The Saving Mystery, or Where Did the Money Go?

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Of great concern and puzzlement to many has been the decline in the U.S. personal saving rate. From 8 percent of personal income 20 years ago, saving has fallen to less than 4 percent. This is a matter of concern because saving and investment are closely linked, and investment is believed critical to productivity gains and a rising standard of living. In addition, the decline in saving is sometimes presented as a national character flaw and evidence of a more profligate and self-centered population. The decline in saving is also a source of puzzlement because it runs counter to many people's perception of what is happening. In particular, the large inflows into mutual funds in recent years and the strong performance of the stock market seem inconsistent with statistics showing that the saving rate has fallen to unprecedented lows.

This article will investigate the decline in saving, focusing on "where the money went." It will look at both the nature of the consumption that the decline in saving has supported and the changes in households' assets and liabilities that have accompanied this decline. It will show how households' increasing investment in mutual funds can coexist with a dwindling saving rate. And while it may not alleviate concerns that our saving is too low, it will argue that the real issue is not saving per se but how to boost productivity growth and raise standards of living.

Declining Saving

The basic "problem" appears in Figure 1. Total saving has fallen from more than 20 percent of GDP in the 1960s, to 20 percent in the 1970s and early 1980s, to only 15 percent in the 1990s. Paralleling the falloff in saving has been a decline in investment, with private domestic investment falling especially sharply since the mid 1980s. (See Table 1 for investment's share of GDP and the components of saving.)

An important culprit here is the federal government. During the

Table 1
Saving and Investment as a Percentage of GDP

	Total Gross Saving	Personal Saving	Gross Business Saving	Gross Government Saving	Federal Government Saving	Gross Investment	Gross Private Domestic Investment
1959	21.5	4.8	11.5	5.2	2.5	21.1	15.5
1960	21.6	4.4	11.2	6.0	3.4	20.9	15.0
1961	21.4	5.2	11.1	5.2	2.5	20.8	14.3
1962	21.8	5.0	11.5	5.2	2.4	21.4	15.0
1963	21.9	4.6	11.6	5.7	2.8	21.4	15.1
1964	22.0	5.3	11.7	5.0	2.0	21.7	15.3
1965	22.4	5.3	12.0	5.1	2.2	22.2	16.4
1966	21.8	5.0	11.9	5.0	2.0	22.1	16.6
1967	20.9	5.9	11.5	3.6	.7	21.0	15.4
1968	20.4	5.1	10.9	4.4	1.3	20.4	15.4
1969	20.7	4.8	10.4	5.5	2.5	20.4	15.8
1970	19.1	5.9	10.0	3.1	.2	19.2	14.5
1971	19.1	6.1	10.9	2.1	−.8	19.6	15.6
1972	19.8	5.1	11.2	3.4	−.2	20.1	16.6
1973	21.5	6.5	11.0	4.0	.6	21.7	17.6
1974	20.2	6.5	10.4	3.4	.3	20.5	16.4
1975	18.3	6.4	12.1	−.2	−3.1	19.0	13.8
1976	18.7	5.3	12.2	1.3	−1.8	19.8	15.8
1977	19.5	4.6	12.7	2.3	−1.0	20.4	17.6
1978	20.8	4.9	12.8	3.2	−.1	21.6	18.8
1979	21.1	5.1	12.5	3.5	.5	22.2	18.8
1980	19.7	5.8	11.8	2.0	−1.0	20.6	16.7
1981	20.9	6.4	12.3	2.2	−.7	21.4	17.9
1982	18.7	6.3	12.5	−.2	−2.9	18.6	15.5
1983	16.8	4.8	12.9	−.8	−3.8	17.8	15.6
1984	19.3	6.0	12.9	.4	−2.9	19.4	18.3
1985	17.9	4.9	12.6	.4	−2.8	17.9	17.1
1986	16.3	4.4	11.6	.2	−2.9	16.8	16.3
1987	16.6	3.6	11.9	1.1	−1.6	16.3	15.9
1988	17.4	3.7	12.3	1.4	−1.3	16.4	15.3
1989	16.7	3.5	11.5	1.7	−1.0	16.9	15.2
1990	15.7	3.6	11.4	.7	−1.6	16.0	13.9
1991	15.8	4.2	11.6	.1	−2.2	16.0	12.4
1992	14.5	4.4	11.2	−1.1	−3.4	15.2	12.7
1993	14.3	3.3	11.4	−.4	−2.8	15.2	13.3
1994	15.2	2.8	11.7	.7	−1.7	15.7	14.6
1995	15.8	3.3	11.3	1.1	−1.2	15.8	14.7

Source: U.S. Bureau of Economic Analysis.

1960s, the federal government ran a small surplus, and thus appears as a net contributor to saving.[1] In the 1970s, however, the federal government began to incur budget deficits; these deficits became chronic in the 1980s and 1990s.

Initially, the larger federal deficits were offset by higher personal and business saving. In the mid 1980s, however, personal saving fell sharply. This can be seen more clearly in Figure 2, which shows personal saving relative to both personal income and after-tax or disposable income. (Personal income and saving include the income and saving of nonprofit institutions serving individuals as well as the income and saving of individuals.)

The decline in personal saving becomes even more critical when one considers that the large federal deficits of the 1980s and 1990s are primarily the result of increased transfer payments.[2] Transfers are additions to personal income for which the recipient performs no current service. They include Social Security benefits, payments made under government-provided health insurance, unemployment insurance benefits, and payments to federal retirees. At the state and local level, expenditures on medical care for the needy and other public assistance payments, as well as retiree benefits, are the dominant transfers.

