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DECEMBER 1998

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LETTER OF TRANSMITTAL

December 30, 1998

To the Members of the Joint Economic Committee:

Transmitted hereby is a *Compendium of Studies on the Optimal Size of Government and Related Budget Issues.*

The views expressed in these papers are those of the authors and do not necessarily represent the views of the individual Members of the Joint Economic Committee.

Sincerely,

Jim Saxton,
Chairman.

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THE SIZE AND FUNCTIONS OF GOVERNMENT AND ECONOMIC GROWTH

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THE SIZE AND FUNCTIONS OF GOVERNMENT AND ECONOMIC GROWTH

EXECUTIVE SUMMARY

1. This paper shows that excessively large government has reduced economic growth. These findings present a compelling case that rather the devising new programs to spend any surplus that may emerge from the current economic expansion, Congress should develop a long-range strategy to reduce the size of government so we will be able to achieve a more rapid rate of economic growth in the future.
2. The expansion of the U.S. economy has now moved into its eighth year and it has been 15 years since there has been a major recession. Despite this positive performance, the growth of real GDP in the 1990s is less than half the rate achieved during the 1960s. In fact, the average growth rate of real GDP has fallen during each of the last three decades. The economies of other developed nations have followed this same pattern of more stability, but less rapid growth.
3. Government provision of both (a) a legal and physical infrastructure for the operation of a market economy and (b) a limited set of public goods can provide a framework conducive for economic growth. However, as governments move beyond these core functions, they will adversely affect economic growth because of (a) the disincentive effects of higher taxes, (b) diminishing returns as governments undertake activities for which they are ill-suited, and (c) an interference with the wealth creation process, because governments are not as good as markets at adjusting to changing circumstances and finding innovative new ways of increasing the value of resources.
4. In the United States, government expenditures as a share of GDP have grown during the last several decades. At the same, the investment rate has declined and the growth rates of both productivity and real GDP have fallen. An empirical analysis of the data from 23 OECD countries shows a strong negative relationship between both (a) the size of government and GDP growth and (b) increases in government expenditures and GDP growth. A 10 percentage point increase in government expenditures as a share of GDP is associated with approximately a 1 percent decrease in a nation's GDP growth rate.

5. An analysis of a larger data set of 60 countries reinforces the conclusions reached by analyzing OECD countries. After adjustment for cross-country differences in the security of property rights, inflation, education, and investment, higher levels of government spending as a percentage of GDP exert a strong negative impact on GDP growth.

6. The five fastest-growing economies in the world from 1980 to 1995 had total government expenditures as a percentage of GDP averaging 20.1 percent, which is less than half the average of OECD countries.

7. If government expenditures as a share of GDP in the United States had remained at their 1960 level, real GDP in 1996 would have been $9.16 trillion instead of $7.64 trillion, and the average income for a family of four would have been $23,440 higher!

8. The OECD countries currently spend 15 percent of GDP or less on the core functions of government protection of persons and property, national defense, education, monetary stability, and physical infrastructure. When governments move beyond these core functions, the empirical evidence indicates that they retard economic growth. The reduction in GDP growth rates in the United States and in many nations around the world can be traced directly to their increases in government expenditures far in excess of the growth-maximizing level.

THE SIZE AND FUNCTIONS OF GOVERNMENT AND ECONOMIC GROWTH

From the standpoint of economic stability, the U.S. economy has performed very well in recent years. The current expansion is now into its eighth year, and the economy continues to grow. It has been 15 years since the U.S. has experienced a serious recession. This is the good news. But there is also another story that has been largely ignored: The real growth rate of the United States has persistently declined during the last three decades. Even with the expansion of the 1990s, the average growth rate during the current decade is less than half that of the 1960s, and only about two-thirds of the figure achieved during the instability of the 1970s. The experience of other developed nations has been similar their economies have been expanding, but at much slower rates than was previously the case.

The sluggish growth of developed economies is particularly surprising in light of another trend. Following the collapse of central planning and fall of the Berlin Wall, economic liberalism has become much more acceptable. In recent years, the world has moved toward greater economic freedom in several areas. Many countries have reduced their tariff rates, liberalized (or eliminated) interest rate and exchange rate controls, lowered their top marginal tax rates, and followed monetary policies more consistent with price stability.[1] Economic theory indicates and a number of studies have shown that these moves toward economic freedom have promoted economic growth.[2]

Despite these encouraging trends, however, one major component of economic freedom size of government expenditures has generally been moving in the opposite direction. In recent decades, there has been substantial growth in the size of government as a share of the economy, particularly in high-income industrial nations. This study examines this expansion in the size of government and its impact on economic growth.[3]

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[1] See Gwartney, Lawson, and Block (1996) for both discussion of the multi-faceted nature of economic freedom and evidence that there have been significant recent moves toward economic liberalism in several areas.

[2] See, for examples, Scully (1988), Torstensson (1994), Barro (1996), Kreuger (1993, 1997), and Gwartney and Lawson (1997).

[3] This issue has been previously addressed by others. See Barro (1989), Barth and Bradley (1987), Grier and Tullock (1987), Grossman (1988),

Exhibit 1. The Size of Government in OECD Countries: 1960-1996

Total Government Outlays as a Percentage of GDP

Country	1960	1970	1980	1990	1996	Increase 1960-96
Australia	21.2	25.5	34.0	37.7	37.5	16.3
Austria	35.7	39.2	48.9	49.3	52.7	17.0
Belgium	34.5	36.5	50.7	54.6	54.5	20.0
Canada	28.6	35.7	40.5	47.8	46.4	17.8
Denmark	24.8	40.2	56.2	58.6	60.8	36.0
Finland	26.6	31.3	36.6	46.8	59.4	32.8
France	34.6	38.9	46.1	49.9	54.7	20.1
Germany	32.4	38.6	48.3	45.7	56.0	23.6
Greece	17.4	22.4	30.5	49.6	49.4	32.0
Iceland	28.2	29.6	32.2	39.9	37.3	9.1
Ireland	28.0	39.6	50.8	40.9	37.7	9.7
Italy	30.1	34.2	41.9	53.8	52.7	22.6
Japan	17.5	19.3	32.6	31.9	36.9	19.4
Luxembourg	30.5	33.1	54.8	45.5	49.3	18.8
Netherlands	33.7	46.0	57.5	57.5	58.1	24.4
New Zealand	27.7	34.4	47.0	50.0	42.3	14.6
Norway	29.9	41.0	48.3	51.3	46.4	16.5
Portugal	17.0	21.6	25.9	41.9	46.0	29.0
Spain	13.7	22.2	32.9	43.0	45.4	31.7
Sweden	31.0	43.7	61.6	60.8	66.1	35.1
Switzerland	17.2	21.3	29.3	30.9	36.9	19.7
United Kingdom	32.2	39.2	44.9	42.3	43.7	11.5
United States	28.4	32.5	33.7	34.8	34.6	6.2
Average	27.0	33.3	42.8	46.3	48.0	21.0

Sources: *OECD Economic Outlook*, Dec. 1997 (for 1996 data); *OECD Historical Statistics* (various issues); *IMF Government Finance Statistics Yearbook*, 1994 (for 1990 Luxembourg data); *New Zealand Official Yearbook*, various issues (for New Zealand data) and *Economic Report of the President*, 1997 (for U.S. data). The data for Switzerland are for current government expenditures only.

Exhibit 1 illustrates the growth of government in countries that are members of the Organization for Economic Cooperation and Development (OECD). Data are presented for all 23 countries that

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Kormendi and Meguire (1985), Landau (1983, 1986), Peden (1991), Peden and Bradley (1989), and Scully (1992, 1994). These prior studies generally either focused only on the United States or their size of government measure was less comprehensive (i.e., it only included "government consumption" or "central government expenditures") than the measure utilized in this paper.

were OECD members during 1960-1996. *Measured as a share of GDP*, total government expenditures have grown substantially in every one of the OECD countries.

In 1960, the government expenditures of the group averaged 27 percent of GDP; by 1996 they had grown to 48 percent of GDP. This is a staggering increase, especially because Exhibit 1 measures government growth very conservatively. If government expenditures were measured in constant purchasing power units or on a per capita basis, the increases in the size of government would be substantially greater than those presented in Exhibit 1.

I. Why Do Government Expenditures Affect Economic Growth?

In theory the relationship between government expenditures and economic growth is ambiguous. Long ago, Thomas Hobbes (1651) described life without government as "nasty, brutish, and short" and argued that the law and order provided by government was a necessary component of civilized life.[4] Taking the Hobbesian view, certain functions of government such as the protection of individuals and their property and the operation of a court system to resolve disputes should enhance economic growth.[5] Viewed from another angle, secure property rights, enforcement of contracts, and a stable monetary regime provide the foundation for the smooth operation of a market economy.

Governments can enhance growth through efficient provision of this infrastructure. In addition, there are a few goods economists call them "public goods" that markets may find it troublesome to provide because their nature makes it difficult (or costly) to establish a close link between payment for and receipt of such goods. Roads and national defense fall into this category. Government provision of such goods might also promote economic growth.

However, as government continues to grow and more and more resources are allocated by political rather than market forces, three major factors suggest that the beneficial effects on economic growth will wane and eventually become negative. First, the higher taxes and/or additional borrowing required to finance government

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[4] Not everyone would agree with Hobbes, of course. Rothbard (1973) provides an interesting argument that the private sector could more effectively undertake all of the functions normally done by government.

[5] See Knack and Keefer (1995) and Keefer and Knack (1997) for evidence that a legal system that protects property rights, enforces contracts, and relies on rule-of-law principles for the settlement of disputes among parties does indeed enhance economic growth.

expenditures exert a negative effect on the economy. As government takes more and more of the earnings of workers, their incentive to invest, to take risks, and to undertake productivity-enhancing activities, decreases.[6] Like taxes, borrowing will crowd out private investment and it will also lead to higher future taxes. Thus, even if the productivity of government expenditures did not decline, the disincentive effects of taxation and borrowing, as resources are shifted from the private sector to the public sector, would exert a negative impact on economic growth.

Second, as government grows relative to the market sector, diminishing returns will be confronted. Suppose that a government initially concentrates on those functions for which it is best suited (for example, activities such as protection of property rights, provision of an unbiased legal system, development of a stable monetary framework, and provision of national defense). By performing these core functions well, the government provides the framework for the efficient operation of markets and thereby enhances economic growth. As it expands into other areas, such as the provision of infrastructure and education, the government might still improve performance and promote growth, even though the private sector has demonstrated its ability to effectively provide these things. If the expansion in government continues, however, expenditures are increasingly channeled into less and less productive activities. Eventually, as the government becomes larger and undertakes more activities for which it is ill suited, negative returns set in and economic growth is retarded. This is likely to result when governments become involved in the provision of private goods for which the consumption benefits accrue to the individual consumers. Goods like food, housing, medical service, and child care fall into this category. There is no reason to expect that governments will either allocate or provide such goods more efficiently than the market sector.

Finally, the political process is much less dynamic than the market process. While competition rewards alertness, it also imposes swift and sure punishment on those who make bad decisions and thereby reduce the value of resources. Adjustment to change is much slower in the public sector. By way of comparison with markets, the required time for the weeding out of errors (for example, bad investments) and adjustments to changing circumstances, new information, and

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[6] Browning (1976) was one of the first to document the magnitude of the the negative effects that taxes at levels used by developed economies have on the economy.

improved technologies is more lengthy for governments.[7] This is a major shortcoming as it relates to economic growth. To a large degree, growth is a discovery process. As entrepreneurs discover new and improved technologies, better methods of production, and opportunities that were previously overlooked, they are able to combine resources into goods and services that are more highly valued (Kirzner 1973, 1997; Schumpeter 1912). This is the central element of wealth creation and growth. Reliance on markets and the presence of economic freedom facilitate this process. Clearly, the expansion of government relative to the market sector slows this important source of economic growth.

In summary, government provision of both (a) an infrastructure for the operation of a market economy and (b) a limited set of public goods can provide a framework conducive for economic growth. However, as the size of government continues to grow, the (a) disincentive effects of higher taxes and borrowing, (b) diminishing returns, and (c) a slowing of the discovery and wealth-creation process will become more and more important. Eventually, these factors will dominate and the marginal government expenditures will exert a negative impact on growth. Exhibit 2 illustrates the relationship between size of government and economic growth, *assuming that governments undertake activities based on their rate of return.* As the size of government, measured on the horizontal axis, expands from zero (complete anarchy), initially the growth rate of the economy measured on the vertical axis increases. The A to B range of the curve illustrates this situation. As government continues to grow as a share of the economy, expenditures are channeled into less productive (and later counterproductive) activities, causing the rate of economic growth to

[7] The role of profit and loss is central to this process. In the market sector, profit provides decision-makers with a strong incentive to keep cost low, discover better ways of doing things, and adopt improved technologies quickly. On the other hand, losses impose a penalty on those that have high cost or use resources unproductively. Thus, the dynamics are constantly channeling resources toward uses that are more highly valued. There is no similar mechanism that performs this function effectively in the public sector. Compared to the market sector, productive activities are acted upon less rapidly and counterproductive activities are eliminated more slowly in the government sector. As a result, the dynamic growth process is slower in the latter.

diminish and eventually decline.[8] The range of the curve beyond B illustrates this point.

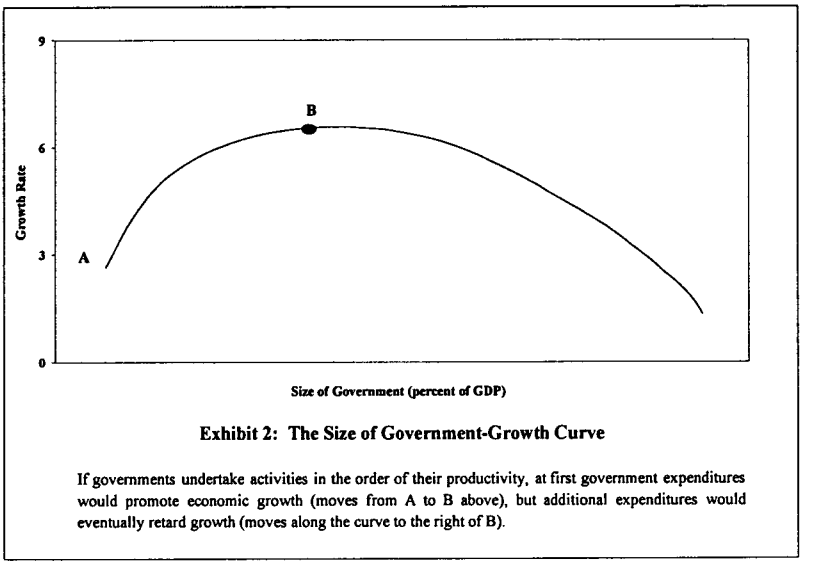

Exhibit 2: The Size of Government-Growth Curve

If governments undertake activities in the order of their productivity, at first government expenditures would promote economic growth (moves from A to B above), but additional expenditures would eventually retard growth (moves along the curve to the right of B).

In the real world, governments may not undertake activities based on their rate of return and comparative advantage. Small government by itself is not an asset. When a small government fails to focus on and efficiently provide core functions such as protection of persons and property, a legal system that helps with the enforcement of contacts, and a stable monetary regime, there is no reason to believe that it will promote economic growth. This has been (and still is) the case in many less developed countries. Governments including those that are small can be expected to register slow or even negative rates of economic growth when these core functions are poorly performed. Unless proper adjustment is made for how well the core functions are performed, the empirical relationship between size of government and economic growth is likely to be a loose one, particularly when the analysis involves a diverse set of economies.

A fundamental model of economic growth developed by Robert Solow (1956) suggests that while some economies may be wealthier than others, in the long run they should all grow at the same rate. More recent work has suggested that not only do economies actually have

[8] See Barro (1990) for the development of a formal model with the characteristics we have outlined here.

substantially different growth rates over lengthy time periods (Quah 1996; Gwartney and Lawson 1997), there are also good theoretical reasons for believing that countries can maintain the different rates (Lucas 1988; Romer 1990). This issue is important because if long-run growth rates across countries are all the same (or approximately the same), the long-term consequences of economic policies that impede growth are less severe. This study will examine the issue empirically by looking at how the size of government has affected economic growth.

II. Government Expenditures and Economic Growth in the United States

Exhibit 3A looks at this growth in government expenditures in the United States, and shows that the increase in government expenditures is primarily due to the growth of transfers and subsidies, rather than in the core areas of government. The bars in Exhibit 3A show average government expenditures for all years in each decade, or in the case of the 1990s, partial decade. In the 1960s government expenditures at all levels of government averaged 29.9 percent of GDP, and increased to 32.8 percent of GDP in the 1970s, 34.7 percent of GDP in the 1980s, and 35.3 percent of GDP in the 1990s. The breakdown of components in Exhibit 3A shows that while net interest expenditures almost doubled as a percent of GDP, even in the 1990s interest expenditures amounted to only 2.2 percent of GDP. National defense expenditures declined substantially over the entire period, and there was a slight increase in non-defense purchases. While non-defense purchases were higher in the 1970s than the 1960s, they have been virtually unchanged during the last three decades.

As a share of GDP, transfers and subsidies have more than doubled since the 1960s. They have risen from 6.4 percent of GDP in the 1960s to 13.5 percent of GDP during the 1990s. Thus, transfers and subsidies consumed 7.1 percent more of GDP in the 1990s than in the 1960s. The share of GDP devoted to total government expenditures rose by 5.4 percentage points over that same period (and 6.2 percentage points between 1960 and 1996). Thus, transfers and subsidies by themselves fully account for the growth of government as a share of GDP in the United States.

This expansion in the size of the transfer sector is likely to reduce economic growth. Transfers and subsidies that enlarge the size of government will require higher tax rates, which will reduce productive incentives. Compared to expenditures in core areas, additional government expenditures on transfers will exert little positive impact on growth. Transfers and subsidies also bring with them the problem

of rent-seeking.[9] Rent-seeking (or subsidy-seeking) occurs when people attempt to enhance their wealth by trying to direct government benefits to themselves rather than by engaging in productive activity. Rent-seeking benefits the recipient of the rents, but it is a drain on the economy as a whole. When people try to get income by having the government transfer benefits to them rather than by providing goods and services to others, economic growth suffers.

Exhibit 3B shows gross investment as a percentage of GDP for the same time periods covered in Exhibit 3A. While government expenditures increased as a share of GDP during every decade, gross investment fell. Of course, other factors may be at work here, but there are several reasons to expect that the growth of transfers and subsidies will retard investment. The increased availability of transfers and subsidies will increase the incentive of both businesses and organized interest groups to seek gains through government largess rather than increases in productivity. Since the direction of transfers is generally either from those with high income to those with lower levels of income, or from working people to retired people, they shift income away from people with high savings rates and toward those who save less of their income.[10] The predictable effects are a reduction in total savings, higher real interest rates, and a decline in the rate of investment, particularly investment financed by Americans. In addition, much of the growth in the transfer sector (and overall size of government) has been financed with government borrowing. This too is likely to place upward pressure on interest rates and reduce the level of investment.[11]

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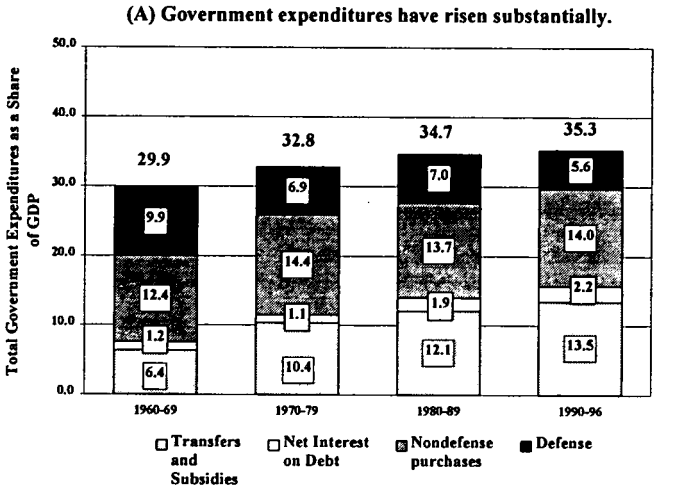
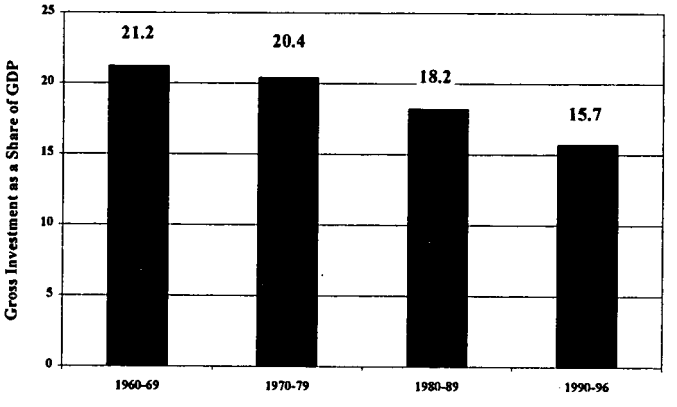
[9] This concept of "rent-seeking" was developed by Tullock (1967). The term was coined by Kreuger (1974), who showed that the problems accompanying rent-seeking were especially severe in less-developed nations. While the term is widely used by economists, it is not very descriptive. In contrast with common language usage, the "rents" obtained through rent-seeking are not a payment to a property owner. Rather they are obtained through transfers to the recipient that are paid for by others. The terms "subsidy-seeking" or "favor-seeking" would be more descriptive.

