The Federal Reserve Board

Remarks by Vice Chairman Roger W. Ferguson, Jr.

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Questions and Reflections on the Personal Saving Rate

I am delighted to be here today to offer my thoughts on an issue that I believe is important to all of us: the long-standing decline in household saving. Since the early 1980s, the personal saving rate has fallen steadily; on average, a household today saves only about 1-1/2 percent of its disposable income, compared with about 11 percent in 1984. The fall in the personal saving rate could have important implications for the ability of the country to finance investment in plant and equipment, for future growth in productivity and real incomes, and for our growing economic dependence on other countries to finance our spending patterns.

Although my remarks today concentrate on the behavior of household saving and overall national saving, I also want to spend some time on a related issue: What is the evidence on the saving of minority households? Much has been written about the adequacy of retirement saving for many American households and the wealth accumulation of different income cohorts. But what do we know about the saving of minority households, and does it differ from the saving of low-income households, where minorities are disproportionately concentrated?

Let me turn first to the bigger picture. Personal saving, as measured by the Commerce Department's Bureau of Economic Analysis, is essentially the amount of after-tax income left after household bills are paid. From the end of the Second World War until the early 1980s, the personal saving rate--personal saving expressed as a percentage of disposable income--gradually trended up. To be sure, the saving rate showed considerable volatility from year to year, and in some periods, such as the second half of the 1970s, its upward drift stalled for a time. But overall, the picture was that of a fairly steady rise in the personal saving rate, from about 7-1/2 percent in the early 1950s to around 10-1/2 percent in the early 1980s. Since that time, however, the household saving rate has declined precipitously and, in the last couple of years, it has averaged only about 1-1/2 percent.

As is often the case with statistics, the figures I've just given are not the only word on this subject because the government publishes additional measures of household saving. One such measure, produced by the Federal Reserve, uses different source data to estimate the same concept of savings. The Fed measure suggests that households have been putting away about 3 to 4 percent of their income in recent years, a little more than estimated by the Commerce Department. But, importantly, it also shows the same precipitous decline since the early 1980s in the personal saving rate. Interestingly, the Fed's study of this issue shows that the decline in the saving rate of households at the top 20 percent of the income distribution accounts for virtually all of the decline in the aggregate personal saving rate since 1989, the first year for which estimates on saving by income quintile are available. That is, the saving rates of the bottom 80 percent of the income distribution have fluctuated in a relatively narrow range and importantly have shown no secular decline since 1989.

Should we worry about the fall in the personal saving rate?

Do we need to worry about the fall in the personal saving rate? Taking a big-picture point of view and asking whether the low rate signals that adjustments are needed for the future for the U.S. economy, the answer is a conditional "yes"; but the period over which those adjustments will occur is very unclear. In the aggregate, an economy needs to generate savings for two basic purposes--to invest in new plant and equipment with the aim of raising future consumption growth and to expand the residential housing stock, thereby boosting the flow of housing services over time. Thus, the act of saving is essentially about the allocation of an economy's resources: Some sector of the economy must be willing to consume less than its current income to free resources for the purchase of capital. Intuitively, we often think of saving in financial terms: Rather than spending our entire paycheck, we put money aside into savings accounts or certificates of deposits, and the bank lends this money to business; or we lend directly to firms by buying corporate bonds or stocks. Similarly, corporations save by not paying out all their profits to their stockholders. But underlying all these financial transactions is the reallocation of resources away from the immediate consumption of goods and services and toward the purchase of capital goods--goods that are not consumed directly but are instead used to produce future goods and services for consumption.

How much should an economy save and invest? The answer comes down to a decision about what combination of capital and labor inputs minimizes the cost of producing goods and services. The cost-minimizing mix will depend on the relative prices and relative productivity of capital and labor and on the rate of interest. If saving is inadequate to meet these investment needs, then interest rates rise, increasing the return to saving and perhaps boosting saving to some extent but also making it worthwhile for firms to reorganize their production methods to use less capital per worker. It is this consequence--operating at a lower ratio of capital to labor--that drives the concern about adequate savings in the economy. Over time, reducing the ratio of capital to labor in production reduces the productive capacity of the economy. And critically for the average worker, reducing the amount of capital per worker reduces a worker's marginal productivity, his or her real wage rate, and of course, the sustainable amount of his or her consumption.

