

Distinguished Lecture on Economics in Government

Accounting for Saving and Capital Formation in the United States, 1947–1991

Richard Ruggles

This paper is concerned with accounting for the saving and capital formation taking place in different sectors of the U.S. economy. In brief, where does saving arise and where is it used? Do some sectors save more than they spend for capital formation and thus are net lenders? Do other sectors save less than is required for their capital formation and thus are net borrowers? The U.S. national income accounts contain the basic data relating to these questions. However, at several points, these data must be recast in order to yield analytically useful results. When such a reformulation is made, the conclusions that can be drawn differ strikingly from much of the currently received conventional wisdom.¹

Household Sector Saving and Capital Formation

The empirical measurement of personal saving in the U.S. national income accounts is quite unsatisfactory, either for testing the various hypothesis about saving or for describing what takes place in the economy. The U.S. personal

¹The empirical findings with respect to households and enterprises saving and capital formation for the period 1947–1989 have been presented in greater detail in Ruggles and Ruggles (1992). The basic data are contained on diskette and can be obtained from the author on request. Additional evidence relating to household saving is provided in Ruggles and Ruggles (1983, 1986). Finally a more comprehensive study of saving and capital formation for all sectors of the economy for the period 1947–1980 is provided in Ruggles and Ruggles (1982).

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income and outlay account not only includes the income and expenditures of non-profit institutions with those of households, but it fails to correspond to household current income and outlays for three additional reasons. First, home ownership is treated as a fictional enterprise providing housing services to consumer-occupants; this fiction seriously distorts and obscures the actual transactions and saving of households. Second, the accumulation of reserves in employer pension funds are treated as being paid out to individuals, and the actual payments of pensions to retired persons are omitted from household income. Finally, purchases by households of new owner-occupied housing and consumer durables are not recognized as household capital formation. Adjustments to the U.S. Personal Income and Outlay account to correct for these distortions and inconsistencies are shown in Figure 1.

The U.S. national income accounts treat the services of owner-occupied housing differently than other components of consumption. Households as occupants are considered to be renting their dwellings from themselves as real estate owners. Their activities as owners are considered to be those of unincorporated enterprises. These fictitious unincorporated enterprises own the dwellings and pay all the costs (including allowances for capital consumption) associated with them. To offset these outlays, the unincorporated enterprises receive an imputed space rental from households as occupiers. The difference between the imputed space rental and the current cost of providing the housing services is returned by the fictitious unincorporated enterprises to households as imputed rental income.

To include owner-occupied housing in the household sector in a more appropriate manner, the first step is to exclude from household income the imputed net rental income paid to households by the fictional housing enterprises. It should be noted that the official U.S. estimate of net imputed rental income of owner-occupied housing is negative for 1991 ($-\$48.7$ billion)—that is, owner-occupied housing costs (including allowances for capital consumption) exceeded the imputed space rental value of such housing. Therefore, excluding it from household income will actually increase household income. In addition, the payment of imputed space rental value ($\$399.1$ billion) should be excluded from household outlays and in its place the actual housing expenses ($\$353.4$ billion) must be substituted. Finally, to impute the services of owner-occupied housing, the difference between the actual expenses and space rental value ($\$45.7$ billion) needs to be added to both income and consumption. The results of all these adjustments leaves household total outlays unchanged, but increases household income and household gross saving by the amount equal to what had been the capital consumption allowances of the fictional owner-occupied enterprises ($\$94.4$ billion).