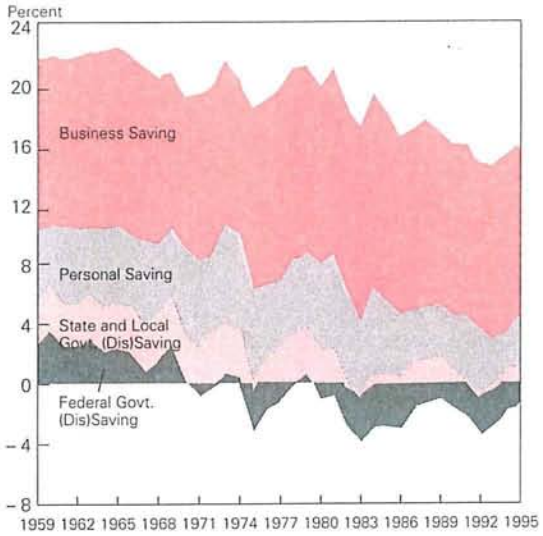
In large part because of the rapid growth in transfers, personal income has increased relative to GDP; but since the mid 1980s, a smaller fraction of personal income has been saved. Thus, government

[1] The federal government contributed to saving in the 1960s by financing its own investment expenditures out of taxes and other receipts. Expenditures on defense equipment account for the bulk of federal government investment.

[2] Increasing expenditures on defense in the early 1980s contributed to the emergence of large federal deficits, but defense spending was subsequently curtailed; and the federal government's direct expenditure on goods and services accounted for a smaller fraction of GDP in the mid 1990s than 10 years earlier.

Figure 1

Saving as a Share of GDP



Source: U.S. Bureau of Economic Analysis.

dissaving has, in effect, financed personal consumption. This is precisely the opposite of what should happen, according to some economists, who argue that government dissaving will elicit *increased* private saving, as households will perceive and offset the burden that government deficits impose on future generations.

Government transfer payments also increased very rapidly in the 1960s and 1970s, but consumption's share of GDP did not rise, as the fraction of income going to both taxes and saving increased. In contrast, consumption rose from 62 percent of GDP in the late 1970s to 65 percent in the mid 1980s to 68 percent in 1995, as federal dissaving augmented personal income, even as the personal saving rate declined.

Business saving has contributed only modestly to the decline in total saving but its composition has shifted, with retained earnings accounting for a smaller fraction of business saving and depreciation charges a larger share.[3] Shorter-lived equipment explains some of the shift; in addition, corporations have been paying out a larger fraction of profits as dividends in the 1980s and 1990s than they did previously. As in the case of government transfers, the increase in dividend payments represents an increase in personal income.

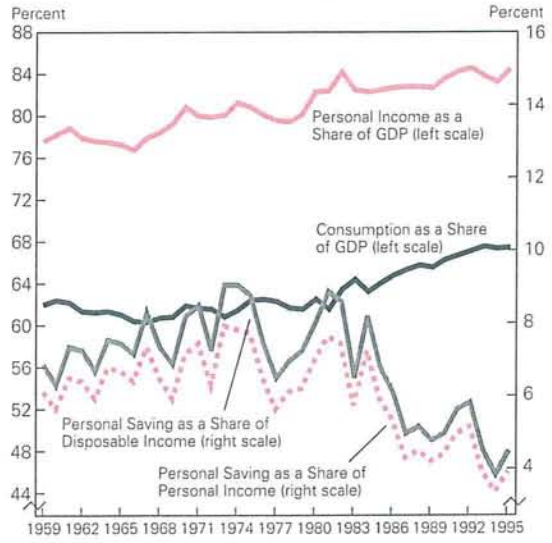
The key point, however, is that federal government dissaving and a decline in the personal saving rate are the reasons that saving has fallen relative to GDP. Moreover, federal dissaving has taken the form of increases to personal income, which have then been consumed. The result has been a sizable increase in the fraction of output going to personal consumption. The following section examines the changes in consumption patterns that have accompanied these shifts.

Where the Saving Went— The Consumption Story

The allocation of personal income among major uses appears in Figure 3. The chart draws attention to a point that should be borne in mind in any discussion of saving: While the share of income going to saving has fallen by half over the past 10 years, this change is fairly small relative to the shifts among expenditure

Figure 2

More Income, More Consumption, Less Saving



Source: U.S. Bureau of Economic Analysis.

[3] Depreciation charges, called capital consumption allowances (CCA) in the National Income and Product Accounts (NIPA), represent the bulk of business savings. Charges for accidental damage are also included in CCA.

What's Happened to Investment?

A key reason for concern over the declining saving rate is that it implies lower investment. But while gross saving and investment fell from more than 21 percent of GDP in the 1960s to under 16 percent in the 1990s, less than a third of the decline is due to a falloff in the domestic investment of the private sector. Much of the drop is attributable to government investment and to the United States' shifting from being a net investor abroad to a net borrower.

At the federal level, investment in defense equipment is a significantly smaller fraction of GDP now than it was in the 1960s, with the falloff especially pronounced since the late 1980s. State and local governments' investment in public buildings is the other area of notable decline.

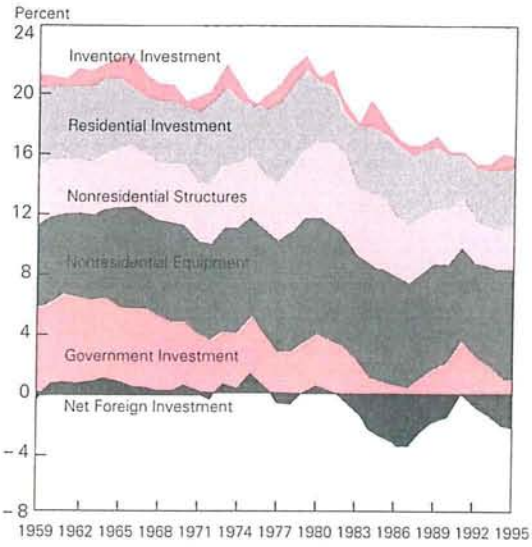
In addition, the United States has offset a portion of the decrease in its own saving by drawing upon the saving of the rest of the world. During the 1960s and 1970s, the United States was a net investor in the rest of the world, but in the 1980s the United States became a net borrower (Figure B1). Tapping foreign saving has helped sustain private investment in this country, presumably with beneficial effects for U.S. productivity and wage growth. However, reliance on foreign rather than domestic saving means that a portion of the nation's productive capacity and income generation will be devoted to supporting foreign rather than domestic consumption in the years ahead.