[10] While studies show that there is a net flow of transfers from high to low income recipients, they also indicate that a substantial proportion of the transfers are among persons and households in middle-income groupings.

[11] When bond financing is substituted for current taxation and citizens fail to fully realize the higher future taxes implied by the bonds, they would perceive that they are wealthier than is really the case. Under these circumstances, the debt will lead to a higher level of current consumption (and lower levels of savings and investment) than would otherwise have been true. There is some

Exhibits 3A and 3B





Investment is the primary factor that increases labor productivity. Individuals working with more capital (better tools and machinery) will produce more output per hour. For example, investment in a backhoe will allow one person to do the work of several with shovels.

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evidence that this has happened in the United States. As outstanding debt has grown as a share of GDP since the mid-1970s, private consumption has increased as a share of GDP.

Exhibit 3C shows that as investment has fallen over the four decades from the 1960s to the 1990s, the growth in output per hour has also fallen. In turn, the slowdown in productivity has reduced the growth rate of real GDP during each of the last three decades (see frame D). The story told by Exhibit 3 is that as government has grown, it has crowded out investment which has resulted in declining productivity growth and a slowdown in the growth rate of real GDP. Larger government leads to less economic growth.[12]

III. Evidence from OECD Countries

Compared to most other countries around the world, the institutional arrangements and income levels of the 23 long-standing OECD members are relatively similar. Politically, all OECD countries are stable democracies. Their legal structures generally reflect a commitment to the rule of law. Monetary arrangements have been stable enough to avoid hyperinflation during the post Second World War era. In the area of international trade, OECD members have been at the forefront of those promoting more liberal trade policies within the framework of GATT and the World Trade Organization. The homogeneity among these countries adds to the significance of comparisons within this group.

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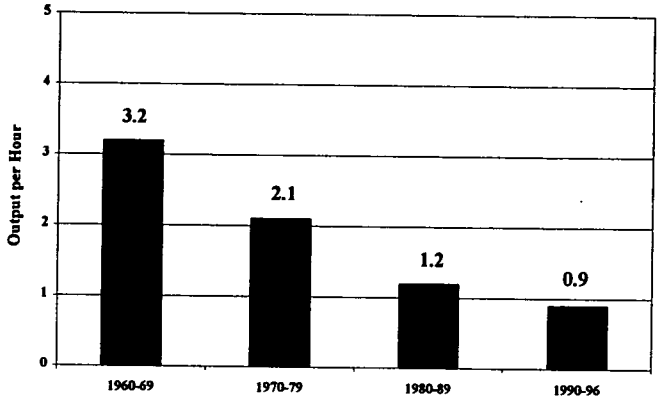
[12] Data like that of Exhibit 3 were also prepared for Canada. The Canadian figures for government expenditures by category are presented below:

	Percent of GDP	
	1960s	1990s
Defense	3.1	1.7
Non-defense Purchases	19.6	26.9
Net Interest	2.7	9.4
Transfers and Subsidies	4.4	11.4
Total	29.8	49.4

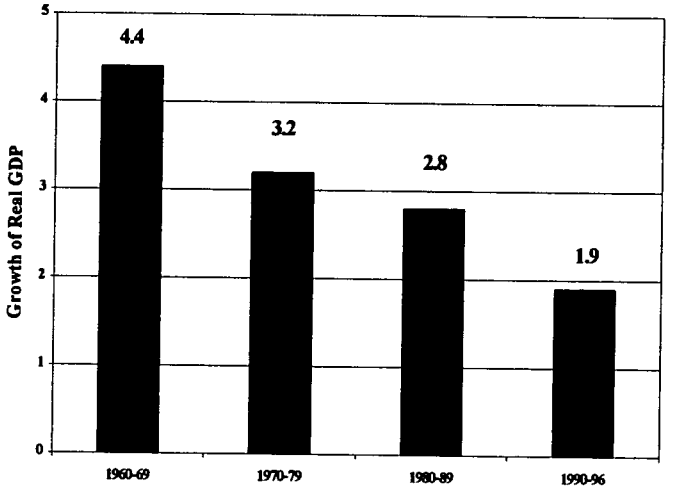
In Canada, average government expenditures rose from 29.8 percent of GDP in the 1960s to 49.4 percent in the 1990s. As the chart illustrates, non-defense purchases, net interest, and transfers and subsidies all contributed substantially to the growth of government. As these data show, the size of government as a share of the economy rose even more rapidly in Canada than the United States. At the same time, the growth of real GDP has fallen more rapidly in Canada. In the 1960s, Canadian real GDP increased at an annual rate of 5.2 percent, compared to 4.4 percent for the United States. By the 1990s, the situation was reversed. The Canadian growth rate in the 1990s has averaged only 1.3 percent, compared to 1.9 percent for the United States. Like the United States, the growth of real GDP in Canada has fallen each decade since the 1960s.

Exhibits 3C and 3D

(C) More government and less capital formation lead to slower growth of productivity.



(D) Lower productivity means less growth of real GDP.



Despite their similarities, the size of government as a share of the economy has varied substantially among OECD countries (and across time periods). What impact has this variation had on economic growth? This section views relevant data from several perspectives in an effort to answer this question.

Exhibit 4 presents data on the average year-to-year growth rate of GDP according to the size of government. As Exhibit 1 illustrates, total government expenditures summed to less than 25 percent of GDP in seven OECD countries in 1960.[13] In total, there were 81 cases during 1960-1996 where a nation had government expenditures less than 25 percent of GDP. Countries in this category averaged a GDP growth rate of 6.6 percent during these years. When the size of government was between 25 percent and 30 percent of GDP during a year, the average growth rate fell to 4.7 percent. The year-to-year growth declined to 3.8 percent when government expenditures consumed between 30 percent and 40 percent of GDP. Still larger government was associated with still lower rates of growth. During years when the size of government of an OECD country exceeded 60 percent, the average growth of real GDP plummeted to an anemic 1.6 percent. The data of Exhibit 4 clearly illustrate an inverse relationship between the year-to-year growth of GDP and the size of government in OECD countries.

Exhibit 5 considers the relationship between size of government and growth over a more lengthy time period. Size of government *at the beginning of a decade* is measured on the x-axis, while growth of real GDP *during the decade* is recorded on the y-axis. The exhibit contains four dots for each of the 23 OECD members one for each of the four decades for a total of 92 dots. Each dot represents a country's total government spending *at the beginning of the decade* and its accompanying growth of real GDP *during that decade*. As the plot illustrates, there is a clearly observable negative relationship between size of government and long-term growth of real GDP. The line drawn

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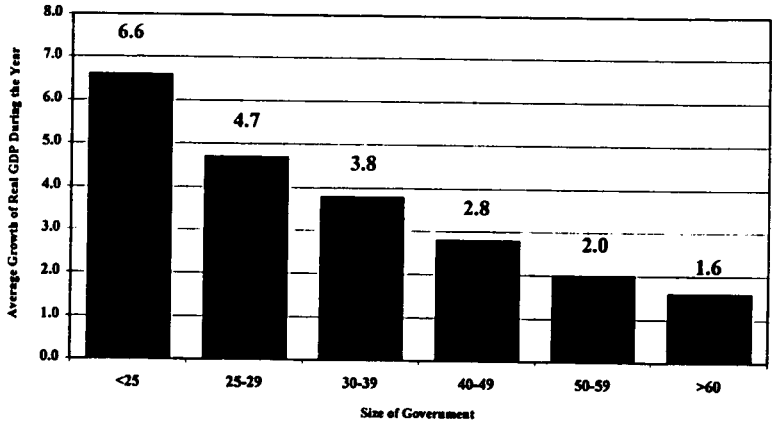
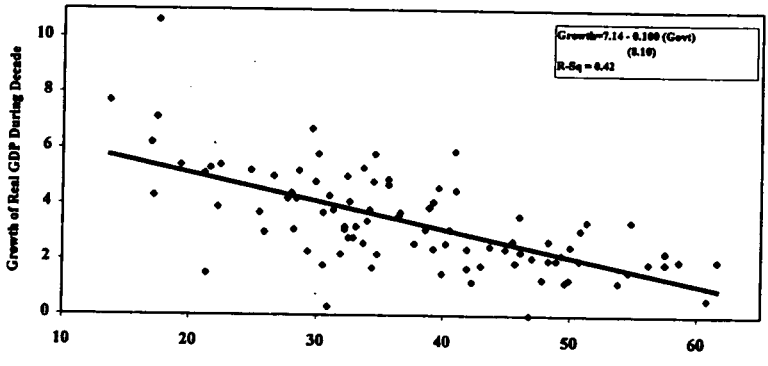
[13] Throughout this paper, total government expenditures as a share of GDP are used to measure the size of government. Total government expenditures include spending on government consumption, transfers and subsidies, net interest on outstanding debt, and capital goods. Previous cross-country studies have generally used government consumption (or central government expenditures) as a share of GDP to measure the size of government. While these figures are easier to obtain and available for more countries, they are often highly misleading. The government consumption figures substantially understate the size of government for countries with either (a) large transfer and subsidy sectors or (b) a high level of government investment. Similarly, the central government figures will understate the size of government for countries (for example, United States and Switzerland) where substantial expenditures are undertaken at lower levels of government. Thus, the total government expenditure figure is both a more accurate and more comprehensive indicator of government size.

Exhibit 4: Size of Government and the Annual Growth of Real GDP for OECD Countries: 1960-1996



Here we illustrate the link between the growth of real GDP and size of government for OECD countries during 1960-1996. Note that when government was smaller, the average growth rate of real GDP was higher.

Exhibit 5: Higher Government Spending Reduces Economic Growth Among the OECD Countries.



Total Government Spending as a Percent of GDP at the Beginning of Decade: 1960s, 1970s, 1980s, and 1990s.

Here we show the relationship between size of government at the beginning of the decade and growth of real GDP during the decade. These data indicate that a 10 percent increase in government expenditures as a share of GDP reduces the annual rate of growth by 1 percent.

through the plotted points is the least squares regression line showing the relationship that best fits the data. The slope of the line (*minus* 0.100) indicates that a 10 percentage point increase in government expenditures as a share of GDP leads to approximately a 1 percentage point reduction in economic growth. The R-squared of .42 indicates that government spending alone explains about 42 percent of the differences in economic growth among these nations during the period.

Exhibit 5 illustrates the trade-off between size of government and economic growth. Looking at the regression, government expenditures of 20 percent of GDP are associated with a decade-long average annual growth rate of approximately 5 percent, while government expenditures of about 45 percent are associated with only half as much economic growth. Among these countries, a 25 percent increase in the size of government as a share of GDP retarded the annual rate of economic growth by approximately 2.5 percent. This evidence indicates that big government imposes a heavy penalty in the form of a lower rate of economic growth.[14]

Several other things are worth noting about Exhibit 5. First, although the theory represented in Exhibit 2 suggested that if government expenditures are too low, economic growth can suffer, there is no evidence of that in Exhibit 5. There are six observations for nations with government expenditures as a percentage of GDP well below 20 percent. Of these six observations, five lie above the "best fit" line, and the remaining point is only slightly below. Thus, there is no evidence that the size of government for any of the OECD countries during the last four decades was less than the growth-maximizing level (point B of Exhibit 2.) To the contrary, Exhibit 5 indicates that all of these countries were on the downward sloping portion (right of point B) of the "size of government-growth curve" of Exhibit 2.

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[14] It is important to realize that increases in government expenditures, even expenditures on government consumption, do not necessarily mean a proportional increase in the "volume" of goods supplied by the government. Government subsidies may simply increase the prices of privately supplied goods, without exerting much impact on the quantity produced. When goods are supplied by government enterprises, greater expenditures may merely reflect inefficiency and higher cost. Interestingly, this latter factor actually enlarges GDP because the cost of producing the government-supplied goods (rather than the purchase price as in the case of private goods) is added to GDP. To the extent these factors are important, the real GDP figures overestimate the growth rates of countries with substantial increases in the size of government.

The OECD countries represented in Exhibit 5 are developed economies with relatively high per capita incomes. With the possible exception of Japan, none are "growth miracles" less developed economies that might have high rates of growth because their current level of income is relatively low. Japan did register very high growth rates for several decades. But even here there is a revealing story. At the beginning of the 1960s, the total expenditures of the Japanese government were only 17.5 percent of GDP and they averaged only 22.0 percent of GDP during the decade. With that environment, the Japanese economy registered an average annual growth rate of 10.6 percent in the 1960s. During the 1960s the Japanese economy fit the small government, high growth mold. Over the next three decades, the Japanese government grew steadily; by 1996 government spending had soared to 36.9 percent of GDP. At the same time, Japan's growth rate moved in the opposite direction, falling to 5.4 percent in the 1970s, 4.8 percent in the 1980s and sagging to 2.2 percent in the 1990s. As in United States, the growth of government in Japan has been associated with a slowdown in the rate of economic growth.

Additional insights on the relationship between size of government and economic growth can be gleaned from comparisons between OECD members with *large* increases in government expenditures and those with *small* increases. The size of government as a share of GDP rose in all OECD countries between 1960 and 1996. However, there was substantial variation. The top part of Exhibit 6 shows data for those countries with the smallest growth in government expenditures as a percentage of GDP, while the bottom portion of the table presents the figures for those with the largest increases in size of government. The bottom row of Exhibit 6 indicates that average for all 23 OECD members.

In five OECD countries (United States, Iceland, United Kingdom, Ireland, and New Zealand), government's share of GDP increased by less than 15 percentage points. As a share of GDP, the average size of government for this group rose from 28.9 percent in 1960 to 39.1 in 1996, an increase of 10.2 percentage points. In contrast, the *increase* in government expenditures accounted for more than 25 percent of GDP in six OECD countries (Spain, Portugal, Greece, Finland, Sweden, and Denmark). Interestingly, the size of government of these six countries (bottom half of Exhibit 6) averaged 21.8 percent of GDP in 1960, well below the OECD average of 27.0 percent. By 1996, however, the picture was dramatically different. In 1996 the government expenditures of the six had risen to 54.5 percent of GDP, well above the OECD average of 48.0 percent.

As the size of government rose during 1960-1996, the growth rates of OECD members plummeted. Among the 23 long-standing members, only Ireland achieved a higher growth rate in 1990-1996 than in 1960-1965. If size of government negatively impacts growth, the performance of countries with the *largest expansion* in size of government should be relatively poor. Exhibit 6 sheds light on this issue. The right side of the table shows the annual growth rates of real GDP for both the "slow" and "rapid" growth of government countries at both the beginning (1960-65) and end (1990-96) of the period. The differential growth rate (Column 6) between the earlier and latter periods is also presented. The growth rate of real GDP declined for both groups, but the reduction was substantially greater for the rapid growth of government group. The reduction in the average growth rate of real GDP was 5.2 percentage points for OECD members with the largest expansion in size of government, compared to an average decline of 1.6 percentage points for those with the least increase in size of government. The reduction in the growth rate of every nation in the "big growth of government" group exceeded the OECD average (bottom line of table). In contrast, each country in the top group those with the least expansion in government registered below average reduction in growth. Moreover, every nation in the bottom group had a *larger reduction* in growth than any of the nations in the top group.

Exhibit 6. The Growth Rate of Real GDP in the 1990s Compared to 1960-1965, According to Increases in the Size of Government Between 1960 and 1996: OECD Countries

	Government as a Percent of GDP			Growth Rate of Real GDP		
	1960 (1)	1996 (2)	Change (3)	1960-65 (4)	1990-96 (5)	Change (6)
Countries with Smallest Increases in Size of Gov't						
United States	28.4	34.6	+6.2	4.4	2.2	-2.2
Iceland	28.2	37.3	+9.1	4.5	1.5	-3.0
Ireland	28.0	37.7	+9.7	4.1	5.9	+1.8
United Kingdom	32.2	43.7	+11.5	3.5	1.2	-2.3
New Zealand	27.7	42.3	+14.6	5.0	2.5	-2.5
Average	**28.9**	**39.1**	**+10.2**	**4.3**	**2.7**	**-1.6**
Countries with Largest Increases in Size of Gov't						
Portugal	17.0	46.0	+29.0	6.5	1.7	-4.8
Spain	13.7	45.4	+31.7	8.5	1.8	-6.7
Greece	17.4	49.4	+32.0	7.2	1.2	-6.0
Finland	26.6	59.4	+32.8	5.6	0.0	-5.6
Sweden	31.0	66.1	+35.1	4.9	0.6	-4.3
Denmark	24.8	60.8	+36.0	5.9	2.0	-3.9
Average	**21.8**	**54.5**	**+32.7**	**6.4**	**1.2**	**-5.2**
All OECD Countries						
Average	**27.0**	**48.0**	**+21.0**	**5.5**	**1.9**	**-3.6**

Source: Derived from *OECD Historical Statistics* and *OECD Economic Outlook* (various issues).

In the physical sciences, researchers can go to the laboratory and design experiments to test the validity of their hypotheses. Economists do not have this luxury. However, sometimes fortuitous events provide an almost ideal experiment. Such was the case with regard to the changes in the size of government for the nations of Exhibit 6. Government expenditures as a share of the economy for each of the countries in the top part of Exhibit 6 exceeded the OECD average (27.0 percent) in 1960. At the same time, their average growth rate (4.3 percent) during 1960-1965 was less than the OECD average (5.5 percent). This situation was exactly the opposite *for this same set of countries* in the 1990s. By the 1990s, government expenditures as a share of the economy for those in the top group were below the OECD average, while their average growth rate (2.7 percent) exceeded the OECD average (1.9 percent).

Meanwhile, just the reverse happened to the bottom group. Except for Sweden, their government expenditures were below the OECD average in 1960 and they achieved above average growth in the first half of the 1960s. By 1996, the size of government (except for Spain and Portugal which were just slightly below the OECD average) of the countries in the bottom group was above the OECD average. Correspondingly, their average growth rate (1.2 percent during 1990-1996) fell below the OECD average.

Because these figures are for the same countries (and country groupings with relatively similar political structures, incomes, and levels of development), the potential impact of differences in such things as culture, natural resources, and motivation of the people is minimized. It would have been difficult for a researcher seeking to isolate the impact of size of government on economic growth to have designed a more relevant experiment. This is what makes the pattern of the results presented in Exhibit 6 so compelling. When the size of government was below the OECD average the 1990s for the top group and 1960s for the bottom group those nations enjoyed above average growth. In contrast, when the size of government exceeded the OECD average the 1960s for the top group and 1990s for the bottom group those nations suffered below average growth.

Using the entire sample of OECD countries from Exhibit 1, the regression results of Exhibit 7 add precision to our findings. As in Exhibit 5, there are four observations for each nation. The dependent variable in the first two regressions is the growth of real GDP in a nation during a decade, and the first independent variable is government expenditures as a share of GDP *at the beginning* of that decade. The second independent variable is the *change* in government

expenditures as a share of GDP during the decade. The regression shows that there is a strong negative relationship between the share of GDP going to government and the growth rate of GDP during the subsequent decade, with a t-statistic of 8.14 (indicating significance at the 99 percent level of confidence). There is a weaker relationship, although still statistically significant at better than the 90 percent level, between the *change* in government expenditures and GDP growth.

Exhibit 7. The Impact of Government Expenditures on the Investment and Growth of OECD Countries: 1960-1996

	Dependent Variable: Growth of Real GDP During the Decade		Dependent Variable: Investment as a Share of GDP During the Decade
Independent Variable	**(1)**	**(2)**	**(3)**
Government Expenditures as a Share of GDP at Beginning of the Decade	-0.11*** (8.14)	-0.099*** (6.81)	-0.159*** (5.14)
Change in Gov't Exp. During Decade	-0.046* (1.70)	-0.055** (2.06)	-
Investment as a Percent of GDP	-	0.087** (2.08)	-
Constant	7.724	5.365	28.4
Adj. R^2	0.43	0.45	0.22
Number of Observations	92	92	92

* Significant at 90 percent level.
** Significant at 95 percent level.
*** Significant at 99 percent level.

Source: The data used in these regressions were from *OECD Historical Statistics* and *OECD Economic Outlook*.

The second regression adds investment as a percentage of GDP as an independent variable. Investment would be expected to increase economic growth, and the positive sign on the investment coefficient shows that more investment is correlated with higher economic growth.[15] The coefficient of the investment variable is significant at

[15] We also analyzed models that included both investment in human capital (changes in the mean years of schooling of persons 25 years and older during a decade) and variability in the rate of inflation for OECD countries. Neither of the variables was significant. In the case of the human capital variable, we suspect this reflects that years of schooling are an imperfect measure--they do not reflect differences in quality of schooling and other factors that might

better than the 95 percent level of confidence. Even after adjusting for cross-country differences in investment rates, both level of the government expenditures and change in size of government during the decade remain highly significant. This provides additional support for the hypothesis that a larger public sector reduces economic growth.

