baseline and the reference income tax baseline. The reference tax baseline is closer to existing tax law and, consequently, identifies fewer tax expenditures. This baseline has been used by the Treasury since 1982. Prior to 1982, there were few differences between the tax expenditures lists of the JCT and the Department of the Treasury, since both used the same baseline. After 1982, the differences between the two lists have grown. In 2006, the JCT list contained 28 tax provisions that are not included on the Treasury's list. The JCT has used a consistent methodology to define

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[5] See, for example, U.S. Government Accountability Office, *Government Performance and Accountability: Tax Expenditures Represent a Substantial Federal Commitment and Need to Be Reexamined*, GAO-05-690, Sept. 2005.

[6] See, for example, Paul R. McDaniel and Stanley S. Surrey, "Tax Expenditures: How to Identify Them; How to Control Them," *Tax Notes*, May 24, 1982, pp. 595-625.

[7] See, for example, John F. Witte, *The Politics and Development of the Federal Income Tax* (Madison, WI: the University of Wisconsin Press, 1985).

[8] U.S. Congress, Joint Committee on Taxation, *Estimates of Federal Tax Expenditures for Fiscal Years 2006-2010*, joint committee print, 109th Cong., 2nd sess., JCS-2-06 (Washington: GPO, 2006).

and estimate tax expenditures over time, whereas the Department of the Treasury's methodology has changed from administration to administration.[9]

Other baseline tax law structures have been proposed.[10] One commonly proposed baseline is the consumption tax baseline. This baseline has fewer built-in distortions than the income tax. For example, the choice between future consumption (that is, saving) and current consumption is not biased as it is when income is taxed. Many of the largest tax expenditures would no longer be defined as tax expenditures using this baseline concept, and an alternative set of tax expenditures would be produced. Neither the JCT nor the Department of the Treasury, however, use this baseline. Furthermore, many observers believe it is unlikely that the U.S. income tax will be replaced by a consumption tax in the foreseeable future.

The value of tax expenditures can be estimated in two ways. The JCT estimates tax expenditures in terms of revenues lost to the U.S. Treasury. The revenue loss of a tax expenditure is a straightforward and easily understood concept — it is simply taxes not paid and represents revenues forgone by the government. In addition to the revenue loss estimates, the Department of the Treasury also estimates the "outlay equivalent" of tax expenditures. This concept is not as intuitive as the revenue loss concept and assumes that the tax expenditures could be replaced by a direct government outlay.[11] The JCT's revenue loss estimates are used throughout this report.

The top 16 tax expenditures in terms of revenue losses for FY2006 are listed in **Table 1**. These selected tax expenditures account for $778.7 billion of the total $945.0 billion in tax expenditures. By far the largest tax expenditure is for retirement saving incentives (net exclusion of pension contributions and earnings). Many of these tax expenditures are exclusions or deductions of employer fringe benefits and expenses associated with owner-occupied housing.

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[9] The current Bush administration, which has questioned the whole concept of tax expenditures, stated in the FY2002 budget: "Because of the breadth of this arbitrary tax base, the Administration believes that the concept "tax expenditure" is of questionable analytic value." See "Tax Expenditures," ch. 15 in OMB, *Analytical Perspectives, Budget of the United States Government, Fiscal Year 2002*, Feb. 2001, p. 61.

[10] The choice of the baseline tax law system is probably the most controversial aspect in defining and measuring tax expenditures. See Douglas A. Kahn and Jeffrey S. Lehman, "Tax Expenditure Budgets: A Critical View," *Tax Notes*, Mar. 30, 1992, pp. 1661-1665, for a critical review of various baseline tax law structures.

[11] See Adam Carasso and C. Eugene Steuerle, "Tax Expenditures: Revenue Loss Versus Outlay Equivalents," *Tax Notes*, Oct. 13, 2003, p. 287.

Table 1. Largest Tax Expenditures for Individuals, FY2006

	Dollars (billions)	Percentage of GDP
Net Exclusion of pension contributions and earnings	124.7	0.95
Reduced tax rates on dividends and long-term capital gains	92.2	0.70
Exclusion of employer contributions for health care	90.6	0.69
Deduction for mortgage interest	69.4	0.53
Exclusion of capital gains at death	50.9	0.39
Tax credit for children under age 17	46.0	0.35
Earned income credit (EIC)	42.7	0.33
Charitable contributions	41.3	0.32
Deduction of state and local taxes	36.8	0.28
Exclusion of Medicare benefits	35.1	0.27
Exclusion of investment income in life insurance, annuity contracts	28.0	0.21
Exclusion of benefits provided under cafeteria plans	27.9	0.21
Exclusion of interest on public purpose state and local government bonds	26.0	0.20
Exclusion of capital gains on sales of principal residences	24.1	0.18
Exclusion of untaxed Social Security benefits	23.1	0.18
Deduction for property taxes on owner-occupied residences	19.9	0.15

Source: CRS calculations of Joint Committee on Taxation data.

Revenue Losses, 1974-2005

The 30-year trend in aggregate tax expenditure estimates, income tax revenues (individual and corporate), and federal outlays are expressed as a percentage of GDP and are displayed in **Figure 1**. Federal outlays (the dashed line) follow a cyclical pattern — rising during recessions and falling during the subsequent economic recoveries. Income tax revenues (the dotted line) tend to follow both changes in tax laws and the cyclical behavior of the economy. The Economic Recovery Tax Act of 1981 (P.L. 97-34) phased in individual tax rate cuts and expanded tax expenditures.[12]

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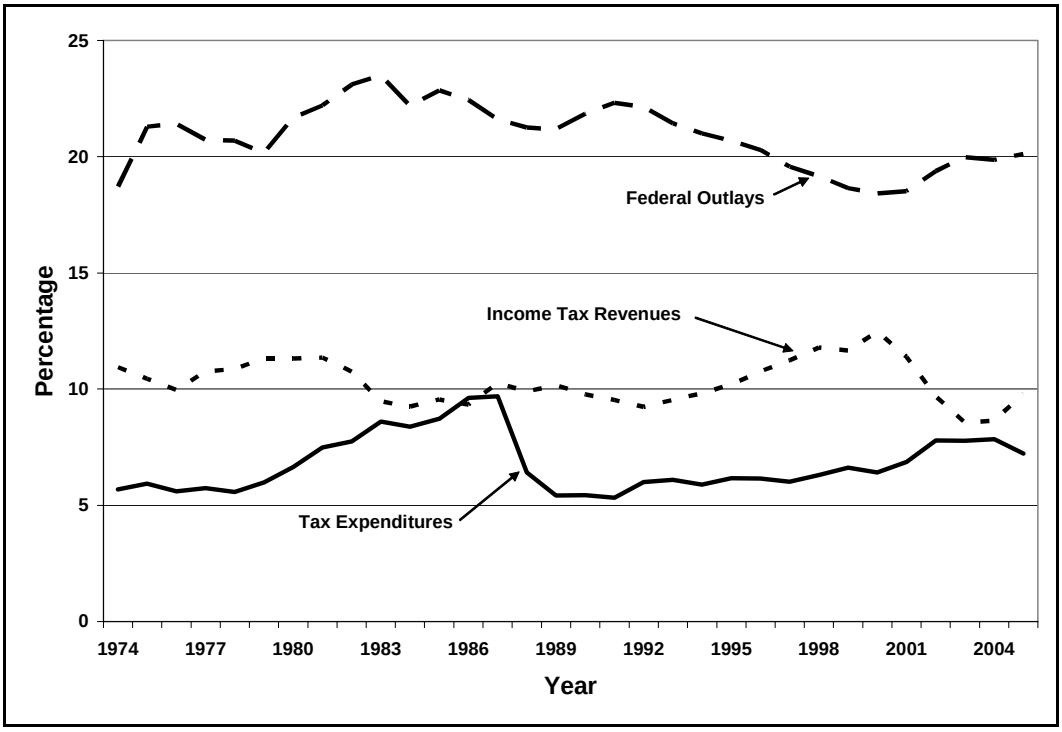
[12] See U.S. Congress, Joint Committee on Taxation, *General Explanation of the Economic*
(continued...)