Focusing on private domestic investment, the shares of GDP invested in nonresidential structures and housing have fallen. The reduction in nonresidential structures is especially pronounced in comparison with the early 1980s, which were characterized by a boom in office building. Investment in business equipment has not fallen and is actually a larger fraction of GDP today than it was in the 1960s.

Because equipment is shorter-lived than structures and because the composition of equipment has shifted towards short-lived information processing equipment, depreciation charges (called Capital Consumption Allowances in the National Income and Product Accounts) have increased relative to gross investment (Figure B2). Thus, the falloff in investment's share of output appears even steeper when depreciation is netted out. Nevertheless, since the prospect of declining investment in business equipment is seen by some as the most pernicious consequence of declining saving, the continued strength here should be some comfort.

Figure B1

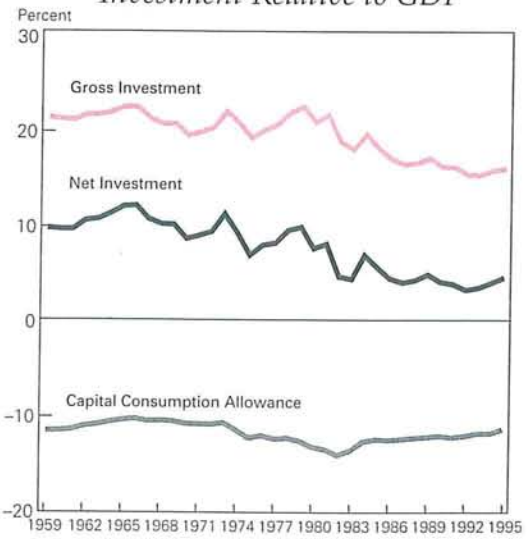
Gross Investment Relative to GDP



Source: U.S. Bureau of Economic Analysis.

Figure B2

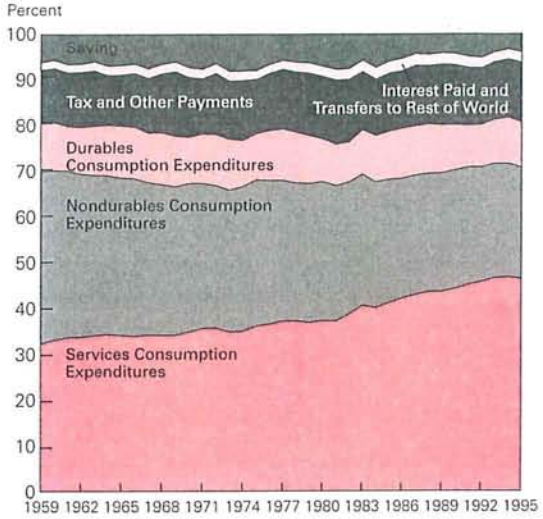
Gross Investment, Depreciation, and Net Investment Relative to GDP



Source: U.S. Bureau of Economic Analysis.

Figure 3

The Disposition of Personal Income



Source: U.S. Bureau of Economic Analysis.

Table 2

Major Expenditure Categories as a Percent of Personal Income

Percent

Selected Years	Durable Goods	Nondurable Goods	Services
1959	10.8	37.7	32.3
1965	11.4	34.5	34.1
1975	10.1	32.0	36.1
1985	10.5	27.0	41.2
1995	9.9	24.3	46.4
Annual rate of change in expenditures, 1959–1995			
Expenditures	7.6	6.6	9.0
Price	2.6	4.1	5.1
Quantity	4.9	2.4	3.7
Annual rate of change in expenditures, 1985–1995			
Expenditures	5.3	4.8	7.2
Price	1.7	2.9	4.4
Quantity	3.5	1.9	2.7

Source: U.S. Bureau of Economic Analysis.

categories. Moreover, because saving is small and because it is calculated as a residual—what is left over from personal income after taxes, consumption, and interest payments have been deducted—it is sensitive to errors in the measurement of personal income and consumption.[4] Thus, the precise magnitude of the decline in the personal saving rate is less the issue than the rising fraction of income and output going to consumption.

The patterns shown in Figure 3 are based on current dollars and measure the fraction of income absorbed by different categories of expenditure. This is the appropriate concept for the purpose at hand, identifying those consumption areas where rising expenditures have squeezed out saving. As can be seen in the lower panel of Table 2, however, differences in the rates at which prices have increased cause the patterns of consumption shown by current dollar expenditures to vary considerably from those shown by the inflation-adjusted quantity estimates that are more commonly used in economic analysis.

Services plays the critical role. The fraction of income absorbed by services consumption has risen from a third in the 1960s and 1970s to over 40 percent in the mid 1980s to more than 45 percent today. This increase has been driven primarily by the rapid growth in the prices of services, although distinguishing between price and quantity changes is not very meaningful for many services.[5] In contrast to services, the share of income allocated to durable goods has remained roughly constant at 10 percent, with relatively rapid increases in the quantity of durable goods consumed offset by relatively small price increases. Most of the increase in services' share of income has come out of the share going to nondurable goods, where the quantities consumed, especially of food products, have grown slowly. The balance has come out of saving.

Digging deeper, the growth in services has been driven primarily by increased expenditures on medical care and "other" services (Table 3). The share of

[4] Saving also includes an imputed element, of which the largest component is net purchases of owner-occupied housing, less the consumption of fixed capital on housing. Purchases of housing are treated as saving (and investment) because housing is a long-lived good and delivers services over many years. The value of these housing services, however, is treated as part of consumption and is estimated as the rent that owners would pay to occupy their housing.