To get some idea about the importance of saving and investment for future productivity growth, we can look to the past. Since the mid-1990s, productivity growth in the nonfarm business sector has averaged a bit more than 3 percent, roughly double its average from 1973 through 1995. Estimates produced by the Bureau of Labor Statistics, augmented by analysis carried out at the Federal Reserve and elsewhere, suggest that about one-third of the step-up in productivity growth is attributable directly to increases in the amount of capital per worker used in production.[1] This so-called capital deepening has in turn come about because of the sharp decline in the relative price of capital: For example, the price of new high-tech capital equipment has fallen 70 percent relative to the price of business output since the end of 1995, so that increasing the capital intensity of production has become cost efficient. But this estimate may well understate the total contribution from investment to labor productivity growth because of synergies that are difficult to quantify but are significant nonetheless. For example, newer vintages of capital may embody more-advanced technology than older vintages and thus, even without any increase in capital intensity, productivity would rise as new capital replaces old capital in production.

So if capital investment is a critical factor behind productivity growth, why have I hedged on the issue of whether the decline in the personal saving rate is something about which we

should be concerned? The reason is that, in a country with a well-developed capital market, investment needs of one sector can be met by savings of another sector. In principle, the burden of saving need not fall exclusively or even primarily on the household sector, and indeed, the contribution of the various sectors to aggregate saving has varied considerably over the past fifty years.

For the most part, government saving has been negative over this period; consolidating the savings of the federal, state, and local governments indicates that, since about 1960, except for a few years during the late 1990s, the government has spent more each year than it has collected in tax revenues. It is the federal government that accounts for nearly all of the negative saving; state and local governments have generally balanced their operating budgets because most of them face constitutional or statutory requirements to do so.

Although the Treasury ran a surplus as recently as 2001, the prospects for its doing so again anytime soon are not high. Both Social Security and Medicare face running deficits in the near future because of factors such as the retirement of the baby-boom generation, rapidly increasing health costs, and a slowdown in the growth rate of the labor force. Tax cuts enacted over the past three years, although undoubtedly supporting the economy during its recent period of recession, have also added to the prospects for federal government deficits. In this regard, let me just say that I fully support the goal of fiscal prudence for the federal government: To the extent that the federal government is soaking up funds that might otherwise be used for private domestic investment, the United States is getting smaller productivity gains than we could be getting.

Foreigners are another source of saving, and they have played an increasingly important role over the past twenty years in financing our domestic investment. Foreign saving is identified with our current account balance: When we import more than we export in dollar terms, we borrow from foreigners. Between 1950 and the early 1980s, our current account balance stayed close to zero--sometimes we borrowed from foreigners, and other times we lent, but for many years we remained a net global creditor. Since then we have become increasingly reliant on the willingness of foreigners to fund our investment needs; the current account deficit now stands at almost 6 percent of gross domestic product, and foreigners today fund about 30 percent of our domestic investment.

In some respects, this foreign borrowing is not problematic--the rest of the world supports investment in plant and machinery while we maintain our consumption. But two considerations weigh against foreign funding being a sustainable long-run solution. First, continued borrowing from abroad means that foreigners have an ever-growing claim on the nation's capital assets. Thus, a growing share of the output produced by those assets is not ours to spend but instead goes to foreigners in the form of dividends and interest payments. So, if the goal of saving is to raise the capital stock in order to increase our own future production and consumption possibilities, sending increasingly larger amounts of additional income abroad lowers the gain from investment. Certainly, we are still better off than we would be had the investment not occurred: Labor productivity is increased regardless of who owns the capital stock, and as a result, both real wage growth and future consumption growth are greater than they would otherwise be.

