Fiscal Distribution Analysis of Single-Parent Families in the United States, FY2004

Fall 2007 Association for Public Policy Analysis and Management (APPAM) Conference
Panel: "Social Policy and Its Effect in the U.S."

November 10, 2007

Robert Rector
Christine Kim

The Heritage Foundation
214 Massachusetts Avenue, NE
Washington, DC 20007
202.546.4400

Abstract. A fiscal deficit occurs when the benefits and services received by one group exceeds the taxes paid. When such a deficit occurs, other groups must pay, through taxes, for the services and benefits of the group in deficit. A fiscal distribution analysis measures the distribution of total government benefits and taxes in society, and assesses the magnitude of government transfers between groups. The present analysis provides a fiscal distribution analysis of families headed by single parents. It measures the total government benefits and services received by this group and the total taxes paid. This paper found that single-parent families are net beneficiaries of government expenditures, that is, as a group they generate a more benefits and services than taxes paid. On average, single-parent families paid $12,497 in total taxes and received $32,522 in immediate government benefits and services. With a $20,025 per family annual fiscal deficit and 13 million single-parent families, the annual aggregate net fiscal costs (or fiscal transfer) amounted to $260.5 billion in FY2004.

Introduction

Each year, families and individuals pay taxes to the government and receive back a wide variety of services and benefits. A fiscal deficit occurs when the benefits and services received by one group exceeds the taxes paid. When such a deficit occurs, other groups must pay, through taxes, for the services and benefits of the group in deficit. Thus, resources are transferred between groups in the fiscal system, and government functions as the transfer mechanism.

In fiscal year (FY) 2004, federal government expenditures totaled $2.3 trillion and state and local expenditures totaled $1.45 trillion, for a combined value of $3.75 trillion. That same year, federal taxes amounted to $1.82 trillion, and state and local taxes and related revenues to $1.61 trillion. The $3.43 trillion in federal, state, and local taxes equaled 91 percent of the $3.75 trillion in expenditures. Government borrowing financed the remaining gap between taxes and spending.

A fiscal distribution analysis measures the distribution of total government benefits and taxes in society, and assesses the magnitude of government transfers between groups. Although previous fiscal incidence studies have focused on the distributional, as well as the redistributional, effect of government taxes and benefits on income, the analytical framework may be applied to other units of analysis that bear policy relevance. The literature on fiscal incidence offers evidence that factors than income, such as household characteristics, appear to be correlated with the distribution of government taxes and spending.

This paper provides a fiscal distribution analysis of families headed by single parents. It measures: (1) the net fiscal balance (total taxes paid minus total benefits and services received) of single-parent families and (2) the magnitude of the fiscal deficit or surplus generated by this group. Since the 1960s, an increasing proportion of children are living in single-parent families. In 2004, more than one child in three was born out of wedlock, one in four was living in a single-parent family, and more than one-half of all children will spend some time in a single-parent living arrangement during their childhood. That single-parent families are disproportionately low-income and recipients of numerous government benefits, from education to means-tested programs, suggests that they bear a relatively low tax burden and a relatively high benefit receipt compared to groups with higher income levels and less targeted by government programs.

This paper found that single-parent families are net beneficiaries of government expenditures (or net tax consumer) in FY2004. That is, as a group, single-parent families received more benefits and services than taxes paid, generating a net fiscal deficit. On average, single-parent families paid $12,497 in total taxes and received $32,522 in immediate government benefits and services. With a $20,025 per family annual fiscal deficit and 13 million single-parent families, the annual aggregate net fiscal costs (or fiscal transfer) amounted to $260.5 billion in FY2004.

The organization of this paper is as follows. Section I begins with a literature review of U.S. fiscal incidence studies,[1] followed a brief outline current trends in single-parent families and their demographic composition in Section II. Section III presents the general methodology, Section IV, summary findings, and Section V, conclusion. Specific methodological topics are detailed in the Appendices.

Section I: The Fiscal Incidence Literature

A fiscal incidence study integrates tax incidence and benefit (or expenditure) incidence. It addresses, in one analysis, the twin questions of "*who* bears the tax burden or receives benefits from government?" and "*how much* taxes paid or benefits received?".

Economist Irwin Gillespie, a pioneer of modern-day fiscal incidence studies, once defined fiscal incidence as the change in an individual's (or a group of individuals') "economic position" after the "introduction of the public sector," whose function "is to divert resources from the private sector of the economy so as to provide goods which satisfy social wants."[2] In other words, fiscal incidence compares the *pre*-tax-and-benefit to the *post*-tax-and-benefit world, or the redistributional effect of paying taxes and receiving government benefits. Like fiscal incidence analysts before and after him, Gillespie operationalized "economic position" as current income, though he acknowledged that wealth might capture more broadly the concept of "economic position."[3] Income class – by decile, quintile, or other income classification – is usually the standard unit of analysis.

Though Gillespie (1965) marked a departure from the earlier literature, a comprehensive fiscal analysis that laid the groundwork for later such studies, analysts on both sides of the Atlantic had been conducting redistribution research for decades.[4] Earlier work on fiscal incidence had been motivated by interest in the redistributive aspect and outcomes of tax and social welfare policies. Though limited in their scope and methodology, these studies nonetheless sought a more coherent theoretical and empirical approach to subject. Chamberlain and Prante (2007), in their review of the literature, concluded that "a general pattern of findings emerged [from those earlier

[1] There is a broad and vigorous international fiscal incidence literature. The U.K., for example, has joined a long and continuous stream of fiscal incidence analyses, many produced by the government, since Tibor Barna's *Redistribution of Incomes through Public Finance* in 1945. The Central Statistical Office, for instance, regularly produces updated fiscal incidence reports. For fiscal incidence studies of other countries, see, for example, Harding *et al.* (2004), Dyck (2003), and Devarajan and Hossain (1995).
[2] Gillespie (1965), p. 124.
[3] *Ibid.*
[4] For a list of earlier fiscal incidence studies, see Gillespie (1965), p. 123.

efforts], most notably that the combined distribution of government spending and taxes is much more redistributive than is apparent from the tax distributions alone."[5]

In general, tax incidence was and still is more developed theoretically and empirically than benefit incidence. Gillespie (1965) saw that as a limitation to fiscal incidence analyses. To address that imbalance, he focused on the allocation of expenditures in his comprehensive fiscal incidence analysis. Overall, Gillespie (1965) found that incidence pattern at the federal level "generally favor[ed] low incomes, burden[ed] incomes, and [was] mainly neutral over a wide middle income range," and at the state and local level, the "pattern also favor[ed] low income, but [was] essentially neutral over both the middle and upper income ranges."[6] Furthermore, state and local benefits to the low-income groups appeared to exceed those of the federal government, a finding that was contrary to the conventional view at the time. In sum, "the middle income brackets pay[ed] the cost of providing themselves with government services," and "redistribution occurs from the upper income brackets to the lower income brackets, but not in the middle income brackets."[7]

The first to use a single data source, the 1960-1961 Survey of Consumer Expenditures, to allocate taxes and benefits, Bishop (1967) found that benefit incidence generally favored low-income families and that there was significant redistribution of income. In what he called the "standard case" (Bishop estimated incidence based on several alternative assumptions), the amount of benefits received was four times the taxes paid for families in the lowest income group in his analysis ($2,000 or less in 1960). By contrast, families in top income group in his analysis ($15,000 or more in 1960) borne a tax burden that exceeded the benefits received by about 160 percent. The break-even point was slightly right of the center of the distribution (at about $6000 in 1960)[8]

The fiscal incidence literature continued to advance after the 1960s, both on the empirical and theoretical fronts. On the empirical front, analysts examined the combined federal, state, and local fiscal system as well as more limited fiscal systems such as just the federal or a municipal budget.[9] While these studies yielded varying patterns at the disaggregated levels, the net distributional effect at the aggregate level is generally and substantially pro poor.

Another significant study in the literature, Ruggles and O'Higgins (1981) used microdata (1970 Census and IRS tax files) and found federal tax burdens to be proportional to incomes cross the income distribution but local tax burdens to be slightly regressive; government expenditures as a share of income, on the other hand, tended to increase as income decrease; although, at the middle of the income distribution, average expenditures were rather comparable. Overall, it

[5] Chamberlain and Prante (2007), p.7
[6] *Ibid.*, p. 165.
[7] *Ibid*., p. 166.
[8] Bishop (1967). p. 190.
[9] The literature tends to be concentrated in the 1970s and 1980s; although, in recent years, there has been a renewed interest in fiscal incidence. For comprehensive analyses, see Reynolds and Smolensky (1977), Ruggles and O'Higgins (1981), Wolff and Zacharias (2004), and Chamberlain and Prante (2007). For limited-scope analyses, see Menchik (1991), Goldberg *et al*. (1974), Greene *et al.* (1976), and Martinez-Vazquez (1982).

appeared that resources were redistributed away from the top three or four income decile to the bottom half of the income distribution.[10]

While most fiscal incidence studies have a single-year accounting period, two studies in the literature analyzed trends in the distributional effect of government taxes and spending over time. Reynolds and Smolensky (1977) analyzed fiscal incidence in 1950, 1961 and 1970, and found that though the distributional impact was large during any given year, the distributional effect did not change between 1950 and 1970. Chamberlain and Prante (2007) found that, between 1991 and 2004, "the overall fiscal system became somewhat more favorable toward households in the four lowest quintiles…and somewhat less favorable toward household in the top quintile."[11]

On the theoretical front, considerable work has been done in the literature as well. Though the basic fiscal incidence framework appears to be straightforward – net distributional effect equals the difference between taxes paid and benefits received – the literature is fraught with theoretically and technical challenges. To begin, analysts have debated about the real definition of "original" or "primary" income and its distribution (or, using a Gillepsie (1965) concept, "economic position") in the complete absence of government activity.[12] Menchik (1991) summed up the conundrum well, "The difficulty is that we don't observe the counterfactual; we do not know how much income a transfer recipient would earn in the no-government state."[13] While analysts have proffered tenable theoretical models on this question, these theoretical models are admittedly difficult, if not infeasible, to operationalize in empirical work.[14]

A second major conceptual issue in the literature involves the valuation and allocation of certain government expenditures. There are two questions within this issue. First, who benefits from government services and benefits that cannot be attributed to a specific user? Second, how much, in dollar amount, are those benefits and services? Gillespie (1965) described two approaches: (1) identify beneficiaries as those on whose behalf government expenditures are expended, or (2) allocate expenditures based on the benefits, or value, they generate for each individual (or unit of analysis). At core is the issue of valuating goods that do not have clearly defined users and that generate present and future externalities. Aaron and McGuire (1970), a seminal work in the literature, critiqued earlier fiscal studies on theoretical grounds and offered a theoretical model for the distribution of public goods based individual preferences.[15] Maital (1973) provided empirical results based on the model in Aaron and McGuire (1970). Analysts since Aaron, McGuire, and Maital have continued to develop the theoretical front on the distributional effect of public goods.[16]

Brennan (1976) provides a counterpoint to Aaron and McGuire. Brennan did not argue against using utility functions to impute the value of public goods to individuals if sufficient information

[10] Ruggles and O'Higgins (1981), p. 141.
[11] Chamberlain and Prante (2007), p. 35
[12] Ruggles and O'Higgins (1981) used the term "original distribution" or "original income," which originated from the Center Statistical Office; Reynolds and Smolensky (1974) used the term "primary distribution."
[13] Menchik (1991), p.270.
[14] Reynolds and Smolensky (1977).
[15] Although the term "public good" connotes a specific mean in public finance, analysts of empirical fiscal incidence studies have not applied a wholly consistent definition.
[16] See, for example, Kaplow (2006).

regarding personal preferences is available. He did, however, argue for a more practical approach (e.g., equal allocation of public goods benefits by household) in the presence of "informational constraints."[17] While analysts recognize and acknowledge the theoretical difficulties involved in fiscal incidence, they, in estimating empirical results, have generally opted for the first approach descried by Gillespie and ask the question "on whose behalf is this expenditure made?". As Ruggles and O'Higgins explain, "In order to be able to make any estimates of the distribution of benefits from public expenditure, it is necessary to deal somehow with these problems."[18]

In addition to the two major theoretical quandaries summarized above, literature reveals a number of other theoretical and technical issues. Examples include the proper accounting period, the appropriate definition of proper income base, and the focal unit of analysis. As noted earlier, most fiscal incidence studies analyze the change in the income distribution after government taxes and spending. Income class, of individuals or a group of individuals such as a household, has been the conventional unit of analysis in the literature. Analysts have noted, however, that examining the distributional effect of taxes and government spending on other units of analysis might yield interesting findings.[19]

Ruggles and O'Higgins (1981), for example, conducted a series of distributional analyses with different focal units, first by income decile, then household size, number of earners in the household, and gender and race of the householder. They found:

> Although income level is highly correlated with taxes paid, income alone does not go very far towards explaining the distribution of public expenditure benefits. Instead, these tend to be correlated with a number of different household characteristics, which vary over the particular public expenditure categories under consideration. Overall the single variable which appears to be most important in determining the distribution of benefits is household size, although the analyses by race and sex of household show, within particular population and income groups other characteristics are also very important.

Aside from Ruggles and O'Higgins (1981), only a few other fiscal incidence studies have focused on units of analysis other than income, most notably the work on the fiscal impact of immigration.[20] This paper explores a demographic characteristic not yet explored in the literature, namely family structure, and focuses on the fiscal distribution of single-parent families in the United States. In addition, this paper, with its relative emphasis on expenditure allocation, seeks to contribute to the development expenditure incidence methodology. Finally, this paper, using 2004 data, provides a portrait of the present fiscal system.

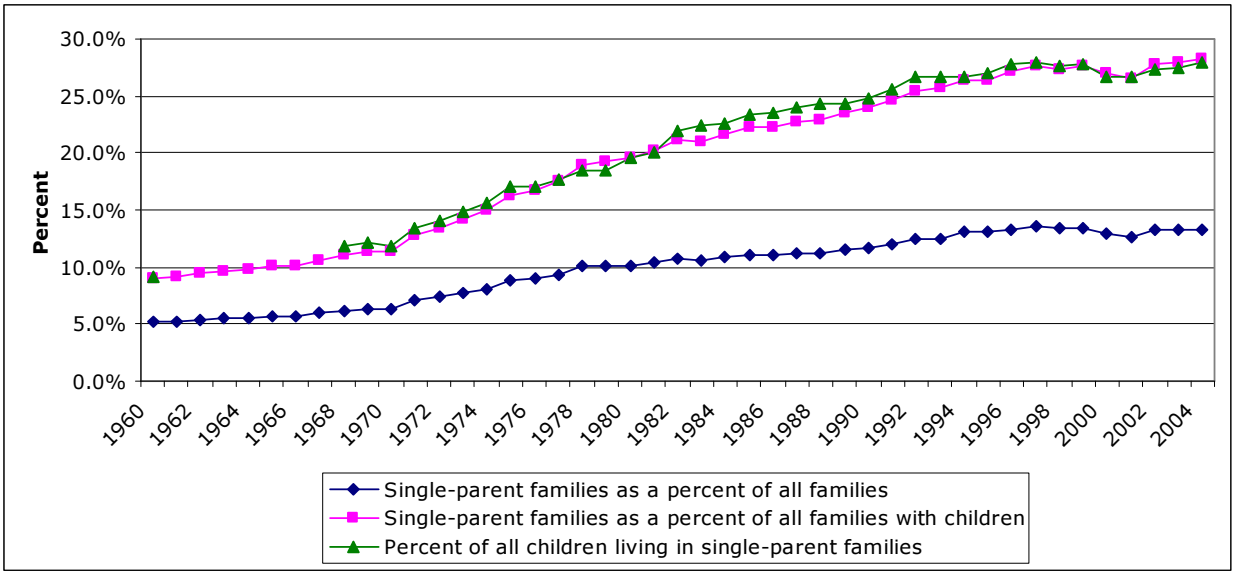
---

[17] Brennan (1976), p. 398.
[18] p.140.
[19] See, for example, Peacock (1954), p. 7; Goldberg *et al.* (1974) on socioeconomic class; Ruggles and O'Higgins (1981) on household characteristics; and Smith and Edmonston, eds. (1997) on immigration status.
[20] See, for example, Smith and Edmondston (1997); Garvey, D., and T. Espenshade (1996), "Fiscal Impact of New Jersey's Immigrant and Native Households on State and Local Government: A New Approach and New Estimates," Office of Population Research, Princeton University.

Section II: Trends in Single-Parent Families

The shift in family structure toward single-parent families is one of the most dramatic demographic trends of the last forty years. In 1960, single-parent families comprised 5 percent of all families or 9 percent of families with children, and about 9 percent of children lived in single parent families at any given point in 1960. The unwed birth rate that year was about 5 percent. By contrast, single-parent families comprised 13 percent of all families and 28 percent of all families with children in 2004. About 28 percent of all children live in single-parent families at any given point during that year, and nearly 37 percent of all births were to single mothers (see Figure 1).[21] With rising trends in unwed childbearing, cohabitation, and divorce, about one-half of all children and women will spend some time in a single-parent living arrangement.[22]

Figure 1: Trends in Single-Parent Families, 1960-2004



Different factors have contributed to the rise of single parenthood over the decades. Increasing divorce rates appeared to have played a major role in the 1960s and 1970s and out-of-wedlock childbearing in the 1980s and 1990s.[23] While the majority of single-parent families are headed by single mothers (over 80 percent), the rise in the number of families headed by single fathers since the 1980s is also noticeable.[24] Nonetheless, despite having increased at a faster rater than

[21] Family structure statistics come from the Current Population Survey, Historical Time Series, Tables CH-1 and FM-1; unwed birth data are presented by Child Trends. The Census definition of single-parent families used here is primary families or family households, and does not include Census' definition of single-parent subfamilies. This is to make a more consistent time series comparison as Census' accounting of sub- and primary families has changed over time. Section III, general methodology, discusses in detail family and subfamily units in the Current Population Survey.

[22] Bumpass and Raley (1995).

[23] Ellwood and Jencks (2004).

[24] Bianchi (1995); Bianchi and Casper (2000). Bianchi (1995) observed that during the 1980s single-father families increased at a faster rate than single-mother families (p. 71). Although 19 percent of single-parent families are headed by single fathers in 2004, single-father constituted only 5 percent of all families with children.

single-mother families since the 1980s, single-father families constituted only about 5 percent of all families with children in 2004.