[5] Many economists would contend that distinguishing between price and quantity increases is not meaningful for services because defining the appropriate unit of output is very difficult and because, for such important services as medical care, quality changes have been profound.

Table 3
Major Services Expenditures Relative to Personal Income
Percent

Selected Years	Total Services	Housing Services	Household Operation	Transport Services	Medical Services	Other Services
1959	32.3	11.4	4.7	2.7	4.2	9.2
1965	34.1	11.8	4.8	2.6	5.0	9.9
1975	36.1	11.2	4.9	2.7	7.1	10.3
1985	41.2	11.8	5.3	2.7	9.4	11.8
1995	46.4	12.2	4.8	3.2	12.9	13.4

Significant "Other" Services
Percent

Selected Years	Personal Care	Personal Business	Recreation	Education and Research	Religious and Welfare	Expenditure in U.S. by Foreigners	Foreign Travel
1959	1.6	3.5	1.6	1.0	1.3	−.3	.5
1965	1.5	3.8	1.7	1.2	1.4	−.3	.6
1975	1.0	4.0	1.9	1.6	1.5	−.4	.7
1985	.8	5.3	2.2	1.5	1.8	−.7	.8
1995	.8	6.1	2.7	1.8	2.3	−1.2	.8

Source: U.S. Bureau of Economic Analysis.

income devoted to medical care alone has grown from 9 percent in the mid 1980s to almost 13 percent in the mid 1990s. Within medical care, increases in expenditures have been rapid in all major categories. Hospital services, the largest component of medical care, accounted for about one-third of the increase, although expenditures on physicians and other professional services providers (such as chiropractors and private nurses) have grown more rapidly over the past 10 years.[6]

Of the growing share of income allocated to "other" services, expenditures on personal business account for roughly half. Within personal business, the largest component is "services provided without payment by financial intermediaries." This is an imputed element and also appears as an addition to the interest portion of personal income.[7] It grew very rapidly in the late 1970s and early 1980s. More recently, the fastest-growing components have been expenditures for brokerage fees and investment counseling and bank service charges. Also in the personal business category are life insurance and legal expenses.

Expenditures on recreation services, education, and religious and welfare activities make up most of the balance of "other" services. Education includes the expenditures of private educational institutions, nursery through university, and tuition paid to government institutions. Religious and welfare activities include the expenditures of nonprofit institutions, such as churches, social welfare organizations, museums, and foundations, and fees paid to proprietary and government institutions. Day care falls in this category. Individually each of these elements is very small; but altogether, "other" services' share of income has risen by about as much as saving's share has fallen.

The other large element of services consumption, housing services, has grown only slightly faster than personal income. The largest component of housing services is not a market transaction, but an estimate of what homeowners would pay if they rented rather than owned their dwellings. Homeowners, as landlords, are then credited with income from the "rental" of their properties, after deducting depreciation and certain other costs.[9] Net purchases of owner-occupied housing are viewed as investment and thus, are part of saving.

[6] Expenditures on medical services are broken down according to the entity providing the service—physicians, dentists, other professional services, hospitals and nursing homes, and insurance. The insurance component consists of premiums paid for health insurance less benefits and dividends. Thus, it represents payment to insurers for their insurance services rather than the medical services that are financed by insurance benefits. The latter appear as expenditures on various medical care providers.

[7] "Services provided without payment by financial intermediaries" appears as part of consumption and also as part of the interest component of personal income. In effect, the national accounting framework assumes that financial intermediaries impose charges for certain services for which there are no explicit fees, and that these charges are offset by interest payments to depositors.

[8] Expenditures on education services do not include expenditures for the meals, rooms, and other non-educational services that these institutions provide. These are counted in the relevant categories of consumption.

[9] The rationale behind this approach is that the national income and product accounts should be neutral with respect to the ownership of residential property. Estimates of economic output should not be affected by whether people rent housing or own it directly. The imputed income from housing appears in the net interest and rental income of personal income.

The housing imputations are large compared to personal saving and Kopcke, Munnell, and Cook (1991) have argued that the NIPA

The point of this rather detailed rundown of how households allocate their incomes is that it does not square well with characterizations of low saving rates as resulting from the selfishness and profligacy of today's generations as compared with their predecessors. The growth in consumption has been driven primarily by the growth in medical expenditures and by certain personal business and other services expenditures that do not fit most people's idea of consumption. Indeed, expenditures on brokerage and investment counseling and life insurance expenses are costs

Where did the saving go? To support the consumption of services, medical services primarily but also personal business, education, religious activities, and recreation. Only the last fits the customary image of consumption.

of saving. In addition, some of the expenditures on education and welfare activities, as well as some health care expenditures, could be regarded as investments, in that they augment human capital and, thus, enhance the economy's productive capacity.

Some of these expenditures are also unusual in that the level of expenditure is not really controlled by individual consumers. Thus, consumption of medical services includes not only consumers' out-of-pocket costs but also the expenditures made on their behalf by their private health insurance plans and by the government through Medicare and medical public assistance. Thus, there is a disconnect between the consumption of medical care and the purchase decision. While people can influence the level of medical care to which they have access through their choice of insurance coverage and as voters and taxpayers, once they have purchased insurance or are qualified for government assistance, their consumption of medical services is not constrained by their income.

Because government-financed medical services are counted as transfer payments and augment personal income as well as consumption, their rapid growth (from virtually nothing in the 1960s to 5 percent of personal income in the mid 1990s) does not provide a direct explanation for the decline in the personal saving rate, although it has contributed to government dissaving and to the increase in consumption relative to GDP.[10] In contrast, the growth in employers' contributions to medical insurance represents a shift in the composition of personal income rather than an addition. Had employers' contributions not increased, wage and salary disbursements presumably would have grown faster. But while employees can choose to consume or save the income they receive as wages and salaries, they can only consume employers' contributions to health insurance. Such contributions now amount to about 8 percent of wages and salaries, compared to 5 percent in the mid 1980s and 2 percent in the mid 1960s.