A second reason we should be vigilant about our growing foreign indebtedness is that, should global investors decide to rebalance their own portfolio so as to reduce the amount of their lending to the United States, the economy could face some significant adjustments in numerous economic variables, including interest rates, the composition of consumption, and

the level of investment. Of course, dynamic economies are used to seeing such changes, and for the United States, these changes have historically been orderly. But there is always some risk, however remote, that future changes could be less orderly than has been our experience historically.

So, if depending in the long run on government saving and foreign saving to finance private domestic investment raises serious concerns, where does that leave us? The answer is that the private domestic sector, households and businesses, ultimately must generate the bulk of saving.

Business saving is, and has always been, greater than household saving because corporations set aside a large volume of income to replace aging equipment. Thus, the precipitous drop in the share of income that households save does not translate into a proportional drop in total private-sector savings. But, we have no evidence that business saving has moved over time to significantly offset the downward trend in household saving. Indeed, the ratio of gross business saving to GDP has risen only about 1 percentage point since the mid-1980s, whereas the decline in personal saving--again relative to GDP--has been about 7 percentage points.

Realistically, the key to ensuring adequate saving in the future appears to rest on reversing or at least containing the decline in the personal saving rate. The prospects for doing so depend on why the personal saving rate has fallen.

Why has the personal saving rate fallen?

Economists, as you might expect, are not in complete agreement about the causes of the decline. Perhaps the most popular explanation is that large capital gains on equity holdings and residential real estate have sharply raised the net worth of many households, assuring them that they are well positioned to meet goals for precautionary or retirement savings even while they save less of their current income.[2] This explanation suggests that for many households the operative concept of saving is not the portion of current income that they do not spend but rather the change in their net worth. The former measures only the acquisition cost of new household assets whereas the latter measures the change in the market value of assets, which is the acquisition cost of new assets plus the capital gain or loss on existing assets. The latter measure of saving does indeed paint a far more positive picture of household saving behavior: The ratio of the change in net worth to disposable income, although more volatile over the past decade than previously, has been essentially trendless over the past two decades.[3]

Whether or not we should take comfort from this alternative picture of the saving rate is a complicated issue, one that is inextricably tied to our confidence that the price of corporate equity accurately reflects the underlying productivity of corporate assets. One would expect that capital gains on financial or real capital assets reflect a positive reassessment of the productivity of some physical asset and, therefore, an increase in the potential for greater future consumption. To this extent, capital gains serve the same function as saving out of current income. But, it is hard to believe that all the movements in asset prices witnessed in recent years are well-rooted in changes to the underlying productivity of those assets. A telling reason for skepticism is the behavior of stock prices since the late 1990s. What information on productivity or productivity growth can account for, first, the near-tripling of share prices during the late 1990s and, then, the retrenchment of prices in 2000 and 2001? It would appear that a portion of past swings in net worth has reflected behavior based on something other than well-founded assessments of changes in the underlying productive

potential of existing capital. Nevertheless, on the issue of why the personal saving rate has fallen, empirical evidence linking the stock of wealth to consumption spending supports the view that capital gains on corporate equities and residential real estate have been important factors.

Another explanation for the decline in the personal saving rate relates to possible upward revisions to households' expectations for their long-run or permanent income. Many studies of household consumption and saving behavior link current consumption to both current income and expected future income as households appear to smooth spending in response to fluctuations in income.[4] One consequence of this behavior is that the ratio of consumption to current income will be higher--and hence the personal saving rate will be lower--the higher is the expected growth rate of future income. So to the extent that households have taken note of the step-up in productivity growth over the past decade and have assumed that it means more rapid increases in future income, their saving rate would fall. This belief in "better economic times ahead" increases the confidence of households about their future income prospects and encourages them to be less thrifty today.

Another commonly referenced argument for the decline in the personal saving rate emphasizes the growing importance of Social Security, Medicare, and other government transfer payments in overall household income. These programs have the effect of shifting income toward those portions of the population that, at least in theory, have a relatively high propensity to spend. Moreover, by providing some insurance against future financial hazards, the very existence of the programs has probably reduced the incentive of even those currently not receiving such transfers to save for retirement and other emergencies.[5]

Many other theories have been put forth dissecting the fall in personal savings. One involves financial market innovation. Since the 1980s, households have had easier access to credit markets. Credit card usage has grown exponentially over the past two decades, and the ratio of consumer credit to income has increased 50 percent. Mortgage credit has also become less costly to obtain, and along with the tremendous run-up in real estate prices since the mid-1990s, it has encouraged frequent refinancings with many households tapping into their home equity for consumption needs.