The national accounting treatment of pension contributions and benefits alters both the timing and magnitude of household income receipts. Employers' pension contributions are viewed as if they were paid directly to employees, and therefore they are included in personal income. Ownership of employers' pension fund reserves is attributed to households and their earnings are

Figure 1

Derivation of Household Sector Income, Current Outlays, Gross Saving
(in billions of dollars)

	Income	Outlays	Saving
BEA Personal Income, Outlays, and Saving	4829.3	4629.7	199.6
ADJUSTMENTS			
Adjustments for non-profit institutions			
Less: Investment and imputed income	45.7		
Less: Business and government transfers	10.9		
Less: Non-profit current outlays		191.6	
Plus: Household contributions to non-profits		135.0	
Total non-profit adjustments	-56.6	-56.6	0.0
Adjustments for owner-occupied housing			
Less: Imputed rental income	-48.7		
Less: Space rental value		399.1	
Plus: Owner expenses		353.4	
Plus: Imputed housing services	45.7	45.7	
Total owner-occupied housing adjustments	94.4	0.0	94.4
Adjustments for employer pension funds			
Less: Employer contributions	54.5		
Less: Pension fund earnings	184.7		
Plus: Pension fund benefit payments	168.0		
Total employer pension fund adjustments	-71.2	0.0	-71.2
Adjustments for household capital formation			
Less: Consumer durable expenditures		446.1	
Plus: Consumer durable capital consumption	404.5	404.5	
Total consumer durable adjustments	404.5	-41.6	446.1
Total Adjustments	371.1	-98.2	469.3
Household Income, Current Outlays & Gross Saving	5200.4	4531.5	668.9

Sources: Bureau of Economic Analysis, Survey of Current Business; Federal Reserve Board, Flow of Funds

treated as being paid to households even though no such payments are made. In contrast, retained corporate profits are not attributed to stockholders, and social security reserves are not attributed to households. Since employers' pension contributions and pension fund earnings are included as personal income, to avoid double counting the national accounts exclude from personal income employee pensions actually paid to individuals. Where the retired population receives substantial pension benefits, this treatment makes the analysis of the distribution of income somewhat meaningless. Correcting the treatment of employers' pension contributions and pension benefits in the personal income and outlay account to reflect the actual payments received by households would reduce the estimate of personal saving by \$71.2 billion in 1991.

Finally, denying the possibility of household capital formation leads to some awkward problems of definitional inconsistency. Household appliances purchased as part of owner-occupied houses are included as part of the gross capital formation of the fictional enterprises set up to own owner-occupied houses. However, the same appliances purchased separately are treated as current consumption expenditures by households. Automobiles purchased by businesses and leased to individuals are included as part of enterprise gross capital formation, but those purchased directly by households are treated in the personal income and outlay account as current expenditures, even though households may borrow to purchase automobiles and view them as capital purchases. If consumer durables are considered to be household capital formation this would increase household gross saving by \$469.3 billion for the year 1991.

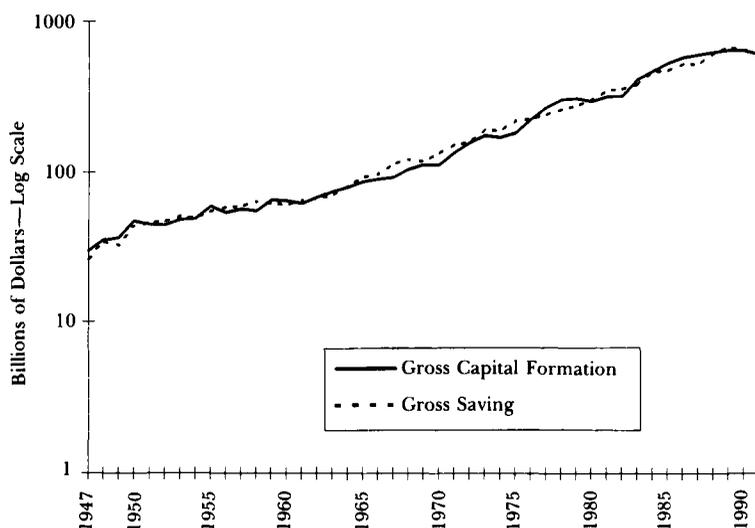
If these accounting modifications to the definition of household income and current expenditure are carried out for the United States national accounts, it becomes evident that household gross saving did not significantly exceed household gross capital formation over the period from 1947 to 1991, as shown in Figure 2.² As the figure shows, over the past 45 years the household sector has not been, on balance, a net lender of funds to the other sectors of the economy. In cumulative terms, household gross capital formation was equal to 99.8 percent of household gross saving.