Partly because of the deep recession in the early 1980s, income tax revenues fell in relation to GDP. The economic expansion in the mid- to late-1980s did not increase income tax revenues relative to GDP to any appreciable extent because of the 1981 tax cuts. After the 1990 recession ended, the strong economic expansion in the mid- to late-1990s increased income tax revenues. Income tax revenues fell after 2001 because of the 2001 recession, and the 2001 and 2003 tax cuts. Income tax revenues began to pick up in 2004 due to the strengthening economic recovery.

Figure 1. Tax Expenditures, Tax Revenues, and Outlays as a Percentage of GDP, FY1974-2005



Source: CRS calculations of OMB and JCT data.

The trend in aggregate revenue losses from tax expenditures (the solid line) is displayed in **Figure 1**. Aggregate revenue losses from tax expenditures depend on the number of special tax provisions, tax rates, and the level of income. Marginal tax rates affect revenue losses of tax expenditures by changing the amount of taxes that would be paid in the absence of tax expenditures. For example, the government forgoes $50 in tax revenue for each $100 in shielded income if the tax rate is 50%, but forgoes only $30 if the tax rate is 30%; so even if shielded income remains constant, the revenue loss can change by changing the tax rate. As the level of income rises, individuals will be pushed into higher tax brackets with higher marginal tax rates. Consequently, the revenue loss from shielded income will increase, holding the amount of shielded income constant. In addition, rising income

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[12] (...continued)
Recovery Tax Act of 1981, 97th Cong., 1st sess., Dec. 29, 1981, JCS-71-81 (Washington: GPO, 1981) for an explanation of the act.

levels probably increase the amount of income shielded from taxation as individuals increase charitable contributions or take on greater mortgage debt.

The number of tax expenditures increased from 71 in 1974 to 133 by 1987 — the period when aggregate revenue losses of tax expenditures increased from less than 6% of GDP to almost 10% of GDP (see **Figure 1**). In addition to the increase in the number of tax expenditures, some existing tax expenditures were expanded such as allowing non-itemizers to deduct charitable contributions.[13] The Tax Reform Act of 1986 (P.L. 99-514) reduced tax rates, eliminated or scaled back various tax expenditures, and broadened the tax base.[14] Consequently, the aggregate revenue losses of tax expenditures fell dramatically from 9.7% of GDP in 1987 to 5.4% of GDP just two years later. Essentially the tax rate reductions were paid for by the elimination or reduction of various tax expenditures. In addition, the tax rate reductions reduced the revenue losses of the remaining tax expenditures. Throughout the 1990s, the revenue losses of tax expenditures slowly increased as (1) income increased during the economic expansion, (2) new tax expenditures were enacted, and (3) several existing tax expenditures were expanded. By 2005, the aggregate revenue losses of tax expenditures were estimated to be 7.2% of GDP — about 2.7 times the federal budget deficit in that year.

A Word of Caution About Aggregate Revenues Losses

The revenue loss of each tax expenditure is estimated separately; that is, it is an estimate of the gain in income tax revenue from the repeal of only the provision under consideration, assuming no changes in other provisions or in taxpayer behavior (many tax expenditures were in fact adopted to affect taxpayer behavior). It is, therefore, unlikely that the aggregate estimated revenue losses of all tax expenditures as reported in **Figure 1** would be equal to the actual gain in income tax revenue from the repeal of all tax expenditure provisions. There are a variety of reasons the two would not be equal.

First, taxpayers itemize only if their deductions are greater than the standard deduction or zero bracket amount. For example, suppose two itemized deductions are individually less than the standard deduction, but together are greater. Eliminating one deduction would increase the amount of tax paid by taxpayers affected because they now take the standard deduction. Elimination of the other deduction now would have no effect on tax liability. In this case, the sum of the individual tax expenditure estimates would be greater than the gain in revenue from elimination of both tax expenditures. In a simulation, elimination of 12 selected tax expenditures led to the sum of the individual tax expenditures estimates being 17.5%

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[13] Most of the new and expanded tax expenditures were enacted in the Economic Recovery Tax Act of 1981 (P.L. 97-34).

[14] See U.S. Congress, Joint Committee on Taxation, *General Explanation of the Tax Reform Act of 1986*, 100th Cong., 1st sess., May 4, 1987, JCS-10-87 (Washington: GPO, 1987) for an explanation of the act.

greater than the revenue gain from elimination of all 12 tax expenditures.[15] This simulation ignores, however, unmeasurable changes such as the increase in interest rates and thus interest income, if tax-exempt bonds were no longer tax-exempt. The tax-exempt interest reported on tax returns likely understates the additional taxable income taxpayers would have if this exclusion were eliminated.

Second, eliminating exclusions and deductions could push a taxpayer into a higher tax bracket. In this case, the sum of the individual tax expenditure estimates could be less than the revenue gain from elimination of all the tax expenditures. For example, the elimination of two large tax expenditures — the exclusion of pension earnings and contributions, and employer contributions for health insurance — would push many middle-income taxpayers into higher tax brackets, whereas the elimination of only one may not.

Third, taxpayer behavior may change in response to the elimination of special tax provisions. Taxpayers would probably look for alternative ways to shield income from taxation. Consequently, revenue gains from the elimination of tax expenditures may be less than estimates that incorporate the above interaction effects but ignore behavioral changes.[16]

Because of these three effects, simply summing the tax expenditure revenue loss estimates may not provide an accurate estimate of the effect that elimination of tax expenditures would have on federal tax revenues. It is unknown if the sum of individual tax expenditure revenue losses overstates or understates the actual effect of the simultaneous elimination of all tax expenditures. Nevertheless, examining the sum of tax expenditure revenue loss estimates over time probably provides a good approximation of the general trend in the effect of tax expenditures on income tax revenue. Given the relatively long life of many tax expenditures, it is unlikely that the bias from simply summing tax expenditures estimates changes much from year to year.