Thus, the answer to the question "where did the saving go?" is that it went to support the consumption of services, medical services primarily but also personal business, education, religious and welfare activities, and recreation. Only the last fits the customary image of consumption.

But whether consumption in the normal sense or not, these activities have absorbed income that might otherwise have been saved. Yet to many people, the situation appears very different. The popularity of 401(k) pension plans and large inflows into mutual funds, plus the records set by the stock market, as well as numerous stories in the financial press about baby-boomers having gotten the saving religion, all tell them that the personal saving rate should be rising.

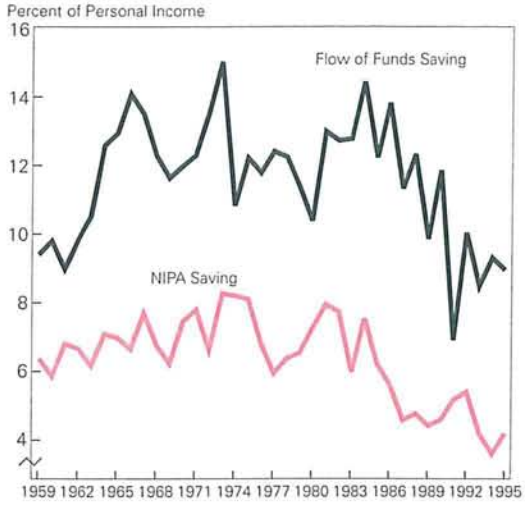
As noted above, these saving figures, from the National Income and Product Accounts (NIPA), are calculated as a residual and show what is left over from income after various outlays are deducted. Another measure of saving, calculated by adding up households' accumulation of assets and liabilities, addresses more directly the phenomena that seem to argue for a higher saving rate. But this measure, from the Federal Reserve Board's Flow of Funds (FOF) estimates, also shows a sharp decline since the mid 1980s.

treatment of owner-occupied housing results in an understatement of saving.

[10] In a detailed analysis of spending by age cohort, Gokhale, Kotlikoff, and Sabelhaus (1996) conclude that government redistribution from younger to older generations and an increase in the propensity of older people to consume, especially in the form of medical care, are responsible for the decline in the U.S. saving rate.

Figure 4

Flow of Funds Measure of Saving versus Saving in the National Income and Product Accounts



Source: Board of Governors of the Federal Reserve System, Flow of Funds data base; U.S. Bureau of Economic Analysis.

Where the Saving Went—The Asset Story

The FOF and NIPA measures of saving are compared in Figure 4. The gap between the two measures is due largely to the treatment of households' purchases of motor vehicles and other consumer durables. Both saving measures treat net purchases of housing as an investment, from which the depreciation of the existing stock of housing is deducted. FOF saving also treats purchases of consumer durables this way, on the grounds that these are long-lived goods and deliver transportation, entertainment, and other services over many years. Increases in consumer credit used to finance durables purchases must be subtracted to determine the net contribution to saving.[11]

FOF saving is, thus, the sum of net acquisitions of financial assets and net investment in tangible assets less net increases in financial liabilities. As can be seen from Figure 5, however, total saving has tracked the acquisition of financial assets for the past 20 years, and the main reason for the decline in saving since the mid 1980s has been a reduction in the accumulation of financial assets. One asset accounts for all of this falloff—money.

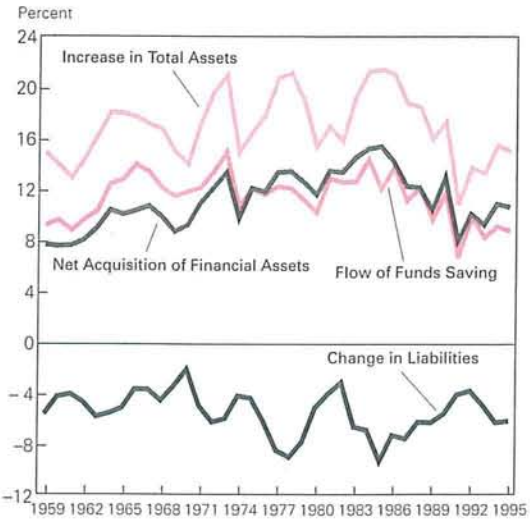
The composition of saving through the acquisition of financial assets appears in Figure 6. In the 1970s, households and nonprofit institutions saved roughly 7 percent of personal income in the form of various types of deposit accounts and currency. Beginning in the mid 1980s, the share of personal income saved as deposits fell sharply and in the early 1990s, almost no saving took this form. (Time and savings deposits account for most of this decline.)

Some of the funds that were previously saved as deposits may have gone into mutual funds, which emerged as an important savings vehicle in the second half of the 1980s. The increase in mutual funds was not enough to offset the falloff in money saving, however. Moreover, a substantial portion of the inflow into mutual funds over the past 10 years has been offset by sales of corporate equities. For many savers, mutual funds may not be so much an addition to saving as an alternative to direct ownership of corporate securities.