The year-to-year data showed that in periods of prosperity, the gross capital formation of the household sector for owner-occupied housing and consumer durables often exceeded the gross saving supplied by households. In effect this means that the current and capital outlays that households actually make during periods of prosperity tend to exceed the income they receive. Conversely, in periods of recession household gross capital formation has often grown more slowly or has declined more than gross saving. In these periods, the household sector has become a net provider of funds to the other sectors.

This countercyclical behavior of household net lending—that is, household net lending increases in recession and declines in prosperity—is in marked contrast with the pro-cyclical behavior of saving predicted by the permanent income hypothesis, which is that individuals will reduce their saving when faced with a temporary decline in their income. The difference between traditional permanent income hypothesis of saving and the empirical evidence on household net lending stem from two important institutional aspects of household behavior. First, for many households, saving is contractual and cannot be changed easily in the short run; the prime examples are repayment of home mortgages and consumer debt. Second, the failure of the permanent income hypothesis to take account of household capital formation neglects the point

²In Figure 2, the concepts of gross saving and gross capital formation are used for analyzing household saving and capital formation since household gross saving represents a source of funds available to households and gross capital formation represents a use of funds. Net lending and net borrowing by households is the difference between household gross saving and household gross capital formation.

Figure 2

Household Gross Capital Formation and Gross Saving in the United States, 1947–1991

Source: Ruggles (1992)

that in the short run new capital outlays for owner-occupied housing and durables can be postponed without commensurately affecting the household's basic standard of living. Therefore, in recessions, household gross saving tends to decline less than household new capital outlays.

The life-cycle theory explains saving by postulating that individuals will save for their old age during productive years and will draw on accumulated saving after retirement. Aggregate household saving data cannot be used directly to test the life-cycle hypothesis, since this data does not provide longitudinal information. Nevertheless, the importance of houses and consumer durables as elements of household spending and the treatment of employer pension reserves as income retained by enterprises indicate a quite different scenario. During the early years of the life cycle, households purchase houses and consumer durables and acquire mortgages and consumer debt. Gradually, with advancing age, mortgages and consumer debt are paid off. At the time of retirement, households will have accumulated considerable saving in the form of their equity in houses and durables. Although there is a life-cycle pattern of household saving, it is not the one suggested by the conventional life-cycle hypothesis, because it is not accumulation for old age that drives the system.

The effect of this life-cycle saving pattern on the supply of household saving available for non-household capital formation is the reverse of the saving implied by the life-cycle hypothesis. A growing (and therefore young)

population would not be a source of net lending, but rather would borrow to finance their purchases of houses and durables. Conversely, a declining population would include a large segment of households in the phase of their life-cycle when they are paying off previously incurred debt. With the prospect of an aging population in the next few decades, therefore, contrary to the life-cycle hypothesis, the household sector may be expected to contribute more rather than less to the financing of other sectors.