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[15] This is based on the author's analysis of the IRS's 2002 Public Use Tax File. The 12 tax expenditures are the mortgage interest deduction, the property tax deduction, the deduction for state and local income taxes, the charitable contribution deduction, the IRA contribution deduction, the student loan interest deduction, the exclusion of untaxed social security benefits, the exclusion of tax-exempt interest, the tuition tax credit, the saver's tax credit, the child tax credit, and the earned income credit. These tax expenditures were chosen because they are reported on tax returns and are available in the data file. See the appendix for a description of this data file.

[16] The same logic applies to the budgetary savings from eliminating or scaling back a program that provides transfer payments to individuals. As the benefits are reduced or eliminated, individuals may become eligible for other similar government programs or change their behavior to qualify for these programs. Consequently, the budgetary savings could be less than expected.

Criticisms of Tax Expenditures

Criticisms of tax expenditures appeared when the term was first coined. Stanley Surrey, the Assistant Secretary for Tax Policy in the Johnson Administration, argued that tax expenditures were inferior to direct expenditures in achieving various social and economic goals, and were a barrier to tax reform that would restore fairness to the tax system.[17] Recent criticisms of tax expenditures often fall into one of three categories. First, there are those who identify the budget process as the source of the growth in the use of tax expenditures. Second, many analysts continue to argue that tax expenditures are less effective than direct expenditures in achieving social and economic goals.[18] Third, some argue that tax expenditures increase the complexity and reduce the fairness of the income tax, thus undermining public support for the tax system. These criticisms are examined in turn.

Tax Expenditures in the Budget Process

The "flaw" in the budget process identified by critics of tax expenditures is the divided treatment of tax expenditures and direct expenditure programs.[19] In the executive branch, the Department of the Treasury draws up the tax expenditure budget for review by the Office of Management and Budget (OMB). Other administrative agencies prepare the direct expenditure budgets. For example, the Department of Health and Human Services prepares the budget for several public assistance programs for the poor (such as Temporary Assistance for Needy Families and Medicaid) but has no responsibility for the Earned Income Credit (EIC), a tax credit, which also benefits low-income families.

The Government Performance and Results Act of 1993 (GPRA, P.L. 103-62) requires annual evaluations of tax expenditures by the Administration. OMB circular A-11 directs agencies to consult with the Office of Tax Analysis in the Department of the Treasury on tax proposals and "be prepared to submit justifications for continuing or reenacting existing taxes and tax expenditures in the program areas for which you have primary responsibility."[20] An official in the Clinton Administration, however, stated that President Clinton's Department of the Treasury was "unenthusiastic about performing these evaluations."[21] The Bush Administration also

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[17] See Stanley S. Surrey, *Pathways to Tax Reform* (Cambridge, MA: Harvard University Press, 1973).

[18] The term direct expenditures should not be confused with direct or mandatory spending. Direct expenditures are simply budgetary spending, which then can be classified as either discretionary or mandatory spending.

[19] See, for example, Victor Thuronyi, "Tax Expenditures: A Reassessment," *Duke Law Journal*, vol. 1988 (1988), pp. 1155-1206.

[20] OMB, Circular No. A-11, Preparation, Submission, and Execution of the Budget, Jun. 2006.

[21] Leonard E. Burman, "Is the Tax Expenditure Concept Still Relevant?" *National Tax Journal*, vol. 56, no. 3 (Sept. 2003), p. 624.

has not issued any evaluations of tax expenditures as part of GPRA, and, furthermore, has questioned the whole concept of tax expenditures.[22]

The congressional budget process also divides the spending and revenue functions.[23] The Budget and Appropriations Committees fix the discretionary spending levels for each functional budget category. The tax-writing committees (the Ways and Means Committee in the House, and the Senate Finance Committee) are given a revenue floor. Within this revenue level, the tax-writing committees can trade off tax rate changes with tax expenditures. The Appropriations Committees can trade off one direct expenditure program for another, but no committee can trade off a tax expenditure for a direct expenditure in a particular category. The two tax-writing committees could, however, replace tax expenditures with mandatory spending programs within their jurisdiction. But typically replacing a tax expenditure with a direct expenditure would involve moving a bill through multiple committees.

The Budget Enforcement Act of 1990 (BEA) indirectly reduced some of the advantages that tax expenditures had in the budget process. The BEA not only set discretionary spending caps, but also set a pay-as-you-go (PAYGO) requirement for mandatory spending and tax changes. PAYGO required that any new increase in mandatory spending or decrease in tax revenues could not add to the deficit. The BEA was revised and extended throughout the 1990s, but most of its provisions expired at the end of FY2002.

Critics of tax expenditures argue that the two tax-writing committees and the Department of the Treasury (especially the Internal Revenue Service) "often lack the expertise, background, and staff resources" to design effective tax expenditures to meet desired economic and social goals.[24] Consequently, these critics suggest closer coordination between the Department of the Treasury and the other agencies, and between the tax-writing committees and other committees to make better use of program area expertise. But they note that "efforts at coordination between government agencies often produce delay and confusion rather than cooperative activity."[25]

In contrast to these critics, there are those who argue that the Treasury and the congressional tax-writing committees are less prone to interest group capture than the other executive agencies and congressional committees. One analyst concludes that

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[22] See, for example, U.S. Government Accountability Office, *Government Performance and Accountability: Tax Expenditures Represent a Substantial Federal Commitment and Need to Be Reexamined*, GAO-05-690, Sept. 2005, in which they recommended that tax expenditures be subjected to systematic reviews and performance evaluations. The Bush Administration appears to regard the elimination of tax expenditures as tax increases rather than as the elimination of tax loopholes, special government grants, and special subsidies. See the Bush Administration's response to GAO's report in appendix II of the GAO report.

[23] See CRS Report 98-721 GOV, *Introduction to the Federal Budget Process*, by Robert Keith and Allen Schick, for a review of the budget process.

[24] See, for example, Stanley S. Surrey and Paul R. McDaniel, *Tax Expenditures* (Cambridge, MA: Harvard University Press, 1985), pp. 106-107.

[25] Ibid.

"the committees and agencies that design and administer tax subsidies are less prone to capture by clientele groups ... and are better positioned to make decisions informed by expertise than their direct expenditures counterparts."[26]

A recent nonpartisan expert panel has questioned the extensive use of tax expenditures.[27] The panel recommended that any formal justification for new tax expenditures should answer the following questions:[28]

- Why is a government program necessary at all?
- What objectives is the tax break meant to accomplish, and how will success or failure be measured?
- What evidence can be cited that suggests the tax break will accomplish these objectives at an acceptable cost?
- Why is a tax break better than a direct spending program for accomplishing this purpose?