The coefficients of the government expenditure variables indicate the impact of a one unit (a one percentage point) change in government expenditures on the growth rate of real GDP. The 0.11 coefficient for government expenditures at the beginning of the period in Equation 1 of Exhibit 7 indicates that a one unit increase in the size of government as a share of GDP at the beginning of the period reduces the growth rate during the decade by 0.11 percentage points. At the same time, an increase in government expenditures *during the decade* reduces growth by an additional 0.046 percentage points. Even when investment is included as an independent variable in the model (Equation 2), growth is reduced by approximately one-tenth of a percentage point when the size of government is one unit greater at the beginning of the period (and by approximately five hundredths of a percent for each percent point increase in size of government during the decade). This indicates that if government expenditures were 10 percentage points higher (for example, 35 percent rather than 25 percent) as a share of GDP at the beginning of the period, the long-term growth rate of real GDP would be a full percentage point lower.[16] Correspondingly, a 10 percentage point *increase* in the size of government during the decade would reduce growth by five-tenths of a percentage point.

As discussed earlier, higher government expenditures crowd out investment. Evidence was presented that this has been the case in the United States, and the third regression of Exhibit 7 indicates that this has been true for other OECD countries. In this equation, investment as a share of GDP is the dependent variable, while size of government is the independent variable. There is a strong negative correlation between the two. The 0.159 coefficient for the size of government

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influence learning. For OECD countries, differences in the variability of inflation were relatively small during the time period under consideration. This may account for the insignificance of this variable.

[16] When maintained over a lengthy time period, relatively small differences in growth rates can exert a dramatic impact on income levels. For example, if the growth rate of the U.S economy had been 1 percent lower during the 1870-1990 period, today the per capita income level of the United States would be approximately the same as that of Mexico. See Barro and Sala-i-Martin (1995).

variable indicates that a 10 percentage point increase in the government expenditures as a share of GDP reduces an economy's investment rate by approximately 1.6 percentage points. The t-statistic (5.14) is significant at more than the 99 percent level, illustrating that the estimated negative impact of the government expenditures on investment is highly reliable.

Like that for the United States, the evidence from OECD countries indicates that increases in the size of government retard both investment and economic growth. The persuasiveness of these findings is enhanced by the homogeneity of OECD members. All of these economies have the commonly recognized prerequisites for economic growth: mature financial markets, an educated work force, stable political institutions, secure property rights, and a stable monetary policy with low inflation. The consistent negative relationship between size of government (and its growth) and the growth of real GDP for these economies is particularly revealing.

What do these estimates imply with regard to the United States? If the size of government as a share of GDP in the United States had remained at the 28.4 percent level of 1960, our estimates indicate that real GDP in 1996 would have been 20 percent greater.[17] If it were not for the expansion in the size of government *as a share of the economy* between 1960 and 1996, real GDP in 1996 would have been $9.16 trillion rather than $7.636 trillion. This would have increased the income of Americans a whopping $5,860 *per person* (an income increase of $23,440 for the average family of four.)[18]

Even more striking, consider what would have happened if non-defense government expenditures had remained at their 1960 level as a share of GDP, while defense expenditures followed the downward path that actually occurred. In this case, the size of government would have fallen to 25.4 percent of GDP by the end of the 1960s and it would have been just slightly lower throughout the rest of the period. If this had occurred, the estimates of Exhibit 7 indicate that real GDP in 1996

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[17] On average, government expenditures were 5 percent more than the 28.4 figure of 1960. The estimates of Exhibit 7 indicate that this retarded real GDP growth by five-tenths of a percent annually. This figure compounded over the 36-year period is equal to 20 percent.

[18] Total government spending would now be almost the same under this alternative. Spending 28.4 percent of $9.16 trillion would produce total government spending of $2.60 trillion, compared with actual total government spending $2.70 trillion in 1996.

would have been more than 40 percent greater.[19] Put another way, if government expenditures had been approximately one quarter (rather a little more than a third) of the economy during the last three decades, the per capita income of Americans in 1996 would have been $11,500 higher. For a family four, this translates to an increase in income of $46,000. As these figures demonstrate, in the long run big government extracts a heavy toll on growth and prosperity.

IV. More International Evidence

In order to add breadth, data were assembled on size of government and other factors thought to influence growth for 60 countries, including both less developed and high-income industrial economies.[20] Because this is a more diverse group than OECD members, adjustment for differences in political economy characteristics is important. Because of the unavailability of some of the required variables for years prior to 1980, our analysis covers the 1980-1995 period.

Exhibit 8 summarizes the statistical results for this larger and more diverse data set. Results are presented for four different regression models. All countries for which the required data could be obtained are included in the analysis. The average annual growth rate of real GDP during 1980-1995 is the dependent variable. The various independent variables included in the alternative models are indicated down the left side of the table.

The first four independent variables are measures of government expenditures and their changes. In addition to these size of government variables, alternative models also consider the impact of (a) security of property rights, (b) variability in the rate of inflation, (c) schooling (investment in human capital), and (d) investment in physical capital. These "control variables" are included in order to help us better isolate the independent effects of size of government.

The data on security of property rights come from the *International Country Risk Guide,* a private rating service that has tracked the political, financial and economic risks accompanying business and investment activities in various countries since 1982. The credibility of these ratings is enhanced by the fact that the business has survived by marketing them to investors and businesses over a lengthy time period. While the ratings cover several areas, three of them pertain specifically to the security of property rights and presence of

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[19] One percent compounded over a 36-year period is actually a little more than 40 percent.

[20] See Appendix, Table 1A for a listing of the 60 countries included in the analysis of this section.

rule of law. These three factors are (a) risk of expropriation, (b) risk of contact violation, and (c) presence of rule of law. We placed the ratings on a scale of one to ten; a higher rating is indicative of more secure property rights and stronger support for rule of law principles.[21] Because the data series begins in 1982, the initial rating is for 1982 (or earliest available year) rather than 1980. Components for both the property rights rating in 1982 and the *change in the rating* during the 1982-1995 period are incorporated into the analysis.

High and variable rates of inflation may also retard economic growth. Higher inflation rates reduce the value of a nation's currency and encourage people to shift resources away from production and toward activities designed to protect themselves from inflation. Inflation also lowers the informational content of prices. Nations with high levels of inflation also tend to have high variability in their inflation rates, but there is a slightly stronger statistical relationship between the variability of the inflation rate (as measured by its standard deviation) and GDP growth than is true for the level of inflation. Thus, the standard deviation of the inflation rate was used to measure the impact of inflation on economic growth.[22]

Both economic theory and prior research suggest that investment in both human and physical capital can be expected to enhance economic growth. We use data on increases between 1980 and 1995 in the mean years of schooling for persons age 25 and over as a measure of improvements in the level of human capital.[23] The physical investment component is the average investment rate as a share of GDP during 1980-1995. Of course, increases in both of these variables are expected to positively impact economic growth.

In addition to the size of government variables, Equation 1 of Exhibit 8 includes the initial property rights rating in 1982, the *change* in the rating between 1982 and 1995, and standard deviation of the inflation rate in the model. Both property right variables are highly significant and the inflation variable is also significant at the 90 percent level. With regard to the size of government variables, the coefficients

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[21] The country ratings for Risk of Expropriation and Risk of Contact Violation were on a one-to-ten scale, while that for Rule of Law was on a one-to-six scale. After the Rule of Law variable was converted to a one-to-ten scale, the three components were averaged to derive the property rights rating.

[22] Robert Lucas, Thomas Sargent, Robert Barro, and others have highlighted the adverse side effects of variability of the rate of inflation. For a theoretical analysis of this subject and related issues, see Miller (1994).

[23] The years of schooling data are from Barro and Lee (1993).

for the *level* of government expenditures as a share of GDP, and the *changes* between 1980 and 1985 and between 1985 and 1990 were all negative and highly significant. The adjusted .48 R^2 of Equation 1 indicates that the variables incorporated into this model explain 48 percent of the variation in growth rates among this diverse set of countries.

What do the coefficients for the size of government variables indicate about the impact of government expenditures on the growth of economies? The coefficient for the *level* variable indicates that a 10 percentage point increase in size of government *at the beginning of the period* was associated with approximately a six-tenths of a percentage point reduction in growth during the entire 15-year period. The coefficients for the *change* in size of government variables between 1980 and 1985 and between 1985 and 1990 indicate that a 10 percentage point increase during each of these periods reduced the growth of real GDP by 1.15 percentage points during the 1980-1995 period. While the change in size of government between 1990 and 1995 is negative, it is insignificant. The larger coefficients (and greater significance) of the variables reflecting the changes in the size of government for the earlier five-year periods compared to the five years of the 1990s make sense. After all, the expansion in government between 1980 and 1985 (and 1985 and 1990) will influence growth for a decade or more of the 1980-95 period, whereas the government growth of the 1990s will exert an impact over only a short portion of 1980-1995 period.

Equation 2 adds the schooling variable to the model. The changes in the years of schooling between 1980 and 1995 exert the expected positive impact and the variable is significant at the 95 percent level of confidence. With the exception of the inflation variable, all of the other variables remain significant. Equation 3 deletes the schooling variable from the model and inserts the investment rate. The investment variable has the expected sign and it is significant at the 90% level of confidence. The size and significance of the other variables is very similar to that of Equation 2.

Finally, Equation 4 incorporates both the schooling and investment variables into the model along with the property rights, inflation, and size of government measures. In this more comprehensive model, both the initial level of government expenditures and the change during both of the five-year periods of the 1980s continue to be significant at the 90 percent level or more. The property rights and schooling variables are also highly significant. While the inflation and investment variables have the expected signs, they are no longer

significant. The R^2 for Equation 4 indicates that the variables of this model explain 54 percent of the variation in the ratings among this diverse set of countries.

The results of Exhibit 8 illustrate that there is a strong positive correlation between the security of property rights and economic growth.[24] This relationship highlights the importance of a legal structure that protects property rights, helps with the enforcement of contacts, and provides a fair mechanism rule of law for the settlement of disputes between parties. As we previously discussed, core functions of government in this area are vitally important for the smooth operation of a market economy. Many governments particularly those of less developed nations perform this function poorly. Economic stagnation and poverty are the highly visible side effects. Exhibit 8 also indicates that improvements in human capital are an important source of growth. Increases in educational attainment consistently lead to increases in the growth rate of GDP. While the statistical links between growth and the price level stability and investment variables were weaker, their significance may well have been reduced because of their correlation with other variables in the model.

The primary reason for including the "control variables" of Exhibit 8 was to see whether size of government exerted a strong independent impact on the growth of real GDP. The results indicate that it does. Even after accounting for differences across countries in protection of property rights, inflation, education, and investment, the level of government expenditures at the beginning of the period and the growth of those expenditures during the first decade of the 15-year period exerted statistically significant effects on the growth of GDP during 1980-1995. As in the case of the OECD nations, the magnitude of these coefficients indicates that the negative impact of size of government on growth is sizeable.

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[24] See Knack and Keefer (1995) and Keefer and Knack (1997) for additional evidence on this point.

Exhibit 8. The Impact of Size of Government on the Growth Rate of Developed and Less Developed Countries: 1980-1995

Independent Variables	Dependent Variable = Annual Rate of Growth (Real GDP) (1)	(2)	(3)	(4)
Government Expenditures as a % of GDP: 1980	-0.62***	-0.49**	-0.42*	-0.40*
	(2.86)	(2.36)	(1.73)	(1.69)
Change in Gov't Exp. as a % of GDP: 1980-85	-1.15**	-1.17**	-1.01**	-1.09**
	(2.60)	(2.81)	(2.30)	(2.58)
Change in Gov't Exp. as a % of GDP: 1985-90	-1.15**	-0.97**	-0.83*	-0.81*
	(2.58)	(2.29)	(1.72)	(1.76)
Change in Gov't Exp. as a % of GDP: 1990-95	-0.68	-0.6	-0.31	-0.4
	(1.30)	(1.22)	(0.55)	(0.74)
Property Rights (Initial Rating)	1.37***	1.30***	1.13***	1.17***
	(6.50)	(6.53)	(4.48)	(4.85)
Change in Property Rights: 1982-95	1.46***	1.36***	1.25***	1.25***
	(5.50)	(5.38)	(4.30)	(4.50)
Std. Dev. of Inflation Rate	-0.82*	-0.57	-0.68	-0.52
	(1.78)	(1.29)	(1.49)	(1.17)
Change in Years of Schooling (Age 25 & older) between 1980 and 1995	-	0.61**	-	0.55**
		(2.80)		(2.38)
Investment as a % of GDP	-	-	0.085*	0.048
			(1.67)	(0.92)
Constant	-8.27	-8.72	-8.81	-8.98
Adj. R^2	0.48	0.54	0.49	0.54
Number of Observations	60	60	60	60

* Significant at 90 percent level.
** Significant at 95 percent level.
*** Significant at 99 percent level.

V. Evidence From OECD Nations with Shrinking Government

The growth of government has been so pervasive in the last half of the twentieth century that there have been only a few instances where nations have substantially reduced its size. This is particularly true for the high-income industrial economies. Exhibit 9 isolates the only three instances of a substantial decline in government expenditures as a share of the economy among OECD countries during the 1960-1996 period. The first case is that of Ireland, which saw government expenditures as a share of GDP go from 28 percent in 1960 to 52.3 percent in 1986. This situation was reversed during the 1987-1996 period. As a share of GDP, government expenditures declined from the 52.3 percent level of 1986 to 37.7 percent in 1996, a reduction of 14.6 percentage points. From 1960 to 1977 government expenditures increased from 28 percent to 43.7 percent, and Ireland's real GDP growth rate was 4.3 percent. It declined to 3.4 percent during 1977-1986, as the government further expanded to 52.3 percent of GDP. During the recent decade of shrinking government, the annual growth rate in Ireland's real GDP rose to 5.4 percent. As government expenditures shrank in Ireland, Ireland's economic growth increased.

The experience of New Zealand is also revealing. Between 1974 and 1992, New Zealand's government expenditures as a share of GDP rose from 34.1 percent to 48.4 percent. Its average growth rate during this period was 1.2 percent. Recently New Zealand began moving in the opposite direction. The percentage of GDP devoted to government expenditures was reduced from 48.4 percent in 1992 to 42.3 percent in 1996, a reduction of 6.1 percentage points. Compared to the earlier period, New Zealand's real GDP growth has increased by more than two percentage points to 3.9 percent.

Exhibit 9. Comparing Periods of Expansion in Size of Government with Periods of Shrinkage in Size: The Cases of Ireland, New Zealand and United Kingdom

Country/Time Period	Government Outlays as a Percent of GDP			Growth Rate of Real GDP During Period
	Beginning of Period	End of Period	Change	
Ireland				
Periods of Expanding Government				
1960-1977	28.0	43.7	+15.7	4.3
1977-1986	43.7	52.3	+8.6	3.4
Period of Shrinking Government				
1987-1996	52.3	37.7	-14.6	5.4
New Zealand				
Period of Expanding Government				
1974-1992	34.1	48.4	+14.3	1.2
Period of Shrinking Government				
1993-1996	48.4	42.3	-6.1	3.9
United Kingdom				
Period of Expanding Government				
1960-1982	32.2	47.2	+15.0	2.2
Period of Shrinking Government				
1983-1989	47.2	40.7	-6.5	3.7

Source: Derived from *OECD Economic Outlook* and *OECD Historical Statistics.*

The United Kingdom provides additional evidence. Government's share of GDP rose from 32.6 percent in 1960 to 47.2 percent in 1982. During this period, UK's GDP growth rate was 2.2 percent and there was widespread reference to the "British disease." Between 1982 and 1989, government's share of GDP declined by 6.5 percentage points to 40.7 percent. Responding, UK's rate of GDP growth increased from 2.2 percent to 3.7 percent. While shrinking government has been rare in the past few decades, evidence from places where government has shrunk is consistent with the hypothesis that larger government lowers economic growth. The evidence illustrates that if the size of government is reduced, higher rates of economic growth can be anticipated.

VI. The Size of Government in High-Growth Nations

The data in Exhibit 4 for OECD countries suggests that smaller government is correlated with faster rates of economic growth. While in theory government could be too small to provide the necessary environment for economic growth, the data in Exhibit 4 give no indication that any OECD government was excessively small at any time during 1960-1996. Within the size of government range of this period, smaller government was consistently associated with more rapid economic growth.

Exhibit 10 probes this issue further by looking at government expenditures as a share of GDP for the ten nations with the fastest rates of economic growth during 1980-1995. The average annual per capita GDP growth of these countries ranged from 7.4 percent for South Korea to 4.2 percent for Malaysia. There are no OECD members in this group of fastest-growing economies. The numbers in the table show total government expenditures as a share of GDP at five-year intervals during the 1975-1995 period. The numbers in parentheses show non-investment government expenditures in cases where these figures are available.

South Korea, the world's fastest-growing economy during this period, had government expenditures that were relatively stable at between 20 and 21 percent of GDP. Non-investment government expenditures in South Korea showed a steady decline from just over 15 percent of GDP to just over 10 percent during the two decade period, indicating that South Korea has increasingly been devoting government expenditures toward investment. The total government expenditures of Thailand, the second fastest-growing economy, were generally less than 20 percent of GDP throughout most of the period, and they also showed a trend toward increased government investment. Taiwan, third on the list, showed a substantial increase in total government expenditures, from 21.5 percent of GDP to 30.1 percent, but still ended the period with government expenditures well below the world average. Taiwan's non-investment government expenditures were still less than 20 percent of GDP.[25] Singapore and Hong Kong, the next two countries, saw substantial declines in government expenditures as a percentage of GDP, and both countries had 1995 government expenditures well below 20 percent of GDP.

The next five economies on the list had higher government expenditures than the five fastest-growing economies, but all were still well below the OECD average shown in Exhibit 1. The average level of government expenditures of the 10 fastest-growing economies was 24.7 percent of GDP in 1995, compared to 25.2 percent in 1975. Thus, these economies were characterized by small and relatively stable government expenditures as a share of the economy.

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[25] By way of comparison, the total government expenditures of the United States were just under 35 percent of GDP, not much higher than the figure for Taiwan. However, capital expenditures in the United States were only 3 percent of GDP. Thus, the non-investment government expenditures of the United States were more than 30 percent of GDP, much higher than the 19.3 percent figure for Taiwan in 1995.

Exhibit 10. The Size of Government (1975-1995) for the 10 Countries with The Highest Growth Rate During 1980-1995

Country	Total Government Expenditures as a Share of GDP (Non-Investment Government Expenditures are in parentheses)				Change
	1975	1980	1990	1995	1975-95
South Korea	21.0	22.2	19.0	20.4	-0.6
	(15.3)	(14.4)	(11.6)	(10.6)	(-4.7)
Thailand	17.5	23.0	17.1	18.1	0.6
	(12.3)	(14.1)	(11.0)	(09.5)	(-2.8)
Taiwan	21.5	23.2	27.1	30.1	8.6
	(14.0)	(14.0)	(16.3)	(19.3)	(5.3)
Singapore	23.2	23.1	21.7	14.4	-8.8
	(13.3)	(13.2)	(15.0)	(10.8)	(-2.5)
Hong Kong	19.0	20.9	16.0	17.6	-1.4
	(15.5)	(16.0)	(12.4)	(13.1)	(-2.4)
Botswana	35.1	33.9	36.2	37.8	2.7
	(18.9)	(20.6)	(n.a.)	(n.a.)	-
Mauritius	24.6	29.0	25.3	23.2	-1.4
	(18.9)	(20.6)	(13.8)	(13.9)	(-5.0)
Cyprus	32.9	29.1	29.8	33.8	0.9
	(29.7)	(23.1)	(24.8)	(28.8)	(-0.9)
Indonesia	20.5	25.0	21.5	19.3	-1.2
	(12.5)	(14.3)	(12.2)	(09.8)	(-2.7)
Malaysia	36.2	37.7	32.7	32.3	-3.9
	(26.2)	(26.1)	(21.2)	(28.8)	(2.6)
Average	**25.2**	**26.7**	**24.6**	**24.7**	**-0.5**
	(17.7)	**(17.6)**	**(15.4)**	**(16.1)**	**(-1.6)**

Source: International Monetary Fund, *Government Finance Statistics Yearbook*; *Statistical Abstract: Republic of China*; *Hong Kong Annual Digest of Statistics* and various other country sources.

These characteristics were even more pronounced among the Top Five. Except for Taiwan, none of the five fastest-growing economies had government expenditures greater than 21 percent of GDP in 1995. The average level of government expenditures for the five fastest-

growing economies was 20.1 percent of GDP in 1995, lower than the average for the Top 10. The non-investment government expenditures of the five fastest-growing economies averaged less than 13 percent of GDP in 1995.

Once again, the size of government figures from the world's fastest-growing economies are consistent with the hypothesis that the smaller the level of government expenditures, the higher the rate of GDP growth. Furthermore, in contrast with OECD countries, the tendency toward the growth of government was absent among the fast-growing economies.

VII. The Growth-Maximizing Level of Government Expenditures

A persuasive argument can be made for designing government policies in order to maximize the economy's rate of growth. In the long run, a strong economy is the best way to benefit all citizens. One need only look at the progress of the 20th century to see how economic growth has helped even those least well-off in the economy or compare the well-being of those in poverty in the United States with the typical standard of living in less-developed economies, to see why policies that foster economic growth are the key to long-term prosperity.

If one wanted to design a government that maximized economic growth, how large would that government be? The data examined earlier give no indication because for every nation examined, none had governments so small that they impeded economic growth, even though there were several instances in which total government expenditures were less than 20 percent of GDP. Because there is no evidence that any existing government is smaller than the growth-maximizing size of government, some other method must be used to surmise what size of government would maximize an economy's growth rate.