Another theory attributes the fall in the personal savings rate to the generally low level of real interest rates in recent years. This particular theory has both supporters and detractors in the economics profession. Whether raising the rate of return on savings raises or reduces savings propensities remains an open question. On the one hand, the higher return to saving should make saving more attractive; on the other hand, a higher return means that less saving is required to achieve any given level of wealth. The weight of empirical evidence favors a positive relationship between interest rates and the saving rate, although the confidence intervals around such estimates are quite large.

Will the personal saving rate rebound?

Suffice it to say, theories on the decline in the personal saving rate are abundant. Empirical research suggests that multiple factors played into the decline in the rate, and the relative contributions of the factors have fluctuated over time. Taking all the factors into account, what are the odds of a rebound in the personal saving rate to the average level of the 1950s through the 1980s?

First, current levels of personal saving are insufficient to maintain the current ratio of wealth to income, without significant capital gains in the future. A decline in the ratio of wealth to

income would, by itself, tend to raise the future saving rate. To the extent that a decline in net worth relative to income turns out to be the precipitating factor for a future rebound in the personal saving rate, it is reasonable to expect that the saving rate of the top quintile of the income distribution will do the bulk of the rebounding. As I noted earlier, the saving rate of this quintile accounted for virtually all of the decline in the aggregate personal saving rate. Because households in this income quintile own about 65 percent of aggregate net worth, any revaluation of assets will be felt strongly in this group and consequently their saving behavior should most clearly reflect this influence.

Second, productivity growth, or households' perceptions of such growth, could fall back from rates experienced in the past few years, again raising personal saving rates. Once again, this might most noticeably affect the saving rate of the top quintile of the income distribution, at least in the short run. Why? While changes in trend productivity growth should ultimately feed through to changes in wage growth, the passthrough of productivity gains to wages generally is not instantaneous. Instead, changes to productivity growth are felt first in capital income--profits and rents and dividends--so any drop back in future productivity growth would likely be felt first in capital income. Capital income is of course more frequently found in the income of the top quintile than in the lower quintiles of the income distribution.

A third factor that could influence the saving rate is that market-determined interest rates may rise from their low levels at present and thus may raise the incentive to save a bit. Such a rise in interest rates might also tend to slow the increase in the value of real estate and equities, eliminating some of the cushion that households currently might count on from past high rates of capital gains and reducing the impetus to consumption spending that mortgage refinancings have in recent years permitted.

On the other hand, government transfer payments are unlikely to fall, and financial innovation is not going to reverse itself.

Although it is difficult to predict with any precision the course of asset values, or productivity growth, or federal entitlement programs, or even interest rates, all told I would not expect the personal saving rate to return in the near term to the peaks seen twenty years ago, and I would be surprised even by a return anytime soon to the average rate that prevailed between the 1950s and the 1980s. At the same time, I want to note that we likely will not need quite so high a national saving rate in the future because, as the growth rate of the labor force slows with the retirement of the baby boom generation, less investment will be required to equip each worker with the same amount of capital. Thus the shortfall in national savings relative to private domestic investment might be a bit less than we would assess by looking only at national savings. But the problem of inadequate national savings is still there.

Saving and minority households

Let me now turn away from the issue of whether the country saves and invests enough and focus on the issue of what we know about the wealth accumulation of minority households. A fair number of studies exist on this subject, but two stand out.[6] Both find that, after controlling for differences in income and in demographic factors, black families have lower wealth than white families. Thus, even if policies designed to reduce racial differences in income were completely successful, the bulk of the wealth differential would remain, and the ratio of net worth to income would be lower for black families.