The rise in single-parent families has not been distributed evenly across various economic and demographic dimensions. Single-parent families tend to be concentrated at the bottom of the income distribution. According to McLanahan (2004), the lowest income quartile saw the great increase in the share of single-parent families compared to other income quartiles. In 1960, 14 percent of mothers in the bottom quartile were single mothers and in 2000, 43 percent (compared to 4.5 percent of married mothers in top quartile in 1960 and 7 percent in 2000).[25] Cut in another way, in 2000, 50 percent of divorced or separated single mothers, 75 percent of never-married single mothers, 38 percent of cohabiting single mothers, and 48 percent of widowed single mothers fell in the bottom income quintile.[26]

Single-parent families also tend to be concentrated among the less educated, and the rise of single-parent families has been unequal along the education distribution. Among children whose mothers are college graduates, only 6 percent lived in single-mother families in 1965; that share increased to 10 percent in 1980 and plateaued thereafter. By contrast, among children of mothers with less than a high school degree, the share of children who lived in single-mother families increased from 13 percent to 40 percent between 1965 and the mid-1990s but have since slightly declined.[27]

Similarly for women, the rate of and the increase in out-of-wedlock childbearing has been higher among less-educated women. In fact, Ellwood and Jencks (2004) observed this trend in every educational group, from those with than less than high school education to those with some college, except among college graduates.[28] Divorce and separation rates, and the increase in these rates since the 1960s, among ever-mothers by educational attainment generally follow a pattern similar to that of out-of-wedlock childbearing; although, the divorce and separation rates among ever-married with less than a high school degree appeared to have decreased and the rates among ever-married college mothers appeared to be unchanged since the mid-1990s.[29] Educational differentials are important to note because of the strong association between education attainment and earnings potential.

That single-parent families tend to be concentrated at the bottom of the income distribution, have lower educational attainment, which impacts their earnings potential, and are recipients of numerous government benefits and services, such as public education and means-tested programs, suggests single-parent family status may be correlated not only with the distribution of taxes paid but also with the allocation of public expenditures. This paper seeks to estimate the net fiscal balance of single-parent families and the magnitude of that net balance.

---

[25] McLanahan (2004), p. 611.

[26] Martin (2006), Figure 3. Compare to 1976, a smaller share of divorced or separated (50 percent vs. 64 percent) and never-married (87 percent vs. 75 percent) single mothers fall in the bottom income quintile. The situation remained the same for widowed single mothers, while the share increased for cohabiting single mothers (38 percent versus 24 percent).

[27] Ellwood and Jencks (2004), p. 10 and Figure 2.7.

[28] Ellwood and Jencks (2004), p. 10 and Figure 2.10.

[29] Ellwood and Jencks (2004), Figure 2.11.

Section III: General Methodology

This paper is based on the core methodological principle on of fiscal comprehensiveness in two regards. First, this analysis seeks to cover all government expenditures and taxes and similar revenue sources for federal, state, and local government. Comprehensiveness helps to ensure balance in the analysis and avoid biases in the conclusions. Second, a basic principle of estimation procedure employed for each expenditure program or category in the analysis is that, if the procedure is replicated for the whole U.S. population, the resulting estimated expenditure will equal expenditures on the program according to the official budgetary documents. The same principle is applied to each tax and revenue category.

Data

The two primary sources of data used in the allocation of government expenditures and taxes are the March 2005 Current Population Survey (CPS) Supplement and the 2004 Consumer Expenditure Survey. Data on federal expenditures were taken from *Historical Tables, Budget of the United States Government, Fiscal Year 2004*. Data on federal taxes and revenues were taken from *Analytical Perspectives, Budget of the United States Government, Fiscal Year 2006*. State and local aggregate expenditures and revenue data were taken from the U.S. Bureau of Census survey of government finances and employment. Added information on state and local spending categories was taken from U.S. Census Bureau, *Federal and Local Governments: 1992 Government Finance and Employment Classification Manual*. Detailed information on means-tested spending was taken from Congressional Research Service, *Cash and Non-cash Benefits for Persons with Limited Income: Eligibility Rules, Recipient and Expenditure Data, FY 2002-FY 2004*. This report provides important information on state and local means-tested expenditures from states' and localities' own financial resources as distinct from expenditures funded by federal grants in aid. Data on Medicaid expenditures for different recipient categories were taken from the Medicaid Statistical Information System (MSIS) as published in *Medicare & Medical Statistical Supplement, 2006*. Other data sources include the 2001 National Household Travel Survey and the 2004 National Nursing Home Survey.

Definition of Single-Parent Families

The Census Bureau defines "family" as "a group of two people or more (one of whom is the householder) related by birth, marriage, or adoption and residing together." A "subfamily" is defined as "a married couple with or without children, or a single parent with one more own never-married children under 18 years old…[and] does not maintain their own household, but lives in the home of someone else."[30] Subfamilies may be related or unrelated to the householder. The count of subfamilies is not included in the count of families after the 1980 Current Population Survey. As single-parent families are the focal unit of analysis, this paper considers single-parent families and single-parent subfamilies as distinct family units. This paper uses martial status as defined in the CPS. Thus, single-parent families with cohabiting partners (with two adults present) are counted as single-parent family units and married-parent families with absent spouses (with one adult present) are counted as married-parent family units.

[30] Census Bureau, *Current Population Survey (CPS) – Definitions and Explanations.*

Calculating Aggregate Federal, State, and Local Spending

This paper seeks to cover all government expenditures and all taxes and similar revenue sources for federal, state, and local government. The first step in a comprehensive analysis of the distribution of benefits and taxes is to count accurately the cost of all benefits and services provided by the government. In fiscal year (FY) 2004, the expenditures of the federal government were $2.3 trillion. In the same year, expenditures of state and local governments were $1.4 trillion. The combined value of federal, state, and local expenditures in FY2004 was $3.75 trillion (see Appendix Tables D-3 and D-6). On the revenue side, federal taxes in FY 2004 amount to $1.82 trillion. State and local taxes and related revenues amounted to $.16 trillion.[31] Together, federal, state and local taxes amounted to $3.43 trillion, which came to 91 percent of the $3.75 trillion in expenditures. The gap between taxes and spending was financed by government borrowing. Aggregate federal expenditures at the sub-function level were taken from *Historical Tables, Budget of the United States Government, FY 2007*. These data are presented in Appendix Table D-3. State and local aggregate expenditures were based on data from the U.S. Bureau of Census survey of government.

Two modifications were necessary to yield an estimate of the overall combined spending for federal, state, and local government. First, some $408 billion in state and local spending is financed by grants in aid from the federal government. Since these funds are counted as federal expenditures, federal grants in aid were deducted from the appropriate categories of state and local spending, so as to avoid double counting.

A second modification involves the treatment of market-like user fees and charges at the state and local levels. These transactions involve direct payment of a fee in exchange for a government service: for example, payment of an entry fee at a park. User fees are described in the federal budget in the following manner:

> [I]n addition to collecting taxes…the Federal Government collects income from the public from market-oriented activities and the financing of regulatory expenses. These collections are classified as user charges, and they include the sale of postage stamps and electricity, charges for admittance to national parks, premiums for deposit insurance, and proceeds from the sale of assets such as rents and royalties for the right to extract oil from the Outer Continental Shelf.[32]

In the federal budget, user fees are not counted as revenue, and the government services financed by user fees are not included in the count of government expenditures. As the Office of Management and Budget states:

> [User charges] are subtracted from gross outlays rather than added to taxes on the receipts side of the budget. The purpose of this treatment is to produce budget totals for receipts, outlays, and budget authority in terms of the amount

[31] This figure includes property income earned by the government such as sale of assets or interest earned on assets.
[32] OMB (2006b), p. 301.

> of resources allocated governmentally, through collective political choice, rather than through the market.[33]

In contrast, Census tabulations of state and local government finances include user fees as revenue and also include the cost of the service provided for the fee as an expenditure.[34] The most prominent user fees treated in this manner in the Census state and local government financial data are household payments to public utilities for water, power, and sanitation services. But market-like, user fee payments of this type do not involve a transfer of resources from one group to another or from one household to another. In addition, government user fee transactions do not alter the net fiscal deficit or surplus of any household (defined as the cost of total government benefits and services received minus total taxes and revenues paid) because each dollar in services received will be matched by one dollar of fees paid. Finally, determining who has paid a user fee and received the corresponding service is very difficult.

For these reasons, this paper has applied the federal has applied the federal accounting principle of excluding most user fees from revenue tallies and excluding the services funded by the fees from the count of expenditures to state and local government finances. As noted, the inclusion or exclusion of these user fees has no effect on the net fiscal deficit or surplus.

Types of Government Expenditures

After the full cost of government benefits and services has been determined, the next step in the analysis of the fiscal distribution analysis is determine the beneficiaries of specific government program. Some programs, such as Social Security, neatly parcel out benefits to specific individuals. For those programs, both the beneficiaries and the cost of the benefit provided are relatively easy to determine. At the opposite extreme, other government programs (for example, medical research at the National Institute of Health) do not neatly parcel out benefits to individuals. Determining the proper allocation of the benefits of that type of program is more difficult.

To ascertain most accurately the distribution of government benefits and services, this study begins by dividing government expenditures into six categories: (1) direct benefits, (2) means-tested benefits, (3) educational services, (4) population-based services, (5) interest and other financial obligations resulting from prior government activity, and (6) pure public goods.

Direct Benefits

Direct benefits programs involve either cash transfers or the purchase of specific services for an individual. By far the largest direct benefit programs are Social Security and Medicare. Other substantial direct benefit programs are Unemployment Insurance and Workmen's Compensation. Direct benefit programs involve a fairly transparent transfer of economic resources. The benefits are parceled out discretely to individuals in the population; both the recipient and the cost of the benefit are relatively easy to determine. In the case of Social Security, the cost of the benefits

[33] *Ibid.*
[34] Census Bureau (2000), sections 3.31 and 7.24.

would equal the value of the Social Security check plus the administrative costs involved in delivering the benefit.

Calculating the cost of Medicare services is more complex. Ordinarily, the government does not seek to compute to the particular medical services received by an individual instead government counts the cost of Medicare for an individual as equal to the average per capital cost of Medicare services. (The number equals the total cost of Medicare services divided by the total number of recipients.)[35] Overall, government spent $840 billion on direct benefits in FY 2004.

Means-Tested Benefits

Means-tested programs are available only to households below specific income thresholds. The federal government operates over 60 means-tested programs.[36] The largest of these are Medicaid; the Earned Income Tax Credit (EITC); food stamps; Supplemental Security Income (SSI); Section 8 housing, public housing, Temporary Assistance to Needy Families (TANF); the school lunch and breakfast programs; the WIC (Women, Infant, and Children) nutrition program; and the Social Services Block Grant (SSBG). Many means-tested programs, such as SII and the EITC, provide cash to recipients. Other such as public housing or SSBG, pay for services that are provided to recipients.

The value of Medicaid benefits is usually counted in a manner similar to Medicare benefits. Government does not attempt to itemize the specific medical services given to an individual; instead, it computes an average per capita cost of services to individuals in different beneficiary categories such as children, elderly persons, and disabled adults. (The average per capita cost for a particular group is determined by dividing total expenditures on the group by the total number of beneficiaries in the group.) Overall, the U.S. spent $564 billion on means-tested aid in FY 2004.[37]

Public Education

Government provides primary, secondary, post-secondary, and vocational education to individuals. In most cases, the government pays directly for the cost of educational services provided. In other cases, such as the Pell Grant program, the government in effect provides money to an eligible individual who then spend it on education. Education is the single largest component of state and local government spending, absorbing roughly a third of all state and local expenditures. The average per pupil cost of public primary and secondary education is now about $9,600 per year. Overall, federal, state, and local governments spend $590 billion on education in FY 2004.

Population-Based Services

[35] The Census Bureau, for example, assigns Medicare costs in this manner in the Current Population Survey.
[36] See CRS (2006).
[37] This spending figure excludes means-tested veterans programs and most means-tested education programs.

Whereas direct benefits, means-tested benefits, and education services provide discrete benefit and services to particular individuals, population-based programs generally provided services to a whole group or community. Population-based expenditures include policy and fire protection, courts, sparks, sanitation, and food safety and health inspections. Another important population-based expenditure is transportation, especially roads and highways.

A key feature of population-based expenditures is that such programs generally need to expand as the population of a community expands. (This quality separates them from pure public goods, described below). For example, as the population of a community increases, the number of policy and fireman will generally need to expand in proportion.

In its study of the fiscal costs of immigration, *The New Americans*, the National Academy of Sciences argued that if service remains fixed while the population increases, a program will be "congested," and the quality of service for users will deteriorate. Thus, the NAS uses the term "congestible goods" to describe population-based services.[38] Highways are an obvious example of this point. In general, the cost of population-based services can be allocated according to an individual's estimated utilization of the service or at a flat per capita cost across the relevant population.

A sub-category of population-based services is government administrative support functions such as tax collections and legislative activities. Few taxpayers view tax collection as a government benefit; therefore, assignment the cost of this "benefit" appears problematic. The solution to this dilemma is to conceptualize government activities into two categories: primary functions and secondary functions. Primary functions provide benefits directly to the public; they include direct and means-tested benefits, education, ordinary population-based services such as police and parks and public goods. By contrast, secondary or support functions do not provide direct benefits to the public but do provide necessary support services that enable the government to perform primary functions. For example, no one can receive food stamp benefits unless the government first collects taxes to fund the program. Secondary functions can thus be considered as inherent part of the "cost of production" of primary functions, and the benefits of secondary support functions can be allocated among the population in proportion to the allocation of benefits from government primary functions.

Government spent $622 billion on population-based services in FY 2004. Of this amount, some $546 billion went for ordinary services such as policy and parks, and $116 billion went for administrative support functions.

Interest and Other Financial Obligations Relating to Past Government Activities

Interest payments for government debt are in fact partial payments for past government benefits and services that were not fully paid for at the time of delivery. Similarly, government employees deliver services to the public. Part of the cost of service is paid for immediately through the employee's salary, and government employees are also compensated by future retirement benefits. Expenditures of public sector retirement are thus to a considerable degree, present payments in compensation for services delivered in the past. The expenditure category

[38] Smith and Edmonston, eds. (1997), p. 303.

"interest and other financial obligations relating to past government's activities" thus includes interest and principal payments on government debt and outlays for government employee retirement. Total government spending on these items equaled $468 billion in FY 2004.[39]

Pure Public Goods

Economic theory distinguishes between "private consumption goods" and pure public goods. Economic Paul Samuelson is credited with first making this distinction. In his seminal 1954 paper, Samuelson defined a pure public good (or what he called in the paper a "collective consumption good") as a good "which all enjoy in common in the sense that each individual's consumption of such a good leads to no subtractions from any other individual's consumption of that good." By contrast, a "private consumption good" is a good that "can be parceled out among different individuals."[40] Its use by one person precludes or diminishes its use by another.

A classic example of a pure public good is a lighthouse. The fact that one ship perceives the warning beacon does not diminish the usefulness of the lighthouse to other ships. Another clear example of a governmental pure public good would be future cure for cancer produced by government-funded research. The fact that non-taxpayers would benefit from this discovery would neither diminish its benefits nor add extra costs to taxpayers. By contrast, an obvious example of a private consumption good is hamburger: when one person eats it, it cannot be eaten by others.

Direct and means-tested benefits and education services are private consumption goods in the sense that use of a benefit or service by one person precludes or limits the use of that same benefit by another. (Two people cannot cash the same Social Security check.) Population-based services such as parks and highways are often mentioned as "public good," but they are not pure goods in the strict sense described above. In most cases, as the number of persons using a population-based service (such as highways and parks) increases, either the service much expand (at added costs to taxpayers) or the service will become "congested" and its quality will be reduced. Consequently, the use of population-based services such as policy and fire departments by non-taxpayers does impose significant extra costs on taxpayers.

Government pure public goods are rare; they include scientific research, defense, spending on veterans, international affairs, and some environmental protection activities such as the preservation of endangered species. Each of these functions generally meets the criterion that the benefits received by non-taxpayers do not result in a lost of utility for taxpayers. Government pure public good expenditures on these functions equaled $628 billion in FY 2004. Interest payments on government debt and related costs resulting from public good spending in previous years added an estimated additional cost of $67 billion, bringing the total public goods cost in FY 2004 to $695 billion.

Table 1: Summary of Total Federal, State, and Local Expenditures, FY2004

[39] Of this total, an estimated $67 billion represents the costs of financial obligations resulting from past public goods expenditures. These costs are entered in the public goods category.
[40] Samuelson (1954), p. 378-389.

	Federal Expenditures (in millions)	**State and Local Expenditures** (in millions)	**Total Expenditures** (in millions)	**Percentage of Total Expenditures** (Including Pure Public Good Expenditures)	**Percentage of Total Expenditures** (Excluding Public Pure Good Expenditures)
Direct Benefits	$783,350	$57,607	$804,957	22.4%	27.5%
Means-Tested Benefits	$406,512	$158,240	$564,752	15.0%	18.5%
Educational Benefits		$530,801	$590422	15.7%	19.3%
Population-Based Services	$180,122	$481,696	$661,818	17.6%	21.6%
Interest and Related Costs	$182,000	$219,260	$401,260	10.7%	13.1%
Pure Public Good Expenditures	$694,153	$1,050	$695,203	18.5%	22.7%
Total Expenditures	**$2,305,758**	**$1,448,654**	**$3,754,412**	**100.0%**	
Total Expenditures Less Pure Public Good Expenditures	$1,611,605	$1,447,604	$3,059,209		100.0%

Taxes and Revenues

Total taxes and revenues for federal, state, and local governments amount to $3.43 trillion in FY 2004. A detailed breakdown of federal, state, and local taxes is provided in Appendix Table D-7. The biggest revenue category was the federal income tax, which was $808 billion in 2004, followed by Federal Insurance Contribution Act (FICA) taxes at $685 billion. Property tax was the biggest revenue producer at the state and local levels, generating $318 billion, while general sales taxes gathered $244 billion.

Allocation Estimation Procedures

Estimating the Allocation of Direct and Means-Tested Benefits

In most cases, the dollar cost of direct benefits and means-tested benefits received by single-parent families was estimated by the dollar cost of benefits received as reported in the CPS. One

problem with this approach is that the CPS underreports receipt of most government benefits. This means that the aggregate dollar cost of benefits for a particular program as reported in the CPS is generally less than the actual program expenditures according to government budgetary data. To be consistent, any fiscal analysis must adjust for benefit underreporting. Smith and Edmonston (1997), for example, adjusted for such underreporting.[41]

This paper adjusts for underreporting in the CPS with a simple mathematical procedure that increases overall spending on any given program to equal actual aggregate spending levels and increases expenditures on single-parent families in an equal proportion. Let:

E_{tx} = Total expenditures for program x reported in the CPS;
E_{px} = Expenditures for program x for single-parent families reported in the CPS;
E_{bx} = Total expenditures for program x according to independent budgetary sources; and
F_p = Number of single-parent families in CPS.

Then:

E_{px}/E_{tx} = Share of expenditures received by single-parent families reported in the CPS;
$(E_{px}/E_{tx}) \times E_{bx}$ = Actual expenditures allocated to single-parent families; and
$(E_{px}/E_{tx}) \times (E_{bx}/F_p)$ = Average program x benefit per single-parent family.

The key assumption behind this underreporting adjustment procedure is that single-parent families underreport receipt of welfare and other government benefits at roughly the same rate as the general population. As there is no evidence to suggest that single-parent families underreport government benefits to the Census at a rate different from that of the general population, this procedure appears valid as an estimating technique.