One way to address the question would be to look at the size of the government within the framework of the theory discussed earlier in the paper. There are certain core functions of government that assist economic growth by protecting property rights and creating an environment conducive to growth. As economies expand beyond these core functions, larger government impedes growth because of: (a) the disincentive effects of taxes, (b) the tendency of government to expand into areas that are better suited for private sector production, (c) increased rent-seeking (rather than productive) activities, and (d) the crowding out of private investment. Thus, one way to conjecture what

level of government would maximize economic growth is to examine the size of public sector expenditures on these core functions.

What might fall into these core functions is itself a matter of debate. Exhibit 11 indicates the size of federal, state, and local government expenditures in the United States for various years for six categories that many would consider the core functions of government. Protection of persons and property would come high on the list, and the top section of Exhibit 11 shows the percentage of GDP devoted to this area, broken out to show several sub-components. Expenditures on the protection of persons and property have been expanding over the years, rising from 0.64 percent of GDP in 1960 to 1.5 percent of GDP in 1992. Despite this growth, these expenditures consumed a relatively small share of GDP even in the 1990s.

National defense and international affairs is another area that might be considered a core function of government. In most years it is the largest of the functions listed here, but has shown a considerable decline since the 1960s. The national security category was 9.3 percent of GDP in 1960, and after the end of the Cold War has fallen to approximately 5 percent in 1992.

One might debate whether education should even be included as a core function of government, because the private sector has shown itself quite capable of providing high-quality education. Nevertheless, education is a key component in economic growth, and most education in the United States (and around the world) is produced by government. Education's share of GDP increased substantially in the 1960s, from 3.69 percent in 1960 to 5.38 percent in 1970. It was only slightly more than that in 1992.

Infrastructure is another area in which government might foster economic growth, even though the private sector has the capability to produce infrastructure without government. Exhibit 11 shows government expenditures on (a) highways and (b) sewage, sanitation, and environmental protection. The combined government expenditures in these categories summed to less than 2 percent of GDP in 1992. The expenditures of the Federal Reserve System, which only constitute a tiny fraction of GDP, are also included.

All of these categories added together could be considered a measure of expenditures on the core functions of government, even though as already noted, the private sector could undertake at least some of these activities without government involvement. Even so, expenditures on these core functions of government have always been less than 20 percent of GDP. Since 1980, core function expenditures have been less than 15 percent of GDP. Exhibit 1 showed that in 1990

government outlays in the United States were 34.8 percent of GDP, suggesting that if government expenditures were half as large as they are today, they would still be large enough to cover the core functions of government.

Exhibit 11. U.S. Federal, State and Local Government Expenditures for Select Budgetary Categories as a Percentage of GDP: 1960-1992

	1960	1970	1980	1990	1992
Protection of Persons and Property					
Police Protection	0.39	0.49	0.54 [1]	0.55	0.66
Corrections	0.14	0.16	0.24 [1]	0.43	0.50
Judicial	0.11	0.11	0.13 [1]	0.16	-
Other Criminal Justice System Activities	n/a [2]	0.06	0.11 [1]	0.14	0.34 [3]
Subtotal	**0.64**	**0.82**	**1.02** [1]	**1.28**	**1.50**
National Security					
National Defense	8.72	7.75	4.81	5.21	4.78
International Affairs	0.58	0.34	0.46	0.24	0.26
Subtotal	**9.30**	**8.09**	**5.27**	**5.45**	**5.04**
Education					
Elementary and Secondary Education	2.88	3.62	3.34	3.52	3.67
Higher Education	0.61	1.06	1.22	1.28	1.35
Other Education	0.20	0.70	0.61	0.52	0.65
Subtotal	**3.69**	**5.38**	**5.17**	**5.32**	**5.67**
Highways	**1.82**	**1.61**	**1.21**	**1.08**	**1.08**
Sewage, Sanitation, and Environmental Protection	**0.53**	**0.60**	**0.97**	**0.80**	**0.85**
Federal Reserve System: Expenses	**-**	**0.03**	**0.03**	**0.02**	**0.02**
TOTAL	**15.98**	**16.53**	**13.67**	**13.95**	**14.16**

[1] These percentages were calculated from 1979 expenditures and GDP because detailed data were not collected in 1980.

[2] Legal representation and other related activities were not counted toward criminal justice system expenditures prior to 1969.

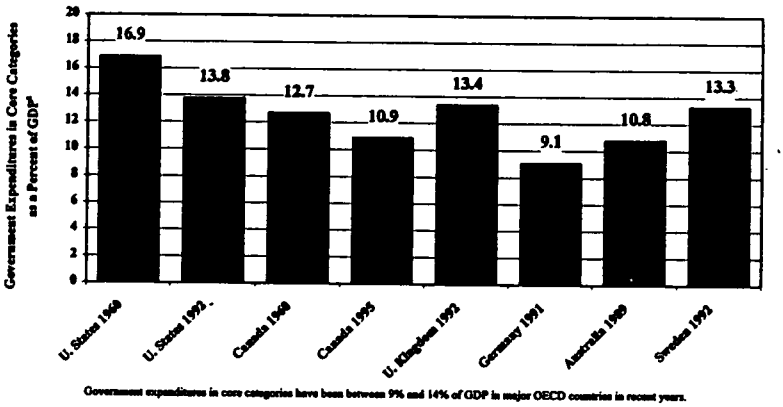
[3] Judicial, legal and other activities were combined into a single category in the 1992 data.

Source: Bureau of the Census, *Statistical Abstract of the United States* (various issues), *Board of Governors of Federal Reserve System: 1996 Annual Report*, and *Economic Report of the President*, (February 1997).

A similar story emerges when government expenditures are examined in other developed economies. In addition to the data for the United States, Exhibit 12 presents data for Canada (in 1960 and 1995), United Kingdom, Germany, Australia, and Sweden (for various recent years). In an effort to maintain compatibility of the data across countries, the categories of Exhibit 12 are slightly different than those of Exhibit 11. The primary difference is the substitution of expenditures on "transportation and communication" for those on

highways, sewage, sanitation and environmental protection. The latter categories were unavailable for countries other than the United States and Canada. These data indicate that in recent years the actual government expenditures on these core functions sum to between 9 percent and 14 percent of GDP. Interestingly, these core government expenditures in "big government" European economies like Sweden and Germany consume approximately the same share of the economy as in the United States.

Exhibit 12: Core Government Expenditures as a Share of GDP



Government expenditures in core categories have been between 9% and 14% of GDP in major OECD countries in recent years.

[a]The core categories are: (1) public order and safety, (2) national defense, (3) education, and (4) transportation and communication. Many would also include expenditures on the operation of a central banking system, sanitation, and environmental protection. Since these figures were not available for all countries, we did not include them here. In the U.S. and Canada, government expenditures in these two additional areas summed to approximately 1 percent of GDP.

Finally, while data over a lengthy time were available for only the United States and Canada, in these two countries, expenditures on the core functions of government were a smaller share of GDP in the 1990s than was true for 1960. Clearly, the growth of expenditures in the core areas has contributed little to the rapid growth of government.

VIII. Summary and Conclusion

There is overwhelming evidence that both the size of government and its expansion have exerted a negative impact on economic growth during the last several decades. As government outlays in the United States have grown from 28.4 percent of GDP in 1960 to 34.6 percent in 1996, investment as a share of GDP, labor productivity, and real GDP growth have fallen. Data for 23 OECD countries also revealed that

higher government expenditures were correlated with both less investment and lower rates of growth during the 1960-1996 period. An analysis of data for a larger set of 60 nations illustrates the same thing. Moreover, the size of government in the world's fastest-growing economies is generally less than 20 percent, and their non-investment government expenditures are approximately 13 percent of GDP, far less than the comparable figures in the United States and other OECD countries. In the few isolated cases where government expenditures shrank by an appreciable amount, this reduction in the size of government was correlated with an increase in real GDP growth. All this evidence points in the same direction: Larger government means slower economic growth.

The core functions of government are vitally important. Governments serve their citizens well when they protect property rights and enforce contracts, provide a stable (and freely convertible) currency, promote freedom of exchange in both domestic and international markets and rely primarily on competitive markets to allocate goods, services, and resources. However, as they move beyond these core functions, the tax and spending policies of governments soon become counterproductive and they begin to restrain economic growth and cause income levels to fall well below their potential. This is precisely what has happened in the United States and other OECD countries in recent decades.

Seeking to gain some insight into the level of government expenditures that would maximize a nation's economic growth, we separated the core-function expenditures from other government expenditures. In the United States, the core area expenditures comprise less than 15 percent of GDP in the 1990s, and they have been declining slightly over the past several decades. An examination of data for five other developed economies also indicates that government expenditures in these core areas are less than 15 percent. All of the evidence suggests that the level of government that maximizes the performance of the economy would place government expenditures at 15 percent or less of GDP.[26]

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[26] This figure is somewhat smaller than the estimates of other researchers that have utilized different methodologies (and data sets) to derive parallel estimates for the United States. Peden (1991) estimates that for the United States the maximum productivity growth occurs when government expenditures represent about 20% of GDP. Scully (1994) estimates that the growth-maximizing size of government (combined federal, state, and local) is between 21.5 percent and 22.9 percent of gross national product (GNP).

Often, things that we do not know are not nearly as damaging as those that we think we "know" that are not true. This has certainly been the case with economics during the last several decades. For example, in the 1960s we "knew" (or at least thought we knew) that there was a trade-off between inflation and unemployment and that expansionary policies could be used to reduce the unemployment rate. Our perception of knowledge in this area contributed to the inflation and instability of the 1970s. Similarly, many development economists (and policy-makers) "knew" that government planning could direct resources into areas where they would earn a high rate of return and thereby promote economic growth particularly in less developed countries. This perception has contributed to the failures of both government planning and foreign aid programs around the world.

After a couple of decades of declining growth rates, many economists now "know" that high-income developed economies can no longer achieve and sustain real growth rates of 3.5 percent and up. There are various explanations why. For a while, sluggish growth rates were blamed on rising energy prices. But real energy prices have been declining during the last 15 years, and there is little sign of a turnaround in growth. Some now argue that wealthy high-income nations are unable to grow rapidly because their citizens are unwilling to save very much. Still others argue that constraints imposed by technology, or the global movement of capital, or some factor explains why today's growth rates are so much lower than a few decades ago.

The evidence presented in this paper provides an alternative explanation: Increases in the size of government have slowed economic growth. Our findings raise several questions for those who adhere to the view that the recent growth declines were inevitable. First, if the falling growth rates were merely a reflection of the secular decline of mature economies, why did the growth rates of the countries with the largest expansions in government decline the most? (See Exhibit 6.) Second, if size of government does not matter much, how does one explain the persistent negative relationship between size of government (and its change) and the growth of GDP for both high-income democracies and a diverse set of countries including both industrial nations and LDCs? (See Exhibits 4, 5, 7, and 8.) Why did the economies of Ireland, United Kingdom (in the 1980s), and more recently, New Zealand reverse course and achieve higher growth rates

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However, these estimates have one thing in common: they all indicate that excessively large government expenditures are retarding the economic growth of the United States.

when government expenditures were reduced as a share of GDP? (See Exhibit 9.) If size of government is unimportant, why do all of the world's fast-growing economies have governments of modest size? (See Exhibit 10.) In contrast with the OECD nations, why is there no trend toward the expansion in the size of government among the rapid-growth economies?

We believe that the answer to each of the above questions is straightforward: Large and expansionary government has retarded economic growth, particularly in high-income countries. The findings of this paper indicate that more rapid growth is possible, but the relative size of government must be reduced if our growth potential is to be realized. Unfortunately, many policy-makers appear to be largely oblivious to the negative impact of government expenditures on economic growth. As the budget deficit shrinks during the current expansion, increasingly the focus of policy-makers is shifting toward the introduction of new programs. This is a serious error. Higher spending levels will retard the growth of income. Now is the time to develop a long-range strategy to reduce the size of government and restrict its activities to areas where it has a clear comparative advantage. If we follow this course, the experience of nations around the world clearly illustrates that we will be rewarded with higher rates of economic growth.

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GOVERNMENT SIZE AND ECONOMIC GROWTH

by

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Prepared for the
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Executive Summary

Government serves many useful functions, including some economic ones. The findings here support the view that the growth of government in newly emerging nations and economies tends to increase output. Presumably this reflects the reduction in transactions' costs and the improved environment for investment associated with a rule of law and enforceable property rights. At the same time, in modern times relative American federal government spending has expanded rapidly, reflecting sharp increases in transfer payments. The evidence suggests that large transfer payments in particular have negative consequences for growth. The results for the federal government are confirmed for state and local governments and several other countries. The findings suggest that a federal budget strategy of constraining spending growth below output growth, with particular attention paid to constraining transfer payments, would have positive effects on economic growth

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GOVERNMENT SIZE AND ECONOMIC GROWTH

INTRODUCTION

It is a fact that no society throughout history has ever obtained a high level of economic affluence without a government. Where governments did not exist, anarchy reigned and little wealth was accumulated by productive economic activity. After governments took hold, the rule of law and the establishment of private property rights often contributed importantly to the economic development of Western civilization, and it has similarly impacted on other societies as well. Government is a necessary, though by no means sufficient, condition for prosperity.

It is also a fact, however, that where governments have monopolized the allocation of resources and other economic decisions, societies have not been successful in attaining relatively high levels of economic affluence. Economic progress is limited when government is zero percent of the economy, but also when it is at or near 100 percent. The experience of the old Soviet Union is revealing, as was the comparison of East and West Germany during the Cold War era, or of North and South Korea today. Too much government stifles the spirit of enterprise and lowers the rate of economic growth.

If no government is too little, but all-encompassing government is too much, what is about right from the standpoint of maximizing economic welfare? Has the growth of government in the United States and other advanced industrial nations proceeded too little, too much, or about right from the standpoint of increasing the output of goods and services? Should the United States expand governmental activity faster or slower than the growth in the economy as a whole in order to expand output of goods and services?

THE ARMEY CURVE

Borrowing a graphical technique popularized by Arthur Laffer, Representative Richard Armey, an economist by training, developed what he termed the Armey Curve (see Figure 1).[27] In a state of anarchy, output per capita is low. Similarly, where all input and output decisions are made by government, output per capita is likewise low. Where there

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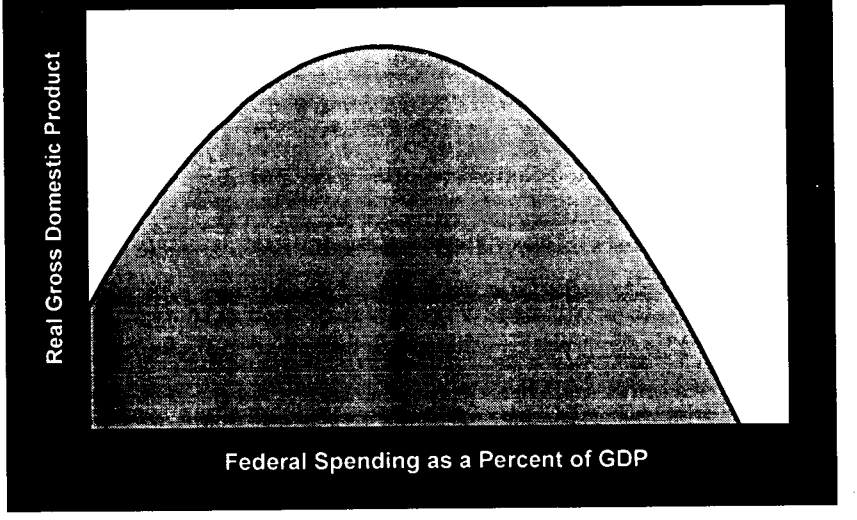
[27] See Richard Armey, *The Freedom Revolution* (Washington, D.C.; Regnery Publishing Co., 1995), for a discussion of his perspective.

is a mix of private and government decisions on the allocation of resources, however, output often is larger. The output-enhancing features of government dominate when government is very small, and expansions in governmental size are associated with expansions in output. At some point, however, further expansion of government no longer leads to output expansion, as the growth-reducing aspects of government grow larger, and the growth-enhancing features of government diminish. Further expansion of government contributes to economic stagnation and decline.

Figure 1. Government Spending and the Economy
(The Armey Curve)



Why is this so? In a world without government, there is no rule of law, and no protection of property rights. Bullies and strong people can steal the assets of weaker persons with impunity. There is little incentive to save and invest because the threat of expropriation is real and constant. Moreover, without some collective action, there is no protection from bigger bullies, namely foreign nations, or pirates on the high seas. Collective action also facilitates the creation of roads that improve transportation and lower trading costs. Government can also create a reliable medium of exchange, further developing the gains from trade. Thus, the establishment and early growth of government is associated with rising levels of income and positive rates of economic growth.

As governments grow, the law of diminishing returns begins operating. While the construction of roads initially assists output expansion, the construction of secondary roads and upgrading primary roads start to have less added positive impact per dollar spent. Moreover, the taxes and/or borrowing levied to finance government impose increasing burdens. Low tax rates become higher. New taxes, such as income taxes, are added to low consumption levies, with increasingly adverse effects on human economic behavior. Tariffs are raised, thwarting trade. New government spending no longer enhances economic growth.

When government is small, political actions at income redistribution via tax policy or through payments to the poor are modest in magnitude. As transfer payments and progressive taxation grow with increasingly large government, the negative effects of governmental spending magnify. In small amounts, welfare payments help the poor and do not dramatically influence behavior. As the payments grow larger and more comprehensive, they lead to pronounced work disincentive effects. Thus, it is to be expected that as government absorbs an increasingly large percent of national output, incremental spending will actually have an adverse effect on output.

The Armey Curve does not suggest that "all government is bad." To the contrary, some government serves the public good. But like most good things, too much of it is harmful. Just as drinking one glass of wine daily may be good for the drinker's health but drinking 10 glasses is bad, so government in moderation is good for the economy while in excess it is bad. Milton Friedman, comparing the United States and Hong Kong, put it well recently:

> Government has an essential role to play in a free and open society. Its average contribution is positive; but I believe that the marginal contribution of going from 15% of the national income to 50% has been negative.....[28]

Professor Friedman is suggesting that the threshold where government's role in economic growth is probably somewhere between 15 and 50 percent of the national income or output. We will test that assertion shortly.

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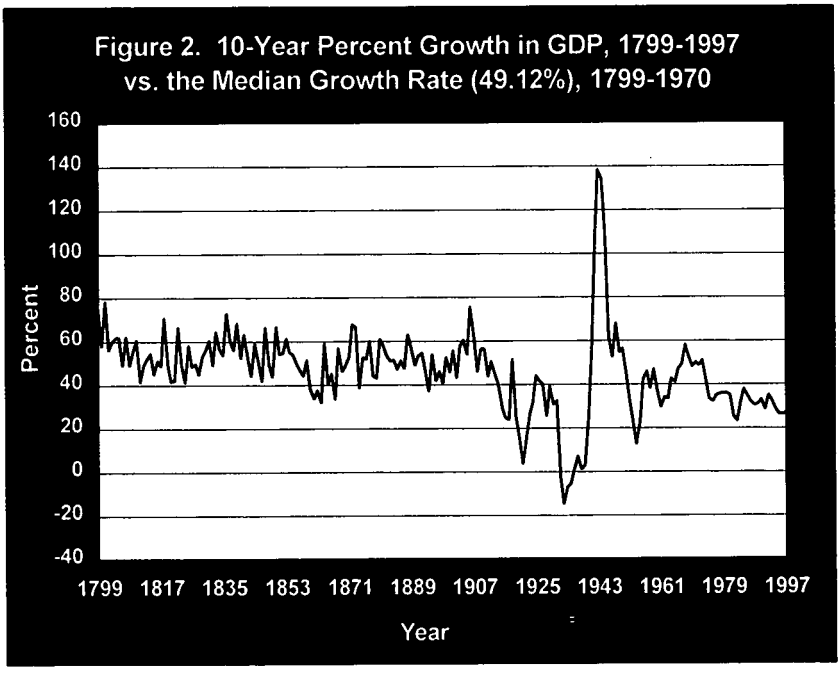
[28] Milton Friedman, "If Only the U.S. Were as Free as Hong Kong," *Wall Street Journal*, July 8, 1997, p. A14.

THE GROWTH SLOWDOWN

America's large lead over many other areas of the world in economic supremacy has eroded over time. Moreover, annual real output in the United States is typically growing less rapid than was the case in earlier decades, as Figure 2 demonstrates. While the current economic boom has been long lived and been characterized by unemployment as low as we have seen in more than two decades, this is the first long (more than three years) economic recovery since reliable data were first available in (1854). There has not been a single year in which real output has risen at least 4 percent.

The output slowdown is not unique to the United States. Growth rates in Europe, for example, are lower in the past generation than in the preceding one. Both Europe and the United States have had a marked growth in the size of government relative to total output in recent years.



By contrast, growth rates in many nations of Asia today are higher than a generation ago. In many of these places, such as Hong Kong or Korea, the private sector's growth has been faster than that of government. That is particularly true in the region's giants, China and India. As government's role in resource allocation has declined relative to that of the market-based private economy, it seems that growth rates have

accelerated. This casual evidence would seem to support the existence of an Armey Curve phenomenon.

THE ARMEY CURVE IN THE UNITED STATES

Does the historical experience verify the existence of the Armey Curve? The short answer is yes, whether the frame of reference is the contemporary American economy, the American economy over long-time frames, or the economies of other nations. Statistical testing suggests that many modern Western economies are in the downward-sloping portion of the Armey Curve, where reduction in the relative size of government would have positive effects on economic opportunities for the citizenry.