Pension fund reserves are the most important way in which financial saving currently takes place. These include the assets of both defined benefit plans

Figure 5

Change in Assets and Liabilities Relative to Personal Income

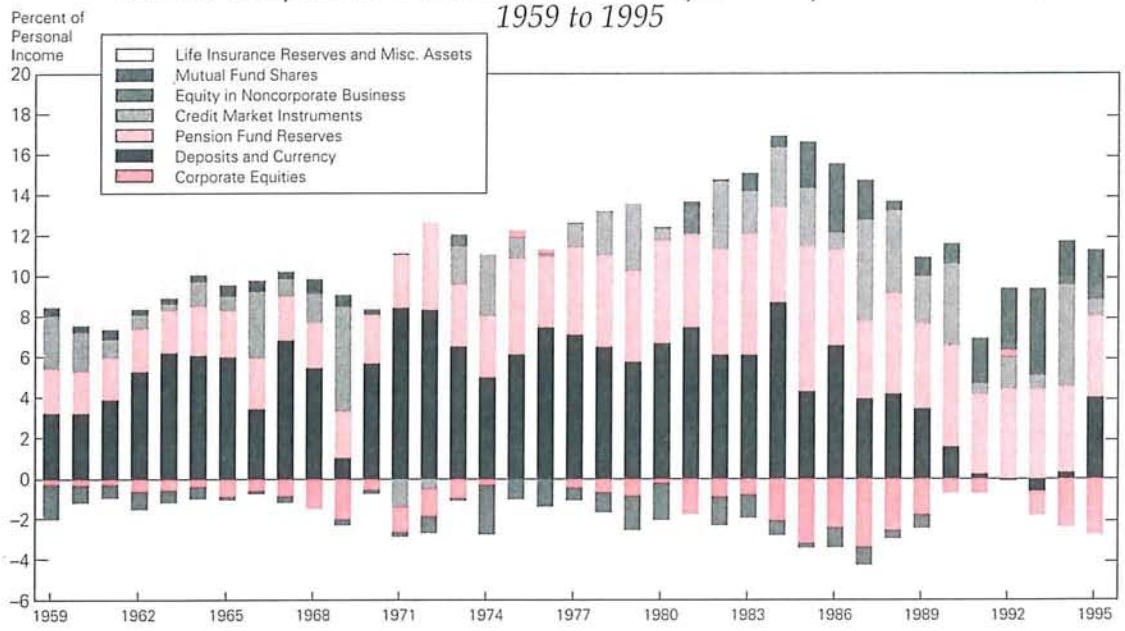


Source: Board of Governors of the Federal Reserve System, Flow of Funds data base.

[11] Of course, not all consumer credit is used to finance consumer durables and some mortgage debt is not really motivated by the decision to purchase a home. Thus, it is not strictly accurate to set all of consumer and mortgage debt against the acquisition of tangible assets; a portion represents general liabilities.

Figure 6

Selected Components in Households' Net Acquisition of Financial Assets, 1959 to 1995



Source: Board of Governors of the Federal Reserve System, Flow of Funds data base.

and defined contribution plans, such as 401(k) plans. Saving through pensions represents about 4 percent of personal income. This is less than in the first half of the 1980s, but more than in the 1960s and 1970s. Since the rules clarifying the legality of 401(k) plans were issued in 1981, at least some of the bulge in pension reserves in the early 1980s is presumably a response to that event.

Saving can also occur through the acquisition of tangible assets. Since the mid 1970s, however, increases in households' mortgages and consumer credit liabilities have offset net investment in housing and consumer durables (new expenditures less depreciation of the existing stock of housing and durables). Thus, by this calculation, tangible assets have made virtually no contribution to saving for the past 20 years. (Again, see footnote 11.)

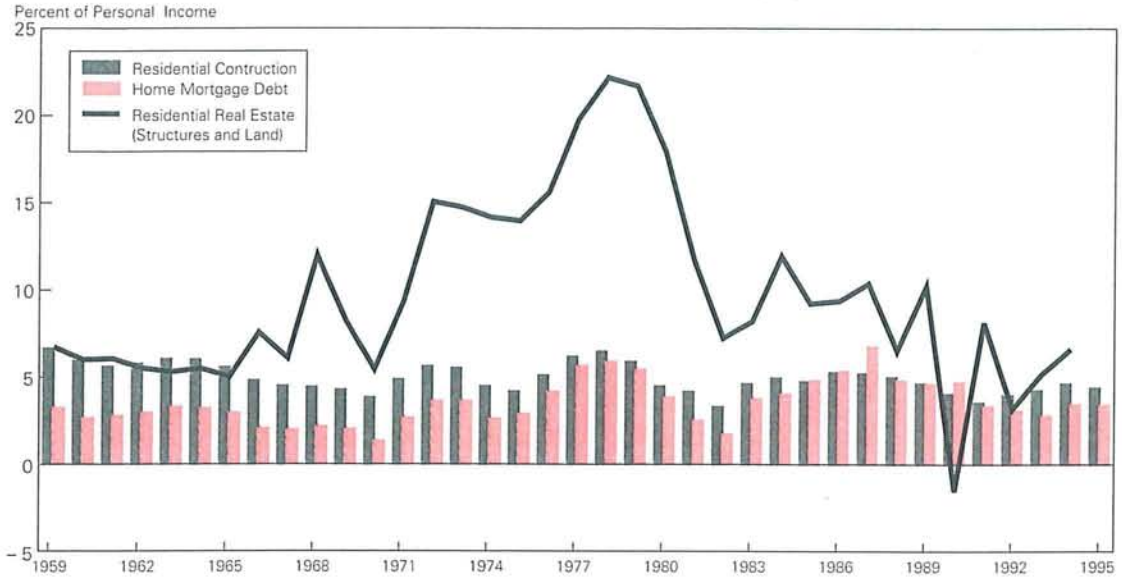
Back in the 1960s, in contrast, households' net investment in housing and consumer durables exceeded additions to their mortgage and consumer credit liabilities by 2 to 3 percent of personal income, in some years augmenting saving through financial assets by a third. As can be seen in Figure 7, households began to take on more mortgage debt in the 1970s, most likely in response to the "hot" housing market of the time. Prices rose rapidly, requiring prospective home-buyers to borrow more, even as the higher value of the underlying collateral made lenders more willing to lend.[12] Although the rapid escalation in home prices slowed in the mid 1980s, households continued to add to mortgage debt at the previous rate, as the introduction of home equity loans and increased competition arising from securitization and the growing importance of mortgage banks made mortgages more accessible.