Estimating the Allocation of Education Expenditures

The average cost of public education services was calculated in somewhat a different manner since the CPS reports whether an individual in enrolled in a public school but does not report the cost of education services provided. Consequently, data from the Census survey of governments were used to calculate the average per pupil cost of public and secondary education in each state.[42] The total governmental cost of primary and secondary schooling for each household was then estimated by multiplying the number of enrolled pupils in the household by the average per pupil cost in the state where the household resides. This procedure yielded estimates of total public and primary and secondary education costs for single-parent families and for the whole population in the October 2004 CPS Supplement.[43] Adjustment for underreporting in the CPS were made according to the procedures outline above. Public costs for post-secondary education were allocated in a similar manner.

Estimating the Allocation of Medical Expenditures

[41] p. 308.
[42] Census (2006). Costs included both current expenditures and capital outlays.
[43] The October CPS Supplement contains more accurate school enrollment data than the March CPS Supplement.

The Census does not determine the costs of medical treatments given to particular person. Instead, it calculates the average cost of Medicaid or Medicare benefits per person for a particular demographic/beneficiary group. For example, per capita Medicaid costs for children are very different from those for the elderly. The Census assigns the appropriate per capita Medicaid or Medicare costs to each individual who reports coverage in the CPS that equals to the average government for each individual who reported Medicare or Medicaid coverage.

Allocation of Medicaid expenditures is complicated by the fact that a significant portion of those expenditures goes to person in long-term care institutions who are not counted in the CPS. In the average month in 2004, some 1.65 million individuals resided in long-term care institutions, of whom about 62 percent reported receiving Medicaid assistance.[44] The first step in allocating Medicaid expenditures is to determine the share of expenditures going to institutionalized and non-institutionalized person within each of the four primary recipient groups: elderly, children, non-elderly disabled adults, and non-elderly able-bodied adults. The procedures for determining this are presented in Appendix C. Once non-institutionalized expenditures have been separated from institutionalized expenditures, the single-parent family share of Medicaid spending in the general/non-institutional population can be determined for each of the recipient categories directly from CPS data. The demographic characteristics of long-term institutional care residents and those of family-parent families do not match very well, specifically for the categories of adult (disabled and non-disabled) and elderly. Therefore, the only institutionalized recipient category assumed to have a single-parent family share is the children's recipient category.

Estimating the Allocation of Population-Based Services

Wherever possible, this paper has allocated the cost of population-based services for single-parent families in proportion to their estimated utilization of those services. For example, the proportionate utilization of roads and highways by single-parent families were estimated, in part, on the basis of their share of gasoline purchases as estimated in the Consumer Expenditure Survey (CS). When an estimate of proportionate utilization was not possible, the cost of population-based services were allocated on a uniform per capita basis.

Estimating the Allocation of the Costs of General Government and Administrative Support Services

Allocation of the costs of general government services such as tax collections and legislative functions presents difficulties since there are no apparent direct beneficiaries. Most taxpayers would regard IRS collection activities as a burden, not a benefit; however, while government administrative function *per se* do not benefit the public, they do provide necessary foundation that makes all other government benefit and service programs possible. It seems reasonable to integrate proportionally the cost of government support services into the cost of other government functions that depend on those services. Following this reasoning, the expenditures

[44] In the average month in 2004, about 1.49 million individuals reside in nursing homes. According to the Census, another estimated 155,000 individuals resided in long-term care institutions other than nursing homes. Medicaid is the primary source of payment of residents entering nursing facilities. According to the authors' tabulation of the 2004 National Nursing Home Survey (NNHS), about 62 percent of residents reported receiving Medicaid assistance in the month prior to the survey.

for general government and administrative support have been allocated among families in the same proportions that total direct benefits, means-tested benefits, education, and population-based services are distributed among families.[45]

Estimating the Allocation of Financial Obligations Relating to Past Government Activities

When government revenues do not cover the full cost of government benefits and services, a portion of annual costs is passed on to be paid in future years, through two mechanisms. First, when government expenditures exceed revenues, the government runs a deficit and borrows funds. The cost of borrowing is passed to future years in the form of interest payments and repayments of principal on publics. Second, when a government employee provides a service to the public, part of the cost of that service is paid for immediately through the employee's salary, but the employee may also receive government retirement benefits in the future in compensation for services provided in the present. Expenditures on public-sector retirement systems are thus, to a considerable degree, present payments in compensation for services delivered in the past.

The allocation procedure for these costs associated with past services among the present-day population is uncertain. In this paper, the following procedure was used. First, veteran benefits were regarded as compensation for pure public goods and were allocated as such. Second, the share of debt payment associated with past public good expenditure was considered a pure public good itself and allocated as such. Third, the remaining interest and government retirements were allocated in proportion to the share of all direct benefits, means-tested benefits, education, and population services received by single-parent families in FY2004.

Estimating the Allocation of Pure Public Goods

Government pure public goods include expenditures on defense, veterans, international affairs, scientific research, and part of spending on the environment, as well as debt obligations relating to past public good spending. The total cost of pure public goods was divided by the whole U.S. Population to determine a per capita cost.[46]

Estimating the Allocation of Taxes and Other Government Collections

The distribution of federal and state income taxes was calculated from CPS data. The Census imputes tax payments into the CPS based on a family's income and demographic characteristics and the appropriate federal and state tax rules; however, since income is underreported in the CPS, this means that imputed taxes will also be too low. Thus, the imputed tax payments in the CPS were adjusted to equal the aggregate income tax revenue reported in government budgetary documents.

The procedures for adjusting the underreporting of federal and state income taxes were the same as those used to adjust for underreporting of expenditures. For example, for federal income tax, let:

[45] Approximately 27 percent of total federal expenditure is devoted to pure public good function; thus, 27 percent of federal support service expenditure was assumed to assist public good functions.
[46] For a more detailed discussion on public goods, see Appendix B.

T_t = Total income tax reported in the CPS;
T_{pt} = Total income tax for single-parent families reported in the CPS;
T_b = Total income tax according to independent budgetary sources; and
F_p = Number of single-parent families in CPS

Thus:

T_{pt} / T_t = Share of taxes paid by single-parent families as reported in the CPS;
$(T_{pt} / T_t) \times T_b$ = Actual taxes allocated to single-parent families;
$(T_{pt} / T_t) \times (T_b/F_p)$ = Average taxes paid per single-parent family.

Employees were assumed to pay both the "employee" and "employer" share of FICA taxes. Allocation of FICA taxes was estimated based on the distribution reported in the CPS, adjusted for underreporting in the manner described above.

The incidence of federal and state corporate profits tax was assumed to fall 70 percent on workers and 30 percent on owners of capital.[47] The workers' share was allocated according to the distribution of earnings in the CPS; the owners' share was allocated according to the allocation of property income in the CPS.

Sales and excise taxes were assumed to fall on the consumers; tax payments were estimated based on the share of total consumption of relevant commodity or commodities in the Consumer Expenditure Survey (CS). For example, since the CS reported that single-parents consumed 12.9 percent of the sales of tobacco products, these same families were estimated to pay a corresponding 12.9 percent of all excise and sales taxes on tobacco products.

Section IV: Results

Demographic Characteristics

Table 2 summarizes the demographic characteristics of single-parent families (and for comparison purposes, demographic characteristics of all families and married-parent families are presented as well). In 2004, there were an estimated 13 million single-parent families in the United States. Some 38.7 million individuals, about 13.3 percent of the U.S. population, lived in single-parent families. Of the 13 million single-parent families, an estimated 17.8 percent were single-parent subfamilies, or family units that resided in the household of another family. On average, single-parent families had three individuals per family.

With some 28 million earners residing in single-parent families, each single-parent family contained, on average, approximately two individuals who reported any earnings in 2004.[48] Single-parent families contained, on average, one earner per family compared to one-and-a-half earners per family in all family units and nearly two earners per family in married-parent family units. Not surprisingly, single-parent families had lower average earnings per family compared

[47] Randolph (2006).
[48] An earner in the CPS is anyone above the age of 15 with at least $1 in reported wages or salaries, or at least $1 in net income loss from reported farm or non-farm self-employment.

to the all family units and married-parent families. Interestingly, although married-parent families had nearly twice the number of earners per family compared to single-parent families, married-parent families had, on average, nearly three times the average annual earnings per family as that of single-parent families ($75,207 versus $25,843).

On average, single parents were slightly younger than married parents (36 years of age versus 39 years of age). Among single parents, the average age varied by marital history. Never-married single parents, the largest group of single parents (about 44 percent) were, on average, the youngest (average age 30 years), and widowed single parents were, on average, the oldest (average age 52 years). The average ages of divorced and separated single parents were 40 years and 38 years, respectively.

Single parents, as noted earlier, are predominately female, about 81 percent in 2004. Compared to all family reference persons and married parents, single parents tended to have lower educational attainment. Some 19 percent of single parents did not have high school degrees compared to 15 percent of all family reference person and 12 percent of married parents. About a third of single parents were high school graduates and another third reported some college education. However, the education differentials were the most apparent at the higher education levels. Married parents were twice as likely as single parents to be college graduates (21.5 percent versus 9.4 percent), and more than three times as likely to hold a graduate degree (11.6 percent versus 3.6 percent). In regard to racial and ethnic background, about one half of all single parents were white, about 27 percent were black, and 18 percent were Hispanic.

Table 2: Demographic Characteristics of Single-Parent Families

	Single-Parent Families	**All Families**	**Married-Parent Families**
Number of family units (includes primary family and subfamily units)	13.0 million	80.7 million	27.7 million
Percent of family units that are primary families	82.2%	95.2%	97.3%
Percent of family units that are subfamilies	17.8%	4.8%	2.7%
Number of persons in family units	38.7 million	241.6 million	113.4 million
Persons per family	3.0	3.0	4.1
Adults per family	1.3	1.8	2.6
Children per family	1.7	0.9	1.9
Number of earners in family units	13.9 million	119.8 million	51.2 million
Earners per family	1.1	1.5	1.8
Earnings per family	$25,843	$54,856	$75,207
Census person income per family	$31,953	$67,756	$82,980
Mean age of family reference	36.4	47	39.6

person

Gender of the family reference person	(% of Total)	(% of Total)	(% of Total)
Female	80.8%	47.3%	40.2%
Male	19.2%	52.7%	59.8%
Educational attainment of family reference person	**(% of Total)**	**(% of Total)**	**(% of Total)**
Less than a high school degree	19.4%	14.8%	12.3%
High school degree	35.4%	31.2%	27.1%
Some college	32.2%	27.2%	27.6%
Bachelor's degree	9.4%	17.3%	21.5%
Graduate degree	3.6%	9.5%	11.6%
Racial and ethnic background of family reference person	**(% of Total)**		**(% of Total)**
White	50.2%	69.5%	68.0%
Black	26.8%	11.5%	8.0%
Hispanic	18.2%	13.0%	16.7%
Asian	2.2%	4.4%	5.8%
Native American and Alaskan Native	1.0%	0.6%	0.6%
Other	1.7%	1.1%	1.0%
Marital status	**(% of Total)**	**(% of Total)**	**(% of Total)**
Married (spouse present)		73.6%	97.7%
Married (spouse absent)		1.2%	2.3%
Widowed	5.3%	3.3%	
Divorced	37.5%	8.9%	
Separated	12.8%	2.6%	
Never married	44.4%	10.4%	

Notes: Authors' tabulation; weighted population estimates, March 2005 CPS Supplement. Single-parent family units are defined as primary family and subfamily units in the CPS whose reference person's marital status is separated, divorced, widowed, or never married and has at least one child under the age of 18.

Government Benefits and Services Received by Single-Parent Families. The focus of this paper is the benefits received and the taxes paid by single-parent families, and the group's net fiscal balance. Appendix Table D-1 shows the estimated benefits and services received by single-parent families in 51 separate expenditure categories. The results are summarized in Table 3.

Overall, in FY2004, single-parent families received, on average of $32,522 per family in immediate benefits and services, including direct benefits, means-tested benefits, education, and

population-based services. If expenditures for interest and other financial obligations relating to past government activities are added to the count, the average expenditures per family rise to $37,476. If the cost of public goods is added, annual total expenditures on benefits and services come to $44,579 per family.

Means-tested aid constituted the largest expenditure category received by single-parent families, an estimated average of $12,391 per family, followed by education services, $11,602 per family. These two categories constituted over one half of all government benefits and services received by single-parent families, which is not surprising. Nearly 30 percent of children resided in single-parent families, and these families are the targeted recipient group of numerous means-tested aid programs. In FY2004, single-parent families also received an estimated average of $6,200 per family in population-based services, $2,330 of which were in police, fire, and public safety benefits, and $1,042 of which were in transportation services.

Table 3: Expenditure Allocation Summary

Expenditure Category	Average Expenditure per Family	Category Share of Average Expenditures per Family
Direct Benefits	$2,328	7%
Education Benefits	$11,602	36%
Means-Tested Benefits	$12,391	38%
Population-Based Benefits	$6,200	14%
Past Financial Obligations	$4,954	11%
Pure Public Goods	$7,103	16%
Total Benefits	$44,579	100%
Total Benefits Less Pure Public Goods and Past Financial Obligations Associated with Such Goods	$37,476	
Total Benefits Less Past Financial Obligations and Pure Public Goods	$32,522	

It is important to note that the costs of benefits and services summarized in Table 3 are a composite average of all single-parent families. They represent the total costs of benefits and services received by single-parent families divided by the number of such families. It is unlikely that any single family would receive this exact package of benefits. Nonetheless, the figures are an estimated portrayal of the governmental benefits and services expended on behalf of single-parent families. When combined with similar data on taxes paid, they enable an assessment of the fiscal status of such families as a group and their impact on other groups in the fiscal system.

Taxes and Revenues Paid by Single-Parent Families. Appendix Table D-2 details the estimated taxes and revenues paid by single-parent families in 31 categories. The results are

summarized in Table 4. Overall, single-parent families paid $12,497 in federal, state, and local taxes, about $6,821 in federal taxes and revenues and $5,676 in state and local taxes and revenues. Federal Insurance Contribution Act (FICA) comprised the largest tax burden for single-parent families (workers were assumed to pay both the employee and employer share of FICA taxes), on average about 27 percent of all taxes paid. Federal, state, and local individual income taxes amounted to about 21 percent of all taxes paid. This analysis assumed that a significant portion of property taxes and rental and business properties were passed through to renters and consumers; this resulted in a tax burden of $1,623 property tax burden for an average single-parent family. On average, single-parent families paid $1,398 in general sales taxes. Property and general sales taxes comprised about a quarter of the total tax burden for an average single-parent family. This analysis also assumed that 70 percent of corporate income taxes fell on workers; this contributed to an average of $855 in federal, state, and local corporate income tax burdens for single-parent families.

Table 4: Taxes and Revenues

Tax and Revenue Category	Average Taxes and Revenues Paid per Family	Share of Total Average Taxes and Revenue Paid per Family
Total Federal Taxes and Revenues	$6,821	55%
FICA	$3,394	27%
Federal Individual Income Taxes	$1,877	15%
Federal Corporate Income Taxes	$726	6%
Total State and Local Taxes and Revenues	$5,676	45%
Property Taxes	$1,623	13%
General Sales Taxes	$1,398	11%
State and Local Individual Income Taxes	$703	6%
Total Taxes and Revenues Paid	$12,497	100%

Net Fiscal Balance. In FY2004, single-parent families received, on average, $32,522 per family in immediate government benefits and services, including direct and means-tested benefits and education and population-based services, which was about $6,679 more than the average earnings per single-parent family of $25,843. Average total government expenditures per family rose to $37,778, if interest and governmental financial obligations are included. On the tax and revenue side, single-parent families paid, on average, $12,497 in taxes and revenues per family in FY2004. Thus, single-parent families received at least two-and-a-half dollars in government benefits and services for each dollar in taxes paid. If the costs of public goods and governmental

financial obligations are added, the ratio rises to $3 in services and benefits to one dollar in taxes paid. This $3-to-$1 ratio does not include the $7,103 in average public goods benefits received per family. Not including public goods and past financial obligations of the government, single-parent families generated, on average, a net fiscal deficit (taxes paid minus benefits and services received) of $20,025 per family. At the aggregate level, with 13 million single-parent family units, single-parent families generated a net fiscal deficit of $260.5 billion. This sum includes direct benefits, means-tested benefits, education and population-based services. Including single-parent families' share of interest and other financial obligations related to past government activities, the net fiscal deficit would come to $324.9 billion. Including public goods benefits, the net fiscal deficit would be on the magnitude of $417.3 billion.

Table 6: Ratio of Benefits and Services Received to Taxes Paid per Family

	Ratio of Benefits & Services Received to Taxes Paid
Total Benefits	3.6
Total Benefits Less Pure Public Goods and Past Financial Obligations Associated with Such Goods	3.0
Total Benefits Less Past Financial Obligations and Pure Public Goods	2.6

Limitations and Caveats. Admittedly, any fiscal distributional analysis is accurate insofar as the data on which its estimations are based are accurate. To the extent that this analysis captures the true net fiscal balance of taxes paid and government benefits and services received by single-parent families depends on the how well the survey data reflect the true patterns and characteristics of single-parent families. As noted earlier, income and certain benefit receipts, for example, are underreported in the Current Population Survey, which required adjustments to correct for the underreporting in this paper, or are imputed by the Census Bureau using statistical estimation procedures.

A second limitation to determining "true" fiscal impact involves a host of issues inherent in any fiscal distribution analysis. The debate in the literature on determining the "true" valuation of benefits (dollar cost of expenditures versus utility generated), particularly the value of public goods, and the "true" incidence (those on whose behalf a particular expenditure is made or some other beneficiaries not immediately observed) illustrates this point well. This paper also assumed the value of benefits to equal the dollar amount expended by government; it did not, as most fiscal incidence studies do not, account for the externalities, negative or positive, generated by government activities and the beneficiaries of those externalities. The classic example is education: while education clearly and directly benefits enrolled students, it has been argued that

education generates positive externalities and benefits society as whole. This paper estimated education benefits based on total government expenditures on education and the number of enrolled students. Another caveat is the accounting period. The fiscal system is dynamic, and one accounting period impacts the next. This paper is a one-period analysis; it estimated the net fiscal balance of single-parent families in FY2004 when the single parents were on average in their mid-thirties and have children under the age of 18 present in the home.