The expert panel noted that this is similar to the OMB circular A-11 requirements (which were initially considered important but have fallen into disuse over the years). The various analyses of tax expenditures suggest that neither the executive branch nor the Congress appear to have much enthusiasm for a comprehensive examination of tax expenditures.

Several analyst have observed that tax expenditures resemble entitlement spending in many respects.[29] First, everyone who qualifies receives the benefits of tax expenditures. Second, jurisdiction for tax expenditures and many entitlement programs is with the two congressional tax-writing committees. From time to time, commissions have been set up to examine entitlement spending and recommend reforms to reduce the long-term costs of these programs. Yet tax expenditures are rarely discussed within the context of entitlement reform. In 1994, however, some members of the Bipartisan Commission on Entitlement and Tax Reform thought that entitlement reform should also include reform of tax expenditures.[30] But the commission was unable to agree on a set of specific proposals to reduce the long-term budget deficit problems associated with entitlements.

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[26] Edward A. Zelinsky, "James Madison and Public Choice at Gucci Gulch: A Procedural Defense of Tax Expenditures and Tax Institutions," *Yale Law Journal*, vol. 102, no. 5 (Mar. 1993), p. 1207.

[27] The Century Foundation Working Group on Tax Expenditures, *Bad Breaks All Around* (New York: The Century Foundation Press, 2002).

[28] Ibid., pp. 28-29.

[29] See, for example, Eric J. Toder, "Tax Cuts or Spending — Does it Make a Difference?" *National Tax Journal*, vol. 53, no. 2 part 1 (Sept. 2000), pp. 361-372; and Christopher Howard, *The Hidden Welfare State* (Princeton, NJ: Princeton University Press, 1997).

[30] Bipartisan Commission on Entitlement and Tax Reform, *Final Report to the President* (Washington, DC: Government Printing Office, Jan. 1995). The commission was composed of 22 Members of Congress and 10 members from the private sector.

Effectiveness of Tax Expenditures

Many tax expenditures were designed to meet important economic and social goals, while others appear to lack clear economic or social justification.[31] An expert panel suggests that tax expenditures are justified when they (1) correct a market failure, (2) are appropriately targeted, (3) do not unduly compromise the progressivity of the income tax, (4) do not add excessively to the complexity of the income tax, (5) avoid economic disruptions, and (6) are more cost-effective than a direct expenditure program. This panel proposed a "dirty dozen" list of tax expenditures that could easily be eliminated, ones which neither correct market failures nor help disadvantaged groups such as timber subsidies and special rules for employee stock ownership plans.[32] The panel further argued that many tax expenditures are often less efficient than direct expenditure programs in promoting important economic and social goals.

Tax expenditures often either overlap or conflict with direct expenditures because they have not been adequately integrated into the budget process for appropriations.[33] Some current housing tax expenditures overlap with Department of Housing and Urban Development direct expenditures to encourage building low-income housing. One analyst notes a situation during the 1980s when some tax expenditures subsidized dairy production and encouraged dairy herd expansion, while the Department of Agriculture paid dairy farmers to reduce production and slaughter their herds.[34]

Large tax expenditures range from the earned income credit (EIC) to saving incentives. The EIC, which is targeted to low-income working families, is a refundable tax credit, with FY2006 estimated tax expenditures of $42.1 billion and estimated direct expenditures of $35.1 billion.[35] Most analysts agree that the EIC has been notably successful in encouraging work among disadvantaged families and in lifting the after-tax income of working families.[36] Total tax expenditures for saving incentives to boost retirement savings are estimated to total $125.6 billion for FY2006. In contrast to the cost to the government, personal saving for the first

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[31] See The Century Foundation Working Group on Tax Expenditures, *Bad Breaks All Around* (New York: The Century Foundation Press, 2002).

[32] Ibid., p. 23. The expert panel also listed a group of tax expenditures called the "Troublesome Ten," which they note are problematic but may have some economic justification.

[33] Zhicheng Li Swift, *Managing the Effects of Tax Expenditures on National Budgets*, World Bank Policy Research Working Paper no. 3927, May 2006.

[34] Victor Thuronyi, "Tax Expenditures: A Reassessment," *Duke Law Journal*, vol. 1988 (1988), p. 1161.

[35] Tax credits directly offset tax liability. In the case of a refundable tax credit, if the tax credit is greater than total tax liability, then the government sends a check to the tax filer.

[36] See, for example, V. Joseph Hotz, Charles H. Mullin, and John Karl Scholz, *Examining the Effect of the Earned Income Tax Credit on the Labor Market Participation of Families on Welfare*, National Bureau of Economic Research Working Paper no. 11968, Jan. 2006.

quarter of 2006 was a *negative* $119.8 billion.[37] Research has shown that personal saving has been fairly unresponsive to tax incentives, and such incentives may substantially decrease public saving (that is, increase the budget deficit): the long-term net effect on national saving is likely negative.[38]

Early theoretical and empirical research suggested that tax expenditures for charitable contributions would be more effective than a comparable direct expenditure program.[39] Subsequent research challenged the theoretical justification for the charitable contribution tax expenditure.[40] Furthermore, recent empirical research indicates that a taxpayer's charitable contributions may not be as sensitive to the tax system as originally estimated.[41]

Fairness and Complexity of the Income Tax

Ideally, commentators suggest that tax policy should be structured to meet several basic principles or goals.[42] Most importantly, a tax system should raise adequate revenue to run the government and meet the needs of the governed. Second, the tax system should be fairly simple and comprehensible. Third, a basic sense of fairness suggests that those with equal ability to pay taxes should pay equal taxes. This is sometimes referred to as horizontal equity. Lastly, many argue that the principle of vertical equity or progressivity — those with greater ability to pay taxes should pay a greater proportion of their income in taxes — is important.[43] This last principle, however, is somewhat controversial, even though about two-thirds of

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[37] Federal Reserve Board, Flow of Funds, table F.8, June 8, 2006.

[38] See CRS Report RL33482, *Saving Incentives: What May Work, What May Not*, by Thomas L. Hungerford.

[39] See Martin Feldstein, "A Contribution to the Theory of Tax Expenditures: The Case of Charitable Giving," in Henry J. Aaron and Michael J. Boskin, eds., *The Economics of Taxation* (Washington, DC: Brookings Institution, 1980), pp. 99-121.

[40] Patrick A. Driessen, "A Qualification Concerning the Efficiency of Tax Expenditures," *Journal of Public Economics*, vol. 33 (1987), pp. 125-131; and Martin Feldstein, "The Efficiency of Tax Expenditures: Reply," *Journal of Public Economics*, vol. 33 (1987), pp. 133-136.