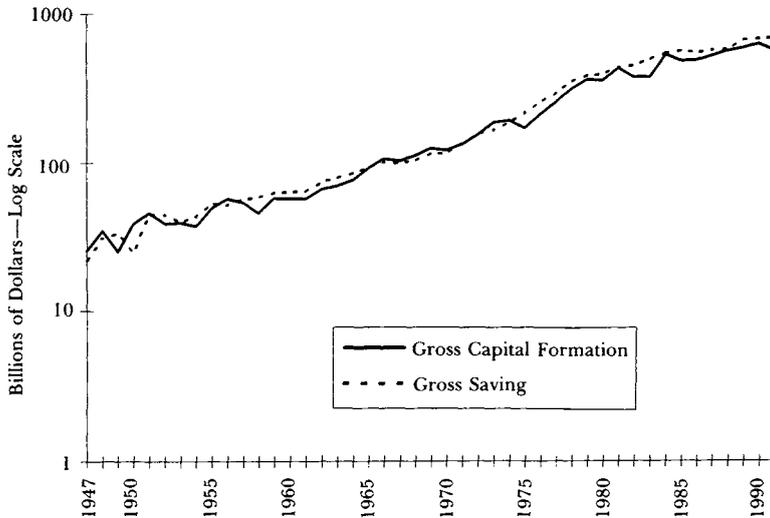
Enterprise Saving and Capital Formation

With respect to the enterprise sector as a whole, gross saving is of the same magnitude as gross capital formation. Indeed, as can be seen in Figure 3, enterprise sector gross saving exceeded its capital formation in 34 of the 45 past years. In cumulative terms, the gross saving of enterprises was approximately 9 percent greater than their gross capital formation. However, the aggregate data shown in Figure 3 hide the wide diversity that exists within the enterprise sector. Different industries and types of economic activity have different patterns of saving and capital formation. These patterns cannot be seen in the U.S. national income accounts data. Although the national income accounts provide data relating to establishments classified by industry for input-output analysis, these data do not yield information on the saving and capital formation of enterprises. The Flow of Funds data published by the Federal Reserve Board do provide current and capital accounts for farm business, non-farm non-corporate enterprises, non-financial corporate enterprises and for various subsectors of the financial sector, but these data provide relatively little insight into the saving and capital formation behavior of different industry subsectors.

However, two other major sources of data do describe the saving and capital formation of enterprises in terms of their economic activity. For the period from 1890 to 1955 a series of special studies were undertaken by the National Bureau of Economic Research (Kuznets, 1961). Currently, the Source Book of Internal Revenue Corporate Tax Returns publishes annually (with some delay) income statements and balance sheets for corporations classified by their economic activity that provide information on the retention of income and the expenditures on capital formation.

Agricultural businesses and corporations in mining and construction account for about 6 percent of enterprise gross capital formation. In general, the gross saving of these industries is of the same magnitude as their capital formation. According to the Flow of Funds, over the period from 1947 to 1991 the cumulative gross saving of farm business (\$400 billion) was one-third larger than farm gross capital formation (\$300 billion). For the mining industries the 1983 corporate tax data, adjusted for capital outlays charged as current costs, indicate that gross saving (\$13.9 billion) was 85 percent of gross capital formation (\$16.4 billion). In the case of the construction industry, the 1983 corporate

Figure 3
Enterprise Gross Capital Formation and Gross Saving in the United States, 1947–1991



Source: Department of Commerce, "National Income and Product Accounts," Table 5.1, *Survey of Current Business*, adjusted by data for households and government as shown in Figures 1 and 3.

tax data show that gross saving (\$5.5 billion) was 81 percent of gross capital formation (\$6.8 billion).

For manufacturing industries, studies of the National Bureau of Economic Research (Kuznets, 1961) have indicated that, over the period from 1890–1953, manufacturing gross saving was greater than its gross capital formation. The IRS corporate tax records show that for the year 1983 the gross saving of manufacturing corporations (\$111.8 billion) was 25 percent larger than their gross capital formation (\$89.9 billion). The more detailed classification of industries shows that within the manufacturing sector, the gross saving of individual industries is generally of the same magnitude as their gross capital formation. Furthermore, examination of the balance sheets of manufacturing corporations, as shown in the Internal Revenue Source Book of Corporate Tax Returns for 1983, indicates that their holdings of financial assets is approximately equal to their liabilities.

However, the saving and capital formation of public utilities are quite different from other industries. Public utilities operate under regulatory controls with the result that there is little retention of earnings over and above their capital consumption allowances. For the year 1983, as shown in IRS Corporate Tax Returns, the transport and utilities industry paid out \$24.5 billion in dividends despite having a net income of only \$16.4 billion. As a consequence, public utilities borrow funds for their expansion, and their

balance sheets indicate that the liabilities they owe greatly exceed their financial assets.