A caveat should also be made of allocation assumptions. A different set of allocation assumptions, or even a few different assumptions on the key expenditure or tax categories, may yield different results. As George Bishop (1967) notes, "Estimating the distribution of the tax burden and expenditure benefits require assumptions about the incidence of taxation and the distribution of benefits. The most complete survey data cannot remove the need to assumptions, some of which are more generally accepted than others."[49] This paper followed the conventional incidence assumptions and distributors in the literature. Nonetheless, as the literature shows, there is not one definitive set of approved assumptions and distributors. This is particularly true of expenditure incidence, which is less well developed than tax incidence and the emphasis of this paper. Finally, this paper seeks to estimate the net fiscal balance of single-parent families in FY2004 – an "aerial-view" distributional analysis, so to speak – and the results should be interpreted with this view in mind. While Appendix Tables D-1 and D-2 detail 80-plus specific expenditure, tax and revenue allocations, the analysis should not be interpreted as discrete incidence analyses for the 80-plus categories.[50] The overall magnitude of the net fiscal balance, however, is relatively stable and less sensitive to assumptions, allocators, and share estimates than the individual categories.

Section V: Conclusion

A comprehensive fiscal incidence considers all government taxes, revenues, and expenditures. Individuals and families contribute to the fiscal system through taxes paid but also make gains through government benefits and services received. The net fiscal balance for a unit or a group of units in the system equals the total taxes paid minus the benefits and services received. If the former exceeds the latter, the unit or group generates a net fiscal surplus. If, on the other hand, the benefits and services received exceed the taxes paid, then the unit or group generates a fiscal deficit. Such a deficit is borne by other units or groups in the fiscal system. In other words, in through the fiscal system, resources are transferred between groups.

A fiscal distribution analysis estimates the distribution of government spending and taxes in society and provides an assessment of the magnitude of the transfer between groups. This paper estimated the net fiscal balance of single-parent families. Overall, in FY2004, single-parent families received, on average, $32,824 in immediate government services and benefits, including direct and means-tested benefits and educational and population-based services ($37,476 if interest and other financial obligations from past government activities added and $44,579 if public goods are included as well) per family. By contrast, single-parent families paid, on average, $12,497 in total federal, state, and local taxes. Consequently, in FY2004, single-parent

[49] p.7.
[50] Bishop (1967) made this point about fiscal incidence analyses.

families generated, on average, a fiscal deficit of at least $20,025 per family. At the aggregate level, this amounted to a net fiscal deficit of $260.5 billion. Significantly, single-parent families are substantial consumers of education and means-tested benefits. The average tax payment of $12,497 per family covered the average means-tested aid receipt of $12,391 per family but did not cover direct benefits, education and population-based services received. The ratio of benefits and services received to taxes paid ranged from 3.6 to 2.6. Results in this paper are consistent with previous findings in the literature on the correlation between non-income factors, such as household characteristics, and the distribution of government taxes and spending.[51]

The rise in single parenthood is one of the most marked demographic transitions of the last forty years. That single-parent families are net fiscal consumers bears relevance to current and future U.S. social policies. The net fiscal deficit of $260.5 billion in FY2004 generated by single-parent families is not an insubstantial sum (about 2.3 percent of GDP in 2004). This deficit was borne by other taxpayers. Changes in government policies and programs, particularly those that directly impact single-parent families (such as education and means-tested programs) could easily alter the net fiscal balance of this group. Moreover, the resultant shift would affect others in the system as well, either increasing or decreasing their fiscal burden.

[51] See, for example, Ruggles and O'Higgins (1981), Bishop (1967), and Chamberlain and Prante (2007).

Appendix A: Specific Calculations on Expenditures and Taxes

The average cost of government benefits and services per single-parent family was calculated for 61 separate expenditure categories. The allocation assumption each category are described below, and the specific calculations are shown in Appendix Table D-1. Average payments per single-parent family were calculated for 33 specific tax and revenue categories. The allocation assumption used for each revenue category is described below, and the calculations for each category are presented in Appendix Table D-2.

Calculations for Specific Direct Benefit Expenditures

- **Social Security Benefits**. Social Security benefits for individual families were calculated using dollar benefit values reported in the CPS. Adjustments for underreporting of benefits in the CPS were made using the procedures described above.
- **Medicare**. The value of Medicare benefits per family was calculated based on data in the CPS. The CPS calculates the value of Medicare coverage for an individual as equal to the average cost per eligible beneficiary. Adjustments for misreporting of benefits in the CPS were made using the procedures described above.[52]
- **Unemployment Insurance Benefits**. Unemployment insurance benefits for individual families were calculating using dollar benefit values reported in the CPS. Adjustments for underreporting of benefits in the CPS were made using the procedures described above.
- **Workman's Compensation**. Workmen's compensation benefits for individual families were calculated using dollar benefit values reported in the CPS. Adjustments for underreporting of benefits in the CPS were made using the procedures described above.
- **Other Federal Retirement Programs.** This category includes Railroad Retirement and the Black Lung Disability Trust Fund. Benefits for individual families were calculated using share of recipients reported in the CPS. Adjustments for underreporting of benefits in the CPS were made using the procedures described above.
- **Agricultural Subsidy Programs.** Single-parent families were assumed to receive benefits in proportion to their share of farm income in the CPS.
- **Deposit Insurance.** Single-parent families were assumed to receive benefits in proportion to their share of interest income in the CPS.

Calculations for Public Education

- **Public Primary and Secondary Education.** The average cost of public education services was calculated in a somewhat different manner since the CPS reports whether an individual is enrolled in a public school but does not report the cost of education services provided. Data from the October 2004 CPS were used to determine enrollment in public schools, and data from the Census survey of governments were used to calculate the average per pupil cost of public primary and secondary education in each state.[53] The total governmental cost of primary and secondary schooling for each family was then

[52] In the case of Medicare, the CPS actually slightly overreports the total cost of benefits; therefore, in this case, the adjustment procedure results in a small reduction in Medicare costs per household compared to the CPS data.
[53] Census (2006).

estimated by multiplying the number of enrolled pupils in the household by the average per pupil cost in the state where the household resides. This procedure provided an estimate of total public primary and secondary education costs for the whole population and the percentage of total costs going to single-parent families. The percentage of costs going to single-parent families was multiplied by the expenditure total for primary and secondary education from independent budgetary sources; this yielded an estimate of aggregate primary and secondary public school expenditures for single-parent families. Average per family costs of public primary and secondary education were calculated by dividing the total costs of single-parent families by the overall number of such families.

- **Public Post-Secondary Education**. Public costs for post-secondary education were allocated using the same procedures used for primary and secondary education expenditures.
- **Other Education.** These state and local costs were allocated in proportion to the single-parent families' share of the general population.

Calculations for Specific Means-Tested Benefit Expenditures

Means-Tested Expenditures in General. Aggregate figures on federal means-tested expenditures were taken from Office of Management and Budget totals in Historical Tables, Budget of the United States Government, Fiscal Year 2006 (see Appendix Table D-3). Federal expenditures on individual means-tested programs are presented in Appendix Table D-4 and were taken from Congressional Research Service, Cash and Noncash Benefits for Persons with Limited Income: Eligibility Rules, Recipient and Expenditure Data, FY2002–FY2004. Figures on specific state and local means-tested expenditures are presented in Appendix Tables D-4 to D-7 and were taken from the CRS report. These figures exclude state means-tested expenditures financed by federal grants. An estimated $2.5 billion in state-run General Relief programs was included in the "public assistance" category in Appendix Table D-1; these expenditures do not appear in the CRS report because they lack a federal component. The total means-tested expenditure figure of $564.7 billion, presented in Appendix Table D-1, excludes means-tested veterans benefits (which are counted as public goods spending) and most means-tested educational spending.[54]

Medicaid Expenditures in General. The Medicaid Statistical Information System (MSIS)[55] reports Medicaid expenditures for four recipient groups: children, disabled non-elderly adults, able-bodied non-elderly adults, and elderly adults. The MSIS data further divide expenditures in each of the four recipient categories into expenditures for individuals in three residential/institutional statuses: recipients in the general population, recipients in nursing facilities, and recipients in intermediate care facilities for the mentally retarded (ICF-MR).[56] The interaction of the four recipient categories and the three residential categories yields 12 overall sub-categories for Medicaid expenditures. Separate calculations were made for each of these 12 sub-categories. The estimation of aggregate Medicaid expenditures in each of the 12 sub-

[54] The means-tested spending total does include Head Start.

[55] Calculations in this appendix are based on FY 2003 MSIS data, U. S. HHS, CMS (2006), Medicaid Tables 14.1–14.27.

[56] The categories labeled "residential" in this analysis are termed medical assistance service categories in the MSIS.

categories is described in Appendix C. The methods for estimating the single-parent families' share of Medicaid expenditures in each of the 12 sub-categories are described below.

Medicaid Expenditures on Children in the General Population. After the amount of Medicaid spending that went to children in the general population was determined according to the procedures in Appendix C, the share of those Medicaid expenditures that went to elderly recipients in single-parent families was calculated directly from CPS data. The following example illustrates the overall equations for estimating Medicaid expenditures for elderly persons in single-parent families in the general population, incorporating the steps above and in Appendix C. Let:

> M_{cl} = Medicaid expenditures for children living single-parent families in the general population;
> M_{ci} = Medicaid expenditures on children in long-term care institutions;
> M_{ct} = Total Medicaid expenditures on children according to MSIS data;
> $MSIS_t$ = Total Medicaid expenditure according to MSIS data;
> CRS_t = Total Medicaid expenditure according to Congressional Research Service data; and
> CPS_c = Share of Medicaid expenditures for children in the CPS going to children residing in single-parent families

Medicaid expenditures for children living single-parent families in the general population can then be calculated: $M_{cl} = (M_{ct} - M_{ci}) \times (CRS_t/MSIS_t) \times CPS_c$.

Expenditures for non-elderly disabled adults, non-elderly able-bodied adults, and elderly persons in single-parent families in the general population were calculated in a similar manner.

- **Medicaid Expenditures on Non-elderly Able-bodied Adults in the General Population.** The share of Medicaid expenditures on non-elderly able-bodied adult recipients in the general population that went to individuals in single-parent families was calculated directly from CPS data.
- **Medicaid Expenditures on Non-elderly Disabled Adults in the General Population.** The share of Medicaid expenditures on non-elderly disabled adults in the general population that went to individuals in single-parent families was calculated directly from CPS data.
- **Medicaid Expenditures on elderly in the General Population**. The share of Medicaid expenditures on elderly in the general population that went to elderly recipients in single-parent families was calculated directly from CPS data.
- **Medicaid Expenditures on Child Recipients in Nursing Facilities.** The single-parent share of total Medicaid expenditures going to child recipients in nursing homes was assumed to equal the single-parent families' share of Medicaid expenditure on child recipients in the general population as measured by the CPS.
- **Medicaid Expenditures on Non-elderly Disabled Adult Recipients in Nursing Facilities**. The single-parent family share of total Medicaid expenditures going to non-elderly disabled recipients in nursing homes was assumed to be zero.

- **Medicaid Expenditures on Non-elderly Able-bodied Adult Recipients in Nursing Facilities**. The single-parent share of Medicaid expenditures going to non-elderly able-bodied adults in nursing homes was assumed to be zero.
- **Medicaid Expenditures on Elderly Recipients in Nursing Facilities.** Single-parent families' share was assumed to be zero.
- **Medicaid Expenditures on Child Recipients in Intermediate Care Facilities for the Mentally Retarded (ICF-MR)**. Medicaid spending on children of single-parent families residing in ICF-MR is assumed to be proportionate to the share of Medicaid spending on children going to single-parent families in the general population as measured in the CPS.
- **Medicaid Expenditures on Non-elderly Disabled Adult Recipients in Intermediate Care Facilities for the Mentally Retarded (ICF-MR)**. The single-parent share of Medicaid spending on adults in ICF-MR was set at zero.
- **Medicaid Expenditures on Non-elderly Able-bodied Adult Recipients in Intermediate Care Facilities for the Mentally Retarded (ICF-MR).** The single-parent share of Medicaid spending on adults in ICF-MR was set at zero.
- **Medicaid Expenditures on Elderly Recipients in Intermediate Care facilities for the Mentally Retarded (ICF-MR)**. The single-parent share of Medicaid spending on adults in ICF-MR was set at zero.
- **Medicaid Expenditures on Elderly Recipients in Intermediate Care facilities for the Mentally Retarded (ICF-MR).** The single-parent share of Medicaid spending on adults in ICF-MR was set at zero.
- **Food Stamps.** The Food Stamp Program is a means-tested program. Benefits for individual families were calculating using dollar benefit values reported in the CPS. Adjustments for underreporting of food stamp benefits in the CPS were made using the procedures described above.
- **Supplemental Security Income (SSI)**. SSI is a means-tested program. SSI benefits for individual families were calculated using dollar benefit values reported in the CPS. Adjustments for underreporting of benefits in the CPS were made using the procedures described above.
- **The Earned Income Tax Credit (EITC)**. The EITC is a means-tested program supporting low-income working families with children. Dollar values of EITC benefits are calculated by the Census for each eligible family and imputed into the CPS data files. For the present analysis, EITC benefits for individual families were based on the dollar benefit values reported in the CPS. Adjustments for underreporting of EITC benefits in the CPS were made using the procedures described above.
- **The Additional Child Tax Credit (ACTC).** The ACTC is a means-tested refundable tax credit sup- porting low-income working families with children. Dollar values of ACTC benefits are calculated by the Census for each eligible family and imputed into the CPS data files. For the present analysis, ACTC benefits for individual families were based on the dollar benefit values reported in the CPS. Adjustments for underreporting of ACTC benefits in the CPS were made using the procedures described above.
- **Public Housing Subsidies**. There are a number of federal means-tested housing benefit programs. Public housing benefits for individual families were determined using dollar benefit values reported in the CPS. Adjustments for underreporting of benefits in the CPS were made using the procedures described above.

- **Public Assistance.** Public assistance covers cash benefits from the Temporary Assistance to Needy Families (TANF) program and General Relief programs.[57] Public assistance benefits were determined for individual households using dollar benefit values reported in the CPS. Adjustments for underreporting of benefits in the CPS were made using the procedures described above.
- **Energy Assistance.** Energy assistance is a means-tested benefit program. Benefits for individual households were determined using dollar benefit values reported in the CPS. Adjustments for underreporting of benefits in the CPS were made using the procedures described above.
- **Women, Infants and Children (WIC) Nutrition Program**. WIC is a means-tested program subsidizing food consumption for low-income pregnant women and low-income mothers with infants and small children. The CPS reports receipt of WIC benefits by recipient but gives no dollar value. The share of total WIC spending going to single-parent families was assumed to equal the share of WIC recipients in CPS living in single-parent families.
- **Day Care Assistance**. Federal, state, and local governments provide day care assistance to low-income parents through a variety of means-tested programs. The CPS reports receipt of day care assistance by recipient but gives no dollar value. The share of total day care spending going to single-parent families was assumed to equal the share of day care assistant recipient in CPS living in single-parent families.
- **Indian Health Services.** Indian Health is a means-tested aid program. The CPS reports receipt of Indian Health benefits by recipient but gives no dollar value. The share of total Indian Health spending going to single-parent families was assumed to equal the share of Indian Health recipients in CPS living in single-parent families.
- **Training**. The CPS reports whether an individual participates in government job training programs but assigns no cost to this participation. The share of total means-tested training spending going to single-parent families was assumed to equal the share of government job training participants in the CPS living in single-parent families.
- **Other Means-Tested Aid**. Altogether, the federal government operates some 70 different means-tested aid programs. The CPS contains data on household utilization of 13 of the largest programs, which cover 93 percent of overall means-tested spending, but provides no data on the smaller programs. Allocation of benefits from the remaining means-tested programs was estimated in the following manner. First, the share of reported total spending for the 11 means-tested programs covered by the CPS going to single-parent families was determined. Second, the single-parent families were assumed to receive a share of the means-tested benefits from the remaining unreported programs equal to their share of all expenditures on the reported means-tested programs in the CPS. Third, once the estimated total benefits from these residual programs received by single-parent families as a whole was calculated, an average value per single-parent family could be computed.

Specific Calculations for Population-Based Programs

[57] The state and local expenditures on public assistance presented in Appendix Table E-6 include data and state TANF spending taken from the Congressional Research Service and estimated $2.5 billion in the state and local spending on General Relief.

- **Highways and Roads**. Utilization of roads, highways, and parking facilities by single-parent families was assumed to be proportionate to their share of gasoline expenditures, estimated from the CEX according to the procedures described above.
- **Mass Transit Subsidies.** Single-parent families were assumed to utilize mass transit in proportion to their estimated share of expenditures on public transportation, estimated from the CEX according to the procedures described above.
- **Air Transportation**. Data on air travel was taken from the 2001 National Household Travel Survey (NHTS), which contains the distribution of air travel by household income. The single-parent share of air travel was then estimated by multiplying their share in each household income category by the share of air travel completed by each income category as reported in the 2001 NHTS. The single-parent share of air transportation benefits was assumed to equal their share of air travel.
- **Sea and Inland Port Facilities and Other Ground Transportation**. The share of these expenditures benefiting single-parent families was assumed to be proportionate to their share of total consumption estimated from the CEX according to the procedures described above.
- **Other Federal Ground Transportation**. Single-parent families were assumed to receive none of the benefits of this spending.
- **Justice, Police, and Public Safety**. These programs provide a general benefit to entire communities. Expenditures were assumed to have a uniform per capita value across the entire population. The share of expenditures benefiting single-parent families was assumed to be equal to their share of the total population.
- **Population-Based Expenditures on Resources, Sanitation, and the Environment**. This category covers parks and recreation, sewage and waste management, pollution control, natural resources, and public utility expenditures that are not financed through user fees. Expenditures were assumed to have a uniform per capita value across the entire population. The share of expenditures benefiting single-parent families was assumed to be equal to their share of the total population.
- **Public Utility Spending for Water Supply**. These expenditures represent expenditures on public water supply beyond those financed through user fees. The single-parent families' share of this spending was assumed to equal the group's share of expenditures on water estimated from the CEX according to the procedures described above.
- **Public Utility Spending for Electric Power Supply**. These expenditures represent expenditures on public electric power beyond those financed through user fees. The single-parent families' share of this spending was assumed to equal the group's share of expenditures on electricity estimated from the CEX according to the procedures described above.
- **Public Utility Spending for Gas Supply**. These expenditures represent expenditures on public gas supply beyond those financed with user fees. The single-parent families' share of this spending was assumed to equal the group's share of expenditures on gas supply estimated from the CEX according to the procedures described above.
- **Pollution Control and Abatement**. The analysis assumes that expenditures on pollution control would be proportionate to a family's propensity to pollute and that a family's propensity to pollute would be proportionate to its share of overall consumption. In consequence, single-parent families' share of pollution control expenditure would be

proportionate to the group's share of total consumption estimated from the CEX according to the procedures described above.