In summary, the FOF data show that the decline in saving over the past 10 years has been concentrated in bank deposits. Although inflows into mutual funds have been substantial, they have not been sufficient to offset the falloff in deposit saving. In addition, sales of corporate equities have negated a portion of the mutual fund inflow. On the liabilities side, increases in mortgage debt have offset additions to saving from new home construction.

[12] The late 1970s were characterized by very high turnover in existing homes relative to new construction. Thus, the number of transactions involving mortgages increased relative to the number representing new saving.

Figure 7

Change in the Value of Residential Real Estate versus Growth in Residential Construction and Mortgage Debt



Source: Board of Governors of the Federal Reserve System, Flow of Funds data base.

Interpretation and Policy Discussion

These shifts among assets, as well as the expenditure patterns discussed in the preceding section, raise interesting questions of interpretation. They highlight a dilemma facing those concerned about low saving rates: The individual's perception of the need for saving may differ from society's. Economists commonly approach the question of why people save using a life-cycle model. According to this model, people's consumption, and therefore saving, is based on the present value of the resources they expect to be available to them over the remainder of their lives. These resources include expected earnings and wealth accumulated through saving. But they would also include additions to wealth from rising asset prices and could include claims against the resources of others. Uncertainty about future resources is likely to encourage precautionary saving; constraints on borrowing against future resources would also tend to increase saving.

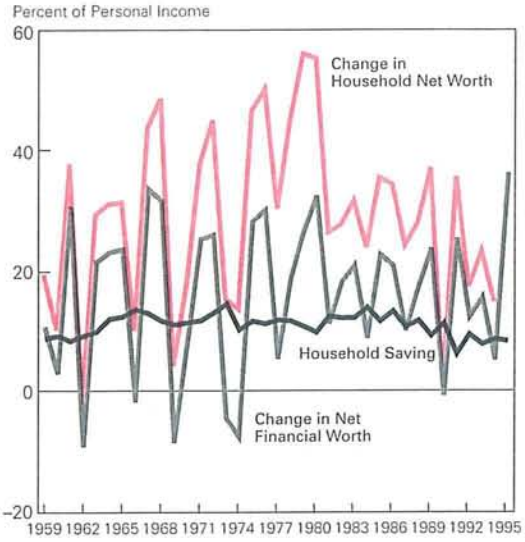
The distinction between saving and changes in wealth is especially pertinent when one looks at housing. Housing seemingly has made no contribution to saving, with additions to mortgage debt canceling out the value of new housing construction. However, the existing housing stock is very large relative to the construction taking place in any one year. Consequently, changes in the prices of existing homes can have a major effect on households' housing wealth, beyond that attributable to new construction. As can be seen in Figure 7, in most years but especially in the late 1970s, rising real estate values have added significantly to households' net wealth, even though additions to mortgage debt were roughly equal to new housing construction. (Depreciation charges against the existing housing stock, which are not shown in Figure 7, would further reduce housing's contribution to saving.)

A similar situation exists with respect to pension fund reserves, corporate equities, mutual fund shares, and some other assets. Because of capital gains—and losses—the change in the value of the asset may differ quite substantially from the increment coming from saving. Thus, over the five years from 1991 through 1995, households and nonprofit institutions disposed of almost $400 billion of corporate equities, even as the rising stock market caused the value of their holdings to increase by $2,500 billion.

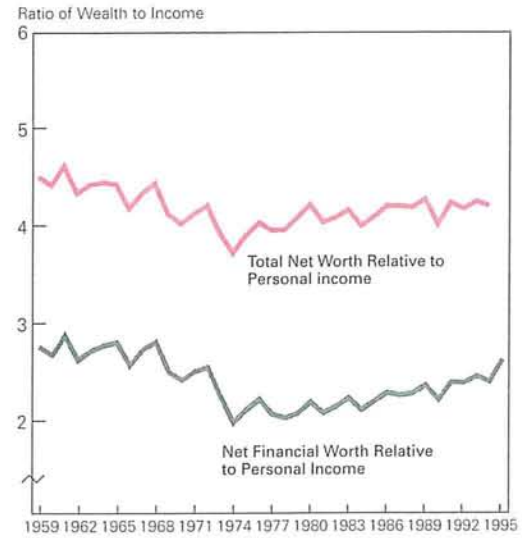
Figure 8 compares changes in financial net worth,

Figure 8A and 8B

Household Saving and the Change in Household Net Worth



Household Net Worth Relative to Personal Income



total net worth (through 1994), and saving.[13] In most years, additions to wealth surpass saving, often by a substantial margin. The growth in net worth also surpassed the growth in personal income through most of the 1980s and 1990s, so that the ratio of household net worth to income actually increased even as the saving rate fell.[14] All and all, the picture presented by net worth shows households in a stronger position than one might expect based on saving. Indeed, the life-cycle model suggests that households' strong net worth could even be the cause of the lower saving rate, with resources created through the appreciation in asset values substituting for saving.

It should also be noted that a nontrivial portion of the increase in consumption's share of income has gone to activities that are complementary to saving, specifically investment and counseling services, life insurance expenses, and various charges for services provided by financial intermediaries. Most likely, households do not consider these expenditures as consumption.

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Moreover, the fact that the decline in deposits accounts for so much of the recent decline in saving raises the interesting possibility, also consistent with a life-cycle view of saving, that reductions in borrowing constraints and other increases in the efficiency of the financial system may be partly responsible for the reduction in saving. If people save in deposit accounts in order to have funds that can be quickly tapped in emergencies or because their transactions needs are erratic, then greater ability to borrow against illiquid

[13] The Flow of Funds data used in this study were obtained from two sources. Data on household saving and year-end outstanding levels of financial assets and total liabilities came from the Board of Governors of the Federal Reserve System, Flow of Funds data bases. These data were available through 1995. Data on the year-end outstanding levels of household tangible assets were taken from the June 8, 1995 Board of Governors C.9 release, *Balance Sheets for the U.S. Economy, 1945–94*. Because these data were available only through 1994, the calculation of household net worth, which relies on both financial and tangible assets as well as liabilities, could not be performed for 1995. The Board plans to release 1995 estimates of tangible assets later this year.