[41] See William C. Randolph, "Dynamic Income, Progressive Taxes, and the Timing of Charitable Contributions," *Journal of Political Economy*, vol. 103, no. 4 (1995), pp. 709-738; and Kevin Staton Barrett, Anya M. McGuirk, and Richard Steinberg, "Further Evidence on the Dynamic Impact of Taxes on Charitable Giving," *National Tax Journal*, vol. 50, no. 2 (June 1997), pp. 321-334. However, Gerald E. Auten, Holger Sieg, and Charles T. Clotfelter, "Charitable Giving, Income, and Taxes: An Analysis of Panel Data," *American Economic Review*, vol. 92, no. 1 (Mar. 2002), pp. 371-382 present evidence that the sensitivity estimates may be larger than reported in these two articles but still lower than originally thought.

[42] See C. Eugene Steuerle, *Contemporary U.S. Tax Policy* (Washington: The Urban Insitute Press, 2004) for a more extensive discussion of the principles.

[43] Another principle frequently cited is minimizing distortions of taxpayer behavior. Without a doubt, taxes can distort market behavior, but they can also be used to correct distortions due to market failures.

Americans believe "that people with high incomes should pay a larger share of their income in taxes than those with lower income."[44]

Tax expenditures or the special exclusions, exemptions, and deductions from income often conflict with one or more of these tax policy principles. One tax analyst, for example, simply states "tax expenditures make the tax system worse according to the goals of fairness, efficiency, and simplicity."[45] In addition, a *Wall Street Journal* columnist noted that tax breaks generate "a lot of hassle and complexity that chews up time and money. And, I suspect, the government creates tax breaks that are claimed far more often by sophisticated, upper-income taxpayers than by others."[46] This suggests that tax expenditures tend to reduce the progressivity of the income tax system.

As an example of the complexity that tax breaks or loopholes add to the tax system, consider the individual income tax forms. Taxpayers must file one of three income tax forms: form 1040EZ, form 1040A, or form 1040. The easiest form to fill out is the form 1040EZ; it is for taxpayers who claim no dependents, do not itemize deductions, do not claim adjustments to income, and receive only selected types of income. Next, form 1040A is for taxpayers who can take advantage of some tax breaks but do not itemize deductions. Last, form 1040 is for taxpayers who receive income from a variety of sources, can take advantage of any tax break, or itemize deductions. **Table 2** shows the estimated average preparation times for the three income tax forms for the 2005 tax year. The amount of time that must be devoted to filling out each of the forms increases dramatically with the number of tax breaks the taxpayer can take advantage of. Clearly, tax expenditures add to the complexity of the tax system from the taxpayer's point of view.

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[44] CRS tabulation of the General Social Survey, 1972-2004, National Opinion Research Center. In 2000, 65% of the survey respondents said higher-income people should pay a much larger share or a larger share of income in taxes than lower-income people. Similar survey results were reported in 1987.

[45] Eric J. Toder, "Tax Cuts or Spending — Does It Make a Difference?" *National Tax Journal*, vol. 53, no. 3, part 1 (Sept. 2000), p. 362.

[46] David Wessel, "Tons of Tiny Tax Breaks Prove to Be Addictive and ...Taxing," *Wall Street Journal*, July 13, 2006, p. A2.

Table 2. Estimated Average Preparation Times of Tax Forms, 2005 Tax Year

Form	Hours
Form 1040, Schedules A and D, and other forms and schedules	27.5
Form 1040A, and schedules and worksheets	12.1
Form 1040EZ	8.3

Tax expenditures often conflict with the goal of horizontal equity since the deductions, exemptions, exclusions, and tax credits are typically targeted or claimed by a subset of taxpayers. One analysis shows that the EIC and the child tax credit provide much more favorable treatment for low-income families with children than for other families with similar income.[47] The same analysis suggests that phasing out itemized deductions, personal exemptions, and the child tax credit could increase horizontal equity at the upper end of the income distribution. With the demonstrated inequities in the U.S. income tax system, it is hardly surprising that almost half of the respondents in a recent survey said the federal income tax is either not too fair or not fair at all.[48]

The Changing Composition of Direct and Tax Expenditures

Tax expenditures represent an important share of total government support for many economic and social goals. Over time, national priorities change as do the favored policy instruments to address new and existing priorities. Consequently, the importance of tax expenditures in providing government support in meeting various goals will likely change as well. For example, one analyst has documented that tax expenditures have been increasingly used to promote social policy goals instead of business investment.[49] But how does the changing composition of tax expenditures interact with direct expenditures? Have tax expenditures become more important than direct expenditures in providing government support?

The first set of two bars in **Figure 2** shows the proportion of total government support accounted for by direct expenditures (the upper gray bar) and tax expenditures (the lower black bar). In 1980, tax expenditures accounted for 23% of

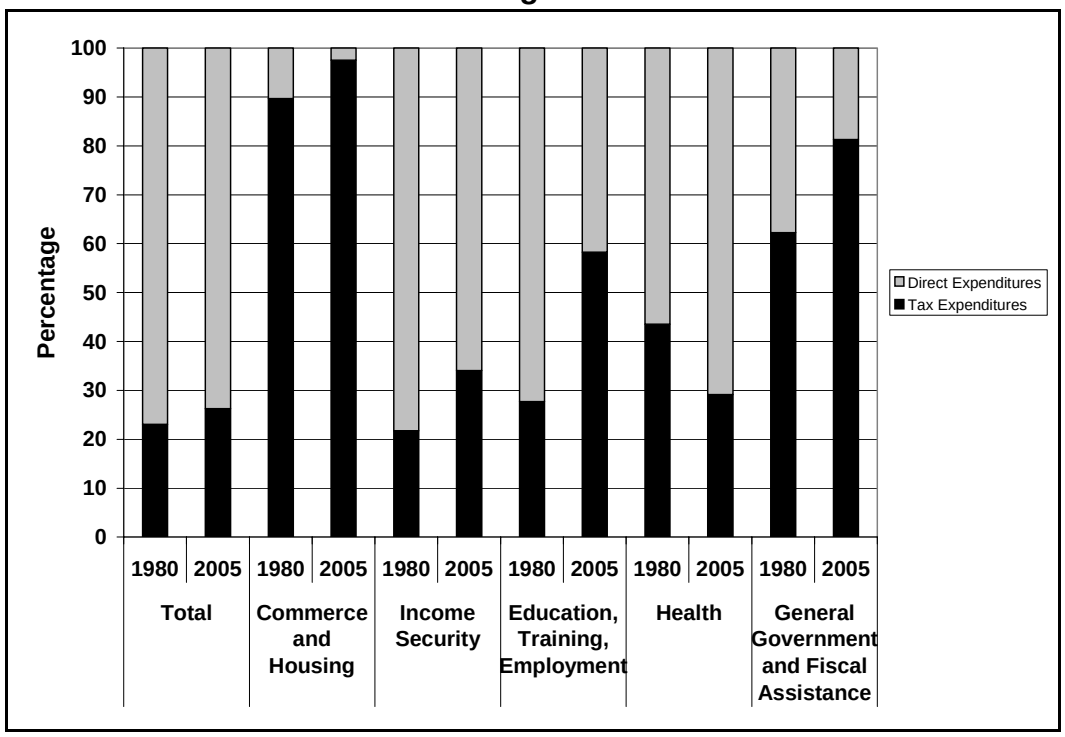
[47] Jane Gravelle and Jennifer Gravelle, "Horizontal Equity and Family Tax Treatment: The Orphan Child of Tax Policy," *National Tax Journal*, forthcoming, (Sept. 2006).