- **General Health**. This category includes spending on Mental Health, Substance Abuse, and Public Health. These expenditures were assumed to have a uniform per capita value across the entire population. The share of expenditures benefiting single-parent families was assumed to be equal to their share of the total population.
- **Consumer and Occupational Health**. These expenditures were assumed to have a uniform per capita value across the entire population. The share of expenditures benefiting single-parent families was assumed to be equal to their share of the total population.
- **Protective Inspection and Regulation**. These expenditures were assumed to have a uniform per capita value across the entire population. The share of expenditures benefiting single-parent families was assumed to be equal to their share of the total population.
- **Community Development**. These expenditures were assumed to have a uniform per capita value across the entire population. The share of expenditures benefiting single-parent families was assumed to be equal to their share of the total population.
- **Miscellaneous Spending**. This category includes labor services, activities to advance commerce, postal service, and libraries. These expenditures were assumed to have a uniform per capita value across the entire population. The share of expenditures benefiting single-parent families was assumed to be equal to their share of the total population.

Specific Calculations for General Government Support Services for Other Government Programs

- **General Government/Administrative Support Functions at the State and Local Levels**. This category consists mainly of administrative services in support of other government functions. It includes tax and revenue collection, lottery administration, budgeting, central administration, legislative functions, trust fund administration, central administration, and legislative functions. These activities do not provide benefits or services to the general public, but rather provide support for other programs that do directly affect the public. For example, tax collection does not directly benefit anyone but is necessary to provide funding for all other programs that do provide benefits and services to the public. Since the purpose of these support functions is to sustain other government programs, the costs of administrative support services were allocated according to the share of overall state and local direct benefits, means-tested benefits, education, and population-based services received by a family.
- **General Government/Administrative Support Functions at the Federal Level**. Like the previous category, this category includes tax collection activity, legislative functions, and other administrative support activities; and like the previous category, these activities do not directly benefit the public, but rather sustain all other government activities. In FY 2004, some 27 percent of total federal spending was allocated to pure public goods functions. Therefore, 27 percent of federal general government and administrative support spending was estimated to be in support of pure public goods functions. The remaining spending was allocated among families according to the share of all federally

funded direct benefits, means-tested benefits, education, and population-based services received by a family.

Specific Calculations for Financial Obligations Relating to Past Government Activities

- **Federal Financial Obligation**. This category includes interest payments on the federal debt and expenditures on federal employee retirement. These expenditures do not directly benefit the public, but rather sustain all other government activities. In FY 2004, some 27 percent of total federal spending was allocated to pure public goods functions. Therefore, 27 percent of federal financial obligations were estimated to be in support of pure public goods functions. The remaining spending was allocated among families according to the share of all direct and means-tested benefits, education, and population-based services received by a family.
- **State and Local Financial Obligation**. This category includes interest payments on the state and local debt and expenditures on state and local employee retirement. These expenditures do not directly benefit the public, but rather sustain all other government activities. Spending was allocated among families according to the share of all direct and means-tested benefits, education, and population-based services received by a household.

Specific Calculations for Public Goods Expenditure. This category includes spending on national defense, international affairs, science and scientific research, veterans programs, and natural resources and the environment. These expenditures were assumed to have a uniform per capita value across the entire population. The share of expenditures benefiting single-parent families was assumed to be equal to their share of the total population. In additional, expenditures on administrative support functions that assistant government al public goods functions and financial obligations for past public goods functions also fall in the category pure public goods. In FY 2004, 27 percent of federal spending went to public goods functions; therefore, the public goods share of administrative support functions that assist government public goods functions and spending on past financial obligations is assumed to equal 27 percent of the full costs of past financial obligations. These expenditures were assumed to have a uniform per capita value across the entire population.

Specific Calculations for Taxes and Revenues

Average payments per single-parent family were calculated for 33 specific tax and revenue categories.

Specific Calculations for Federal Taxes and Revenues

- **Federal Individual Income Tax**. The distribution of federal income taxes was calculated from CPS data. The Census imputes tax payments into the CPS based on a family's income and demographic characteristics and the appropriate federal income tax rules; however, since income is underreported in the CPS, this means that imputed taxes will also be too low. Thus, adjustments for underreporting of tax payments in the CPS were

made using the procedures used for adjusting benefits for underreporting as described in Section III.

- **Federal Insurance Contribution Act (FICA) Taxes**. Employees were assumed to pay both the "employer" and "employee" share of FICA taxes. The Census imputes FICA tax values into the CPS based on reported earnings. Data on the distribution of FICA tax were taken from the CPS. Adjustment for underreporting of the tax was done in the manner previously described.
- **Federal Corporate Income Tax**. There are many conflicting opinions on the incidence of corporate income tax. The tax may be paid by owners, workers, consumers, or a combination of all three. For example, the Congressional Budget Office has traditionally assumed that the burden of this tax was fully borne by the owners of businesses; however, a recent CBO analysis concluded that in a competitive international environment, 70 percent of the cost of this tax was in fact shifted to workers.[58] As a whole, workers will experience lower wages as a result of the tax. This study uses the conclusions of this recent CBO analysis, assigning 70 percent of the federal corporate income tax burden to workers and 30 percent to owners; this allocation increases the estimate of the average taxes paid by single-parent families. The distribution of the workers' share of the tax burden was estimated on the basis of the distribution of earnings reported in the CPS. The share of federal corporate income tax borne by workers in single-parent families was assumed to be proportionate to the share of total earnings reported by single-parent families in the CPS. The distribution of the owners' share of the tax burden was estimated on the basis of the distribution of property income (dividends, interest, and rent) in the CPS; the share borne by workers in single-parent families was assumed to be proportionate to the share of total property income reported by single-parent families in the CPS.
- **Federal Receipts for Unemployment Insurance**. This tax was assumed to fall on workers. The share paid by single-parent workers was assumed to equal their share of the number of earners.
- **Federal Highway Trust Fund Taxes**. This tax was assumed to fall half on the private owners of motor vehicles and half on businesses. The business share was further assumed to fall half on consumers and half on owners. Overall, the tax was assumed to fall 50 percent on private motor vehicle operators, 25 percent on consumers, and 25 percent of owners of businesses.[59] The portion of the tax paid by private motor vehicle operators that fell on single-parent families was assumed to equal those households' share of gasoline consumption as estimated from the CEX. The portion of the tax paid by consumers that fell on single-parent families was assumed to be proportionate to those families' share of total consumption as estimated from the CEX. The portion of the tax paid by business owners that fell on single-parent families was assumed to be proportionate to those families' share of property income (interest, dividends, and rent) as reported in the CPS.
- **Federal Airport and Airways Taxes**. This tax was assumed to fall on air travelers. Single-parent families' share of federal airport and airways taxes was assumed to equal

[58] Randolph (2006).
[59] The estimate that half of this tax was paid by business was provided by the Tax Foundation.

their share of air travel. For single-parent families' share of air travel estimation, see air transportation under population-based programs.

- **Federal Excise Tax on Alcohol**. This tax was assumed to fall on the consumers of alcohol. The share of the tax borne by single-parent families was assumed to be proportionate to those families' share of the total consumption of alcohol products as estimated from the CEX.
- **Federal Excise Tax on Tobacco**. This tax was assumed to fall on the consumers of tobacco products. The share of the tax borne by single-parent families was assumed to be proportionate to those families' share of the total consumption of tobacco products as estimated from the CEX.
- **Federal Excise Tax on Telephones**. This tax was assumed to fall on telephone users. The share of the tax borne by single-parent families was assumed to be proportionate to those families' share of the total consumption of telephone products as estimated from the CEX.
- **Federal Excise Tax on Transportation Fuels**. This tax was assumed to fall on the consumers of transportation fuels. The share of the tax borne by single-parent families was assumed to be proportionate to those families' share of the total consumption of fuels as estimated from the CEX.
- **Other Federal Excise Taxes**. These taxes were assumed to fall on consumers in general. The share of tax borne by single-parent families was assumed to be proportionate to those families' share of the total consumption as estimated from the CEX.
- **Federal Gift and Estate Taxes**. Single-parent families were assumed to pay none of these taxes.
- **Federal Customs, Duties, and Fees**. These taxes were assumed to fall on consumers. The share of tax borne by single-parent families was assumed to be proportionate to those families' share of the total consumption as estimated from the CEX.

Specific Calculations for State and Local Taxes and Revenues

- **State Individual Income Tax**. This tax was estimated in the same manner as the federal individual income tax. State income tax data reported in the CPS are calculated using the tax rules of the individual states. The distribution of state individual income taxes was calculated from CPS data. Tax payments recorded in the CPS were adjusted for underreporting as described in Section III.
- **State Corporate Income Tax**. This tax was estimated in the same manner as the federal corporate income tax.
- **State and Local Property Taxes**. Property taxes were assumed to fall partly on businesses and partly on owner-occupied and rented dwellings. The tax falling on businesses was assumed to be partly borne by owners and partly passed on to consumers. Overall, 50 percent of the tax was allocated to families as home owners and renters; the share of this tax paid by single-parent families was assumed to be proportionate to these families' estimated share of payments for shelter costs in the CEX. Another 25 percent of property taxes was assumed to be paid by owners of capital; the share paid by single-parent families was assumed to be proportionate to these families' share of dividends, interest, and rent income in the CPS. A final 25 percent of property tax was assumed to be passed on from businesses to consumers; the share of this burden borne by single-

parent families' was assumed to be equal to their share of total consumption as estimated from the CEX.

- **State and Local General Sales Taxes**. These taxes were assumed to fall on consumers. The share paid by single-parent families was assumed to be proportionate to their share of the consumption of non-exempt goods and services as estimated from the CEX. Items routinely exempted from sales tax coverage include food eaten at home, housing expenditures, utilities, fuels, gas and motor oil, public services, health care, education, cash contributions, and personal insurance and pension payments.[60]
- **State and Local Tax on Motor Fuel**. This tax was calculated in the same manner as the federal Highway Trust Fund taxes.
- **State and Local Sales Tax on Alcohol**. This tax was estimated in the same manner as the federal excise tax on alcohol.
- **State and Local Sales Tax on Tobacco**. This tax was estimated in the same manner as the federal excise tax on tobacco.
- **Motor Vehicle License Fees**. The share of these fees paid by single-parent families was assumed to equal these families' share of spending on licenses as estimated from the CEX.
- **Public Utilities Tax**. The share of this tax paid by single-parent families was assumed to equal these families' share of total utility expenditures as estimated from the CEX.
- **Other Selective State and Local Sales Taxes**. The share of these taxes paid by single-parent families was assumed to equal these families' share of total consumption estimated from the CEX.
- **Other State and Local Taxes Including Estate, Stock Transaction, and Severance Taxes**. The share of taxes paid by single-parent families are assumed to equal these families' share of dividend income as reported in the CPS.
- **State Taxes for Unemployment Insurance**. These taxes, like FICA taxes, were assumed to fall on workers. The share of taxation borne by single-parent families was assumed to equal their share of the total number of earners reported in the CPS. The distribution of state unemployment insurance taxes was calculated from CPS data.
- **Other Insurance Trust Fund Revenues**. The share of these revenues paid by single-parent families was assumed to be proportionate to the number of persons in single-parent families as a share of the general population.
- **State Taxes for Workmen's Compensation**. These taxes, like FICA taxes, were assumed to fall on workers. The share of taxation borne by single-parent families was assumed to equal their share of the total number of earners reported in the CPS.
- **Employee Contributions to State and Local Government Retirement Funds**. The distribution of these revenue contributions was assumed to be proportionate to the distribution of state and local employees participating in employer pension plans according to CPS data.
- **State Lottery Receipts**. The distribution of state lottery receipts was assumed to proportionate to the share of adults in the general population residing in single-parent families.

[60] Based on information provided by the Tax Foundation.

- **Earnings on Investments Held in Employee Retirement Trust Funds**. These state and local revenues represent the property income received by government trust funds as owners of capital. These earnings are not taxes and cannot be allocated among families.
- **State and Local Interest Earnings and Earnings from the Sale of Property**. These revenues represent the property income received by government as owner of capital and other property. These earnings are not taxes and cannot be allocated among families.
- **Special Assessments**. Single-parent families were assumed to pay none of these taxes.
- **Other State and Local Revenue**. This revenue includes dividends on investment, recovery of expenditures made in prior years, and other non-tax revenue. Single-parent families were assumed to fund none of this revenue.

Appendix B: Pure Public Goods, Private Consumption Goods, and Population-Based Services

Fiscal distribution analysis seeks to determine the government benefits received by a particular group compared to taxes paid. A necessary first step in this process is to distinguish government programs that provide "pure public goods" as opposed to "private goods." These two types of expenditures have very different fiscal implications.

Economist Paul Samuelson is credited with being the first to develop the theory of public goods. In his seminal 1954 paper "The Pure Theory of Public Expenditure,"[61]101 Samuelson defined a pure public good (or what he called in the paper a "collective consumption good") as a good "which all enjoy in common in the sense that each individual's consumption of such a good leads to no subtractions from any other individual's consumption of that good." By contrast, a "private consumption good" is a good that "can be parceled out among different individuals." Its use by one person precludes or diminishes its use by another.

A classic example of a pure public good would be a lighthouse: The fact that any particular ship perceives the warning beacon does not diminish the usefulness of the lighthouse to other ships. A typical example of a private consumption good is a hamburger: When one person eats it, it cannot be eaten by others. Formally, all pure public goods will meet two criteria:[62]

- N**on-rivalrous Consumption**. Everyone in a given community can use the good; its use by one person will not diminish its utility to others.
- **Zero-cost Extension to Additional Users**. Once a pure public good has been initially produced, it requires no extra cost for additional individuals to benefit from the good. Expansion of the number of beneficiaries does not reduce its utility to any initial user and does not add new costs of production. As Economist James Buchanan explains, with a pure public good, "additional consumers may be added at zero marginal cost."[63]

The second criterion is a direct corollary of the first. If consumption of a good is truly non-rivalrous, then adding extra new consumers will not reduce utility or add costs for the initial consumers. The distinction between collective and private consumption goods can be illustrated by considering the difference between a recipe for pie and an actual piece of pie. A recipe for pie is a public consumption good in the sense that it can be shared with others without reducing its usefulness to the original possessor; moreover, the recipe can be disseminated to others with little or no added cost. By contrast, an actual slice of pie is a private consumption good: Its consumption by one person bars its consumption by another. Efforts to expand the number of individuals utilizing the pie slice will either reduce the satisfaction of each user (as each gets a smaller portion of the initial) or entail new costs (to produce more pie).

[61] Paul A. Samuelson (1954), pp. 387–389.
[62] A third criterion is nonexclusion from benefit; it is difficult to deny members of a community an automatic benefit from the good. This aspect of public goods is not critical to the fiscal allocation issues addressed in this paper.
[63] James M. Buchanan (1968), p. 5.4.3.

Examples of Governmental Pure Public Goods

Pure public goods are relatively rare. One prime example of a governmental public good is medical research. If research funded by the National Institutes of Health produces a cure for cancer, all Americans will benefit from this discovery. The benefit received by one person is not reduced by the benefit received by others; moreover, the value of the discovery to each individual would remain the same even if the U.S. population doubled. Another notable example of a pure public good is defense expenditure. The utility of an Army division or and aircraft carrier lies in its effectiveness in combating foreign threats to America. In most respects, one person's benefit from defense strength is not reduced because others also benefit. The military effectiveness of an Army division or an aircraft carrier is not reduced just because the size of the civilian population being defended is increased.

Finally, individuals may receive psychic satisfaction from the preservation of wildlife or wilderness areas. This psychic satisfaction is not reduced because others receive the same benefit and is not directly effected by changes in the population. By contrast, enjoyment of a national park may be reduced if population increases lead to crowding. In consequence, general activities to preserve species may be considered a public good, while provision of parks is a private good.

Pure Public Goods Compared to Population-Based Goods

Many government services that are dubbed public goods are not true public goods. Economists Thomas MaCurdy and Thomas Nechyba state that "relatively few of the goods produced by [the] government sector are pure public goods, in the sense that the cost of providing the same level of the good is invariant to the size of the population."[64] In other words, many government services referred to conventionally as "public goods" need to be increased at added expense to the taxpayer as the population increases, thereby violating the criterion of zero-cost extension to additional users.

For example, police protection is often incorrectly referred to as a "public good." True, police do provide a diffuse service that benefits nearly all members of a community, but the benefit that each individual receives from a policeman is reduced by the claims other citizens may make on the policeman's time. Someone living in a town of 500 protected by a single policeman gets far more protection from that policeman than would another individual protected by the same single policeman in a town of 10,000.

The National Academy of Sciences explains that government services that generally need to be increased as the population increases are not real public goods. It refers to these services as "congestible" goods: If such a program remains fixed in size as the number of users increases, it may become "congested," and the quality of service will consequently be reduced. An obvious example would be highways. Other examples of "congestible" goods are sewers, parks, fire departments, police, courts, and mail service.[65] These types of programs are categorized as "population-based" services in the paper.

---

[64] Thomas MaCurdy, Thomas Nechyba, and Jay Bhattacharya (1998), p.16,
[65] Smith and Edmonston (1997), p. 303.

In contrast to population-based services, governmental pure public goods have odd fiscal properties. The fact that a low-income person who pays little or nothing in taxes receives benefit from government defense or medical research programs does not impose added cost or reduce the utility of those programs to other taxpayers. Therefore, it is inaccurate to say that the non-taxpayers' use of these programs imposes a burden on other taxpayers. On the other hand, non-taxpayers or individuals who pay little in taxes are "free riders" on public goods in the sense that they benefit from a good for which they have not paid.

Appendix C: Medicaid Expenditures

Calculating Medicaid expenditures is challenging because about one-quarter of Medicaid spending goes for care for persons in nursing homes and other long-term care and intermediate-care institutions; these individuals are not included in the Current Population Survey. To obtain an accurate account of Medicaid spending, one must carefully separate institutional from non-institutional expenditures and estimate the share of institutional expenditures going a particular group.

The Medicaid expenditure calculations in the paper were based on data from the Medical Statistical Information System (MSIS) for 2003, the most recent year available.[66] MSIS separates Medicaid expenditures into four separate recipient categories: elderly, children, non-elderly able-bodied adults, and non-elderly disabled adults. MSIS also separates expenditures into three institutional/residential statuses: residence in the general population, residence in nursing facilities, and residence in Intermediate Care Facilities for the Mentally Handicapped (ICF-MR). Combining the four recipient categories with the three residential statuses yields a total of 12 expenditure sub-categories, each of which has been calculated separately in this paper. Expenditures in each of these 12 sub-categories were calculated by the following steps.

Step One: **Allocation of Expenditures to Persons of Unknown Recipient Status**. A portion of the Medicaid expenditures goes to individuals whose recipient category is unidentified in the MSIS. These anonymous expenditures were imputed into the four normal recipient categories pro rata according to the distribution of MSIS expenditures to clearly identified recipients.

Step Two: **Allocation of Institutional Long-term Care Expenditures to Individuals of Unknown Recipient Status**. Within both nursing facility and ICF-MR expenditure categories, a portion of Medicaid spending goes to individuals whose recipient category is unidentified. These expenditures were imputed into the four normal recipient categories pro rata according to the distribution of MSIS nursing facility and ICF-MR expenditures to clearly identified recipients.