There are various ways of precisely defining the Armey Curve. One approach is to relate government as a percent of total output, G, to total output (real gross domestic product), O. The Armey Curve as portrayed in Figure 1 can be expressed in a simple quadratic fashion, as follows:

$$(1) \qquad O = a + bG - cG^2.$$

The positive sign on the linear term, G, is designed to show the beneficial effects of government spending on output, while the negative sign for the squared term means the variable measures any adverse effects associated with increased governmental size. Since the squared term increases in value faster than the linear term, the presence of negative effects from government spending eventually will outweigh the positive effect, producing the downward-sloping portion of Figure 1.

Output expands over time, of course, for reasons unrelated to government size. Human and capital resources grow, so one would expect that with the passage of time, T, output will grow. To control for this factor, we introduce the time variable T in our initial statistical analysis, defining the first year examined, 1947, with the value one, the year 1948 with the value two, and so on, up to the value 51 for the last year examined, 1997.[29] Also, output varies with the business cycle. We would expect output to be below the time-trend gross domestic product (GDP) in years in which the civilian unemployment rate, U, is high. Therefore, we will expand equation

(1) by the addition of time trend and unemployment variables.

Thus, the final form of a statistical estimating equation

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[29] This model was reported in our *The Impact of the Welfare State on the American Economy* prepared for the Joint Economic Committee in December 1995. More recent data are included in the reported results.

designed to explain variations in the level of real GDP over the period 1947 to 1997 is demonstrated in Equation 2:

(2) $O = A + bG - cG^2 + dT - eU.$

The results of estimating expression (2) using ordinary least squares regression analysis are reported in Table 1.[30] All the independent variables are significant at the 5 percent level or better. The results permit a statistical estimation of the Armey Curve in Figure 1, specifically the point where output is maximized. The Curve peaks where government spending equals 17.45 percent of GDP. Since federal spending in recent years has been between 20 and 22 percent of GDP, the results suggest that the federal government is 12-20 percent too large from the standpoint of growth optimization. The last year in which federal spending was below 17.5 percent of GDP was 1965.

If this result is correct, the Nation since 1965 has been in the negatively sloped portion of the Armey Curve - higher government spending (as a percent of total output) is associated with lower levels of real output. If true, this suggests that a post-1965 statistical analysis using a traditional linear model (dropping the squared term in the second

Table 1. Regression Analysis Used to Explain Variations in Real Gross Domestic Product, United States, 1947-1997

Regression Term or Statistic	Statistic or Regression Coefficient	t-Statistic
Constant	-566.15	-1.07
Federal Spending as a % of GDP	121.17	2.27
Square of Federal Spending as a % of GDP	-3.47	2.39
Time	136.07	24.28
Unemployment	-60.71	-9.64
R2	.9994	
Durbin-Watson	2.144	
ARMA Adjustment	2	
F-Statistic	13,094.12	

[30] The data on government spending as a percent of GDP are based on fiscal year data. The unemployment rate data are for calendar years. Two ARMA terms introduced to control problems of serial correlation are not listed.

equation) would produce a *negative relationship* between government spending and growth. As equation (3) demonstrates, this the case, with the negative relationship significant at the 1 percent level:

$$(3)\quad O = \underset{(13.48)}{1356.42} - \underset{(4.55)}{30.48}\,G - \underset{(7.11)}{51.38}\,U + \underset{(122.08)}{127.87}\,T,$$

$$D\text{-}W = 1.98,\quad \bar{R}^2 = .999,\quad F = 6085.98,\quad ARMA = (0,4),$$

where the numbers in parentheses are t-values. These results suggest that for each 1 percent increase in the government share of GDP, the GDP itself falls by about $30 billion. Since the numbers are expressed in 1992 dollars, the figure in current dollars would be slightly higher, perhaps $34 billion. Since a 1 percent change in GDP is currently about $80 billion, this suggests that $80 billion in federal spending has associated with it an output-reducing impact of about $34 billion, or somewhat more than 40 percent of the total - the "deadweight" loss of modern government. These results are remarkably consistent with other findings on the efficiency costs of taxation, the primary means used to finance government.[31]

All of these results are consistent with the interpretation that the early development of the welfare state in the first half of this century did not harm economic growth, and indeed even had some positive impact on output. The expansion of government since the Great Society of the mid-1960s, however, has had a deleterious impact on the rate of economic growth. Moreover, the relatively robust economic conditions of the 90s are explainable in terms of some decline in the government share of GDP. That share fell from about 22.6 percent in 1991 to about 20.2 percent today (partly estimated). 1997 was the fifth consecutive year in which government spending fell as a percent of GDP, suggesting relatively more efficient private sector spending was substituting for governmental activity, thereby leading to a positive impact on economic growth. The only other postwar period where government's share of GDP fell for more consecutive years was from 1983 to 1989, a period of unprecedented modern peacetime prosperity. In the 80s, the conservative Republican Administration of Ronald Reagan promoted restrained

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[31] Perhaps the standard reference is Charles L. Ballard, John B. Shoven and John Whalley, "A General Equilibrium Computation of the Marginal-Welfare Costs of Taxation in the United States," *American Economic Review*, March 1985. They observed efficiency losses varying from about 20 to about 50 percent of tax revenues.

governmental growth with positive economic effects. In recent years, a Democrat President (Bill Clinton) has largely embraced a fairly conservative budget policy under pressure from a Republican-controlled Congress.

THE IMPACT OF GOVERNMENT DOWNSIZING ON NATIONAL OUTPUT

From Table 1, we can calculate that the fall in government's share in GDP from 1991 to 1997 has raised the GDP level almost precisely 1 percent. In other words, the moderate downsizing of the relative size of government added roughly 0.15 percentage points to the average annual GDP growth observed over the past six years. The growth slowdown observed in recent times would have been even greater were it not for some reduction in the federal government's role in our society.

Interestingly, using the current size of federal government spending (roughly 20 percent of GDP), Milton Friedman is right on another point: *on average* the government's contribution is positive (the GDP would be lower if there were no government). The aggregate positive contribution of government is estimated for 1997 to be about $1 trillion. However, *at the margin*, government's impact has been noticeably negative.

The data here suggest that a further reduction in government size to 17.45 percent of GDP would be growth enhancing. The positive impact of government downsizing at the margin gets smaller as we approach the optimum. Nonetheless, the results from (1) would suggest that reducing federal spending by about 2.75 percent of GDP (or by about $225 billion) would raise GDP by slightly more than $30 billion a year. This is a permanent increase. The present value of that increase over, say, the next generation reaches into several hundred billion dollars.[32] It is certainly worth doing.

Moreover, this estimate of effects is almost certainly too small. The implicit deadweight loss from government spending implied here is less than 15 percent, well under the estimates for deadweight loss from taxes usually observed. Using the estimates from (3) above, the gains to GDP by reducing government spending as a share of GDP to 17.45 percent rises to more than $80 billion a year. Furthermore, additional empirical work below suggests that the optimal size of government may well be smaller than 17.45 percent.

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[32] The present value of a $30 billion enhancement of GDP over a 25-year period using a 3 percent real interest rate (thus taking into account the impact of inflation on nominal GDP values) is $522.4 billion.

If this analysis is correct, a sound budget policy would be for the Nation to continue to allow for modest growth in federal spending, but by amounts less than overall nominal increases in gross domestic product, so that spending declines as a percent of GDP. At the same time, the results above, while fairly robust statistically, are only one test of the Armey Curve hypothesis, and alternative model specifications or time periods might offer different results.

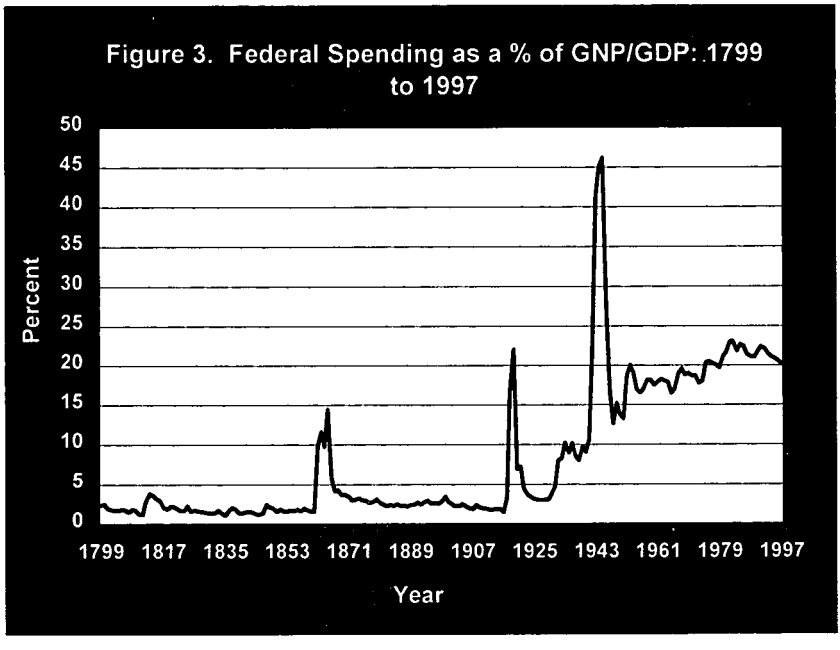
A Test of the Armey Curve From Presidents Washington to Clinton

To deal with the possibility that the results in Table 1 are a statistical artifact of some sort, we modified the model in two ways. First, we looked at the historical experience from 1791 to the present, that is from the Administration of President Washington to that of President Clinton. Second, we looked at an alternative formulation of the Armey Curve, namely looking at the rate of *change* in output (or economic growth), rather than the *level* of output. This also helps us deal with severe statistical problems of analyzing data over extremely long time periods.

The growth in the size of the federal government over time is substantial relative to the economy as a whole, as Figure 3 indicates. Prior to 1916, it was rare for federal government spending to exceed 3 percent of total output except during wars. The ratcheting up of spending to the high single digits in the interwar period was followed by a second ratcheting up in spending into the double-digit percentages following World War II.

Our interest is in long-term growth, not business cycle fluctuations. Accordingly, instead of trying to explain single-year rates of growth in output, which are often largely determined by the business cycle, we look at the five- or 10-year rate of growth in output, which presumably largely reflects longer term growth trends. Since we are looking at growth over a five- or 10-year period, it is appropriate to measure G (government spending as a percent of GDP) and G^2 using an average of those measures over the same time period.

There may be a time trend towards higher or lower growth in real GDP over time. Given the slowdown in the rate of population growth, there may be some tendency for the growth rate to fall over time. To account for this, we again introduce a time variable T in the analysis, where the value of T is simply the year in question. Finally, there were three wars that were extraordinarily dramatic in their short-term economic impact: the Civil War, World War I and World War II. A war variable W was used that measured the percentage of years in the five- or 10-year period examined that included war years (1861-65, 1917-19, and 1941-45).[33]



[33] There are a number of data problems associated with any long-term time series analysis. Data for changing total output for the years 1791-1888 were taken from Thomas Senior Berry, *Production and Population Since 1789: Revised GNP Series in Constant Dollars* (Richmond, VA: Bostwick Press, 1988); for 1889-1928, we used U.S. Department of Commerce, *Historical Statistics of the United States, Colonial Times to 1970* (Washington, D.C.: Government Printing Office, 1975); for post-1929 data, we used the *Economic Report of the President*, various years. Government spending data were derived from *Historical Statistics...* and various issues of the *Economic Report...* Before 1929, the output measure is gross national product; after 1929, gross domestic product is used.

With *O* now standing for the *change in output*, the results obtained for 1796 to 1996 using the five-year averages were:

$$(4)\ O = \underset{(2.253)}{73.691} + \underset{(4.989)}{1.518}\ G - \underset{(7.257)}{0.069}\ G^2 - \underset{(1.669)}{0.030}\ T + \underset{(2.441)}{7.362}\ W,$$

$$\bar{R}^2 = .637,\ F = 39.950,\ D\text{-}W = 1.771,\ ARMA = (0,5).$$

The Armey Curve is confirmed, with both the terms being statistically significant at the 1 percent level. The time trend variable is only marginally significant (at the 10 percent level), while the variable measuring the presence of major wars is significant at the 5 percent level. The results suggest that the size of government was optimized at 11.06 percent of total output, sharply below current levels and, indeed, below the level observed in the postwar period. This analysis would suggest that while the relative size of the federal government was too small during the 19th and even during this century before 1940, the fact that postwar government size did not return to prewar levels in a relative sense had a negative impact on the economy, reflected in such phenomena as marginal income tax rates of more than 90 percent as late as 1963.

Equation (4) was reestimated for 1801-1996 using 10-year averages of the relevant variables:

$$(4)0 = \underset{(6.385)}{350.875} + \underset{(3.984)}{3.033}\ G - \underset{(4.046)}{0.113}\ G^2 - \underset{(5.527)}{0.166}\ T + \underset{(0.592)}{0.034}\ W$$

$$\bar{R} = .640,\ F = 39.582,\ D\text{-}W = 2.001,\ ARMA = (0,5).$$

The relevant variables are again significant at the 1 percent level. The size of government that maximizes economic growth is now estimated at 13.42 percent of total output, up a good deal from the estimate in (4). At the same time, however, this is still well below the 10-year average percent of total output absorbed by federal spending in any postwar year, the low being 16.28 percent in 1956. It is about, however, the governmental proportion observed in several individual years in the late 1940s or early 1950s. The observation that the United States was in the negatively sloped part of the Armey Curve in the postwar era is confirmed by looking at the simply bivariate relationship between *G* and output growth for the years 1950 to 1996:

$$(5)O = \underset{(10.543)}{77.423} - \underset{(5.672)}{2.093}\ G,$$

$$R^2 = .651,\ F = 29.601,\ D\text{-}W = 1.856,\ ARMA = (0,2).$$

By contrast, if one looks at the period of peace between the Civil War and World War I (1875-1916) when the 10-year average of government spending as a percent of GDP was consistently in the low single digits, a positive linear relationship is observed between government spending as a percent of GDP and GDP growth

$$(6)\ O = \underset{(2.777)}{24.135} + \underset{(2.961)}{9.845}\ G,$$

$$R^2 = .215,\ F = 3.804,\ D\text{-}W = 1.781,\ ARMA = (3,0).$$

Put simply, small government seems to be growth enhancing; big government is growth reducing.

DECOMPOSING FEDERAL SPENDING

It is possible to take our original model, the results of which are reported in Table 1, and look at the various components of federal spending and how they relate to output. Do we still find Armey Curves? Or, are some forms of federal spending so debilitating that there is a case that there is a continuously negative relationship between spending and output? Are other forms of spending continuously positive in their impact? How has the changing composition of federal spending over time impacted on growth?

We estimated equation (2) for many different categories of spending. Literally scores of regressions were run, and in the interests of readability and efficiency the results are summarized in Table 2. Beginning with income maintenance or entitlement programs which currently dominate the federal budget, we generally see the existence of an Armey Curve, or, worse, a persistent negative spending-output relationship. The broadest measure of transfer payment spending, incorporating income security, health, medicare, and social security, shows *both* a statistically significant Armey Curve and a statistically significant linear negative relationship. It may well be that when this broad category of spending was relatively small (say, less than 3 percent of GDP, which was the case before 1958), further expansion had some modestly positive effects, but that those effects are dominated by the negative effects of expansion once these programs became large (first passing 10 percent of GDP in 1982). The Armey Curve analysis suggests that these transfer payment programs reached their optimal size from an

output maximization perspective at about 7.33 percent of GDP, about the level reached in 1974.

Since total spending on these transfer payment programs now approximates 11.5 percent of GDP, this analysis suggests that about these payments exceed the growth optimization point by about 4.2 percentage points of GDP (currently somewhere around $350 billion annually). This gap is more than the total gap between actual *total* federal government spending (as a percent of GDP) - about 20 percent - and that amount that would maximize output (17.4 percent of GDP, using the 1947-97 data and the original model). Thus, the evidence seems to suggest that the problem of excessive government growth in the postwar era is a problem relating to entitlements and income transfers. There is a distinct Armey Curve relationship observable with respect to income security programs (AFDC, food stamps, etc.). There is no statistically significant relationship between spending on health and output.

Turning to other parts of the federal budget, the data do not conform to either an Armey Curve or a linear relationship between defense spending and output. The simple linear relationship is negative, but not statistically significant. The findings seem to call into some question the suggestion that "imperial overreach" may be contributing to U.S.

Table 2. Regression Results: Categories of Federal Spending and Economic Growth, 1947-1997

Category of Spending	Does a Persistently Negative Spending/ Growth Relationship Exist?	Does the Armey Curve Exist?
All Entitlements (Income Security + Health + Social Security + Medicare)	Yes	Yes*
Income Security	No	Yes
Social Security	Yes	No
Social Security + Medicare	Yes	No
Health	No	No
Defense	No	No
Net Interest Payments	Yes*	Yes
Other Federal Spending	No+	No

*The linear term is statistically significant at only the 10-percent level.

+The relationship is positive and statistically significant.

Table 3. Components of Federal Spending, 1947-1997, as Percent of Total

Year	Major Transfer Payments and Income Security	Defense	Net Interest Payments	Other
1947	10.14%	37.10%	12.17%	40.58%
1960	21.48%	52.16%	7.48%	18.87%
1970	29.70%	41.77%	7.36%	21.17%
1980	44.07%	22.68%	8.88%	24.37%
1985	43.96%	26.70%	13.68%	15.66%
1990	44.01%	23.88%	14.70%	14.70%
1996	55.71%	17.03%	15.45%	11.81%

economic decline.[34] Interest payments on the national debt, actually another form of transfer payments, seem to have a negative impact. A simple negative-linear relationship between interest payments and output is marginally significant (at the 10 percent level), whereas the Armey Curve relationship is highly significant. The only category of federal spending, which shows some *positive* relationship with output, is the "other" category, a residual category that includes such things as educational, highway, environmental, agricultural, and foreign aid spending.

While the growth in government beyond its optimal size may be an important factor in the growth slowdown observed in the past decade, one factor has been the compositional shift in federal spending, indicated in Table 3. The types of federal spending growing in relative importance over time - transfer payments for income maintenance or interest on the federal debt - are precisely those programs showing a significant negative relationship to output. The programs having a benign or even positive impact on output growth, notably defense and "other," have declined sharply in relative importance.

All of this suggests that from the standpoint of enhancing the growth in the production of goods and services, a budget strategy would:

1) reduce federal expenditure growth in general below that of total output growth, thereby reducing the claim that federal spending makes on total output;

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[34] See, for example, Paul Kennedy, *The Rise and Fall of the Great Powers* (New York: Random House, 1987) for an extended discussion of how empire building can drain resources of powerful nations.

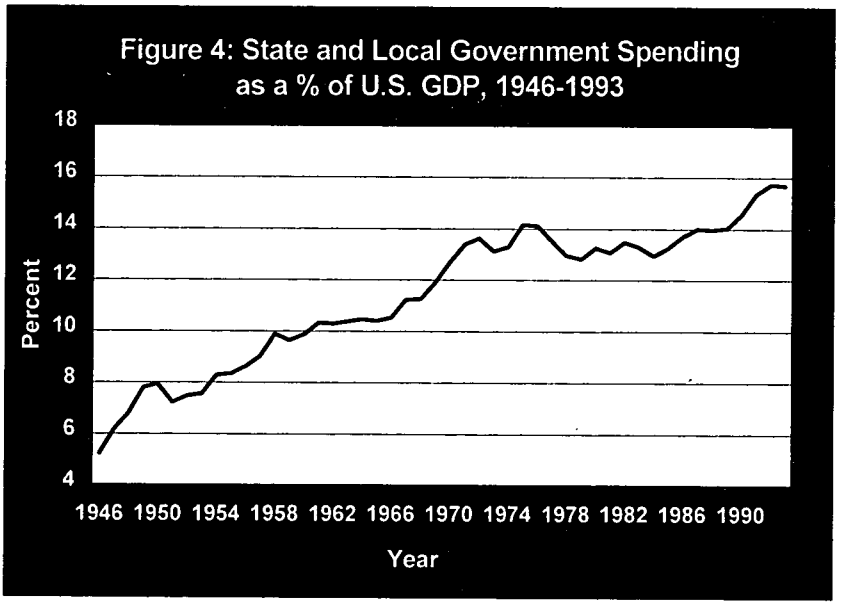
2) place particular emphasis on containing transfer payments, stopping their growth relative to income and output. These results support the arguments of persons advocating limiting the growth of entitlements.

3) the maintenance of balanced budgets would appear to be useful, inasmuch as that would reduce net interest payments of the federal government as a percent of GDP over time.

STATE AND LOCAL GOVERNMENT AND THE ARMEY CURVE

One might object that the results above are only for the federal government. Perhaps state and local government spending does not conform to the same pattern. Data limitations prohibit the very long (e.g., back to George Washington's time) analysis, but some examination for the postwar period confirms the presence of an Armey Curve.

As Figure 4 illustrates, state and local spending as a percent of GDP has risen consistently in the postwar era, rising from 5.2 percent in 1946 to 9.9 percent in 1960, to 13.3 percent by 1980, and to 15.7 percent in 1993. Thus, in less than one-half of a century, the proportion tripled, with the state and local government spending 10 percentage points more of GDP in 1993 than 47 years earlier.