Three principal factors can account for this. First, black families may receive lower inheritances or other intergenerational transfers; second, black families may have lower propensities to save out of income; and third, black families may experience lower rates of return on their savings. The two studies that I cited disagree to some extent on which of these factors is most important. One study stresses the importance of intergenerational transfers, whereas the other stresses differences in savings behavior. But both argue that differential rates of return are important. Black families are less inclined at most income levels to invest in stocks, and black families are less likely to be owners of small business.

Although it is difficult to draw precise inferences regarding the key factors that have limited minority wealth accumulation, one endeavor should pay off in terms of greater saving by and higher net worth of minority households: increased efforts in financial education. We at the Federal Reserve have embarked on a program to raise the level of financial literacy in our country, and I believe that similar programs offered by private financial institutions will also yield a high return. Thus, I encourage all of you to work to increase the knowledge of your depositors about financial issues.

Conclusion

Let me briefly conclude by restating my main points. Probably nothing is more critical to the long-run well-being of the U.S. economy than ensuring high rates of productivity growth. Productivity growth requires adequate levels of investment. While foreign saving is currently a feasible source of investable resources, it would be more economically advantageous in the longer run if we could raise the amount of household and government savings and close the gap between domestic investment and national savings.

Within the household sector, the accumulated saving of minority households, relative to their income, appears to be lower than that of nonminority households. In this regard, increased efforts at financial literacy programs can have a positive payoff, especially since at least one source of the minority-nonminority differential is apparently due to lower rates of return earned by minority households.

Footnotes

1. For estimates of productivity growth and the contribution of capital deepening through 2001, see the Bureau of Labor Statistics release Multifactor Productivity Trends. For more recent years, I use Federal Reserve estimates. Return to text

2. The so-called wealth effect has a long history in the economics profession. Among the earliest and most frequently cited references is the work of Albert Ando and Franco Modigliani (1963), "The 'Life Cycle' Hypothesis of Saving: Aggregate Implications and Test," *American Economic Review*, vol. 53 (March), pp. 55-84. A review of the effect that of the late 1990s gains in equity prices had on consumption is available in James M. Poterba (2000), "Stock Market Wealth and Consumption," *Journal of Economic Perspectives*, vol. 14 (Spring), pp. 99-118. Return to text

3. This alternative concept of the personal saving rate has, in fact, shown a slight positive trend since the early 1950s. Return to text

4. The influence of permanent income on consumption also has a long history in the economics literature, and the work by Milton Friedman is among the best known of the early

papers. See, for example, Milton Friedman (1957), *A Theory of the Consumption Function*, (Princeton: Princeton University Press. For another early and fundamental study, see Franco Modigliani and Richard Brumberg (1954), "Utility Analysis and the Consumption Function: An Interpretation of Cross-section Data," in Kenneth K. Kurihara (ed.), *Post-Keynesian Economics*, (Rutgers, N.J.: Rutgers University Press), pp.338-436. For a more recent study on this issue, see John Y. Campbell (1987), "Does Saving Anticipate Declining Labor Income? An Alternative Test of the Permanent Income Hypothesis," *Econometrica*, vol. 55 (November), pp. 1249-73. Return to text

5. The classic paper on the effect of government transfer payments on household spending is by Martin Feldstein (1974), "Social Security, Induced Retirement, and Aggregate Capital Accumulation," *Journal of Political Economy*, vol. 82 (September/October), pp. 905-26. For a commonly cited paper on the relationship between precautionary saving and government entitlement programs, see Lawrence H. Summers and Christopher D. Carroll (1987), "Why is U.S. National Savings So Low*?" Brookings Papers on Economic Activity, 2:1987*, pp. 607-36. Return to text

6. Francine D. Blau and John W. Graham (1990), "Black-White Differences in Wealth and Asset Composition," *Quarterly Journal of Economics*, vol. 105, pp. 321-39. See also Joseph G. Altonji, Ulrich Doraszelski, and Lewis Segal, (2000), "Black/White Differences in Wealth," Federal Reserve Bank of Chicago, *Economic Perspectives*, vol. 24 (1st quarter), pp.38-50. Return to text

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