Step Three: **Inclusion of Ancillary Medical Costs in Institutional Care**. MSIS expenditures for care in
nursing facilities (NF) and Intermediate Care Facilities (ICF-MR) cover only the cost of residential care in those institutions and do not include Medicaid payments for ancillary medical services, such as drugs, physician, lab, and X-ray services, received by recipients in institutional care. Ancillary expenditures as a percent of institutional long-term care spending vary by recipient group. Ancillary expenditures on children have been estimated to be about 22 percent of this group's facility institutional long-term care costs, about 64 percent for non-elderly able-bodied adults, about 25 percent for non-elderly disabled adults, and about 12 percent for elderly adults.[67] The MSIS figures for expenditures on individuals in institutions were adjusted to include ancillary medical services funded by Medicaid for those individuals; this yielded an adjusted institutional long-term care expenditure total (ALCET) for each of the four recipient

[66] Calculations in this appendix are based on FY 2003 MSIS data, U.S. Department of Health and Human Services, Centers for Medicare and Medicaid Services, *Medicare & Medicaid Statistical Supplement, 2006*, Medicaid Tables 14.1–14.27.
[67] Anna Sommers *et al.* (2006), Table 2. The study used MSIS 2002 data; see Tables 4, 9, 10a and 10b.

categories in nursing facilities (NF) and each of the four recipient categories in ICF-MR.
Step Four: Calculation of Medicaid Costs for the General Population. The ALCET for elderly recipients in NF and ICF-MR was subtracted from the overall MSIS expenditure total for elderly recipients (as adjusted in step three). This yielded an estimate of residual Medicaid expenditures on elderly recipients in the general (non-institutional) population covered by the CPS. The same procedure was applied to the other three recipient groups in the general population: children, non-elderly able-bodied adults, and non-elderly disabled adults.

Step Five: **Estimate of the Percent of Medicaid Spending Going to the 12 Sub-categories**. The completion of steps three and four generated MSIS expenditures in each of the 12 recipient/residential sub-categories. These figures were converted into percentages of total MSIS Medicaid spending. The results are shown in Appendix Table C-1.

Appendix Table C-1: Medicaid Expenditures By Beneficiary Category and Institutional Status
Percent Share of Expenditures

	Medicaid Recipient Residential Category			
	Expenditures on Persons in the General/Non-Institutionalized Population	Expenditures on Persons in Nursing Facilities	Expenditures on Person in Intermediate Care Facilities for the Mentally Retarded (ICF-MR)	Expenditures on the Whole Population
Elderly	9.33%	14.99%	0.36%	24.68%
Disabled Adults	35.29%	4.88%	5.38%	45.5%
Able-Bodied Adults	11.93%	0.03%	0.01%	11.97%
Children	17.76%	0.02%	0.02%	17.80%
Total	**74.31%**	**19.92%**	**5.77%**	**100.00%**

Notes: Authors' tabulation.

Step Six: **Adjustment of Aggregate Medicaid Spending to Equal FY 2004 CRS Levels**. MSIS data show aggregate Medicaid expenditures of $233 billion in FY 2003. MSIS expenditures fall short of actual Medicaid expenditures because MSIS does not include disproportionate provider payments, some supplemental payments, and administrative costs. In addition, the MSIS expenditure calculations for the different recipient groups are based on FY 2003 data, which are the most recent available, and thus obviously fall short of the FY 2004 levels. The most comprehensive Medicaid expenditures come from the Congressional Research Service, which stated that aggregate federal and state Medicaid expenditures equaled $300.3 billion in FY 2004.100 The percent share expenditure total for each of the 12 recipient sub-categories in Appendix Table C-1 were multiplied by the CRS expenditure total of $300.3 billion to produce the aggregate spending figures for each of the 12 sub-categories presented in Appendix Table C-2 This adjustment assumes that the difference between MSIS and CRS expenditures is distributed proportionally across the 12 sub-categories.

Appendix Table C-2: Total Medicaid Expenditures for FY2004 by Beneficiary Category and Institutional Status in Millions of Dollars

	Medicaid Recipient Residential Categories			
Beneficiary Categories	Expenditures on Person in the General/Non-Institutionalized population (in millions of dollars)	Expenditures on Persons in Nursing Facilities (in millions of dollars)	Expenditures on Person in Intermediate Care Facilities for the Mentally Retarded (ICF-MR) (in millions of dollars)	Expenditures on the Whole Population (in millions of dollars)
Elderly	$28,018	$45,015	$1,081	$74,114
Disabled Adults	$105,976	$14,655	$16,156	$136,787
Able-Bodied Adults	$35,826	$90	$30	$35,946
Children	$53,333	$60	$60	$53,453
Total	**$233,153**	**$59,820**	**$17,327**	**$300,300**

Notes: Authors' tabulation.

The Medicaid spending aggregates in Appendix Table C-2 for the 12 sub-categories are used in Appendix
Table D-1 as the bases for calculating expenditures for single-parent families in each sub-category.[68]

[68] Congressional Research Service, Cash and Noncash Benefits for Persons with Limited Income: Eligibility Rules, Recipient and Expenditure Data, FY 2002–FY 2004, March 27, 2006, p. 234. The Congressional Research Service provides the same spending totals as CMS Form-64 of the Department of Health and Human Services. CMS-14 Medicaid expenditure data are substantially higher than those reported in MSIS. CMS Form-64 includes a number of medical services expenditures, such as disproportionate payments to service providers and supplemental payments, that MSIS does not report. In FY 2003, Medicaid medical services expenditures as reported in CMS Form-64 exceeded expenditures reported in MSIS by some $29.37 billion. CMS Form-64 also reported an additional $13.58 billion in state and local administration costs, which MSIS did not include. When these two items area added to the $233.20 billion medical services expenditures as reported by MSIS, the aggregate Medicaid expenditures in FY 2003 totaled $276.16 billion. This figure is consistent with the aggregate Medicaid expenditure figure reported by CRS.

Appendix D: Additional Tables

Table D-1: Aggregate Expenditures

AGGREGATE GOVERNMENT EXPENDITURES

Expenditure Categories		Allocators	Aggregate Federal Expenditures	Aggregate State and Local Expenditures	Combined Federal, State, and Local Expenditures	Share of Expenditures Received by Single-Parent Families	Aggregate Expenditures Received by Single-Parent Families	Average Expenditures per Single-Parent Familie (13.0 million family units)
			(in millions)	(in millions)	(in millions)	(%)	(in millions)	(in dollars)
								13.008062
Direct Benefits								
Social Security		Single-parent families' share of total program expenditures in the CPS	$495,548.0		$495,548.0	3.07%	$15,216.3	$1,169.76
Medicare		Single-parent families' share of total program expenditures in the CPS	$269,360.0		$269,360.0	3.02%	$8,137.9	$625.60
Other Cash Transfer and Benefits								
	Unemployment Compensation	Single-parent families' share of total		$45,306.8	$45,306.8	12.74%	$5,773.6	$443.85

	program expenditures in the CPS						
Workman's Compensation	Single-parent families' share of total program expenditures in the CPS		$12,299.8	$12,299.8	8.32%	$1,023.8	$78.71
Other Federal Retirement (Railroad and Black Lung Disability)	Single-parent families' share of total program expenditures in the CPS	$6,573.0		$6,573.0	0.53%	$35.0	$2.69
Agricultural Subsidies	Single-parent families' share of farm income in the CPS	$11,186.0		$11,186.0	0.74%	$82.9	$6.37
Mortgage Credit and Deposit Insurance	Single-parent families' share of total program expenditures in the CPS	$683.0		$683.0	2.68%	$18.3	$1.40
Direct Benefits Total		**$783,350.0**	**$57,606.6**	**$840,956.6**	**3.60%**	**$30,287.7**	**$2,328.38**
Education Benefits							
Elementary and Secondary	See text	$34,357.0	$425,206.9	$459,563.9	29.99%	$137,801.8	$10,593.57
Higher Education	See text	$25,264.0	$100,823.8	$126,087.8	9.90%	$12,488.9	$960.09

Training and Other Education	Single-parent families' share of the total population		$4,770.5	$4,770.5	13.29%	$634.0	$48.74
Education Benefits Total		**$59,621.0**	**$530,801.3**	**$590,422.3**	**25.56%**	**$150,924.8**	**$11,602.40**
Means-Tested Benefits							
Public Aid	Single-parent families' share of total program expenditures in the CPS	$6,485.0	$10,082.0	$16,567.0	64.40%	$10,668.5	$820.15
Supplemental Security Income (SSI)	Single-parent families' share of total program expenditures in the CPS	$34,693.0	$5,146.0	$39,839.0	16.13%	$6,425.1	$493.93
Earned Income Tax Credit (EITC)	Single-parent families' share of total program expenditures in the CPS	$34,012.0		$34,012.0	46.73%	$15,892.1	$1,221.71
Additional Child Tax Credit (Refundable Portion)	Single-parent families' share of total program expenditures in the CPS	$9,113.0		$9,113.0	31.34%	$2,856.0	$219.55

Food Stamps	Single-parent families' share of total program expenditures in the CPS	$28,431.0	$2,562.0	$30,993.0	51.11%	$15,839.9	$1,217.70
School Lunch and Breakfast	Single-parent families' share of total program expenditures in the CPS	$8,531.0		$8,531.0	42.46%	$3,622.5	$278.48
Women, Infant, and Children Nutrition Program (WIC)	Single-parent families' share of beneficiaries in CPS	$4,899.0		$4,899.0	45.80%	$2,243.7	$172.48
Housing	Single-parent families' share of total program expenditures in the CPS	$38,881.0	$0.8	$38,881.8	37.91%	$14,740.5	$1,133.18
Energy	Single-parent families' share of total program expenditures in the CPS	$2,118.0	$141.0	$2,259.0	10.38%	$234.5	$18.03
Daycare	Single-parent families' share of beneficiaries	$13,158.0	$4,946.0	$18,104.0	75.58%	$13,683.2	$1,051.90

		in CPS						
Indian Health		Single-parent families' share of beneficiaries in CPS	$3,706.0		$3,706.0	21.78%	$807.1	$62.05
Job Training		Single-parent families' share of beneficiaries in CPS	$6,131.0	$876.0	$7,007.0	34.27%	$2,401.1	$184.59
Medicaid/SCHIP			$179,712.0	$127,221.0	$306,933.0			
General Population	*Children (including SCHIP)*	*See text*			*$59,966.3*	*53.08%*	*$31,830.8*	*$2,447.00*
	Adults	*See text*			*$35,828.6*	*23.89%*	*$8,558.9*	*$657.97*
	Disabled Adults	*See text*			*$105,978.7*	*16.90%*	*$17,909.9*	*$1,376.83*
	Elderly	*See text*			*$28,018.0*	*3.14%*	*$879.9*	*$67.65*
Nursing Facilities	*Children*	*See text*			*$60.1*	*53.08%*	*$31.9*	*$2.45*
	Adults	*See text*			*$90.1*	*0.00%*	*$0.0*	*$0.00*
	Disabled Adults	*See text*			*$14,654.6*	*0.00%*	*$0.0*	*$0.00*
	Elderly	*See text*			*$45,015.0*	*0.00%*	*$0.0*	*$0.00*
ICF-MR	*Children*	*See text*			*$60.1*	*53.08%*	*$31.9*	*$2.45*
	Adults	*See text*			*$30.0*	*0.00%*	*$0.0*	*$0.00*
	Disabled Adults	*See text*			*$16,156.1*	*0.00%*	*$0.0*	*$0.00*
	Elderly				*$1,081.1*	*0.00%*	*$0.0*	*$0.00*
Other Means-Tested Aid (Foster Care, Social Services, Medical Care)		Allocated in proportion to the sum of total means-	$36,642.0	$7,264.7	$43,906.7	28.54%	$12,531.7	$963.38

		tested expenditures reported individually in the CPS						
Means-Tested Benefits Total			**$406,512.0**	**$158,239.5**	**$564,751.5**	**28.54%**	**$161,189.1**	**$12,391.48**
Population-Based and Government Support Services								
Transportation, Subtotal			**$64,626.0**	**$107,985.3**	**$172,611.3**	**7.86%**	**13,564.8**	**$1,042.80**
	Highways, Roads, and Parking Facilities	*Single-parent families' share of gasoline consumption in the CS*	*$32,336.0*	*$78,294.9*	*$110,630.9*	*8.22%*	*9,097.1*	*$699.34*
	Air Transportation (Airports)	*Single-parent families' share of air travel by household income distribution of air travel in the NHTS 2001*	*$16,743.0*	*$1,727.6*	*$18,470.6*	*5.79%*	*1,068.7*	*$82.16*
	Sea and Inland Port Facilities	*Single-parent families' share of total*	*$6,898.0*	*$939.8*	*$7,837.8*	*7.64%*	*598.9*	*$46.04*

	Other Federal Ground Transportation	*consumption in the CS Single-parent families are assumed to receive zero percent of expenditures*	*$8,407.0*		*$8,407.0*	*0.00%*	*0.0*	*$0.00*
	Transit Subsidies	*Single-parent families' share of public transportation consumption in the CS*		*$27,023.0*	*$27,023.0*	*10.36%*	*2,800.1*	*$215.26*
	Other	*Unallocated*	*$242.0*		*$242.0*			
Justice, Police and Public Safety, Subtotal		Single-parent families' share of the total population	**$45,535.0**	**$182,467.1**	**$228,002.1**	**13.29%**	**30,303.8**	**$2,329.61**
Resources, Recreation, and Environment, Subtotal			**$11,282.0**	**$61,139.8**	**$72,421.8**	**11.83%**	**8,566.3**	**$658.53**
	Natural Resources	*Single-parent families' share of the total population*		*$12,611.9*	*$12,611.9*	*13.29%*	*1,676.2*	*$128.86*
	Parks and Recreation	*Single-parent families' share of the total*	*$2,963.0*	*$22,247.0*	*$25,210.0*	*13.29%*	*3,350.7*	*$257.58*

Sewerage	*population Single-parent families' share of the total population*	*$5,742.5*	*$5,742.5*	*13.29%*	*763.2*	*$58.67*
Solid Waste Management	*Single-parent families' share of the total population*	*$8,289.8*	*$8,289.8*	*13.29%*	*1,101.8*	*$84.70*
Public Utility Spending: Expenditures Exceeding User Charges						
Water Supply	*Single-parent families' share of water consumption in the CS*	*$8,719.0*	*$8,719.0*	*8.05%*	*702.1*	*$53.97*
Electrical Power	*Single-parent families' share of electricity consumption in the CS*	*$3,318.4*	*$3,318.4*	*9.83%*	*326.3*	*$25.08*
Gas Supply	*Single-parent families' share of natural gas consumption in the CS*	*$211.2*	*$211.2*	*9.31%*	*19.7*	*$1.51*

	Pollution Control and Abatement	*Single-parent families' share of total consumption in the CS*	*$8,485.0*		*$8,485.0*	*7.64%*	*648.4*	*$49.84*
	Energy	*Single-parent families' share of the total population*	*-$166.0*		*-$166.0*	*13.29%*	*-22.1*	*-$1.70*
Other Health Related, Subtotal			**$22,831.0**	**$20,306.4**	**$43,137.4**	**13.29%**	**5,733.4**	**$440.76**
	General Health (Mental Health, Substance Abuse, Public Health)	*Single-parent families' share of the total population*	*$19,888.0*	*$8,808.4*	*$28,696.4*	*13.29%*	*3,814.0*	*$293.21*
	Consumer and Occupational Health	*Single-parent families' share of the total population*	*$2,943.0*		*$2,943.0*	*13.29%*	*391.2*	*$30.07*
	Protective Inspection and Regulation	*Single-parent families' share of the total population*		*$11,498.0*	*$11,498.0*	*13.29%*	*1,528.2*	*$117.48*
Miscellaneous, Subtotal			**$19,896.0**	**$9,064.5**	**$28,960.5**	**13.29%**	**3,849.1**	**$295.90**
	Other Labor Services	*Single-parent families'*	*$1,552.0*		*$1,552.0*	*13.29%*	*206.3*	*$15.86*

		share of the total population						
	Other Advancement of Commerce	*Single-parent families' share of the total population*	*$8,660.0*		*$8,660.0*	*13.29%*	*1,151.0*	*$88.48*
	Postal Service	*Single-parent families' share of the total population*	*-$4,070.0*		*-$4,070.0*	*13.29%*	*-540.9*	*-$41.59*
	Community Development	*Single-parent families' share of the total population*	*$13,754.0*		*$13,754.0*	*13.29%*	*1,828.0*	*$140.53*
	Libraries	*Single-parent families' share of the total population*		*$9,064.5*	*$9,064.5*	*13.29%*	*1,204.8*	*$92.62*
General Government/Administrative Support								
	General Government		*$21,822.0*	*$58,733.4*	*$80,555.4*			
	General Government Activities in Support of		*$5,870.1*		*$5,870.1*			

Public Good Functions							
General Government Less Activities in Support of Public Good Functions	*Single-parent families' share of total direct, means-tested benefits, educational and other population-based services*	*$15,951.9*	*$58,733.4*	*$74,685.3*	*15.91%*	*$11,885.48*	*$913.70*
Unallocated Expenditures	*Single-parent families' share of total direct, means-tested benefits, educational and other population-based services*		*$37,709.9*	*$37,709.9*	*16.06%*	*$6,056.21*	*$465.57*
Other Insurance Trust	*Single-parent families' share of total direct, means-tested benefits, educational and other population-*		*$4,289.9*	*$4,289.9*	*16.06%*	*$688.96*	*$52.96*

		based services						
	General Government Net Public Good Support		**$15,951.9**	**$100,733.2**	**$116,685.1**	**15.97%**	**$18,630.65**	**$1,432.24**
Population-Based and Government Support Total			**$180,121.9**	**$481,696.3**	**$661,818.1**	**12.19%**	**$80,647.99**	**$6,199.85**
Interest and Other Financial Obligations Associated with Past Services								
Interest Payments on Government Debt		Single-parent families' share of total direct, means-tested benefits, educational and population-based services	$160,245.0	$81,723.1	$241,968.1	15.92%	$38,512.60	$2,960.67
Retirement Benefits for Former Government Employees		Single-parent families' share of total direct, means-tested benefits, educational and population-	$88,729.0	$137,537.4	$226,266.4	16.06%	$36,338.38	$2,793.53

	based services						
Financial Obligations Associated with Past Services and Benefits Total		$248,974.0	$219,260.5	$468,234.5			
Financial Obligations Associated with Past Public Goods		$66,974.0					
Net Financial Obligations Total: Interest and Other Financial Obligations Associated with Past Services Minus Obligations Associated with Past Public Goods		**$182,000.0**	**$219,260.5**	**$401,260.5**	**16.06%**	**$64,442.44**	**$4,954.04**
Pure Public Goods Expenditures							
National Defense and Related Costs	Single-parent families' share of the total population	$457,951.0		$457,951.0	13.29%	$60,866.27	$4,679.12
Veterans	Single-parent families' share of the total population	$59,779.0	$1,049.7	$60,828.7	13.29%	$8,084.74	$621.52
Science and Scientific Research	Single-parent families' share of the total population	$57,411.0		$57,411.0	13.29%	$7,630.50	$586.60
International Affairs	Single-parent	$26,891.0		$26,891.0	13.29%	$3,574.08	$274.76