Looking at data for 1957 to 1993 and relating the five-year change in real GDP to the five-year average of state and local governmental general expenditures as a percent of GDP and the square of that term, we obtain:[35]

$$(7) \qquad O = -94.574 + 20.331\,G - 0.890\,G^2, \qquad (2.211) \quad (3.070) \quad (3.267)$$

$$\bar{R}^2 = .550,\ F = 16.067,\ D\text{-}W = 1.806,\ \ ARMA = (1,0).$$

Again, the Armey Curve relationship is statistically significant at the 1 percent level. The size of state and local government that maximizes the growth rate in GDP is 11.42 percent. Using either the annual or the five-year average data, that proportion was exceeded in 1969. Hence it is not surprising that a statistically significant (at the 1 percent level) *negative* bivariate relationship is observed between state and local spending as a percent of GDP and GDP growth for the 1969-93 period, whereas a *positive* relationship is observed over the period 1950 to 1968.

In 1993, state and local spending was 15.68 percent of GDP, suggesting that a reduction in that spending as a percent of GDP of more than one-fourth would optimize economic growth. Indeed, the evidence is that federal spending, although somewhat excessive from the standpoint of growth maximization, is far closer to the optimum than that of state and local governments. At the same time, however, federal policy plays a major role in the determination of state and local governmental expenditures, as the Medicaid program so well illustrates.

SOME INTERNATIONAL EVIDENCE

While the analysis about shows a fairly impressive body of evidence supporting the existence of the Armey Curve, it is possible that the results are somewhat spurious. They do not fully account for other factors that might impact output growth. For example, some economic thinkers have argued that economic growth is strongly influenced by cycles of

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[35] Data for state and local expenditures are from the 1997 *Economic Report of the President*, p. 397. Data are not available on a consistent annual basis for prior to 1952, and given the five-year period used, the analysis is confined to years after 1957. The data as reported in the *Economic Report* stop in 1993.

innovation.[36] Perhaps the rise in the relative size of government coincided with, say, a slowdown in the rate of innovation for reasons unrelated to government. Thus, government spending may not be the casual factor in the slowdown in the rate of economic growth. Unfortunately, things like "the level of innovation" are difficult to quantify with much precision.

One thing that can add to our confidence that the Armey Curve phenomenon exists is to replicate our results for other countries. Different nations have different political environments, different spending histories, and different patterns of change in nonobservable variables, such as the pace and pattern of innovation. Moreover, most other advanced industrialized nations have had an even more extensive development of the welfare state in modern times than has the United States. If the Armey Curve relationship is observable in the United States, it should be even more strongly evident in nations where the rise of transfer payments has led to governmental spending at a higher proportion of total output than is the case in the United States.

We obtained data on central government spending, nominal and real national output (gross national product or gross domestic product) for five industrial nations: United Kingdom, Denmark, Italy, Sweden, and Canada. Excepting Canada, in every case data are available for over 100 continuous years. The British data go back to 1830, near the end of the British Industrial Revolution. Italy's statistics began in 1862, at the time of Italian unification and before that nation began its "take-off" into sustained economic growth. The Scandinavian country data begins in 1854 (Denmark) or 1881 (Sweden), before or at the time these nations

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[36] The most noted 20th century advocate of this view was Joseph Schumpeter. See his *Theory of Economic Development* (Cambridge, MA: Harvard University Press, 1934). Modern day "real business cycle" theorists emphasizing technology and other exogenous shocks are in the Schumpeterian spirit. For a discussion, see Charles Plosser, "Understanding Real Business Cycles," *Journal of Economic Perspectives,* Summer 1989.

began their major growth spurt.[37] The data for Canada begin only in 1926.[38]

As Figure 5 shows, the modern growth in the welfare state in some of these nations far outdistances that of the United States. Thus, if an Armey Curve exists in those countries, the negative growth consequences of the welfare state may be far greater than is the case in America.

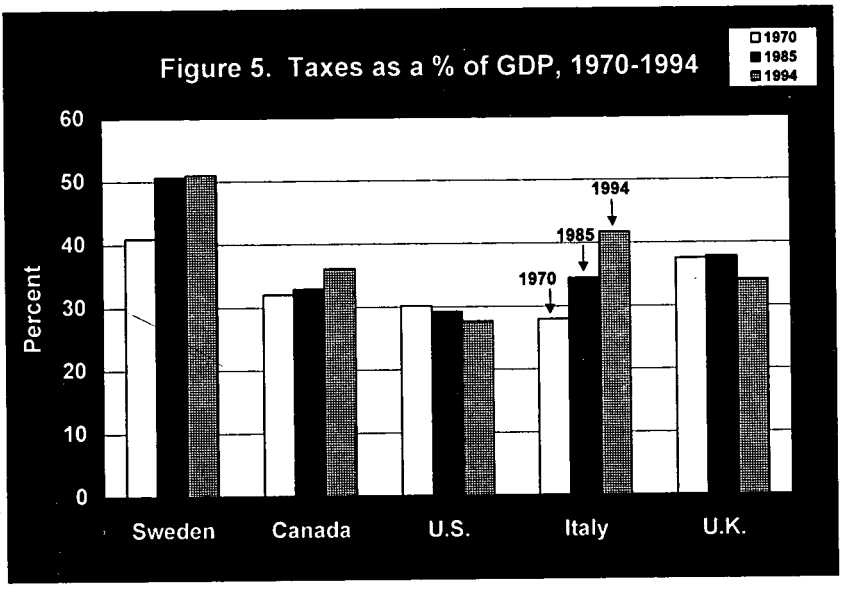

Table 4 presents results for a model where a 10-year rate of growth in real output is correlated with a 10-year average of the percent of total output absorbed by government spending, *G*, and that variable squared. The results show that in every single case, an Armey Curve relationship is observed, with both terms in the relationship statistically significant at

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[37] In his *The Stages of Economic Growth* (Cambridge, U.K.: Cambridge University Press, 1960), Walt W. Rostow dates the British "take-off" to 1783-1802, and the Swedish take-off to 1868-1890 (p. 38). He does not explicitly indicate the Italian or Danish take-off dates.

[38] Data were obtained from B.R. Mitchell, ed., *International Historical Statistics*, Third Edition (New York: Stockton Press, 1992). The data end in 1988. Because of some inconsistencies between the Mitchell and other data sources, it was decided not to update the data to include the early 1990s. In any case, virtually all the rise in the modern welfare state had occurred by the early 1980s.

Table 4. Armey Curve Results, 5 Countries, Relating Average Government Spending as % of GP over 10 Years to 10-Year GDP Growth Rate

Statistic of Co-efficient Years Covered	Canada 1926-88	Denmark 1854-1988	Italy 1862-1988	Sweden 1881-1988	U.K. 1830-1988
Constant	-199.84**	14.09*	-82.96*	8.22*	14.86*
G	25.31*	2.68*	10.76*	3.73*	1.06*
G^2	-0.59*	-0.05	-0.22	-0.1	-0.03
R^2	0.8218	0.7622	0.77	0.8332	0.8051
D-W	1.88	1.88	1.86	1.85	1.91
F-ratio	59.81	80.51	65.71	81.78	88.33
ARMA Adjustment	(1,1)	(0,2)	(0,4)	(0,4)	(0,5)
1988 Governement as a % of GDP#	23.32	50.46	40.8	36.01	32.23
Optimal Government as a % of GDP#	21.37	26.14	22.23	19.43	20.97

the 1 percent level. Moreover, governmental spending in every case except Canada in the last year observed was dramatically larger than what the results suggest would optimize the rate of economic growth. In each of the European cases, spending reductions of 40 to 50 percent would seem desirable from the standpoint of growth optimization. For Canada, dramatically smaller (10-15 percent) reductions seem called for, similar to the results obtained for the United States using data for the 1947-1997 period. Similar results, not reported in the interests of brevity, are obtained using five-period intervals for the key variables.

There has been some controversy over the slowdown in European rates of economic growth since 1970. One view is that the slowdown is to be expected, that European growth rates from 1945 to 1970 were unusually high, and that the more recent experience is a return to normalcy. An alternative view is that the expansion of the European welfare state after 1970 has stifled the spirit of enterprise and has had negative growth consequences. The findings above clearly are consistent with this alternative perspective.

CONCLUSIONS

Government serves many useful functions, including some economic ones. The findings here support the view that the growth of government in newly emerging nations and economies tends to increase output. Presumably this reflects the reduction in transactions' costs and the improved environment for investment associated with a rule of law and enforceable property rights. At the same time, in modern times relative

American federal government spending has expanded rapidly, reflecting sharp increases in transfer payments. The evidence suggests that large transfer payments in particular have negative consequences for growth. The results for the federal government are confirmed for state and local governments and several other countries. The findings suggest that a federal budget strategy of constraining spending growth below output growth, with particular attention paid to constraining transfer payments, would have positive effects on economic growth.

TRENDS IN CONGRESSIONAL APPROPRIATIONS: FISCAL RESTRAINT IN THE 1990s

A JOINT ECONOMIC COMMITTEE STUDY

Jim Saxton (R-NJ)
Chairman

Joint Economic Committee
United States Congress

April 1998

Executive Summary

This analysis examines trends in discretionary spending and concludes that recent congressional budget policy has successfully halted, at least for the time being, the long-term upward trend in discretionary spending. The principal findings (reported in inflation-adjusted 1998 dollars) include:

- Between fiscal years 1990 and 1998, congressional appropriations fell $77 billion. In the last three years alone, (1995 to 1998), discretionary outlays declined $38 billion.
- In 1996, domestic discretionary spending was cut by $9.3 billion, the largest single-year reduction in domestic outlays since 1982. Even with the increases in 1997 and 1998, appropriations for domestic discretionary spending for the current fiscal year are still $3.3 billion below the 1995 level.
- After increasing $100 billion in the previous three Congresses, domestic discretionary spending was cut by nearly $11 billion in the 104th Congress. All discretionary spending combined fell more than $72 billion in the 104th Congress.
- The 104th Congress was the first Congress on record to reduce real discretionary spending in all three spending categories (defense, international and domestic).

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TRENDS IN CONGRESSIONAL APPROPRIATIONS: FISCAL RESTRAINT IN THE 1990S

I. INTRODUCTION

Balanced federal budgets have not been a regular occurrence since the 1950s, and this persistence of deficit spending has greatly influenced the debate about budget policy during the past four decades. However, the dynamics of deficit spending changed dramatically in July 1997 when Congress passed, and the President signed, legislation that slowed the growth of spending enough to allow the federal budget to reach balance by 2002. Thanks to the robust economic expansion, unexpectedly strong revenue collections are now allowing balance to be achieved as early as the current fiscal year (FY1998).

The purpose of this report is to review trends in congressional budget policy, measured here as changes in discretionary appropriations spending. Since it is the only portion of the budget that Congress revisits and directly sets each year, discretionary spending is the most immediate reflection of congressional budget policy. Two-thirds of federal spending is classified as entitlement or mandatory spending, which budget scholar Allen Schick defines as programs where "spending increases are not at the discretion of Congress but are prescribed by existing law and are built into baseline projections."[1] Whereas the dynamics surrounding most entitlement programs make frequent changes to them politically difficult, the structure of the annual appropriations process grants Congress the initiative (though not the final say) in setting policy.[2] For this reason, this paper limits its discussion of congressional budget policy to changes in discretionary spending.

II. RECENT TRENDS IN DISCRETIONARY SPENDING

In order to compare spending from different time periods, differences in inflation and the size of the economy must be taken into account. For example, $100 had much greater purchasing power in 1965 than it does today. Therefore, this analysis examines discretionary spending measured two ways: in real terms (adjusted for inflation) and as a share of gross domestic product (GDP). In addition, the analysis distinguishes between the three different kinds of discretionary spending: defense, international and non-defense domestic. A

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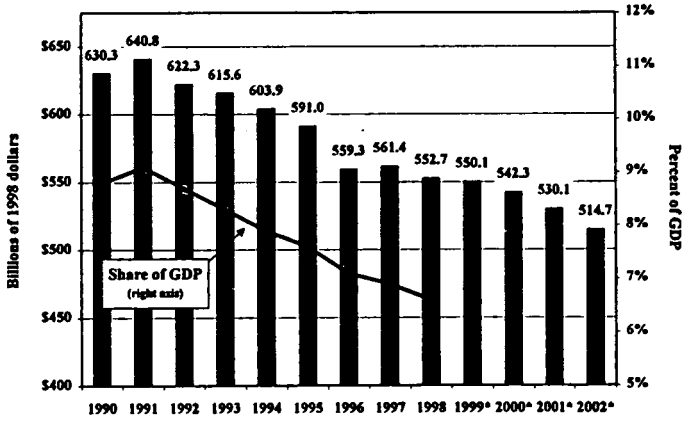
[1] Allen Schick, *The Federal Budget* (Washington, DC: Brookings Institution, 1995), 192.

[2] For authority on the dynamics of both discretionary and mandatory spending policy, see Aaron Wildavsky, *The New Politics of the Budgetary Process*, 2nd ed. (New York, NY: Harper Collins, 1992).

complete set of historical data is included in Table 2 through Table 5 at the end of the paper.[3]

As can be seen in Figure 1, recent congressional budget policy has successfully reduced the amount of discretionary spending, measured either in real-dollar terms or as a share of GDP. Between 1990 and 1998, total discretionary spending fell $77 billion, or 12 percent, measured in inflation-adjusted 1998 dollars.[4] As a share of GDP, discretionary outlays have followed the same trend, falling from around 9 percent of GDP at the beginning of the decade to well below 7 percent in 1998. In 1996 alone, discretionary outlays were reduced by $32 billion, the largest single-year drop since 1969. Although there was an increase the following year, total discretionary spending in 1998 was still $38 billion below the 1995 level.

Figure 1. Real discretionary outlays, 1990-2002



* Projected

Source: Joint Economic Committee and Office of Management and Budget.

[3] Nominal outlays were adjusted to 1998 dollars using the implicit price deflator for each type of spending. Figures indicate outlays by fiscal year. The sum of the components may not equal the total for a given year because each series is deflated separately and then rounded to the nearest decimal point. Figures for 1998 are estimates for current year outlays and do not include any supplemental appropriations. All data are from Office of Management and Budget, *Historical Tables* and *Analytical Perspectives, Budget of the United States Government, Fiscal Year 1999* (Washington, DC: Government Printing Office, 1998).

[4] Because all figures have been rounded to the nearest decimal point, some rounding error may be evident.

Figure 1 also indicates expected levels discretionary outlays for fiscal years 1998 to 2002. Under the Budget Act of 1990, discretionary spending is capped at levels specified by law. The Balanced Budget Act of 1997 implemented a new set of discretionary spending caps for fiscal years 1998 to 2002. Assuming lawmakers comply with the spending caps, real discretionary outlays will fall from current levels by an additional $38 billion by 2002.[5] Relative to 1990, discretionary spending in 2002 will be down more than $115 billion or 18 percent.

The data in Figure 1 indicate the trend in total discretionary spending, but a related interest is how spending in specific categories has changed. As previously noted, discretionary spending generally falls into one of three categories: defense, international or domestic. To a certain degree, the amount spent on defense and international programs is dictated by international factors. As might be expected, the end of the Cold War has been accompanied by real decreases in spending on defense and international programs. In contrast, domestic discretionary spending has enjoyed relatively unrestrained real growth since.

Figure 2 presents the amount of discretionary spending for fiscal years 1990 to 1998 (in real 1998 dollars). As can be seen, domestic discretionary spending experienced real increases each year until it reached an all-time high in 1995. In 1996, domestic discretionary spending was cut by $9.3 billion, the largest single-year reduction in domestic outlays since 1982. Even with the $6 billion increase in 1997 and 1998, domestic discretionary spending is still $3.3 billion below the 1995 level.[6]

Since biannual elections reshape Congress every two years, an alternative way of identifying trends in congressional budget policy is to aggregate discretionary spending by congressional sessions. Doing so reveals that the 104th Congress (FY 1996-97) was the most fiscally-restrained session of Congress in the 1990s. Total discretionary outlays in the 104th Congress were $74 billion lower than in the previous Congress (Table 1), a reduction of more than 6 percent.[7] As a

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[5] Of course, if the spending caps are broken then these projected savings will not materialize.

[6] Since the new discretionary spending caps make no distinction between domestic non-defense and international outlays, projected amounts for 1999-2002 are not included.

[7] The figures in Table 1 indicate the net change in outlays relative to the previous two-year budget cycle. Thus, legislation enacted by one Congress that affected spending in a different fiscal year is not credited to the relevant Congress. For example, 104th Congress rescinded $9.1 billion in budget authority for the fiscal year 1995. The resulting outlay reductions, however, are included in the spending totals for the 103rd Congress. Figures for the

share of GDP, discretionary outlays fell almost a full percentage point, from 7.8 percent in the 103rd Congress to 7.0 percent in the 104th Congress.

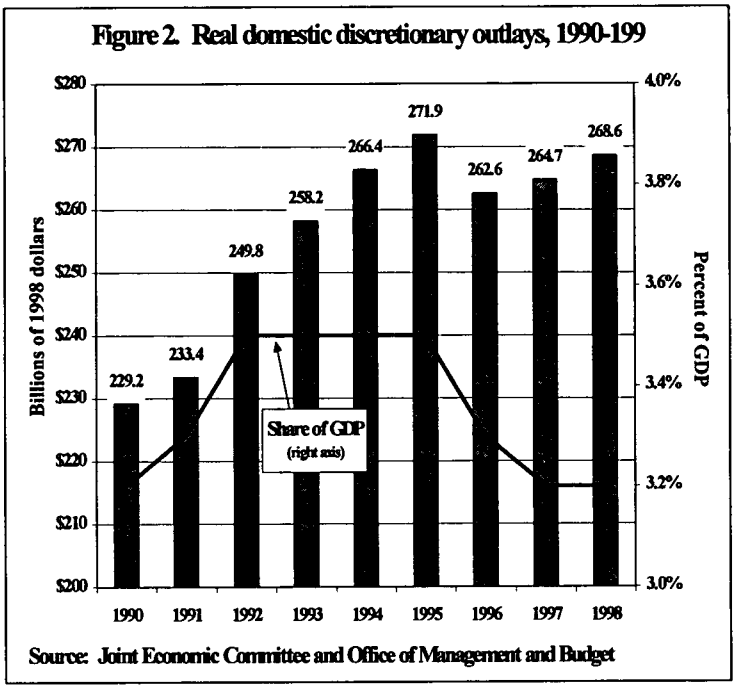


Table 1. Change in Discretionary Outlays from Previous Congress
(billions of 1998 dollars)

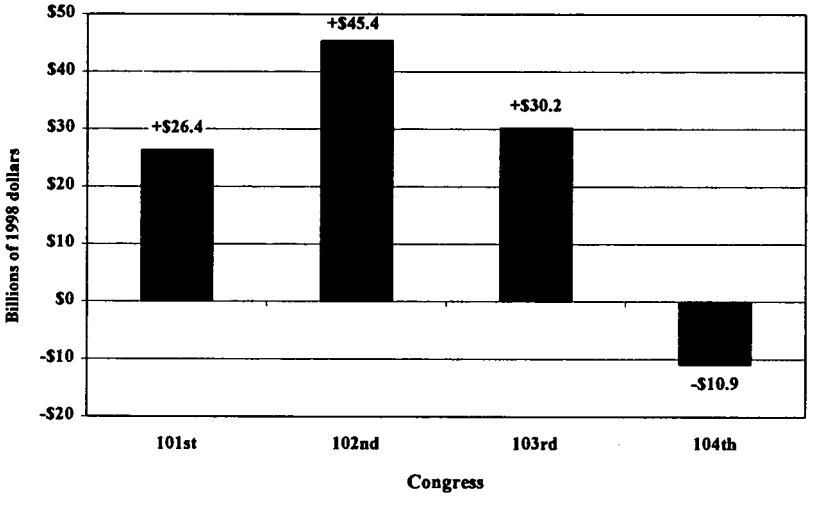
Congress	Total	Defense	International	Domestic
101st (FY90-91)	+$11.1	-$19.0	+$4.6	+$26.4
102nd (FY92-93)	-$33.2	-$76.4	-$1.1	+$45.4
103rd (FY94-95)	-$43.0	-$69.5	-$2.6	+$30.2
104th (FY96-97)	**-$74.1**	**-$57.0**	**-$5.9**	**-$10.9**

Source: Joint Economic Committee and Office of Management and Budget.
Note: Totals may not sum due to rounding.

105th Congress are not included because appropriations for 1999 have not been completed.

Although previous Congresses also reduced overall discretionary spending, large defense cuts allowed for real increases in domestic spending. In the last four Congresses (FY1990 to FY1997), defense spending fell $222 billion in real terms. In contrast, domestic discretionary spending enjoyed real increases during the 1990s. Domestic outlays climbed an average of $34 billion in each of the three Congresses prior to the 104th, totaling $102 billion. The 104th Congress reversed this trend: domestic outlays in the 104th Congress were $10.9 billion below what was spent in the 103rd Congress (Figure 3). The 104th Congress is the only Congress in the past 36 years to exact spending reductions in all three categories.

Figure 3. Change in real domestic outlays by Congress



Source: Joint Economic Committee and Office of Management and Budget.

