

to growth in prices, virtually all of the additional \$40 to \$60 billion will have to be cut out of the "all other" category. That is impossible since this category contains many things such as the Internal Revenue Service, the Federal Bureau of Investigation, and the staff of the Executive Office. Either the Reagan Administration will soon have to go after the Safety Net Programs, or defense spending, or the budget targets will have to be substantially greater than those projected. That is another choice to be faced during the 1980's.

THE OUTLOOK AND POLICY CHOICES FOR THE 1980's
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When asked to predict the future, economists refer to historical experience, because history is a guide, and because events leading up to the current period set the stage, and define the policy choices.

There is universal concern on the slowdown in real growth during the 1970's, and the rapid rise of inflation. In the 1960's real growth in the U.S. averaged about four percent; the average was closer to 2.5 percent in the 1970's. At the same time, the underlying inflation rate rose from about 2.5 percent to about ten percent. The critical link is the decline in productivity growth: from 2.5 percent in the 1960's to 1.2 percent in the 1970's and even lower in the past two years. Productivity, defined as output per man hour, is an essential ingredient of real GNP growth, and plays a central role in the design of an anti-inflationary policy. The reasoning is that with high productivity growth the economy can absorb demands for higher real income with less upward pressure on prices. But if productivity growth slows, the pressing of these demands leads to accelerating inflation, changes in relative income shares and strains in the social fabric. This is the difference between being happy with fixed shares of a growing pie, and fighting over the shares of a shrinking pie. In this latter kind of world inflationary momentum can build up rapidly. Therefore, policies to improve productivity growth must be at the heart of any long term anti-inflationary program.

Since productivity is critical in the long-run outlook, this discussion will involve the factors that have brought about a slowdown, policies that could reverse this trend, and how effective the Reagan program might be in this.

These trends must be put into some kind of perspective. The U.S. has not been alone. Nearly all the undustrialized economies have suffered the same kinds of reverses. In Japan during the 1970's, real growth slowed from ten percent to six percent, and productivity growth dropped from 9.5 percent to 4.5 percent. Similarly, real growth in West Germany declined from five percent to three percent, and productivity growth fell from 4.5 percent to 3.5 percent. The experience is the same for Canada and the other European countries.

Clearly, there are common factors affecting productivity growth in all these countries. Two of them are the rapid rise in energy prices and the baby boom. It appears that higher energy prices contributed significantly to the productivity slowdown in every industrialized country after 1973. Rising energy prices adversely affected labor productivity in several ways. Parts of the capital stock that were energy inefficient were outmoded. The focus of investment and innovation shifted toward energy efficiency rather than labor

efficiency. At the same time, businesses tended to substitute labor for more expensive energy. Finally, uncertainty about economic conditions was increased.

Although the U.S. imports a smaller part of its total energy consumption than most other industrialized countries, the impact of higher energy prices on productivity may have been more severe in the U.S. than elsewhere. First, except for Canada, U.S. industry is more energy intensive than industry in the other OECD countries. Second, most of the other countries had by the mid-1970's adjusted to higher energy prices through higher gasoline taxes and other measures. The United States economy has begun to adjust to a world of more expensive energy, but this adjustment is a long one and the payoffs in better productivity growth will be slow in coming.

Oil and gas deregulation, praiseworthy in themselves, will not help overall productivity or inflation in the short run. On the other hand, policies aimed at energy conservation which reduce worldwide demand for energy, will reduce the world price of oil, and should thus improve the prospects for productivity growth. Furthermore, programs that encourage development of nuclear power, coal, synthetic fuels and other energy sources should help productivity. An overriding concern of any comprehensive energy program should be to reduce the uncertainty about the impact of energy price increases. Reducing this uncertainty would help businesses better decide how much and what type of capital they want. Unfortunately U.S. energy policy has not been very successful in this regard.