Natural Resources and Environment	families' share of the total population Single-parent families' share of the total population	$19,277.0		$19,277.0	13.29%	$2,562.11	$196.96
General Government Services in Support of Public Good Functions	Single-parent families' share of the total population	$5,870.1		$5,870.1	13.29%	$780.20	$59.98
Interest and Other Financial Obligations for Past Public Good Functions	Single-parent families' share of the total population	$66,974.0		$66,974.0	13.29%	$8,901.52	$684.31
Pure Public Goods Expenditures Total		**$694,153.1**	**$1,049.7**	**$695,202.8**	**13.29%**	**$92,399.41**	**$7,103.24**
TOTAL EXPENDITURES		**$2,305,758.0**	**$1,448,653.9**	**$3,754,411.9**	**15.45%**	**$579,891.48**	**$44,579.39**
TOTAL EXPENDITURES minus Pure Public Good Expenditures and Past Financial Obligations Associated with Pure Public Goods		**$1,611,604.9**	**$1,447,604.2**	**$3,059,209.0**	**15.94%**	**$487,492.08**	**$37,476.15**

			$2,657,948.54	15.92%	$423,049.64	$32,522.11

Table D-2: Aggregate Taxes and Revenues

Federal Taxes and Revenue

Tax and Revenue Categories	Allocators	Aggregate Tax Receipts	Single-Parent Families' Share of Consumption in the CS	Single-Parent Families' Share of Relevant Category in the CPS	Aggregate Taxes Paid by Single-Parent Families	Taxes Paid per Single-Parent Family
		(in millions)	(%)	(%)		13.01
Federal Individual Income Tax	CPS tax payment figure with adjustment for underreporting	$808,959.0		3.02%	$24,412.8	$1,876.74
FICA Taxes	CPS tax payment figures with adjustment for underreporting	$685,334.0		6.44%	$44,149.2	$3,393.99
Federal Corporate Income Tax	Incidence assumed to be 70% on workers and 30% on owners	$189,371.0				
Federal Corporate Income Tax on Workers	70% of total tax times single-parent families' share of total earnings in CPS			6.11%	$8,102.7	$622.90
Federal Corporate Income Tax on Owners	30% of total tax times single-parent families' share of dividend, interest, and rental income in CPS			2.35%	$1,337.8	$102.85
Unemployment Insurance - Federal Receipts	Assumes incidence falls 100% on workers; share of tax paid by families headed by single parents equals their share of earners in the CPS	$6,718.0		9.05%	$607.7	$46.71
Highway Trust Fund	Incidence assumed to fall half on private owners of motor vehicles;	$34,711.0				

	one quarter on owners of business one quarter on general consumers					
Highway Trust Fund Taxes on Private Vehicle Drivers	One half of total tax times single-parent families' share of consumption on gasoline in CS		8.22%		$1,427.1	$109.71
Highway Trust Fund Taxes on Business Owners	One quarter of total tax times share of dividend, interest, and rental income in CPS			2.35%	$204.4	$15.71
Highway Trust Fund Taxes on Consumers	One quarter of total tax times single-parent families' share of total consumption in CS		7.64%		$663.1	$50.98
Airport and Airway Taxes	Single-parent families' share of air travel by household income distribution of air travel in the 2001 NHTS	$9,174.0	33.04%		$3,031.5	$233.05
Federal Excise Taxes: Alcohol	Total tax times single-parent families' share of consumption on alcohol in CS	$8,105.0	10.32%		$836.5	$64.30
Federal Excise Taxes: Tobacco	Total tax times single-parent families' share of consumption on tobacco in CS	$7,926.0	12.86%		$1,018.9	$78.33
Federal Excise Taxes: Telephone	Total tax times single-parent families' share of consumption on telephone utilities in CS	$5,997.0	9.64%		$578.0	$44.43
Federal Excise Taxes: Transportation Fuels	Total tax times single-parent families' share of consumption on fuels in CS	$1,381.0	5.44%		$75.1	$5.77
Federal Excise Taxes: All Other	Total tax times single-parent families' share of total consumption in the CS	$2,561.0	7.64%		$195.7	$15.04
Federal Retirement Receipts						
Railroad and Other	Total receipt times share of	$4,077.0		5.97%	$243.6	$18.72

Retirement Receipts	railroad earnings in CPS					
Federal Employees Retirement Employee Share	Total receipt time the single-parent families' share of federal employee retirement contributions in the CPS	$4,543.0		5.04%	$228.8	$17.59
Federal Gift and Estate Tax	Share paid by families headed by single-parent families assumed to be minimal	$24,831.0		0.00%	$0.0	$0.00
Customs, Duties, Fees	Total tax times single-parent families' share of total consumption in the CS	$21,083.0	7.64%		$1,611.1	$123.85
Miscellaneous: Fees for Permits and Regulatory and Judicial Services	Not applicable	$8,675.0				
Miscellaneous: Fines, Penalties, and Forfeitures	Not applicable	$3,902.0				
Other Miscellaneous Federal Receipts	Not applicable	$336.0				
Federal Total Taxes and Revenues		**$1,827,684.0**		**4.85%**	**$88,723.90**	**$6,820.69**

State and Local Taxes and Revenues

	Allocation Assumptions	Aggregate Tax Receipts	Single-Parent Families' Share of Consumption in the CS	Single-Parent Families' Share of Relevant Category in the CPS	Aggregate Taxes Paid by Single-Parent Families	Taxes Paid per Single-Parent Family

		(in millions)	(%)	(%)	(in millions)	(in dollars)
State and Local Individual Income Taxes	CPS tax payment figures with underreporting adjustments	$215,214.7		4.25%	$9,143.0	$702.87
State and Local Corporate Income Tax	Incidence assumed to fall 70% workers and 30% on owners	$33,715.8				
State and Local Corporate Tax on Workers	70% of total tax times single-parent families' share of total earnings in CPS			6.11%	$1,442.6	$110.90
State and Local Corporate Tax on Owners	30% of total tax times single-parent families' share of dividend, interest, and rental income in CPS			2.36%	$239.2	$18.39
Property Tax	Incidence is assumed to fall half on homes and rented apartments; half on businesses. The business portion is further assumed to fall half on consumers and half on owners	$318,242.5				
Property Taxes on Owner Occupied and Rented Domiciles	One half of total tax times single-parent families' share of shelter costs in the CS		8.26%		$13,139.1	$1,010.07
Property Taxes on Owners	One quarter of total tax times single-parent families' share of total dividend, interest, and rental incomes in the CPS			2.36%	$1,881.5	$144.64
Property Taxes on Consumers	One quarter of total tax times single-parent families' share of total consumption in the CS		7.64%		$6,079.6	$467.37
General Sales Taxes	Total tax times single-parent families' share of total consumption CS minus exemptions	$244,891.3	7.42%		$18,179.8	$1,397.58
Motor Fuel Tax	Incidence assumed to fall half on private owners of motor vehicles;	$34,943.6				

	one quarter on owners of business; and one quarter on general consumers					
Motor Fuel Tax on Drivers of Personal Vehicles	One half of total tax times single-parent families' share of gasoline consumption in the CS		8.22%		$1,436.7	$110.45
Motor Fuel Tax on Consumers	One quarter of total tax times single-parent families' share of total consumption in the CS		7.64%		$667.6	$51.32
Motor Fuel Tax on Business Owners	One quarter of total tax times single-parent families' share of total dividend, interest, and rental incomes in the CPS			2.36%	$206.6	$15.88
Tobacco Tax	Total tax times single-parent families' share of consumption on tobacco in the CS	$12,625.8	12.86%		$1,623.1	$124.77
Alcohol Tax	Total tax times single-parent families' share of consumption on alcohol in the CS	$4,985.7	10.32%		$514.5	$39.56
Other Selective Sales Tax	Total tax times single-parent families' share of total consumption in the CS	$41,755.9	7.64%		$3,190.8	$245.29
Motor Vehicle Licenses	Total tax times single-parent families' share of consumption on licenses in the CS	$18,709.0	6.50%		$1,216.5	$93.52
Public Utilities Tax	Total tax times single-parent families' share of consumption on utilities in the CS	$21,426.6	9.31%		$1,995.4	$153.39
Other General Taxes State and Local (Mainly Estate, Stock Transaction, and Severance Taxes)	Total tax times single-parent families' share of dividend income in the CPS	$63,766.5		2.02%	$1,290.5	$99.21
Insurance Trust Revenue						

Unemployment Compensation	Assume incidence falls 100% on workers; share of tax paid by single-parent families equals their share of earners in the CPS	$38,361.5	9.05%	$3,469.9	$266.75
Workers' Compensation	Assume incidence falls 100% on workers; share of tax paid by single-parent families equals their share for earners in the CPS	$21,757.9	9.05%	$1,968.1	$151.30
Other Insurance Trust Revenue	Unknown	$5,904.4			
Employee Retirement Trust Revenue					
Employee Contribution	Total receipts times the single-parent families' share of state and local employees participating n employment pension plans in the CPS	$30,785.8	6.36%	$1,958.8	$150.58
Earnings on Investment	Not applicable	$315,553.9			
Other	Not applicable	$18,978.8			
State and Local Other General Revenue					
Interest Earnings	Not applicable	$53,194.3			
Sale of Property	Not applicable	$1,959.6			
Special Assesment	Not applicable	$6,452.7			
Other General Revenue	Unknown	$58,066.0			
Lottery Receipts	Total tax times single-parent families' share of the adult population in the CPS	$45,465.8	9.21%	$4,188.9	$322.02
Total State and Local		**$1,606,757.9**	**4.60%**	**$73,832.1**	**$5,675.87**

Taxes and Revenues				
Total Federa, State, and Local Taxes and Revenues	**$3,434,441.89**	**4.73%**	**$162,555.96**	**$12,496.56**

Table D-3: Federal Outlays – FY2004

Federal Outlays, FY 2004		
Function and Subfunction	**Total Outlays** (in millions of dollars)	**Program T**
050 National defense:		
051 Department of Defense—Military:		
Military personnel	$113,576	Public go
Operation and Maintenance	$174,045	Public go
Procurement	$76,216	Public go
Research, Development, Test, and Evaluation	$60,759	Public go
Military construction	$6,312	Public go
Family housing	$3,905	Public go
Other	$1,708	Public go
051 Subtotal, Department of Defense—Military	$436,521	Public go
053 Atomic energy defense activities	$16,625	Public go
054 Defense-related activities	$2,762	Public go
Total, National defense	$455,908	Public go
150 International affairs:		
151 International development and humanitarian assistance	$13,825	Public go
152 International security assistance	$8,369	Public go
153 Conduct of foreign affairs	$7,897	Public go
154 Foreign information and exchange activities	$1,141	Public go
155 International financial programs	-$4,341	Public go
Total, International affairs	$26,891	Public go
250 General science, space and technology:		
251 General science and basic research	$8,416	Public go
252 Space flight, research, and supporting activities	$14,637	Public go
Total, General science, space and technology	$23,053	Public go
270 energy:		
271 Energy supply	-$1,555	
272 Energy conservation	$926	
274 Emergency energy preparedness	$158	
276 Energy information, policy, and regulation	$305	
Total, energy	-$166	Population-based
300 Natural resources and environment:		
301 Water resources	$5,571	Public go
302 Conservation and land management	$9,758	Public go
303 Recreational resources	$2,963	Population-based

304 Pollution control and abatement	$8,485	Population-based
306 Other natural resources	$3,948	Public go
Total, Natural resources and environment	$30,725	
350 agriculture:		
351 Farm income stabilization	$11,186	Direct ben
352 Agricultural research and services	$4,254	Public go
Total, agriculture	$15,440	
370 Commerce and housing credit:		
371 Mortgage credit	$2,659	Direct ben
372 postal service	-$4,070	Population-based
373 Deposit insurance	-$1,976	Direct ben
376 Other advancement of commerce	$8,660	Population-based
Total, Commerce and housing credit	$5,273	
400 transportation:		
401 Ground transportation	$40,743	Population-based
Highways and Roads	$32,336	Population-based
Other ground transportation	$8,407	Population-based
402 Air transportation	$16,743	Population-based
403 Water transportation	$6,898	Population-based
407 Other transportation	$242	Population-based
Total, transportation	$64,626	
450 Community and regional development:		
451 Community development	$6,167	Not applica
452 Area and regional development	$2,329	Not applica
453 Disaster relief and insurance	$7,301	Not applica
Total, Community and regional development	$15,797	Duplicates b
450 Community and regional development: Duplicate Accounts		
Community and regional development proportional	$13,754	Population-based
Community and regional development: public good (homeland security)	$2,043	Public go
Total	$15,797	
500 Education, training, employment, and social services:		
501 Elementary, secondary, and vocational education	$34,357	Educational b
502 Higher education	$25,264	Educational b
503 Research and general education aids	$3,005	Public go
504 Training and employment	$7,912	Means-tes
505 Other labor services	$1,552	Population-based

506 Social services (Including Head Start)	$15,855	Means-tes
Total, Education, training, employment, and social services	$87,945	
550 Health:		
551 Health care services, public health, metal health, substance abuse	$19,888	Population-based
551 Health care services, means-tested	$190,204	Means-tes
552 Health research and training	$27,099	Public go
554 Consumer and occupational health and safety	$2,943	Population-based
Total, health	$240,134	
570 Medicare:		
571 Medicare	$269,360	Direct ben
600 Income security:		
601 General retirement and disability insurance (excluding social security)(pension benefit guarantee, black lung and disable miners, railroad retirement)	$6,573	Direct ben
602 Federal employee retirement and disability: total	$88,729	Interest and Other Obligatio
602 Federal employee retirement and disability due to past public good functions + subtotal	$23,868	Public go
602 Federal employee retirement and disability, all other: sub-total	$64,861	Interest and Other Obligatio
603 Unemployment compensation (counted as state expenditure)		Not applic
604 Housing assistance	$36,568	Means-tes
605 Food and nutrition assistance	$46,012	Means-tes
609 Other income security (Supplemental Security Income, Refundable Earned Income Credit, Temporary Assistance to Needy Families, Low Income Energy Assistance, Foster Care, Child Care and Child Development Block Grant)	$109,961	Means-tes
Total, Income security	$332,837	
650 Social security:		
651 Social security	$495,548	Direct ben
700 Veterans benefits and services:		
701 Income security for veterans	$31,654	Public go
702 Veterans education, training, and rehabilitation	$2,751	Public go
703 Hospital and medical care for veterans	$26,783	Public go
704 Veterans housing	-$1,980	Public go
705 Other veterans benefits and services	$571	Public go
Total, Veterans benefits and services	$59,779	Public go

750 Administration of justice:		
751 Federal law enforcement activities	$19,090	Population-based
752 Federal litigative and judicial activities	$9,685	Population-based
753 Federal correctional activities	$5,509	Population-based
754 Criminal justice assistance	$11,251	Population-based
Total, Administration of justice	$45,535	Population-based
800 General government:		
801 Legislative functions	$3,187	Population-based
802 Executive direction and management	$510	Population-based
803 Central fiscal operations	$9,339	Population-based
804 General property and records management	$228	Population-based
805 Central personnel management	$217	Population-based
806 General purpose fiscal assistance	$7,675	Population-based
808 Other general government	$2,345	Population-based
809 Deductions for offsetting receipts	-$1,679	Population-based
Total, General government	$21,822	Population-based
General government in support of public good functions	$5,870	Public go
General government, all other	$15,952	Population-based
900 Net interest:		
901 Interest on Treasury debt securities (gross)	$321,679	Not applic
902 Interest received by on-budget trust funds	-$67,761	Not applic
903 Interest received by off-budget trust funds	-$86,228	Not applic
908 Other interest	-$4,473	Not applic
909 Other investment income	-$2,972	Not applic
Total, Net interest	$160,245	
Net Interest Due to Past Public Good Functions	$43,106	Public go
Net interest, all other	$117,139	Interest and Othe Obligatio
Total Outlays with offsetting receipts (Excludes unemployment insurance)	$2,305,758	

Source Budget Historical Tables For FY2006; Budget Codes 401 Details Taken from FY2006 Budget Appendix

Table D-4: Removing Federal Grants in Aid from State and Local Expenditures

	State and Local Expenditures	**Expenditure Subtotals**	**Federal Grants In Aid to States**	**State and Local Expenditures Less Federal Grants**
	(in millions)	(in millions)	(in millions)	(in millions)
Total income security, health, and	532,154.07			

social services				
Means tested aid and Services		440,859.00	277,849.00	163,010.00
Other		91,295.07	9,835.00	81,460.07
Total transportation	141,958.53			
Highways		118,178.67	30,689.00	87,489.67
Air transportation (airports)		18,030.57	2,958.00	15,072.57
Parking facilities		1,335.99		1,335.99
Sea and inland port facilities		4,046.65		4,046.65
Transit subsidies		366.66	20.00	346.66
Total education and training	664,561.08			
Higher education		173,085.92	482.00	172,603.92
Elementary & secondary		452,054.91	20,522.00	431,532.91
Other education		30,219.74	14,810.00	15,409.74
Training			4,325.00	-4,325.00
Libraries		9,200.51	136.00	9,064.51
Total resources and environment	109,673.71			
Natural resources		23,298.71	7,423.00	15,875.71
Parks and recreation		30,467.48	239.00	30,228.48
Sewerage		35,534.72		35,534.72
Solid waste management		20,372.80		20,372.80
Justice and public safety	187,551.12		5,084.00	182,467.12
Veterans	1,503.74		454.00	1,049.74
General government	67,748.37		9,015.00	58,733.37
Protective inspection and regulation	11,498.04			11,498.04
Unallocated expenditure	100,142.99		14,712.00	85,430.99
Employment security administration	4,679.16		2,650.00	2,029.16
Interest on general debt	81,723.06			81,723.06
Insurance trust expenditure				
Unemployment compensation	43,277.64			43,277.64
Employee retirement	137,537.44			137,537.44
Workers' compensation	12,299.80			12,299.80
Other insurance trust	4,289.89			4,289.89
Utility expenditure				
Water supply	44,806.24			44,806.24
Electric power	59,298.84			59,298.84
Gas supply	6,716.95			6,716.95
Transit	44,236.69		7,777.00	36,459.69

Liquor store expenditure	4,672.90			4,672.90
Total state and local outlays	2,260,330.26	Total Federal Grants in Aid to the States	408,980.00	1,851,350.26