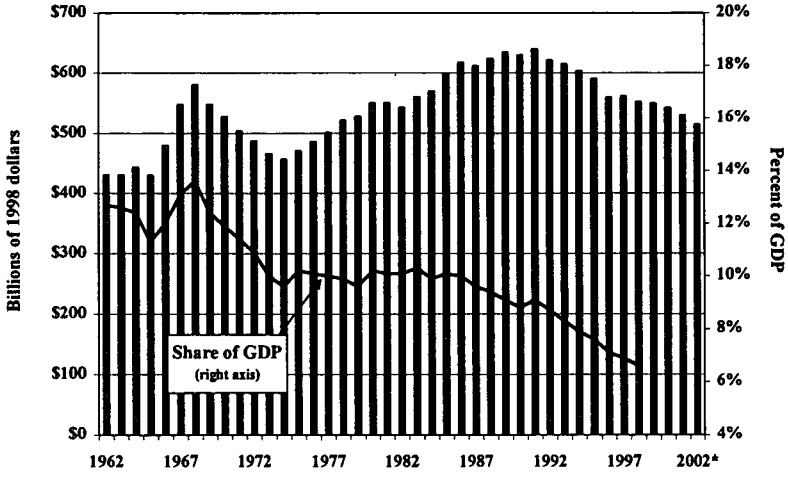
III. Discretionary Spending over the Long Term

Two findings emerge from an analysis of discretionary spending over the long run. The first is that the fiscal restraint achieved in the 1990s reverses the long-term upward trend in discretionary spending (Figure 4). Between 1962 and 1990, growth in discretionary spending outpaced inflation by more than 46 percent, reaching an all-time high of $641 billion in 1991. Although actual expenditures have been increasing over time, discretionary spending as a share of GDP has fallen steadily. After peaking at 13.6 percent of GDP in 1968, discretionary outlays fell to an all-time low of 6.6 percent in 1998.

The second conclusion about discretionary spending is that while defense and international spending have remained at relatively stable

levels over the past 36 years, domestic spending has sky-rocketed (Figure 5). In real terms, both defense and international outlays in 1998 were actually below their 1962 level. International outlays have consistently remained below their 1962 level and were down 43 percent in 1998. Spending on defense has experienced expansions as well as contractions, although total defense outlays have never been 30 percent greater than the 1962 level. In 1998, defense spending was down 15 percent from its level 36 years ago.

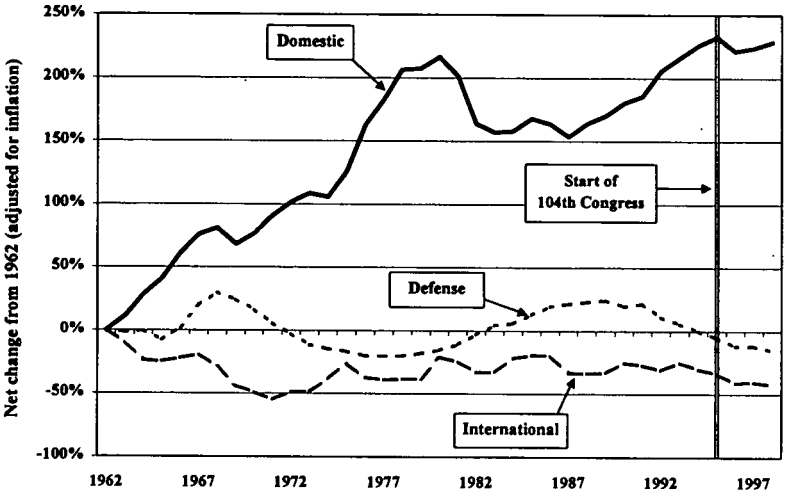
Figure 4. Real discretionary outlays, 1962-2002



*** Amounts for 1999-2002 are projected.**
Source: Joint Economic Committee and Office of Management and Budget.

The most dramatic trend visible in Figure 5 is the large growth in domestic spending. Spending on non-defense domestic programs increased by approximately 228 percent between 1962 and 1998. The only extended period during which domestic spending growth was interrupted was during the early 1980s, a period during which increases in defense spending more than offset the savings from reductions in domestic spending. The cumulative long-term impact of this surge in domestic spending growth is considerable. Over the period 1962-1998, if domestic spending had grown at the same rate as defense spending, the federal government would have spent $4.3 trillion *less* than it actually did (measured in 1998 dollars), an amount larger than the entire federal debt held by the public. The fact that domestic programs have enjoyed relatively unrestrained growth, even in the face of rising budget deficits, suggests that curbing domestic spending can be an extremely difficult task.

Figure 5. Net percent change in real discretionary spending



Source: Joint Economic Committee and Office of Management and Budget.

IV. CONCLUSION

Two conclusions about congressional budget policy are evident from the data presented in this paper. First, recent efforts to curb discretionary spending have successfully stemmed, at least for the time being, the long-term upward trend in spending growth. The 104th Congress became the first Congress on record to impose real reductions in all three categories of discretionary spending. In addition to continuing the long-term downward trend in defense and international spending, the 104th Congress reversed the upward trend in real domestic spending. Whereas each of the three previous Congresses increased domestic spending by an average of $34 billion each, the 104th Congress cut domestic discretionary outlays by close to $11 billion. Even with the increase in fiscal year 1997 and 1998, domestic spending in 1998 was down still $3.3 billion from the all-time high reached at the end of the 103rd Congress.

The second conclusion is that all types of discretionary spending need to be kept in check in order to preserve the savings achieved thus far. As indicated above, most of the long-term growth in discretionary spending is attributable to increases in domestic expenditures. If the growth in domestic outlays had been limited to the same growth rate of defense outlays, the federal government would have spent $4.3 trillion less over the past three-and-one-half decades. However, this trend has not been fully apparent in overall discretionary spending totals due to

reductions in defense and international spending. If Congress desires to avoid a return to deficit spending, then fiscal restraint must be applied to all types of spending.

Dan Miller
Economist

Table 2. Federal outlays in billions of nominal dollars

Fiscal Year	Discretionary				Mandatory	Net Interest	Total Outlays
	Total	Defense	International	Domestic			
1962	72.1	52.6	5.5	14.0	27.9	6.9	106.8
1963	75.3	53.7	5.2	16.3	28.3	7.7	111.3
1964	79.1	55.0	4.6	19.5	31.2	8.2	118.5
1965	77.8	51.0	4.7	22.1	31.8	8.6	118.2
1966	90.1	59.0	5.1	26.1	35.0	9.4	134.5
1967	106.4	72.0	5.3	29.1	40.7	10.3	157.5
1968	117.9	82.2	4.9	30.9	49.1	11.1	178.1
1969	117.3	82.7	4.1	30.5	53.7	12.7	183.6
1970	120.2	81.9	4.0	34.3	61.1	14.4	195.6
1971	122.5	79.0	3.8	39.7	72.9	14.8	210.2
1972	128.4	79.3	4.6	44.5	86.8	15.5	230.7
1973	130.2	77.1	4.8	48.3	98.1	17.3	245.7
1974	138.1	80.7	6.2	51.1	109.8	21.4	269.4
1975	157.8	87.6	8.2	62.0	151.3	23.2	332.3
1976	175.3	89.9	7.5	77.9	169.8	26.7	371.8
1977	196.8	97.5	8.0	91.3	182.5	29.9	409.2
1978	218.5	104.6	8.5	105.3	204.8	35.5	458.7
1979	239.7	116.8	9.1	113.8	221.7	42.6	504.0
1980	276.1	134.6	12.8	128.7	262.3	52.5	590.9
1981	307.8	158.0	13.6	136.1	301.7	68.8	678.2
1982	325.8	185.9	12.9	127.0	334.9	85.0	745.8
1983	353.1	209.9	13.6	129.7	365.4	89.8	808.4
1984	379.2	228.0	16.3	134.9	361.5	111.1	851.9
1985	415.7	253.1	17.4	145.2	401.3	129.5	946.4
1986	438.3	273.8	17.7	146.8	416.1	136.0	990.5
1987	444.0	282.5	15.2	146.2	421.5	138.7	1,004.1
1988	464.2	290.9	15.7	157.5	448.5	151.8	1,064.5
1989	488.6	304.0	16.6	167.9	485.9	169.3	1,143.7
1990	500.3	300.1	19.1	181.1	568.7	184.2	1,253.2
1991	533.0	319.7	19.7	193.6	596.8	194.5	1,324.4
1992	534.0	302.6	19.2	212.3	648.2	199.4	1,381.7
1993	540.4	292.4	21.6	226.4	670.2	198.8	1,409.4
1994	543.3	282.3	20.8	240.2	715.5	203.0	1,461.7
1995	545.1	273.6	20.1	251.4	738.5	232.2	1,515.7
1996	533.8	266.0	18.3	249.5	785.6	241.1	1,560.5
1997	548.3	271.6	19.0	257.6	809.0	244.0	1,601.2
1998	552.7	265.1	18.9	268.6	872.4	242.7	1,667.8

Source: Office of Management and Budget. Note: Totals may not sum due to rounding.

Table 3. Federal outlays in billions of real 1998 dollars

Fiscal Year	Discretionary				Mandatory	Net Interest	Total Outlays
	Total	Defense	International	Domestic			
1962	430.9	313.8	33.0	81.8	133.5	33.2	595.2
1963	431.0	308.2	29.8	90.8	132.7	36.9	598.3
	443.6	312.1	25.1	104.5	146.1	38.5	625.9
1965	430.5	288.9	24.8	114.9	147.2	39.7	615.2
1966	479.6	320.5	25.7	131.7	159.5	42.4	678.9
1967	548.4	375.6	26.6	143.9	180.4	44.9	770.8
1968	581.0	406.9	23.4	147.9	211.4	46.7	836.1
1969	548.3	389.8	18.4	137.3	221.6	51.3	818.4
1970	528.0	364.4	16.8	144.5	241.9	55.1	822.4
1971	504.1	331.3	14.9	155.9	275.6	54.2	831.6
1972	487.7	304.5	16.9	164.7	317.0	53.9	856.4
1973	466.0	277.5	16.9	170.4	345.8	57.9	867.8
1974	457.1	267.6	20.3	168.0	357.3	66.7	879.4
1975	470.9	261.5	24.4	184.2	446.8	65.6	981.6
1976	486.2	250.6	20.7	214.6	470.7	70.3	1,025.6
1977	501.3	250.0	20.1	231.0	470.7	73.2	1,043.4
1978	521.6	250.8	20.3	250.4	492.8	81.0	1,093.5
1979	528.2	256.6	20.3	251.3	491.6	89.9	1,108.0
1980	550.4	265.6	26.0	258.7	525.3	101.8	1,175.8
1981	551.1	279.4	24.8	246.4	551.7	121.3	1,222.4
1982	543.4	304.7	22.1	215.5	574.8	140.1	1,257.0
1983	560.7	327.1	22.2	210.0	599.1	141.5	1,299.9
1984	569.9	332.0	25.8	210.8	569.9	168.5	1,307.0
1985	600.2	353.2	26.6	219.0	610.5	189.7	1,399.3
1986	618.3	374.8	26.5	215.4	613.4	193.9	1,424.4
1987	612.4	380.9	22.0	207.4	602.1	192.0	1,405.2
1988	624.8	385.4	21.9	215.5	615.2	203.2	1,442.0
1989	635.2	390.4	22.1	220.7	635.8	217.4	1,487.1
1990	630.3	375.0	24.6	229.2	710.2	227.2	1,566.8
1991	640.8	381.8	24.0	233.4	711.2	230.0	1,581.0
1992	622.3	348.6	22.8	249.8	748.5	229.0	1,599.2
1993	615.6	331.8	24.7	258.2	753.7	222.5	1,591.1
1994	603.9	313.9	23.1	266.4	786.9	221.8	1,612.0
1995	591.0	297.0	21.9	271.9	791.2	247.3	1,629.4
1996	559.3	277.1	19.4	262.6	823.8	251.1	1,634.2
1997	561.4	276.9	19.6	264.7	826.4	248.6	1,636.6
1998	552.7	265.1	18.9	268.6	872.4	242.7	1,667.8

Source: Joint Economic Committee and Office of Management and Budget.
Note: Totals may not sum due to rounding.

Table 4. Federal outlays as a percentage of gross domestic product (GDP)

Fiscal Year	Discretionary				Mandatory	Net Interest	Total Outlays
	Total	Defense	International	Domestic			
1962	12.7%	9.3%	1.0%	2.5%	4.9%	1.2%	18.8%
1963	12.6%	9.0%	0.9%	2.7%	4.7%	1.3%	18.6%
1964	12.4%	8.6%	0.7%	3.0%	4.9%	1.3%	18.5%
1965	11.3%	7.4%	0.7%	3.2%	4.6%	1.3%	17.2%
1966	12.0%	7.8%	0.7%	3.5%	4.7%	1.2%	17.9%
1967	13.1%	8.9%	0.7%	3.6%	5.0%	1.3%	19.4%
1968	13.6%	9.5%	0.6%	3.6%	5.7%	1.3%	20.5%
1969	12.4%	8.7%	0.4%	3.2%	5.7%	1.3%	19.4%
1970	11.9%	8.1%	0.4%	3.4%	6.1%	1.4%	19.4%
1971	11.4%	7.3%	0.3%	3.7%	6.8%	1.4%	19.5%
1972	10.9%	6.7%	0.4%	3.8%	7.4%	1.3%	19.6%
1973	10.0%	5.9%	0.4%	3.7%	7.5%	1.3%	18.8%
1974	9.6%	5.6%	0.4%	3.6%	7.6%	1.5%	18.7%
1975	10.2%	5.6%	0.5%	4.0%	9.7%	1.5%	21.4%
1976	10.1%	5.2%	0.4%	4.5%	9.8%	1.5%	21.5%
1977	10.0%	4.9%	0.4%	4.6%	9.3%	1.5%	20.8%
1978	9.9%	4.7%	0.4%	4.8%	9.3%	1.6%	20.7%
1979	9.6%	4.7%	0.4%	4.6%	8.9%	1.7%	20.2%
1980	10.2%	5.0%	0.5%	4.7%	9.6%	1.9%	21.7%
1981	10.1%	5.2%	0.4%	4.5%	9.9%	2.3%	22.2%
1982	10.1%	5.8%	0.4%	4.0%	10.4%	2.6%	23.2%
1983	10.3%	6.1%	0.4%	3.8%	10.7%	2.6%	23.6%
1984	9.9%	6.0%	0.4%	3.5%	9.5%	2.9%	22.3%
1985	10.1%	6.2%	0.4%	3.5%	9.8%	3.2%	23.1%
1986	10.0%	6.3%	0.4%	3.4%	9.5%	3.1%	22.6%
1987	9.6%	6.1%	0.3%	3.2%	9.2%	3.0%	21.8%
1988	9.4%	5.9%	0.3%	3.2%	9.1%	3.1%	21.5%
1989	9.1%	5.7%	0.3%	3.1%	9.1%	3.2%	21.4%
1990	8.8%	5.3%	0.3%	3.2%	10.0%	3.2%	22.0%
1991	9.1%	5.5%	0.3%	3.3%	10.2%	3.3%	22.6%
1992	8.7%	4.9%	0.3%	3.5%	10.6%	3.2%	22.5%
1993	8.3%	4.5%	0.3%	3.5%	10.3%	3.1%	21.8%
1994	7.9%	4.1%	0.3%	3.5%	10.5%	3.0%	21.4%
1995	7.6%	3.8%	0.3%	3.5%	10.3%	3.2%	21.1%
1996	7.1%	3.5%	0.2%	3.3%	10.4%	3.2%	20.7%
1997	6.9%	3.4%	0.2%	3.2%	10.1%	3.1%	20.1%
1998	6.6%	3.2%	0.2%	3.2%	10.5%	2.9%	20.0%

Source: Joint Economic Committee and Office of Management and Budget.
Note: Totals may not sum due to rounding.

Table 5. Discretionary outlays by Congress

Congress	Billions of nominal dollars				Billions of real 1998 dollars				Percent of GDP			
	Total	Defense	International	Domestic	Total	Defense	International	Domestic	Total	Defense	International	Domestic
87th	147.4	106.3	10.7	30.3	862.0	622.0	62.9	172.6	12.6%	9.1%	0.9%	2.6%
88th	156.9	106.0	9.3	41.6	874.1	601.1	49.9	219.4	11.8%	8.0%	0.7%	3.1%
89th	196.5	131.0	10.4	55.2	1,028.0	696.1	52.3	275.5	12.6%	8.4%	0.7%	3.5%
90th	235.2	164.9	9.0	61.4	1,129.3	796.7	41.8	285.2	13.0%	9.1%	0.5%	3.4%
91st	242.7	160.9	7.8	74.0	1,032.1	695.8	31.6	300.4	11.6%	7.7%	0.4%	3.5%
92nd	258.6	156.4	9.4	92.8	953.7	582.0	33.8	335.1	10.4%	6.3%	0.4%	3.7%
93rd	295.9	168.3	14.4	113.1	928.0	529.2	44.7	352.3	9.9%	5.6%	0.5%	3.8%
94th	372.1	187.4	15.5	169.2	987.5	500.6	40.8	445.5	10.1%	5.1%	0.4%	4.6%
95th	458.2	221.4	17.6	219.1	1,049.8	507.4	40.7	501.7	9.7%	4.7%	0.4%	4.7%
96th	583.9	292.6	26.4	264.8	1,101.4	544.9	50.9	505.1	10.1%	5.1%	0.5%	4.6%
97th	678.9	395.8	26.5	256.7	1,104.1	631.8	44.3	425.5	10.2%	6.0%	0.4%	3.9%
98th	794.9	481.1	33.7	280.1	1,170.2	685.3	52.4	429.8	10.0%	6.1%	0.4%	3.5%
99th	882.3	556.3	32.9	293.0	1,230.7	755.7	48.5	422.8	9.8%	6.2%	0.4%	3.3%
100th	952.8	594.9	32.3	325.4	1,260.0	775.8	44.0	436.3	9.2%	5.8%	0.3%	3.2%
101st	1,033.3	619.8	38.8	374.7	1,271.1	756.8	48.6	462.6	9.0%	5.4%	0.3%	3.2%
102nd	1,074.4	595.0	40.8	438.7	1,237.9	680.4	47.5	508.0	8.5%	4.7%	0.3%	3.5%
103rd	1,088.4	555.9	40.9	491.6	1,194.9	611.0	44.9	538.3	7.8%	4.0%	0.3%	3.5%
104th	1,082.1	537.6	37.3	507.1	1,120.8	553.9	39.0	527.3	7.0%	3.5%	0.2%	3.3%

Source: Joint Economic Committee and Office of Management and Budget.

Note: Totals may not sum due to rounding. See *infra* note 7 for additional explanation.

BUDGET PROCESS REFORM

A JOINT ECONOMIC COMMITTEE REPORT

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United States Congress

May 1997

Abstract

The excessive size of the Federal Government is due in part to biases in the budget process. In order to have a government that is of a more appropriate size and that responds to the needs of the general public rather than to special-interest groups, reforms should be instituted which improve the transparency of the budget process and thereby increase accountability to the voters and the taxpayers.

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BUDGET PROCESS REFORM

EXECUTIVE SUMMARY

This staff study reviews problems with the Federal budget process that lead to excessive levels of government and describes how the excessive size and complexity of government can produce a bias toward additional special-interest spending. It makes recommendations for improving the transparency of the process and the accountability of policy makers.

Government can be a determining factor in the performance of the economy, because it provides a basic property-rights framework to permit the functioning of a market economy. After a point, however, increasing government size can hinder economic growth by becoming a fiscal burden and by creating special-interest programs which are a deadweight loss. For example, after the optimal level is exceeded, budget growth is due in large part to programs which substitute inefficient government spending for more efficient, market-driven activities. Empirical evidence suggests that a Federal spending level of about 17 percent of gross domestic product (GDP) would be optimal for economic growth in the United States.

Budget growth and the excessive size of government has been aided by a pattern of deficit spending which separates spending decisions from full recognition of their cost. Further exacerbating the problem is the complexity of the budgetary process, which reduces the accountability of individual policy makers. The complexity, duplication, and drawn-out nature of the formulation of budget policy make the public's understanding of policy, and policy makers' accountability for decisions, less clear.

With the passage of the Congressional Budget and Impoundment Control Act of 1974 and subsequent amendments, the Congress has tended to increase the ambiguity of the budget process. Two layers of budget process have become three; committee spending records have been replaced by functional targets identifiable with no committee or member; and staff technical specialists have gained a larger role. These trends reduce transparency and accountability.

Among the steps for improving the transparency of the process, this report recommends a Balanced Budget Amendment to the Constitution, giving the President more of a role, and defining congressional spending targets on a committee-by-committee basis. The Constitutional Amendment is particularly useful in improving

transparency because it requires the President to submit a balanced budget. As the most visible budgetary official, the President's participation in this manner would improve accountability. The committee spending targets would improve accountability in the Congress.

BUDGET PROCESS REFORM

INTRODUCTION

This paper reviews problems in the Federal budget process and the reasons that make some procedures and institutional structures counterproductive in helping to control the size of government, resulting in increased spending to levels higher than necessary. As a prescription for a healthier economy, this study recommends improvements in the budget process to reduce the bias toward spending and excessive government.

OVERSPENDING AND EXCESSIVE GOVERNMENT

The size of government can be a major determinant of the growth rate of the economy. Up to a point, contributions by government are essential to healthy growth, since government provides the basic framework of a property-rights system and enforcement of those rights, both of which permit a sophisticated economy to function. In addition, government usually provides physical infrastructure like transportation systems, public safety and health protection, and other public goods necessary for a complex economy.