Trade and services represent a variety of situations. In the case of retail trade, gross saving generally exceeds gross capital formation other than inventory accumulation, but inventory fluctuations result in a corresponding fluctuation in borrowing. In the case of services, the situation is similar to the manufacturing industries except in those cases where very small businesses are dominant. For small business as a whole, gross saving is often less than gross capital formation, due to the losses and the high rate of bankruptcy of existing firms and the entry of new firms with their capital formation financed by their owners or by borrowing.

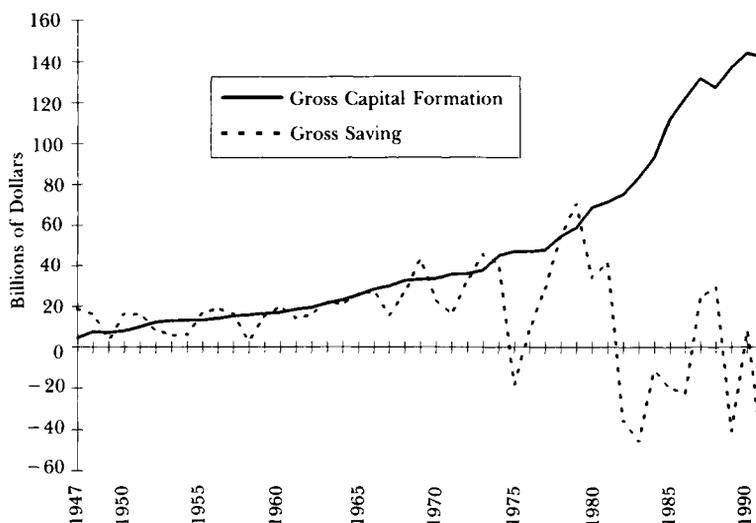
Financial institutions are primarily engaged in borrowing and lending, which obscures the actual gross saving and capital formation that may be taking place. One of the most striking changes taking place since World War II, however, is the growth of pension and insurance reserves in the financial sector. Pension and insurance funds retain large amounts of technical reserves that are set aside for future benefits. Since the increase in pension reserves have been excluded from household income, they represent a source of gross saving retained by the financial sector. Similarly, reserves built up by casualty insurance (such as homeowner and automobile policies) also create pools of gross retained income which are available for loaning to other sectors.

Government Sector Saving and Capital Formation

Some economists, in particular Eisner (1992), have pointed out that the way the federal budget deficit is measured is misleading and inappropriate for measuring government saving and capital formation. The unified federal budget does not differentiate between current account transactions and capital transactions. State and local government surpluses are also ignored despite the substantial federal grants-in-aid that are made to them. As a consequence, the published numbers on the federal deficit need to be adjusted to be more relevant and useful for economic analysis and public policy.

The Bureau of Economic Analysis of the Department of Commerce addresses some of these concerns in developing a broader government sector account that embraces both the federal government and state and local governments. In contrast to the "unified" federal budget, the BEA government sector excludes purchases and sales of land and financial transactions such as those relating to the bailout of saving and loan institutions. Although the published BEA government sector account does not differentiate between current purchases of goods and services and government capital formation, BEA does provide in unpublished form estimates of government tangible capital formation. Using these estimates, it is possible to derive government sector saving and capital formation on a basis similar to that for other sectors of the economy. Government capital formation, in this context, includes new roads, structures,

Figure 4
Government Gross Capital Formation and Gross Saving in the United States, 1947–1991



Source: Department of Commerce, "National Income and Product Accounts," Table 3.1, *Survey of Current Business*, adjusted by unpublished data on government capital formation provided by the Bureau of Economic Analysis.

buildings, vehicles, office equipment and other durables. However, the expenditures made for military capital formation (that is, structures and equipment) have not been included as part of government capital formation. These results are shown for 1947–1991 in Figure 4.