[48] The Survey conducted by the Gallup Organization, April 1-April 16, 2006.

[49] Eric J. Toder, "The Changing Composition of Tax Incentives: 1980-1999," in Proceedings of the National Tax Association 91st Annual Conference, 1998.

total government support, and the percentage increased to 26% by 2005.[50] This relatively small change in the composition of government support, however, masks marked changes in how the government offers support to meet various goals. Over the past 25 years, there have been important changes in the composition of government support in various functional categories.[51]

Figure 2. Composition of Government Support in Five Budget Categories



Source: CRS calculation of OMB and JCT data.

Figure 2 also shows the composition of direct and tax expenditures in five functional categories; tax expenditures in these functional categories currently account for almost 90% of total tax expenditures.[52] The largest functional category of tax expenditures is commerce and housing, which included 34% of total tax expenditures in 2005. Tax expenditures in this function include the mortgage interest deduction, the deduction for property taxes on owner-occupied residences, and the exclusion of investment income on life insurance and annuity contracts, among others. Most government support in this function comes through tax expenditures: 90% in 1980 and 98% in 2005 (see the second set of bars in **Figure 2**).

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[50] All years refer to fiscal years.

[51] Federal government outlays are divided into 18 broad functions or categories, which provide a comprehensive basis for arranging the federal budget.

[52] Direct expenditures in these five categories, on the other hand, account for 29% of total federal outlays.

The next largest category is income security which includes saving incentives (such as the exclusion of pension contributions and earnings) as tax expenditures, and many public assistance programs as direct expenditures. Tax expenditures as a percentage of government income security support increased from 22% in 1980 to 34% by 2005. In the education, training, employment, and social services function (the fourth set of bars in **Figure 2**), the importance of tax expenditures in government support doubled from 28% in 1980 to 58% by 2005, which represents a major change in how government support is offered in this functional category.

The fifth set of bars displays the composition of government health support.[53] Health tax expenditures include the exclusion of employer contributions for health care and insurance, while direct expenditures include spending for the Medicaid program. The percentage of government support from tax expenditures fell from 44% in 1980 to just under 30% in 2005. This is probably due to the dramatic growth in Medicaid outlays over this 25-year period.

The final functional category with a significant proportion of tax expenditures is general government and fiscal assistance. This category includes, for example, the deduction of state and local government income taxes as a tax expenditure, and funding for legislative functions as a direct expenditure. The importance of tax expenditures in this functional category increased from 62% in 1980 to over 80% in 2005.

Overall, the proportion of government support offered through tax expenditures increased by only three percentage points over the past 25 years. But almost 90% of tax expenditures occur in only 5 of 18 broad functional categories. In these five functions, the importance of tax expenditures changed significantly between 1980 and 2005. In four of the five, tax expenditures became a more important source of government support. Furthermore, almost all of the government support for commerce and housing is offered through the tax system.

Social Welfare Expenditures

A large proportion of tax expenditures are directed to addressing various social goals and could be considered a form of government social welfare expenditures. Social welfare policy can be broadly defined as government policies intended to improve the well-being of individuals and families. These policies can include government programs that promote education, health, housing, and income security. Often social welfare direct expenditures (i.e., entitlements) are targeted to lower-income individuals and families. But social welfare tax expenditures are frequently criticized as having an "upside down" or regressive subsidy feature.[54] In addition, the

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[53] Medicare is not included in this functional category.

[54] See, for example, Stanley S. Surrey, "Tax Incentives as a Device for Implementing Government Policy: A Comparison with Direct Government Expenditures," *Harvard Law Review*, vol. 83, no. 4 (Feb. 1970), pp. 705-738; and Eric J. Toder, "Tax Cuts or Spending — Does it Make a Difference?" *National Tax Journal*, vol. 53, no. 3 part 1 (Sept. 2000), pp.

(continued...)

beneficiaries of social welfare tax expenditures often receive a benefit from the activity being subsidized. For example, state and local taxes can be deducted from income, but state and local taxes are used to pay for services that benefit the taxpayer such as police and fire protection. Both social welfare direct and tax expenditures are examined in this section.

Social Welfare Direct Expenditures

The 15 largest social welfare direct expenditures are listed in **Table 3** along with FY2005 federal outlays. Two of these (the earned income and the child tax credits) are refundable tax credits in that if the tax credit exceeds the taxpayer's tax liability, the government sends the taxpayer a check for the difference.[55] Consequently, these two tax credits are both a tax expenditure and a direct expenditure. The federal outlays shown in **Table 3** are the direct expenditure portion of these tax credits.

The total federal outlays for these 15 direct expenditure programs were $1,232.8 billion in FY2005. The Social Security program (both retirement and disability) is the largest with direct expenditures of $518.7 billion. The next two largest social welfare direct expenditure programs are the two health programs — Medicare and Medicaid. These three programs account for 80% of the social welfare direct expenditures. The remaining programs are considerably smaller (each has less than $40 billion in federal outlays).

These social welfare programs can be divided into public assistance and social insurance programs. Public assistance programs are generally means-tested and directed to the poorest individuals and families in society. They have been described as redistributing income from the "haves" (taxpayers) to the "have nots."[56] Social insurance programs usually are an earned right based on work histories and have been described as redistributing income from good times (employment) to bad times (unemployment, disability, injury, or retirement).[57]

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[54] (...continued)
361-372.

[55] The child care tax credit is only refundable for taxpayers with at least one qualifying child.

[56] See Thomas L. Hungerford, "The Distribution and Anti-Poverty Effectiveness of U.S. Transfers, 1992," *Journal of Human Resources*, vol. 31, no. 1 (1996), p. 264.

[57] Ibid.

Table 3. Social Welfare Direct Expenditures, FY2005

(billions of dollars)

	Direct Expenditures	Suits Index
Social Security	518.7	0.60
Medicare	294.3	0.55
Medicaid	181.7	0.59
Supplemental Security Income (SSI)	38.3	0.78
Housing Assistance	37.7	0.94
Earned Income Tax Credit	34.6	—
Food stamps	32.6	0.91
Unemployment Compensation	31.7	0.38
Temporary Assistance for Needy Families (TANF)	17.4	0.85
Higher Education financial assistance	15.1	—
Child tax credit	14.6	—
Training and Employment	6.7	—
Women, Infants, and Children food program	5.0	—
Child support and family support programs	4.0	—
Workers' Compensation	0.4*	0.33
Total	**1,232.8**	

Source: OMB and CRS analysis of March 2003 supplement of the Current Population Survey, Bureau of the Census.
*Includes only federal expenditures for special workers' compensation program and federal employees workers' compensation. Does not include funds provided by state governments.