Table D-5: Removing User Fees and Changes from State and Local Expenditures

State and Local Expenditures Net Federal Grants in Aid	**Expenditures Net Federal Grants (from Table E-4)**	**Categories of User Fees and Charges**	**Amounts of User Fees and Charges**	**State and Local Expenditures Net Federal Grants in Aid and Net Fees and Charges**	**Final Expenditures**
	in millions		in millions		in millions
Total income security, health, and social services				Total income security, health, and social services	
Means-tested aid and services	163,010.00	Housing and community development	4,770	Means-tested aid and services	158,239.53
Other income, health and services	81,460.07	Hospitals	72,652	Other income, health and services	8,808.39
Total transportation				Total transportation	
Highways	87,489.67	Highways	8,991	Highways	78,498.76
Air transportation (airport)	15,072.57	Air transportation (airports)	13,345	Air transportation (airport)	1,727.56
Parking facilities	1,335.99	Parking facilities	1,540	Parking facilities	-203.93
Sea and inland port facilities	4,046.65	Sea and inland port facilities	3,107	Sea and inland port facilities	939.84
Transit subsidies	346.66			Transit subsidies	346.66
Total Education and Training				Total Education and Training	
Higher education	172,603.92	Higher education	71,780	Higher education	100,823.83
Elementary and secondary	431,532.91	School lunch sales	6,326	Elementary and secondary	425,206.94
Other education	15,409.74	Other Education Charges	6,314	Other education	9,095.47
Library	9,064.51			Library	9,064.51
Training	-4,325.00			Training	-4,325.00

Total resources and environment				Total resources and environment	
Natural resources	15,875.71	Natural resources	3,264	Natural resources	12,611.90
Park and recreation	30,228.48	Parks and recreation	7,982	Park and recreation	22,246.96
Sewerage	35,534.72	Sewerage	29,792	Sewerage	5,742.49
Solid waste and management	20,372.80	Solid waste management	12,083	Solid waste and management	8,289.80
Justice and Public Safety	182,467.12			Justice and Public Safety	182,467.12
Veterans	1,049.74			Veterans	1,049.74
General government	58,733.37			General government	58,733.37
Protective inspection and regulation	11,498.04			Protective inspection and regulation	11,498.04
Administration and unallocated expenditures	85,430.99	Other charges	46,696	Administration and unallocated expenditures	38,734.62
Employment Security Administration	2,029.16			Employment Security Administration	2,029.16
Interest on general debt	81,723.06			Interest on general debt	81,723.06
Insurance trust expenditure				Insurance trust expenditure	
Unemployment compensation	43,277.64			Unemployment compensation	43,277.64
Employee retirement	137,537.44			Employee retirement	137,537.44
Workers' compensation	12,299.80			Workers' compensation	12,299.80
Other insurance trust	4,289.89			Other insurance trust	4,289.89
Utility expenditure		Utility revenue		Utility expenditure	
Water supply	44,806.24	Water supply	36,087	Water supply	8,719.05
Electric power	59,298.84	Electric power	55,980	Electric power	3,318.36
Gas supply	6,716.95	Gas supply	6,506	Gas supply	211.20
Transit	36,459.69	Transit	9,783	Transit	26,676.34
Liquor store expenditure	4,672.90	Liquor store revenue	5,698	Liquor store expenditure	-1,024.71
Total State and Local Expenditures	**1,851,350.26**	**Total Fees and Charges**	**402,696**	**Total State and Local Expenditures**	**1,448,653.82**

Table D-6: State and Local Outlays Minus Federal Grants in Aid and User Fees and Charges

State and Local Outlays Net Federal Grants in Aid and Net fees and Charges	**Final Net Expenditures** (in millions)	**Type of Program**
Total income security, health, and social services		
Means tested Aid and services	158,239.53	Means tested
Other income, health and services	8,808.39	Population-based
Total transportation		
Highways	78,498.76	Population-based
Air transportation (airports)	1,727.56	Population-based
Parking facilities	-203.93	Population-based
Sea and inland port facilities	939.84	Population-based
Transit subsidies	346.66	Population-based
Total education and training		
Higher education	100,823.83	Educational benefits
Elementary & secondary	425,206.94	Educational benefits
Other education	9,095.47	Direct benefits
Training	-4,325.00	Educational benefits
Libraries	9,064.51	Population-based
Total resources and environment		
Natural resources	12,611.90	Population-based
Parks and recreation	22,246.96	Population-based
Sewerage	5,742.49	Population-based
Solid waste management	8,289.80	Population-based
Justice and public safety	182,467.12	Population-based
Veterans	1,049.74	Interest and other costs due to past services
General government	58,733.37	Population-based
Protective inspection and regulation	11,498.04	Population-based
Administration and unallocated expenditure	38,734.62	Population-based
Employment security administration	2,029.16	Direct benefits
Interest on general debt	81,723.06	Interest and other costs due to past services
Insurance trust expenditure		
Unemployment compensation	43,277.64	Direct benefits
Employee retirement	137,537.44	Interest and other costs due to past services
Workers' compensation	12,299.80	Direct benefits
Other insurance trust	4,289.89	Population-based
Utility expenditure		
Water supply	8,719.05	Population-based
Electric power	3,318.36	Population-based
Gas supply	211.20	Population-based
Transit	26,676.34	Population-based
Liquor store expenditure	-1,024.71	Population-based
TOTAL STATE AND LOCAL EXPENDITURES	**1,448,653.82**	

Summary	
Direct Benefit Total	57,606.60
Means-tested Total	158,239.53
Educational Benefits Total	530,801.24
Population-Based Services	481,696.22
Interest and Other Financial Obligation Due to Past Activities	219,260.50
Pure Public Good Expenditures	1,049.74
TOTAL STATE AND LOCAL EXPENDITURES	**1,448,653.82**

Table D-7: Government Taxes and Revenues

Federal Revenue Receipts FY 2004	**Aggregate Revenue**	**Revenue Sub-Totals**
From Taxes and Related Sources	(in millions)	(in millions)
Individual income taxes	808,959	
Corporate income taxes	189,371	
Federal insurance contributions act (FICA)	685,334	
Old Age and Survivors Insurance		457,120
Disability insurance		77,625
Hospital insurance		150,589
Unemployment insurance - federal receipts	6,718	
Other retirement receipts	8,620	
Railroad retirement		2,297
Railroad social security equivalent account		1,729
Federal employees retirement employee share		4,543
Non-federal Employees Retirement		51
Excise taxes	69,855	
Alcohol excise tax		8,105
Tobacco excise tax		7,926
Telephone excise tax		5,997
Transportation fuels excise tax		1,381
Other taxes		1,157
Trust fund excise taxes		
Highway		34,711
Airport		9,174
Other		1,404
Estate and Gift Tax	24,831	
Customs duties and fees	21,083	
Other miscellaneous receipts	12,913	
Miscellaneous: fees for permits and regulatory and judicial services		8,675
Miscellaneous: fines, penalties and		3,902

forfeitures		
Other miscellaneous federal receipts		336
TOTAL FEDERAL RECIEPTS*	1,827,684	

*Excludes $32.6 billion in unemployment insurance receipts from state governments and $19.6 billion in earnings of the federal reserve system

State and Local Revenue	**Aggregate Revenue**	**Revenue Sub-totals**
From Taxes and Related Sources	(in millions)	(in millions)
Taxes		
Property	318,242	
General sales	244,891	
Selective sales	115,738	
Motor fuel		34,944
Alcoholic beverage		4,986
Tobacco products		12,626
Public utilities		21,427
Other selective sales		41,756
Individual income	215,215	
Corporate income	33,716	
Motor vehicle license	18,709	
Other taxes	63,766	
Miscellaneous general revenue	165,139	
Interest earnings		53,194
Special assessments		6,453
Sale of property		1,960
Lottery receipts		45,466
Other general revenue		58,066
Insurance trust revenue	66,024	
Unemployment compensation		38,362
Workers' compensation		21,758
Other insurance trust revenue		5,904
Employee retirement trust revenue*	365,318	
Employee contribution		30,786
Earnings on investments		315,554
Other		18,974
TOTAL STATE AND LOCAL REVENUE	1,606,758	
TOTAL FEDERAL, STATE, AND LOCAL REVENUE	3,434,442	

From Taxes and Related Sources

*Excludes intra-governmental transfers to

retirement trust funds.

Sources: Federal Source: Analytic Perspectives, Budget of the United States Government, Fiscal Year 2006; State and Local Source:U.S. Census, Survey of Governments, http://www.census.gov/govs/estimate/0400ussl_1.html.

Appendix F: Other Family/Household Types – Provisional Results

Appendix Table F-1 presents the net fiscal balance of three other family and household types: married-parent families, married-couples without children present in the home, and families and households without children present headed by single individuals. The three groups presented in Appendix Table F-1 along with single-parent families nearly complete the fiscal system (the sum shares of these four groups do not equal 100 percent for a few categories). Consequently, these results should be interpreted as provisional, not final, results, particularly at the specific expenditure or tax category level. At the aggregate level for each group, Appendix Table F-1 presents an approximate magnitude of the net fiscal balance for each type of family/household.

Appendix Table F-1: Net Fiscal Balance of Other Family and Household Types

	Married Parent Families	Married Couples without Children Present	Single Individual Families without Children Present. Single-Non-Family Householder & Unrelated Secondary Individuals
A. Total Direct-Benefits, Means-Tested Benefits, Education, Population-Based Services Received	$26,714	$21,546	$24,239 ($23,509)
B. Total Direct-Benefits, Means-Tested Benefits, Education, Population-Based Services, Interest and Other Financial Obligations of Past Government Activities Received	$30,482	$24,644	$20,831 ($20,204)
C. Total Direct-Benefits, Means-Tested Benefits, Education, Population-Based Services, Interest and Other Financial Obligations of Past Government Activities, Pure Public Goods Received	$40,235	$30,143	$18,099 ($17,554)
D. Total Taxes Paid	$36,004	$31,466	$17,224 ($16,705)
Ratio of A to D	0.7	0.6	1.6 (1.4)
Ratio of B to D	0.9	0.8	1.2 (1.2)
Ratio of C to D	1.1	0.9	1.1 (1.1)

Notes: Estimation details available upon request. ( ) Based on the count of individuals in institutional facilities, 1.358 million, as single-individual households.

References

Aaron, Henry, & McGuire, Martin. (1970). Public Goods and Income Distribution. *Econometrica*, 38(6), 907-920.

Bianchi, Suzanne. (1995). The Changing Demographic and Socioeconomic Characteristics of Single Parent Families. *Journal of Marriage and Family*, 20, 71-95.

Bianchi, Suzanne, & Casper, Lynne. (2000). American Families. *Population Bulletin*, 55(4), 1-44.

Bird, Richard. (1980). Income Redistribution Through the Fiscal System: The Limits of Knowledge. *The American Economic Review*, 70(2), pp. 77-81.

Bishop, George. (1967). Tax Burdens and Benefits of Government Expenditures By Income Class, 1961 and 1965. Washington, DC: Tax Foundation.

Brenna, Geoffrey. The Distributional Impact of Public Goods. *Econometrica*, 44(2), 391-399.

Bumpass, Larry, & Raley, R. Kelly. (1995). Refining Single-Parent Families: Cohabitation and Changing Family Reality. *Demography*, 32(1), 97-109.

Bumpass, Larry, & Sweet, James. (1989). Children's Experience in Single-Parent Families: Implication of Cohabitation and Marital Transition. *Family Planning Perspectives*, 21(6), 256-260.

Buchanan, James M. (1968). The Demand and Supply of Public Goods. Liberty Fund, Library of Economics and Liberty. October 20, 2007, from http://ecsocman.edu.ru/db/msg/22866.html.

Chamberlain, Andrew, & Prante, Gerald. (2007). Who Pays Taxes and Who Receives Government Spending? An Analysis of Federal, State, and Local Tax and Spending Distributions, 1991-2004. Tax Foundation Working Paper No.1.

Congressional Research Service. (2006). Cash and Non-Cash Benefits for Persons with Limited Income: Eligibility Rules, Recipient and Expenditure Data, FY2002-2004.

Conrad, Alfred H. (1954) Redistribution Through Government Budgets in the United States, 1950. In Alan Peacock (Ed.), Income Redistribution and Social Policy: A set of Studies.

Crane, Steven E. (1983). Interpreting the Distribution of Government Expenditures in Budget Incidence Studies. *National Tax Journal*, 36(2), 243 – 246.

Cronin, Julie-Anne. (1999). U.S. Treasury Distributional Analysis Methodology. U.S. Department of the Treasury, OTA Paper 85.

Demery, Lionel. (2000). Benefit Incidence: A Practitioner's Guide. The World Bank. Washington, DC: The World Bank.

Dyck, Dagmar. (2003). Fiscal Redistribution in Canada, 1994-2000. Department of Finance, Working Paper.

Ellwood, David, & Jencks, Christopher. (2004). The Spread of Single-Parent Families in the United States since 1960. Working Paper.

Gale, William G., & Slemrod, Joel. (2001). Rethinking the Estate and Gift Tax: Overview, NBER Working Paper No. 8205.

Gillespie, Irwin. (1965). Effect of Public Expenditures on the Distribution of Income. In Richard A. Musgrave (Ed.), *Essays in Fiscal Federalism* (122-186). Washington, DC: Brookings Institution.

Goldman, Kalman, Pilgrim, John, & Flanagan, Edward. (1974). Local Government Fiscal Incidence by Socioeconomic Class and Type of Public Service. *Nebraska Journal of Economics and Business*, 13, 9-29.

Greene, Kenneth V., Neenan, William G., & Scott, Claudia D. (1976). Fiscal Incidence in the Washington Metropolitan Area. *Land Economics*, 52(1), 13-31.

Hammes, David L., & Wills, Douglas T. (1987). Public Debt, Interest and Fiscal Incidence. *Review of Income and Wealth*, 33(4), 439-442.

Harding, Ann, Lloyd, Rachel, & Warren, Neil. (2004). The Distribution of Taxes and Government Benefits in Australia. Paper presented at the Conference on the Distributional Effects of Government Spending and Taxation, The Levy Economics Institute.

Kaplow, Louis (2006). Public Goods and the Distribution of Income. *European Economic Review*, 50, 1627-1660.

Lanjouw, Peter, & Ravallion, Martin. (1999). Benefit Incidence, Public Spending Reforms, and the Timing of Program Capture. *The World Bank*, 13(2), 257-273.

MaCurdy, Thomas, Nechyba, Thomas, & Bhattacharya, Jay. (1998). An Economic Framework for Assessing the Fiscal Impacts of Immigration. In James P. Smith and Barry Edmonston, (Eds.), *The Immigration Debate: Studies on the Economic, Demographic and Fiscal Effects of Immigration*. Washington, DC: National Academy Press.

Maital, Shlomo. (1973). Public Goods and Income Distribution: Some Further Results. *Econometrica*, 41(3), 561-568.

Martin, Molly. (2006). Family Structure and Income Inequality in Families with Children, 1976 to 2000. *Demography*, 43(3), 421-445.

Martinez-Vazquez, Jorge. (1982). Fiscal Incidence at the Local Level. *Econometirca*, 50(5), 1207-1218.

Menchik, Paul. (1991). The Distribution of Federal Expenditure. *National Tax Journal*, 44(3), 269-276.

McLanahan, Sara. (2004). Diverging Destines: How Children are Faring Under the Second Demographic Transition. *Demography*, 41(4), 607-627.

Office of Management and the Budget (OMB). (2006a). *Analytical Perspective, Budget of the United States Government, Fiscal Year 2006*.

Office of Management and the Budget (OMB). (2006b). *Historical Tables, Budget of the United States Government, Fiscal Year 2006*.

Randolph, William C. (2006). "International Burdens of the Corporate Income Tax," Congressional Budget Office *Working Paper* No. 2006-09.

Reynolds, Morgan, & Smolensky, Eugene. (1977). *Public Expenditures, Taxes and the Distribution of Income*. New York, NY: Academic Press.

Ruggles, Patricia, & O'Higgins, Michael. (1981). The Distribution of Public Expenditure Among Households in the United States. *Review of Income & Wealth*, 27(2), 137-164.

Samuelson, Paul A. (1954). The Pure Threory of Public Expenditure. *The Review of Economics and Statistics*, 36(4), 387-389.

Sawhill, Isabel, and Adam Thomas. (2005). For Love and Money? The Impact of Family Structure on Family Income. *Future of Children*, 15(2), 57-73.

Schwartz, Gerd, Ter-Minassian. (2000). The Distributional Effect of Public Expenditure. *Journal of Economic Surveys*, 14(3), 337-357.

Smeeding, Timothy *et al*. (1993). Poverty, Inequality, and Family Living Standards Impacts Across Seven Nations: The Effect of Noncash Subsidies for Health, Education and Housing. *Review of Income and Wealth*, 39(3), 229-256.

Smock, Pamela J., & Manning, Wendy. (1997). "Cohabiting Partners' Economic Circumstances and Marriage." *Demography*, 34(2), 331-341.

Smith, James P., & Edmonston, Barry (eds.). (1997). *The New Americans: Economic, Demographic, and Fiscal Effects of Immigration*. Washington, D.C.: National Academy Press.

Sommers. Anna *et al.* (2006). Medicaid's Long-Term Care Beneficiaries: An Analysis of Spending Patterns. Kaiser Commission on Medicaid and the Uninsured.

Sweeny, Megan M. (2002). Two Decades of Family Change: The Shifting Economic Foundation of Marriage. *American Sociological Review*, 67(1), 132-147.

Tax Foundation. (1981). "Allocation Tax Burdens and Government Benefits By Income Class, 1972-73 and 1977," Government Finance Brief No. 31. Washington, DCL: Tax Foundation.

Teachman, Jay, Tedrow, Lucky M., & Crowder, Kyle. (2000). The Changing Demography of America's Families. *Journal of Marriage and Family*, 62, 1234-1246.

U.S. Census Bureau. *Current Population Survey (CPS) – Definitions and Explanations.* October 17, 2007, from http://www.census.gov/population/www/cps/cpsdef.html.

U.S. Census Bureau, Survey of Government. October 19, 2007, from http://www.census.gov/govs/www/estimate.html.

U.S. Census Bureau. (2000). Federal, State and Local Governments: 1992 Government Finance and Employment Classification Manual. October 17, 2007, from http://www.census.gov/govs/www/class.html.

U.S. Census Bureau. (2006) Government Division, Public Education Finances, 2004. October 17, 2007, from http://www.census.gov/govs/www/school.html.

U.S. Department of Health and Human Services, Centers for Medicare and Medicaid Services. (2006). Medicare & Medicaid Statistical Supplement. October 17, 2007, from http://www.cms.hhs.gov/MedicareMedicaidStatSupp/.

van de Walle, Dominique. (1996). Assessing the Welfare Impacts of Public Spending. Policy Research Working Paper 1670. Washington, DC: The World Bank.

Winkler, Anne. (1993). The Living Arrangement of Single Mothers with Dependent Children: An Added Perspective. *The American Journal of Economics and Sociology*, 52(1), 1-18.

Wolff, Edward N., & Zacharias, Ajit. (2004). "An Overall Assessment of the Distributional Consequences of Government Spending and Taxation in the U.S., 1989 and 2000," Paper presented at the Levy Economics Institute Conference.