For the period from 1947 to 1979, the gross saving of the government sector (that is, government surplus on its current account) was equal to about 82 percent of its capital formation. Furthermore during this period, excluding the recession years of 1949, 1954, 1958, 1961, 1970–71, and 1975–76, total government gross saving equaled government gross capital formation. In other words, the government net borrowing during the period from 1947–1979 was primarily the consequence of depressed revenues and increased outlays during recessions.

Since 1982, however, government gross saving has often been negative—government receipts have fallen short of covering not just government capital formation but even current outlays. It is difficult to assess the reasons for these changed circumstances. According to Schultze (1992), however, during the period from 1979 to 1990, on the revenue side, the rise in social security taxes was more than offset by other tax cuts, and, on the spending side, the cutbacks in federal civilian discretionary programs were more than offset by the rise in expenditures for defense, interest and entitlements. As a consequence, by 1990 federal government expenditures (both capital and current) were 21.9 percent of GDP whereas revenues came to only

18.9 percent, resulting a federal budget deficit of 3 percent of GDP. During the last two years, the federal budget deficit has been further increased by recession.

It is interesting to speculate as to what might have been if the federal government had “balanced” its budget during the 1980s. If the balance had been achieved by not lowering the taxes on the higher income groups and on corporate profits, there might have been little difference in GDP, since the decline in the after-tax income retained by individuals and corporations would have been offset in the financial markets by the reduction in government borrowing. However, if the government had reduced defense expenditures and entitlements to achieve a balanced budget, business receipts and household income would have declined correspondingly. It is difficult to believe that, in face of such a decline in demand and household income, the reduction in government borrowing would have been accompanied by increased capital expenditures in the economy. A more reasonable scenario is that total GDP would have declined until a new equilibrium was reached between desired saving and desired capital formation.

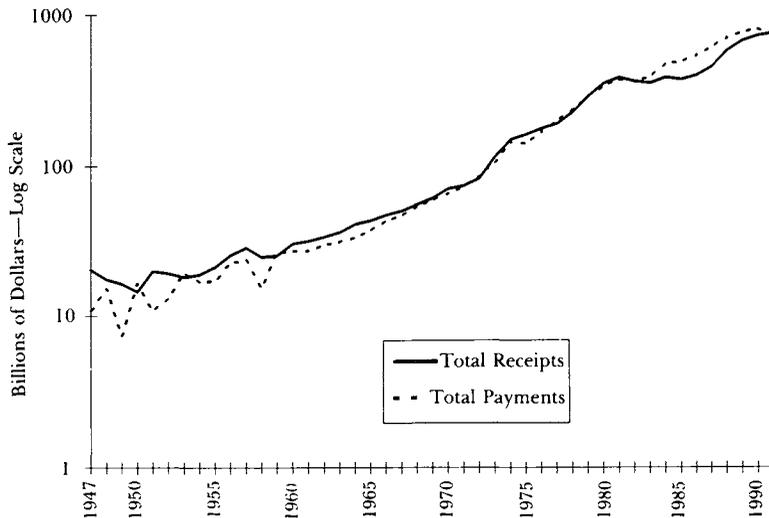
The Rest of the World Account

The rest of the world is not a sector of the economy; rather the account for the rest of the world summarizes the transactions of the various sectors of the economy with other countries. In this context, net foreign investment, as shown in Figure 5, represents the difference between gross domestic capital formation and the gross sectoral saving in the economy. Prior to 1982, the total receipts from the rest of the world generally exceeded total payments. There were only six years in which receipts were less than payments. These years were periods of economic expansion when imports rose much faster than exports. In the mid-1980s, however, the value of the dollar in terms of foreign currencies appreciated substantially. U.S. exports were stagnant while imports, stimulated by increased consumer demand, expanded. As a consequence, there were large deficits in the balance of trade and net foreign investment. In the most recent period, the reimbursement of the United States for the Gulf war, the decline in the value of the dollar, and recession have once more resulted in positive net foreign investment.