The last column of **Table 3** reports a measure of progressivity for selected direct expenditure programs. The Suits progressivity index varies between — 1 (completely regressive) to +1 (completely progressive).[58] The Suits index is negative if the benefits from the program are received predominantly by families in the upper part of the income distribution. It is positive if the benefits are received predominantly by lower-income families. Lastly, it is zero if the benefits are proportionally distributed throughout the income distribution. In the nine cases where the Suits index could be calculated, it is positive and often closer to +1 than to zero, suggesting that the benefits from these programs are largely received by those

[58] See the appendix for a description of the data used for these calculations and a description of the Suits progressivity index.

in the lower part of the income distribution — they are fairly well targeted to lower-income individuals and families. These results for 2002 are in accord with results from an earlier study for 1992.[59]

Social Welfare Tax Expenditures

Social welfare tax expenditures have been referred to as a hidden welfare state and rarely show up in the accounts of the nation.[60] The largest social welfare tax expenditures are listed in **Table 4**. The aggregate estimate of these 19 tax expenditures amounted to $576 billion in FY2005 — about 65% of the total for all tax expenditures in that year. Many of these tax expenditures include incentives to encourage retirement saving, charitable contributions, higher education, and home ownership. Others are the result of the exclusion from taxable income of benefits from some of the social welfare direct expenditure programs. Also on this list are the two refundable tax credits — the earned income and child tax credits. The revenue losses of these two tax credits are greater than their direct expenditures.

The final column of **Table 4** reports the Suits progressivity index for selected tax expenditures.[61] Unlike social welfare direct expenditures, the Suits index for these tax expenditures is not uniformly positive. For example, the incentives to encourage charitable contributions and home ownership are received largely by taxpayers in the upper parts of the income distribution and have an upside down subsidy feature.

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[59] Thomas L. Hungerford, "The Distribution and Anti-Poverty Effectiveness of U.S. Transfers, 1992," *Journal of Human Resources*, vol. 31, no. 1 (1996), pp. 255-273.

[60] Jeffrey P. Owen, "Tax Expenditures and Direct Expenditures as Instruments of Social Policy," in Sijbren Cnossen, ed., *Comparative Tax Studies* (Amsterdam: North-Holland Publishing Co., 1983), pp. 171-197.

[61] See the appendix for a description of the data used for the calculations.

Table 4. Social Welfare Tax Expenditure Estimates, FY2005

(billions of dollars)

	Tax Expenditure Estimates	Suits Index
Net exclusion of pension earnings and contributions	122.7	—
Exclusion of employer contributions for health insurance	78.6	—
Deductibility of mortgage interest on owner-occupied housing	72.6	-0.23
Child Tax Credit	46.6	0.28
Deductibility of non-business state & local taxes	46.2	-0.37
Earned Income Tax Credit	39.0	0.87
Charitable deductions	34.2	-0.30
Exclusion of untaxed Medicare benefits	27.3	—
Exclusion of capital gains on sales of principal residences	22.9	—
Exclusion of Social Security benefits	22.3	0.38
Deduction of state & local property taxes on owner-occupied housing	19.6	-0.25
Exclusion of interest on state & local public purpose bonds	19.1	-0.50
Deduction for medical expenses	7.7	—
Exclusion of workers' compensation benefits	5.2	—
Tuition tax credit	5.2	0.44
Exclusion of public assistance benefits	2.5	—
Additional standard deduction for blind and elderly	1.8	—
Savers' Tax Credit	1.7	0.68
Deduction of interest on student loans	0.8	0.26
Total	**576.0**	

Source: JCT, and CRS analysis of SOI 2002 Public Use File.

The Suits index could not be calculated for the two largest social welfare tax expenditures. Data are available, however, to determine which income classes have pension coverage or employer-provided health insurance and are likely to benefit from these exclusions. The first column of **Table 5** shows the income ranges for the

five income classes; each income class contains about 20% of the families in the sample.

Table 5. Pension Coverage and Health Insurance Coverage by Income

Income Range	Percentage of Families with Pension Coverage	Percentage of Families with Employer-provided Health Insurance Coverage	Estimated Average Tax Saving from Exclusion of Employer-provided Health Insurance Coverage
Less than $16,200	4.6	15.5	$7.19
$16,200-$30,999	21.4	46.1	$100.06
$31,000-$50,219	45.3	69.8	$317.27
$50,220-$81,513	64.4	81.5	$658.55
$81,514 or more	74.3	86.1	$1,482.17

Source: CRS analysis of March 2003 CPS.

The next column of **Table 5** reports the percentage of families in each income class with pension coverage. The proportion with pension coverage increases in moving from the poorest to the richest income class. Therefore, upper-income families are much more likely to benefit from the exclusion of pension earnings and contributions than lower-income families. The next column shows the percentage of families in each income class with employer-provided health insurance. Again, those families in the upper part of the income distribution are more likely to benefit from the exclusion of employer contributions for health insurance. The last column reports an estimate of the average tax savings for families in each income class from this exclusion.[62] The average tax savings increases in going from the poorest to the richest income class.[63] The progressivity results are consistent with results from an earlier study for 1977.[64]

[62] The estimate is calculated by multiplying the employer contribution for health insurance reported in the data file by the reported marginal tax rate. If the employer contribution were included as taxable income, some taxpayers would be pushed into a higher tax bracket. Consequently, the estimates reported in **Table 5** likely underestimate the tax saving.

[63] Broadly similar results are obtained when the sample of all families is restricted only to families receiving no retirement income and pay taxes.

[64] John F. Witte, *The Politics and Development of the Federal Income Tax* (Madison, WI: The University of Wisconsin Press, 1985).

Conclusions

The revenue losses from tax expenditures are not trivial. For FY2006, they are estimated to total $945 billion — equivalent to 7.2% of GDP and 39.3% of estimated federal revenues. In comparison, the Congressional Budget Office projects that the FY2006 budget deficit will be $260 billion — about a quarter of the estimated revenue losses from tax expenditures. In recent years, both the dollar amount and the number of tax expenditures have been growing.

Tax expenditures, however, are an important source of government support designated to achieve a variety of economic and social objectives. Of the total government support directed to achieving social policy goals, tax expenditures account for almost a third of this support. But unlike social welfare direct expenditures, the benefits of much of the tax expenditures go to taxpayers in the upper part of the income distribution, and they often subsidize an activity for which the taxpayer receives a benefit. Furthermore, research has questioned the effectiveness of some tax expenditures in achieving the stated social objectives.