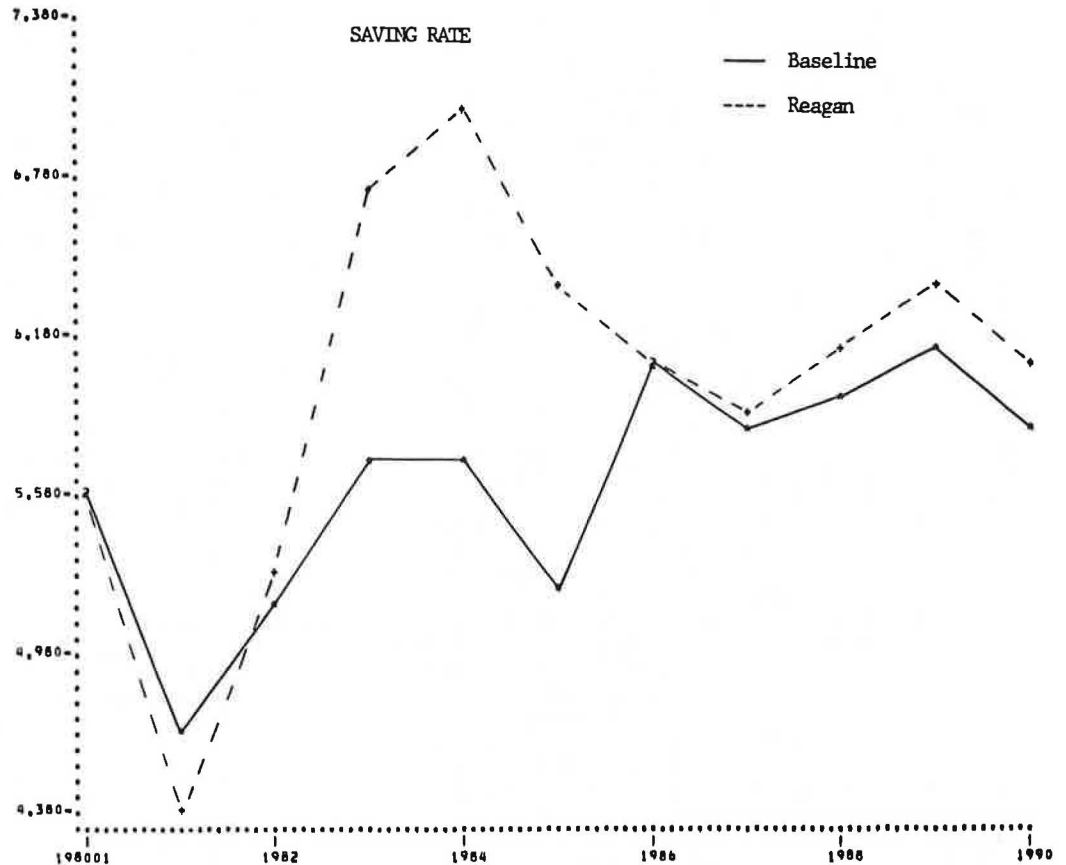
The second common factor that has contributed to the slowdown in productivity growth is the change in the labor force from the baby boom. This change not only contributed to the increase in the labor participation rate, but also increased the percentage of young, inexperienced and therefore low-productivity workers during the 1970's. Except for government programs to encourage on-the-job training and improve secondary school education there is not much that either U.S. or other governments could do about these trends. Fortunately, as the baby boom cohort grows up, its work experience, training, and productivity should all improve. This fact, and other trends that should reduce labor force growth, could add as much as one-half of one percentage point to U.S. productivity growth in the latter half of the decade.

Wharton projects that productivity growth in the non-farm private sector of the U.S. economy will average close to three percent, about what it was in the 1960's. The difference between these two sets of numbers is largely due to growth of the service sector, which has lower increases in productivity than manufacturing. The general improvement that we see in productivity is in part due to better energy efficiency, and in part due to changes in demographic trends.