Summary and Conclusions

The reformulation of the household sector account to take into account their ownership of houses and their actual receipts of pension benefits, indicates that, on balance, households have not been net providers of saving to other sectors in the economy. Although the gross saving of both the enterprise

Figure 5

Rest of the World Receipts and Payment in the United States, 1947–1991

Source: Department of Commerce, "National Income and Product Accounts," Table 4.1, *Survey of Current Business*.

and household sectors approximate their capital formation, it does not mean that there is no inter-sectoral financing. Many households may be the source of finance for small business or venture capital. Conversely, many enterprises may extend consumer credit to households or finance owner-occupied housing mortgages.

Given the observed patterns of sector saving and capital formation, three sets of questions need to be examined. First, how robust are the empirical findings about sector saving and capital formation? Are the observations relating to sector net borrowing and net lending valid even if more restrictive or broader concepts of saving and capital formation are used? Second, how relevant are the data on sectoral saving and capital formation to questions of the determinants of saving and capital formation in the economy? Are increased saving and capital formation both necessary and sufficient for productivity and economic growth? Finally, what are the implications of the cyclical changes in sectoral saving and capital formation for economic policy? What policies should be followed to ensure a high level of economic activity without inflation?

Robustness of the Empirical Findings

The absolute differences observed between saving and capital formation—that is, net lending and net borrowing—for the different sectors as shown in the various figures are unaffected by differing definitions of saving and capital formation. For example, the exclusion of consumer durables as household capital formation would result in reclassifying the outlays for such durables as

current expenditures; thus, both household gross capital formation and gross saving would be lowered by an equal amount, leaving household net lending or net borrowing unchanged. In a similar manner, the elimination of government capital formation would increase government current outlays and make government saving coincident with government net lending or borrowing.

Even if the concept of enterprise capital formation were to be expanded to include intangible capital such as research and development, worker training, environmental improvements and repair and maintenance, enterprise sector net lending and net borrowing would not be affected. The costs of such activities would be excluded from current costs and included as capital formation, thus increasing both enterprise gross retained earnings and capital formation by equivalent amounts. With respect to the household and government sectors, expansion of the definition of capital formation to include such items as education and health expenditures would again remove these outlays as current expenditures and increase gross saving and gross capital formation by equivalent amounts. Indeed, even employing net saving and net capital formation concepts would not alter the empirical findings relating to sector net lending and net borrowing.

Relevance of Sectoral Saving and Capital Formation

These findings are directly relevant to understanding the process of saving and capital formation in the economy. The conventional view that saving by individuals provides the basis for enterprise capital formation is contradicted by the evidence. On balance, households are not net lenders to enterprises or government. For many enterprises, capital consumption allowances and retained earnings are the major source of funds for capital formation. The role of reserves held by employer pension and insurance funds against future liabilities also should be recognized as having a central role in the behavior of financial markets as a source of funds. Finally, from the volatile behavior of capital formation, it appears that the willingness of enterprises to undertake capital formation is, in most periods, a more important determinant than the availability of funds provided by saving in the economy. The balance sheets of many enterprises indicate that they have financial resources available to undertake capital formation in periods when nevertheless they are contracting their capital outlays.

Economic theory generally views capital as a tangible good, yielding a flow of future services and representing a factor of production. However, many tangible goods, such as shopping malls, housing, consumer durables, public facilities and some highways, may primarily yield a flow of consumption services. Such consumption services are useful and important, but they may not have significant impact on increasing productivity and sustained growth in the economy. On the other hand, many other kinds of current expenditures for such things as research and development, employee training, education, and improvement of the environment may make major contribution to future increases in productivity.

Thus, the emphasis on the importance of saving and capital formation for economic growth and productivity may be misplaced. The production of some tangible producer and consumer goods, while important for economic growth, are not the sole determinants of productivity and development of the economy. More emphasis needs to be directed to encouraging and developing those economic and social activities that are recognized as having a significant impact on the productivity of the economic system.