[14] In the 1970s, additions to wealth were larger relative to personal income, but in this high inflation period, nominal personal income grew very rapidly.

assets, such as home equity or pension reserves, and improved cash management techniques and faster availability of funds may have allowed them to economize on their deposits. Saving fell, but possibly as a by-product of a reduced need for liquidity.

And lastly, since medical problems can disrupt earnings streams and drain away assets, the existence of private health insurance plans and the knowledge that Medicare is available to help cope with the frailties of old age have removed a major source of uncertainty about the adequacy of future resources and may, therefore, have reduced the incentive to save. And for low-income individuals who are eligible for Medicaid and other forms of government assistance, the asset limitations on these programs provide a further deterrent to saving.[15]

It should not be surprising, then, that the decline in the saving rate is not as apparent to individual savers as it is to economists and policymakers. While the saving rate has fallen, the growth in households' net wealth has more or less kept pace with income. The rising stock market of the past 20 years has increased the value of corporate equity holdings and pension reserves. Rising real estate values have also contributed to households' net worth. At the same time, the availability of health insurance helps protect these assets from being depleted by medical emergencies.

While increases in asset values can substitute for saving from the standpoint of the individual, as the resulting increase in wealth can be converted into future consumption, rising asset values are a more questionable substitute for saving for society as a whole. Low saving rates are a public policy concern primarily because saving frees up resources for investment; and investment is critical to productivity growth and higher standards of living.[16] Capital gains do not make more resources available for investment and, thus, do not promise an increase in the future stream of goods and services that the economy can produce.

In particular, rising real estate values do not indicate a genuine enlargement in the stream of services that the housing stock can deliver, but simply a change in the value assigned to that stream. While individuals can tap the appreciation in their homes to increase their consumption of other goods and services, homeowners in the aggregate cannot, as a large-scale attempt to convert housing wealth into non-housing consumption would drive down home prices.

The situation for corporate equities is more ambiguous. Rising stock prices could represent an assessment that the economy's capacity to produce goods and services has increased. If so, these gains are equivalent to new investment, for an increase in the productivity of the existing capital stock, perhaps because of new technologies or new market opportunities, will increase the future stream of corporate earnings and raise the level of consumption that the economy can support. If the increase in stock prices represents an incorrect judgment and is not underpinned by an increase in productive capacity, however, there will be no increase in future consumption.

Are Some Forms of Saving Better Than Others?

Public concern over low saving rates centers on the implications for investment. Investment provides the tools to leverage human skills and is a vehicle for introducing new technologies and organizational approaches. Thus, advocates of policies that might increase the saving rate commonly focus on the benefits of more business investment in plant and equipment, especially the latter. Housing is viewed with a jaundiced eye, largely because it is favored by the tax system but also because it is not seen as enhancing the productive capability of the economy. And no advocates of more saving are calling for more spending on consumer durables. Yet saving by way of investing in consumer durables may also push out our production frontier, or at least did so in the past. The widespread acquisition of labor-saving household appliances played an important role in enabling women to enter the workplace, and the mobility provided by motor vehicles has vastly broadened the range of employment options that workers can consider. By permitting a fuller utilization of human capital, investment in these consumer durables has increased our productive capacity.

[15] See Hubbard, Skinner, and Zeldes (1994).

[16] Countries with low saving rates must either forgo these investment opportunities or depend upon attracting the savings of other countries, which then enjoy the return to these investments. The host country will still benefit from the employment generated by the investment activity and from any externalities the investments throw off. These externalities might take the form of the introduction of new technologies or management techniques. The source of the saving, however, commands the income stream generated by the investment.

Individuals will still be able to convert capital gains into future consumption by selling their assets, but society as a whole cannot.

Conclusion

Over the past 10 years, the personal saving rate has fallen sharply. This decline occurred in the context of federal government dissaving, which has been driven largely by rising transfer payments, boosting personal income relative to GDP. Out of this larger income, a smaller fraction has been saved.

Although some economists have argued that government dissaving will be offset by increased private saving, this outcome is less puzzling when one considers that the growth in transfer payments during this period was propelled, in large part, by escalating medical expenditures. Through Medicare and Medicaid, the government ensures that certain segments of the population, the elderly and the poor, can achieve a level of medical consumption beyond what their individual incomes would permit. At the same time, employer contributions for private health insurance and the expenditures financed by this insurance have grown dramatically.

Thus, the bottom line is that the answer to the question—where did the saving go?—is medical care. Rising expenditures on medical services are absorbing a growing fraction of income. Thus, the saving problem is not about thrift versus profligacy, good versus bad; rather, it is a competition between two "goods"—more and better medical care, on the one hand, and more investment, on the other.

Too often, discussions of the saving rate present saving itself as a "good" and, thus, any decline in saving as undesirable. But saving is a means to an end. For the individual, saving is a means of insuring against the unexpected mishap and smoothing consumption over time. But it may be possible to achieve these objectives in other ways—through insurance programs or increasing the efficiency of financial markets or tapping capital gains.

What is eminently rational behavior for the individual, however, may impose costs on society as a whole, if the curtailment in saving translates into a reduction in investment that affects the economy's future capacity to produce and consume. Trying to stimulate personal saving through changes in the tax system or other incentives is one policy response. Reducing the federal deficit could also make more resources available for investment; and shifting the composition of investment to more productive forms could increase the societal return associated with a given volume of saving. But the goal should be higher standards of living, with more saving one of several means to that end.

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