Over the years, a number of analysts, academics, and policy makers have voiced their concern about the growing importance of tax expenditures and their effect on long-term fiscal problems. Some members of the 1994 Bipartisan Commission on Entitlement and Tax Reform thought that tax expenditures should be included as part of reforms to rein in entitlement spending. More recently, the Century Foundation Working Group on Tax Expenditures recommended that the Administration and the Congress consider scaling back or eliminating many existing tax expenditures and exercising restraint in proposing new ones. And the Government Accountability Office recommended that tax expenditures be subjected to systematic reviews and performance evaluations. But various observers suggest that neither the executive branch nor Congress appear to have much enthusiasm for such a comprehensive examination.

The research evidence suggests that a comprehensive examination of tax expenditures would likely conclude that

- some tax expenditures make use of the strengths of the tax system and have been successful in achieving their economic or social objectives;
- some tax expenditures address valid economic and social goals, but have been ineffective — direct expenditures may be a more effective means for achieving the objectives; and
- some tax expenditures do not appear justified on either economic or social grounds.

Data and Methods Appendix

Two nationally representative data files are used in the analysis on the progressivity of social welfare expenditures.

2002 Public Use Tax File

The Public Use Tax File is a nationally representative sample of tax returns files for the 2002 tax year. This is the most recent year of tax return data available to the public from the Internal Revenue Service (IRS). To protect the identity of individual taxpayers while preserving the character of the data, the IRS made some changes to the data. Consequently, while reliable aggregate information can be obtained, individual taxpayer records in the data file may or may not contain information from just one tax return. The unit of analysis is the tax return for a taxpayer and IRS-provided sample weights are used throughout the analysis.

March 2003 Current Population Survey

The Current Population Survey (CPS) is a monthly nationally representative sample of the noninstitutionalized population. In March of each year, the Census Bureau includes the Annual Social and Economics supplement with the CPS. The March 2003 supplement includes detailed information about demographic characteristics, income, and income sources for the 2002 calendar year. The year was chosen to match the most recent year of the IRS Public Use Tax File. The unit of observation is the family, and Census Bureau provided sample weights are used in the analysis.

Suits Progressivity Index

The progressivity measure used in the analysis is a modified Suits index. The Suits index was originally developed to measure tax progressivity.[65] Since transfers — either direct transfers or through the tax system — can be considered negative taxes, the modified Suits index used is the negative of the original index developed by Suits.

Figure 3 illustrates the principle behind the Suits index. The horizontal axis measures the cumulative percent of income from poorest to richest. Essentially the income of taxpayers is ranked from poorest to richest and then summed. The first 15% of cumulative income, for example, is the income reported by the poorest 50% of the taxpayers in the sample. The top 40% of cumulative income (from 60% to 100% in the figure) is the income reported by the richest 10% of taxpayers in the sample. The vertical axis measures the cumulative percent of benefits.

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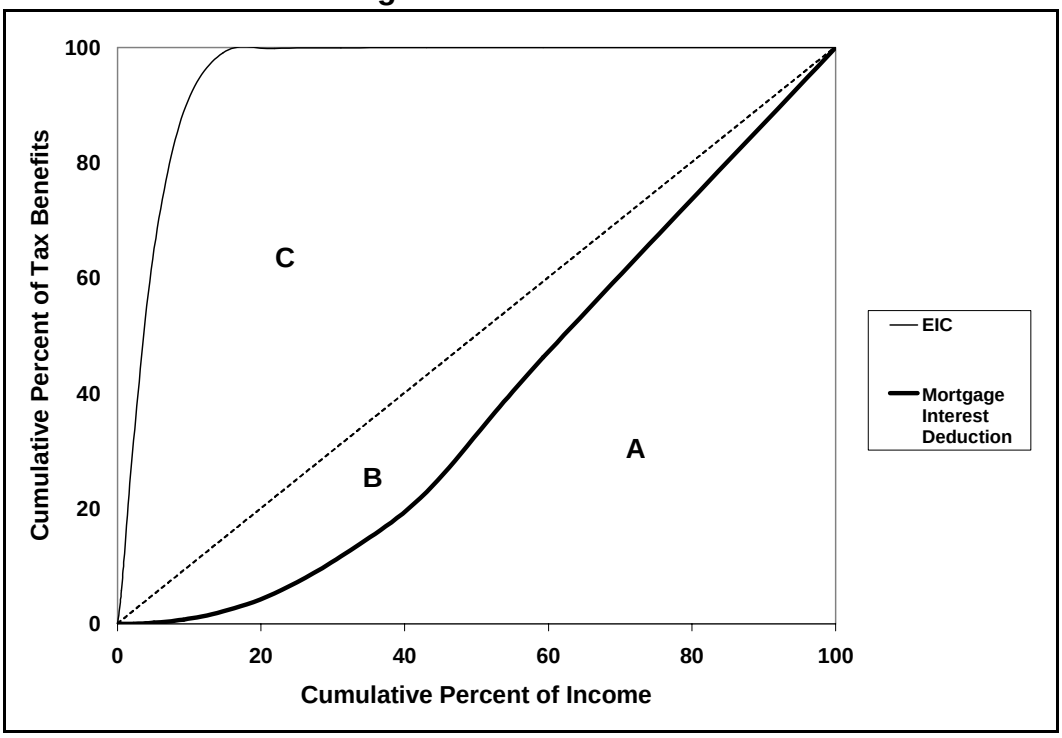
[65] See Daniel B. Suits, "Measurement of Tax Progressivity," *American Economic Review*, vol. 67, no. 4 (Sept. 1977), pp. 747-752.

Figure 3. Lorenz Curves



The curves shown in **Figure 3** are Lorenz curves. The diagonal dashed line in the figure is the Lorenz curve for a proportionally distributed benefit. It does not mean that all taxpayers receive the same benefit level; it means that all taxpayers receive the same proportion of their income in benefits. A progressive benefit (for example, the EIC) will have its Lorenz curve above the diagonal dashed line (see the thin line in the figure). This means that those with lower incomes receive benefits that are a larger proportion of their income than higher income taxpayers. Conversely, a regressive benefit (for example, the mortgage interest deduction) will have a Lorenz curve below the diagonal dashed line (see the heavy curve in the figure).

The modified Suits index is calculated from the information contained in the Lorenz curve diagram. It is equal to negative one plus the ratio of the area under the Lorenz curve to the area under the diagonal dashed line. For the two tax expenditure benefits shown in **Figure 3**, the Suits indices are:

$$S_{EIC} = -1 + \frac{area\ A + area\ B + area\ C}{area\ A + area\ B}$$

and

$$S_{MID} = -1 + \frac{area\ C}{area\ A + area\ B}.$$

The Suits index varies between — 1 (a completely regressive benefit) to +1 (a completely progressive benefit). A Suits index of zero is for a proportional benefit.