There are two particular determinants of productivity growth which, in the U.S. economy, have probably exacerbated the declining growth. They may even account for lower U.S. productivity growth than in Japan and Germany. These are matters of capital formation and regulation. They are related to the Reagan economic program.

A frequently cited reason for the productivity slowdown is the low savings rate. Americans save too small a portion of current output. Economists may disagree about what too small means, but the savings rate in the U.S. is clearly lower than in some other countries. For example, gross household savings in the U.S. as a percent of gross

Figure 1. Saving rate (percent).



domestic product averaged about eight percent during the last two decades. The comparable figures for Germany and Japan were ten percent and seventeen percent. Similarly, over the last twenty years, the ratio of gross corporate savings to gross domestic product was eight percent for the U.S., eleven percent for Germany, and thirteen percent for Japan.

The Reagan package aims at raising both personal and corporate savings. Accelerated depreciation will help the cash flow of businesses. There has been some debate about the relative merits of the Reagan plan compared to one of the Senate Finance Committee, or to the idea of simply indexing depreciation deductions for inflation. However, everyone agrees that some form of accelerated depreciation should be passed soon. There is more controversy about the Reagan plan to raise personal savings. Here, the Administration is relying on a 30 percent cut in marginal tax rates over three years to boost personal savings. If the full Reagan package is stimulative, there is no question that it will raise overall savings. The relevant question, however, is whether the cut in marginal tax rates will raise the savings rate. Supporters of large cuts in marginal tax rates argue in two ways that such cuts will boost the savings rate. First is the classic supply side argument that a cut in marginal tax rates will raise the after-tax real rate of return on savings and will, therefore, induce people to save a larger proportion of their income. Second, the Kemp-Roth tax cuts favor the rich who do most of the savings. Consequently, the overall savings rate should go up.

Without debating either of these points of view, Wharton would emphasize that there are more effective ways of raising the savings rate. The U.S. tax structure is biased towards debt at the expense of saving. The tax structure could be changed in many ways to correct this. Such changes include exempt-

ing saving or interest income from taxes, giving tax credits to people who save above some threshold, lowering the maximum rate on investment income, and instituting universal IRA or Keough plans. A number of economists have suggested that the Kemp-Roth cut in marginal tax rates be trimmed back and combined with one or more of these incentives to save.

Absent such changes, the Wharton long-term outlook (which assumes that all the Reagan business tax cuts, but only some of the personal tax cuts, will pass) predicts that the personal saving rate in the 1980's will be one to 1.5 percentage points higher than in the late 1970's. (Figure 1)

It is important to note that an increase in the personal savings rate will not immediately become an increase in the rate of capital formation. A large portion of personal savings in the U.S. goes for non-productive capital such as residential investment and debt-financed durable goods. But in the long run, higher savings rates will lower the cost of borrowing and make possible higher investment growth. A more effective way of channeling savings into investment, in the short run, even at present savings rates, would be to shift the composition of personal saving away from owner-occupied housing and consumer durables to financial assets such as corporate stocks and bonds. This could be accomplished by reducing the interest-expense tax deduction. Interest payments on home mortgages and consumer credit may now be deducted without limit when computing personal income taxes. Limiting this deduction, together with a reduction in the maximum marginal tax rate on investment, would change the composition of saving. Such a program would be politically unpopular, but it would have a dramatic impact on capital formation and productivity growth over the short time horizon.

Technological innovation is another important element in capital formation. Two key components of technological innovation are research and development, and the diffusion of technologies. Diffusion is important; a new discovery does not help productivity unless it is commercially available.

Expenditures on research and development in the U.S., as a percent of GNP, have declined in the last ten years. But this ratio has increased for both Germany and Japan. The major reason for the adverse trend in the U.S. was the lack of growth in Federal government spending on R&D. This accounts for two-thirds of the total, and more than half of the U.S. government R&D spending goes for defense, nine percent goes to economic development, and only four percent goes to basic research in non-space-related programs. By comparison with Germany and Japan, over half of their government R&D budgets is devoted to pure research and about 15 to 25 percent to economic development. Government funding of basic research is important because the risks to the entrepreneur are large, and the payoffs are long term. Unfortunately, the Reagan budget has reduced funding for pure research to increase defense research and development.