There is a point, however, after which the size of government and the type of expenditures it makes become a hindrance to economic growth and the well-being of the nation. The hindrance occurs not only because of the large size of government and the burden of paying for its activities, but also because a large and overly complex government makes the public's under-standing of the decision-making process more difficult. This permits special-interest groups to seek benefits for themselves behind a veil of confusion. The problem of special-interest influences is not new; in fact, Madison warned the Nation of this problem even before the adoption of our Constitution.[1]

In the United States, growth in government has been significant since the 1930s. In 1930, Federal expenditures constituted 3.3 percent of gross domestic product (GDP); the estimate for 1997 is 20.8 percent. Much of the increased spending has been facilitated by the accumulation of debt and inflationary increases in the money supply. The size of the Federal Government has exceeded the point at which it makes a constructive contribution to economic growth, and current budgetary processes do not appear helpful in controlling this spending.

Much of the spending problem lies in human nature and the political process. The rational self-interest of people in and outside of

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[1] James Madison, *Federalist Paper No. 10*, November 1787.

government often causes the steering of benefits to small, well-organized interest groups at the expense of taxpayers and the electorate at-large.[2] Policy makers expand budgets to fund programs of questionable public value in order to gain the support of these groups, while the taxpayers remain largely ignorant of the cost to themselves of these political rewards. Within the government bureaucracy, self-interest takes the form of agencies expanding their own budgets and responsibilities beyond the point of effective execution of their programs. One estimate, for example, puts the potential output of a government bureaucracy at twice the level of a competitive industry facing similar demand and cost parameters.[3] The large size and complexity of programs not only prohibit the public from understanding the real decision process with its rewards to special-interest groups, but they also reduce the quality of the services to those who are the putative beneficiaries.

Economists use the term "deadweight burden" to refer to the net losses resulting from the imposition of some government policies. The deadweight burden of government spending is found in the actions of individuals who respond to the incentives created by government interference in the market economy. For example, individuals expend resources competing for the purely redistributional opportunities created by government programs. These resources are not spent on producing wealth, but on the seeking of government license to conduct some activity. The resources could have been employed to produce goods and services demanded by the economy rather than lost on non-productive competition.

Recent studies have begun to evaluate the aggregate effects of government size on economic growth. One statistical evaluation suggests that the optimal size of the Federal Government is in the range of 17 percent of GDP, roughly four percentage points lower than current levels, the equivalent of about $280 billion in expenditures.[4] Another study, focusing on the period 1949-1989, concluded that, in order to achieve maximum economic growth rates, total government

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[2] Economic theory predicts that there is a rational self-interest in bearing the cost of organizing a small group to pressure government to adopt policies by which small per capita costs are apportioned among a large group in order to provide large per capita benefits to the small group.

[3] William A. Niskanen, *Bureaucracy and Representative Government*, Aldine Publishing, Chicago, 1971.

[4] Lowell Gallaway and Richard Vedder, *The Impact of the Welfare State on the American Economy*, Joint Economic Committee, 1995.

taxes--federal, state, and local--should have been in the 21.5 to 22.9 percent range, and that such levels would have produced growth rates for the economy of 5.56 percent per annum instead of the 3.50 percent rates actually achieved.[5]

An understanding of the real problem behind the numbers requires a look at the types of programs supported as the size of the budget increases. At lower levels of spending, programs tend to include those which facilitate the functioning of the economy and provide a foundation for work, saving, and investment. But those programs expanding most rapidly as government size increases beyond a certain point tend to be those that substitute inefficient government spending for private-sector activities, thereby generating deadweight losses.

THE FISCAL PROCOSS AND GOVERNMENT GROWTH THE FISCAL ILLUSION

The ability of special interests to drive government size beyond effective levels, and much of its energy to the production of narrowly focused benefits, has been made possible by the relatively new tradition of persistent deficit financing. Deficit financing, as an alternative to reducing spending or raising taxes, is attractive in a representative democracy, because it defers the cost to taxpayers of the associated spending. But while the potential penalties are hidden from the electorate, they are no less burdensome from a macroeconomic viewpoint than those generated by direct taxation.

From the fiscal-discipline perspective, the chief procedural problem with deficit financing is the bifurcation of the spending and finance decisions. The ability to obscure the real cost makes the decision to approve spending easier and reduces the pain of analyzing the real need for, or quality of, the expenditure in question. Only when the deficit level reaches significant pro-portions does the cost of this process become apparent. Reducing a large deficit, however, has the unattractive feature of putting decision makers in the position of cutting programs, all of which now have established constituencies, or raising taxes. On the other hand, by combining spending and tax increase decisions, the responsibility for the cost is placed on the political leaders who are taking credit for program benefits. This is the deficit bias in a representative democracy.[6]

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[5] Gerald W. Scully, *What Is the Optimal Size of Government in the United States?* National Center for Policy Analysis, November 1994.

[6] The seminal work in this area is James M. Buchanan and Richard E. Wagner, *Democracy in Deficit: The Political Legacy of Lord Keynes*, Academic Press, 1977.

One economic penalty of deficit financing, as well as tax financing, is the alternatives foregone in the more efficient private sector. Instead of taking funds from taxpayers who are consumers and savers, debt financing takes funds directly from capital markets and reduces investment in the economy. Even though we know that demand by the Federal Government will "crowd-out" private investment opportunities, this effect is difficult to measure. The "fiscal illusion," or overrating benefits vis-a-vis costs, is promoted because debt financing hinders a comparison between the quality of the spending program and the quality of the forgone alter-natives. Not only is dollar cost separated from the decision, but the real cost, the private sector projects that go unaccomplished, is also not identified, even in the most remote manner. This is not the case when individuals can see the taxes withheld from their paychecks, and the cost to them is clear.

Price-level inflation is another potential consequence of debt financing. If the Nation's central bank, the Federal Reserve System, rapidly increases the money supply to offset borrowing in capital markets, inflation will result. There is a fair amount of evidence that the Federal Reserve System responds to the political needs of the moment, leaving the potentially negative consequences to fall beyond the political time horizon of policy makers. For example, during the Kennedy Administration, economic growth, not price stability, was the overriding concern. The Fed responded accordingly, helping to expand the economy more rapidly, but inflation followed soon thereafter.[7]

KEYNESIAN THEORY AND RESULTING SPENDING INCREASES

The chief philosophical change in U.S. fiscal policy came as a result of the introduction of Keynesian economic theory, which suggested that the Federal Government's fiscal process could be used to influence the level of economic activity. According to this theory, deficit financing could be used to stimulate economic growth and increase employment. The new philosophy was dominant in academic circles following World War II, but it did not find effective support within the Federal Government until the 1960s. Then the new philosophy was welcomed by fiscal activists in government as an economic justification for increased spending without the need to vote for tax increases. This produced a deficit spending pattern which is with us today.

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[7] The shift in Fed policy in response to changes in administrations is documented in Robert E. Weintraub, "Congressional Supervision of Monetary Policy," *Journal of Monetary Economics* 4 (1978), pp. 341-362.

As a percent of GDP, the deficit itself has increased sharply since 1971, and according to General Accounting Office (GAO) and Congressional Budget Office (CBO) estimates, it will increase at an even greater pace when the baby-boom generation begins to retire around 2010.[8] The Federal debt has already become so large that interest payments have quadrupled over the last 25 years. In 1997 interest payments are estimated to be $357 billion, which is 23 percent of outlays. Longer term trends reveal a more difficult time ahead for the U.S. economy, if deficit spending is not reduced and a surplus restored. Today's deficits are less than 3 percent of GDP, but current spending policies will lead to deficits at the 23 percent level by the year 2025. As the deficit increases to this level, the economy will stagnate as interest rates rise, confidence in the Federal Government weakens, and incentives to invest decrease.

Past Efforts and New Proposals for Process Reform

Since 1974, several initiatives have been taken to change the budget process, but their impact on controlling deficits and spending levels has been negligible for various reasons. Some of the measures have actually thwarted efforts to control spending, because they have reduced the understanding of the process and ignored the value to a representative democracy of keeping decision making visible. Such measures should keep fiscal issues within the political arena and make this venue a more accurate reflection of the will of the people.

Transparency and Accountability

There are several proposals which improve fiscal discipline by increasing the clarity of the decision-making process, fixing responsibility for decisions, and increasing accountability for those decisions. The "transparency" theory suggests that too complex a decision-making process will reduce the ability of taxpayers and voters to hold budget policy makers accountable. If voluminous and byzantine documents are employed or lengthy, repetitious, and overlapping procedures are part of the budget decision-making process, the public's understanding of the process suffers, and this damages accountability. Policy makers might even promote confusion as part of a plan to assist special interests. In the making of budget policy, this type of intentional ambiguity is evidenced by creative accounting,

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[8] United States General Accounting Office, *Federal Fiscal Trends: Fiscal Years 1971-1995*, November 1996.

hiding tax burdens, overestimating program benefits, and providing overly optimistic economic forecasts.[9]

In light of the transparency theory, it is interesting to look at the complaints from congressional observers as they review the current budgetary process. The chief complaints revolve around the complexity, duplication, and time-consuming nature of the budgetary process. For example, spending policy is now made in three distinct phases: budget, authorization, and appropriation. Each requires a separate set of hearings, reports, votes, and procedures, and the Congress must act several times on each spending proposal. The result is a system so confusing that it is difficult to identify responsible individuals, key votes, or actual policy direction. Adding to the complexity are stop-gap measures intended to plug various process loopholes which have permitted evasion of budgetary discipline. The high level of technical detail required in following these rules and calculating fiscal implications resulting from these measures not only complicates decision making, but also pushes the process even further into the hands of unelected technical specialists, both of which reduce transparency.

THE 1974 BUDGET ACT AND OTHER MEASURES

A relatively recent reform in the budget process was the passage of the 1974 Congressional Budget and Impoundment Control Act. Its enactment, according to its legislative history, was intended to gain "control" of the budget. A practical interpretation of this goal was to provide the Congress with additional resources and procedures so that the Legislative Branch could compete with the Executive Branch in the battle of the budget. The Act created a Budget Committee in each House of the Congress to act as a focal point for the consideration of targets for spending in broad functional categories. It also established the Congressional Budget Office to provide technical support and advice independent of the Executive Branch. However, as a fiscal discipline measure, the Act, in its original version, was not effective. Federal spending rates increased following enactment, and deficits were still a problem.

Continued high levels of spending and increased deficits in the 1980s led to the passage of two additional key budget reform laws, the Balanced Budget and Emergency Deficit Control Act of 1985, also known as Gramm-Rudman-Hollings (GRH), and the Budget

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[9] Alberto Alesina, Ricardo Hausmann, Rudolf Hommes, and Ernesto Stein, *Budget Institutions and Fiscal Performance in Latin America*, Working Paper Series, Number 5586, National Bureau of Economic Research, May 1996.

Enforcement Act (BEA) of 1990. GRH's goal was the elimination of the deficit, and it included the unusual disciplinary measure of automatic across-the-board cuts in the budget, "sequestrations," in the event that predetermined targets were not met through the normal budgetary process. The GRH approach was eventually abandoned in the face of massive deficit increases caused by the savings and loan bailout. BEA, on the other hand, was passed in order to enforce the budget agreements concluded by the Congress and the Bush Administration. It provided for pay-as-you-go (PAYGO) rules to ensure that future mandatory spending policy changes were "deficit-neutral" and included spending caps for discretionary programs. BEA remains in force through fiscal year 1998.

The 1974 Congressional Budget and Impoundment Control Act further weakened budgetary discipline. First, it added a third layer of budgetary action, the congressional budget process. Despite the fact that it gave some sense of order to congressional budgeting, the new Act included procedures that actually diminished the ability to understand what direction fiscal policy was taking at the program or committee level. This confusion was created by setting spending targets in functional areas for which no committee or individual felt responsibility. The new process also made more ambiguous the direction of a member's votes on spending policy, making it possible to vote for spending control in the budget phase and to vote later for increased spending in the appropriations process.

Second, this ambiguity was increased by the Act's requirement that "current policy" base-lines be used as the starting point for consideration of a new budget. Current policy includes increases for program growth from inflation, increased numbers of program beneficiaries, and increased use of services by incumbent beneficiaries. Confusion was generated by the perception that any proposed spending levels below current policy were program reductions, allowing some policy makers to claim savings while permitting others to claim increases. In any case, these automatic increases biased spending upward.

The 1974 Act was intended as a vehicle for increased congressional control and budgetary initiative, and in accomplishing that purpose, it wrested control at the expense of the Executive Branch. As a process for maintaining fiscal discipline, however, shifting power from the more centralized executive to a decentralized legislature is a move in the wrong direction. Competition among committees for available revenues under a decentralized budget process will lead to increased spending. For example, there are currently 15 spending

committees in the House and 16 in the Senate. These committees have no responsibility for overall budget levels, so they tend to focus their efforts on providing program resources for their individual constituencies.[10] An analogy often employed to make the incentives in this type of situation clear is that of the communal apple tree. The absence of clear ownership leads to overuse as members of the communal group compete to get their share of apples before they disappear. Spending committees are likewise in competition to take advantage of budgetary resources for expanding programs.

The record of Federal budget deficits over the last 200 years provides evidence that a decentralized spending process leads to more spending and greater deficits than a process which is centralized. In testimony before the House Budget Committee, one expert contrasted two periods of centralized spending authority in the Congress with two period of decentralized authority. As a percent of gross national product (GNP), the centralized periods produced deficits of .26 and -.77 percent (a surplus), while the decentralized periods produced deficits of .69 and 3.67 percent of GNP.[11]

In summary, the 1974 Act not only shifted budgeting initiative and power away from the centralized executive to a decentralized legislature, but it also further decentralized the legislative budgetary process, and along with amendments for such controls as PAYGO, made the congressional process more complex and less transparent, and it made individual members and committees less accountable. The PAYGO rules also limit policy options with respect to reducing taxes because they preclude using spending cuts in discretionary programs to offset revenue reductions. This in itself is a bias toward bigger government. To improve the discipline of the spending process, the Congress will need to consider reforms which maintain the advantages of an organized process, but which improve clarity and accountability. This might include allowing the expiration of the PAYGO rules in 1998.

A Constitutional Amendment Requiring a Balanced Budget

Given the continuing problems of high spending levels and large deficits, a balanced budget amendment to the Constitution is an

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[10] Prepared Statement of John F. Cogan, in *How Did We Get Here from There: Reform of the Federal Budget Process,* Hearings before the Committee on the Budget, U.S. House of Representatives, Report No. 104-28.

[11] The centralized periods were 1799-1885 and 1922-1931; the decentralized periods were 1866-1921 and 1931-1995. *Ibid.*

important component of a national policy for achieving and maintaining a healthy, growing economy. As one key fiscal-control measure in a strategy for controlling government spending, such an amendment has the potential of reversing a trend of excessive expenditures which have long been a drag on the productive elements of our society. The fiscal illusion would diminish, because policy makers would be dealing with current costs as well as current benefits in their decision calculus. Such comparison of costs and benefits would produce more careful analysis of the need for and quality of the benefits, leading to higher quality programs and lower spending levels.

Experience at the state level shows that balanced-budget requirements do have an effect in producing balanced budgets. Forty-eight of the 50 states have some type of balanced-budget requirement, and, in general, that requirement plays a significant role in forcing policy makers to act with more fiscal discipline. A survey of 49 states by the U.S. General Accounting Office (GAO) suggests that such a requirement, along with a tradition of balanced budgets and concerns over the impact on bond ratings, has been a primary motivation in fiscal discipline.[12]

The chief objection to the current version of the amendment under consideration has been the lack of a tax limitation provision in the amendment, a proviso which requires a super-majority vote to increase revenues, thereby focusing budget-balancing activity on the spending reduction side of the equation. Such a disciplinary measure might be particularly important during the initial transition stage under the amendment, when existing programs with their established constituencies would fight hard to avoid program reductions and encourage policy makers to increase taxes instead. At the national level, recent fiscal history shows that pressure for tax increases can be significant. Experience at the state level suggests, however, that revenue increases are not the chief mechanism for achieving balance. GAO notes in a study of 25 states that half of projected current-year budget deficits were achieved by spending reductions.[13] Only a few states have a tax-limitation provision.

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[12] U.S. General Accounting Office, *Balanced Budget Requirements: State Experiences and Implications for the Federal Government,* March 1993, pp. 38-39.

[13] *Ibid.*, p. 27.

An objection to an amendment also has been made on the grounds that capital expenditures should not be subject to a balanced-budget discipline, because payment for investment projects should be made along with their consumption (they should be amortized) and not made out of current revenues. State governments typically use separate capital accounts for long-term investment spending. To create a separate undisciplined account, however, would provide a major loophole for enabling every policy maker to hide favorite programs under the label of "investment." The operative reason to avoid financing large capital projects out of current revenues at the state level is the spike created in revenues to accommodate the investment under a balanced-budget scenario. While spikes may sometimes occur at the state level, at the national level, the aggregated total of investments in infrastructure, research and development, and other capital projects averages out into a smoother pattern and tends not to produce spending spikes. The use of accumulated amounts in trust funds also reduces this problem.

Another reservation about the amendment is generated by viewing the Federal budget as a macroeconomic stabilizer, automatically going into deficit by spending more and receiving less revenue during an economic downturn.[14] This concept is a holdover from the Keynesian activist philosophy which asserts that deficits can help generate recovery. Proponents of this view ignore the negative incentives generated by increased transfer payments during recessions or the drain of increased borrowing on capital markets and the economy. Spending that causes delay in the response of resource markets, regardless of how well-intentioned, slows economic recovery. Also, by increasing the fiscal burden of government, regardless of how it is financed, the rate of economic recovery from recessions is reduced.

The larger portion of the increased deficit during recessions is produced by revenue loss, which may be handled by waiving the balanced budget requirement or reducing spending. If these options are not in order, rather than failing to adopt a balanced-budget requirement, which would entail a far more costly economic burden, policy makers could always elect to change the mix of spending, reducing some programs in order to permit an increase in others. Raising taxes during a recession would not promote recovery, as it may signal a lack of fiscal discipline and an intention to increase spending

[14] A stable monetary policy will be a much more effective mechanism for reducing excessive amplitude in the business cycle.

in the long run, as has often been the result with previous tax increases.[15]

FURTHER PROPOSALS TO INCREASE TRANSPARENCY

Some proposed rules for enforcing fiscal discipline may be only marginally successful. The additional complexity of these rules may be matched only by the tenacity shown in circumventing them, and, if the transparency theory is correct, more complicated rules only permit additional opportunities to shrink from accountability. If accountability is missing from the process, it would probably make little difference to fiscal discipline whether the rule at issue is a constitutional rule or something less; accountability would be circumvented with little political cost. Most analysts would agree that the most effective way for budget issues to be addressed under a democratic system is to keep the decision making a part of the political process. Keeping a representative form of government focused on promoting the general welfare requires an understanding by the represented as to how budgets are made. Improving transparency and accountability should decrease the influence of narrow special-interest constituencies seeking benefits at the expense of the general public.

Several possible reforms are suggested by this analysis, among them changes in congressional rules which would strengthen control of the spending process. Concentrating the spending power in the hands of one committee in each House may seem extreme, but this has been the practice in the past. Alternatively, the Congress may choose to follow its own lead and provide more power to the Executive Branch, as it has in granting line-item veto authority to the President. Centralized power improves accountability in this case because one representative and one party must lead and take responsibility. The record becomes easier to read.

Given the President's visibility, a larger role for him may prove constructive from a transparency perspective. The Senate version of the Balanced Budget Amendment to the Constitution, for example, includes a provision which improves transparency and accountability. Section 3 requires the President to submit a budget that is in balance. This provision may be more important than any requirement imposed on the Congress, because it makes a President and his party's position clearer on tax and spending levels.

A similar argument could be made for the substitution of a joint resolution on the budget for the concurrent resolution instituted by the

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[15] Richard Vedder, Lowell Gallaway and Christopher Frenze, *Taxes and Deficits: New Evidence*, Joint Economic Committee, October 1991.

1974 Budget Act. A concurrent resolution, one which is a vehicle between the House and Senate only, is employed to finalize their agreement on the budget for the upcoming fiscal year. A joint resolution would require presidential approval, and, thereby, raise the visibility of the President as a politically accountable budgetary official. In the absence of the constitutional amendment with a requirement for the President to submit a balanced-budget provision, a joint budget resolution would be an improvement over the current process. At least one budget reform bill before the Congress includes this feature.

As a further option to improve the budget targeting process by fixing responsibility, the Congress may choose to define spending targets on a committee-by-committee basis, rather than the current functional approach. In doing so, the Congress would establish "ownership" of a spending record and relevant disciplinary successes or failures.

Finally, in the spirit of improving the understanding of actions taken in the budget-making process, the Congress should adopt the previous year's spending level as the baseline for considering the budget. This will provide every member with an opportunity to vote explicitly for increases or decreases in spending, regardless of their programmatic origin.

CONCLUSION

One of the biggest criticisms of proposals to improve transparency in the fiscal process has been that greater understanding of the process is no guarantee that some President, Congress, or political party will not increase taxes, spending, or deficits. This is a possibility. The issue behind improved transparency, however, is not the final course of fiscal policy; it is whether budgets reflect the public will and promote the public welfare, or whether they are fashioned behind a smokescreen which facilitates special-interest goals. Comprehensive reform to improve this accountability is urgently required.

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