The Cyclical Implications of Sectoral Saving and Capital Formation

The cyclical patterns of saving and capital formation of households, enterprises and government have important implications for economic policy directed at maintaining full employment and price stability. In periods of recession, households reduce their expenditures on consumer durables and their purchases of new owner-occupied housing. One consequence is that their borrowing for such expenditures decline, while at the same time their previous level of repayment on consumer debt and mortgages continues. Enterprises selling to consumers face a slackening in their sales and rising excess capacity, and as a consequence their profits and retained earnings decline and at the same time they also reduce their capital expenditures and their employment. The government in this situation is faced with declining tax revenues and rising needs of recession-related expenditures, with the consequence that government deficits increase.

It is apparent in this situation that although there has been a decline in saving in each sector, it has not been the cause of the decline in capital formation, income and employment. Efforts to stimulate saving in the expectation that it will induce more capital formation are misguided. Policies that raise income and profits and encourage spending and capital formation are needed. Thus, in recession, tax reductions and expansion of government expenditures on infrastructure are appropriate.

Because state and local governments are not permitted to indulge in fiscal policy, they are required to have balanced budgets. This means that in periods of economic decline, they must raise taxes and reduce their expenditures. This has the perverse effect of accentuating the decline in the economy. During this last recession, many economists and business leaders have urged that such balanced budget policies also be adopted by the federal government—thus prohibiting it also from engaging in fiscal policy. The extent to which fiscal policy should be used to stimulate the economy can be questioned, but unenlightened contractionary policies should not be taken by governments in periods of recession.

The analysis also has implications for saving and capital formation policies in periods of economic boom. During periods of economic expansion, both households and enterprises expand their capital formation. The increases in tax revenues and imports act as automatic stabilizers to some extent, but speculative expansions of capital expenditures (especially in the area of building construction) may result in rising prices and unsustainable levels of capital

formation. The consequence may be overexpansion and economic collapse, such as occurred during the saving and loan crisis. Again, the major policy effort should not be directed to encouraging sectoral saving by offering incentives such as reductions in capital gains taxation, but rather at curbing investments in speculative capital that result in unwarranted and or undesirable capital formation.

The major lesson from the analysis of sectoral saving and capital formation is that in peacetime and in periods of recession, the major focus should be on stimulating useful capital formation rather than encouraging saving. The encouragement of saving is appropriate in periods when large expenditures for such things as national defense are unavoidable and they generate income that exceeds the availability of consumable goods in the economy. During World War II, the restriction of spending and encouragement of saving was appropriate, but in today's economic climate, new policies are required.

Concluding Thoughts

Both economic theory and national accounting have failed to provide an adequate understanding of the process of saving and capital formation. To a major extent, this failure has been due to the simplistic formulations of saving and capital formation by both neoclassical and Keynesian economic theory. Reformulations of economic theory are needed so that the institutional aspects of modern economic systems can be taken into account.

The viability of capitalist market economies depends on their achieving levels of saving and capital formation that are compatible with economic growth and full employment equilibrium without inflation. The primary tools for achieving and maintaining such an equilibrium have been monetary and fiscal policy. However, past experience suggests that simple guidelines relating to regulation of the money supply or control of the federal budget are not sufficient for this task. There have been major changes in the organization and operation of the economic system over the past 50 years, and new economic policies may be required to improve the functioning of the economy.

Better information is needed about the economy and its operation. Full sets of income accounts, capital accounts and balance sheets for different sectors and sub-sectors of the economy are required for a clear understanding of the process of saving and capital formation. Only with such understanding will it be possible to develop economic policies compatible with full employment and high rates of growth without inflation.

■ *This is a slightly revised version of the lecture presented to a joint session of the Society of Government Economists and the American Economic Association in Anaheim, California, on January 6, 1993.*

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