Research and development in the private sector is highly concentrated. About 90 percent of all R&D is done by 200 firms and concentrated in six industries: communications equipment and components, machinery, aircraft and parts, guided missiles and spacecraft, motor vehicles and other transportation equipment, and chemicals. In the 1970's R&D was less profitable because of higher inflation, increased government regulation, and depressed capital markets. Accelerated depreciation of capital used in R&D, or a tax credit for R&D expenses, would encourage such spending in the private sector. Last fall the Senate Finance Committee voted for an income tax credit for 25 percent of the increase in qualifying research and experimental expenditures. To our knowledge, the Administration has not adopted this or any other incentive for research and development.

Evidence suggests that most of the absorption and diffusion of new technologies is carried out by small, high-technology firms at early stages of the innovation process. It is at the stage where a particular innovation is being commercially developed that larger firms have assumed more of the burden. Suggestions to stimulate small high-technology business include lowering the capital gains tax for high technology investment, eliminating capital gains taxes for proceeds that are plowed back into the same type of investment, and easing credit terms for such businesses either by eliminating some federal financial regulations or through more favorable Small Business Administration loans.

As to how regulation has affected productivity, there are two basic types of regulation: regulation that covers utilities, railroads, and the like, and what might be called social regulation relating to pollution and safety. Estimates suggest that these types of regulations have lowered productivity growth anywhere between .25 and .5 percentage points. One of the major thrusts of the Reagan Administration's economic program is to reduce the regulatory burden, especially in the pollution and safety areas. Furthermore, the adjustment of U.S. industry to this type of regulation has most likely already taken place so that this source of drag on productivity should diminish. Therefore the outlook for productivity, in this regard, is fairly bright.

To summarize: the outlook for productivity is brighter in the 1980's than it was in the late 1970's. Part of this is attributable to those portions of the Reagan initiatives that will in-

crease overall saving and reduce regulation. However, I believe that much more can be done in the area of capital formation. There are policies available that will raise the personal saving rate, change the composition of personal saving in favor of productive capital, increase private sector research and development, and ensure that new technologies are rapidly incorporated into our capital stock. Policy changes of this kind would raise productivity growth even over the next five years.

Following are some more details about the Wharton long run outlook. Despite the improvement in productivity and real growth, the inflation rate and unemployment rate will fall only gradually. (Figures 2 and 3) By the end of the decade the inflation rate is projected to be about 7.5 percent and the unemployment rate to fall below six percent. The baseline projection assumes that only part of the Reagan package will be enacted. We have assumed that all the business taxes will go into effect, but that only some of the personal taxes will be passed. Specifically, we have assumed that a ten percent tax cut will be enacted over the next year and an additional ten percent will be cut in the mid-1980's. On the expenditure side, we have assumed that two-thirds of the Reagan cuts will be passed and that all the defense increases will go through.

This projection used the Wharton Annual Model which since 1970 has incorporated a very detailed production or supply framework. Of all commercially available models, it has the most supply-side detail.

For comparison, we also projected the impact of the full Reagan package. The results are as we might expect as shown in the accompanying figures. Real growth is higher through 1985 and then slightly lower than the baseline, leaving the level of real GNP in 1990 higher for the full Reagan scenario. (Figure 4) Overall productivity is all higher. (Figure 5) Inflation and the unemployment rate are a little lower. However, the Federal budget is not balanced until the end of the decade. (Figure 6) While these results favor enactment of the Reagan programs, they do not show the quick turnaround the Administration would like to see. This would require a much greater emphasis on capital formation than now exists.

Figure 2. Inflation (percent).

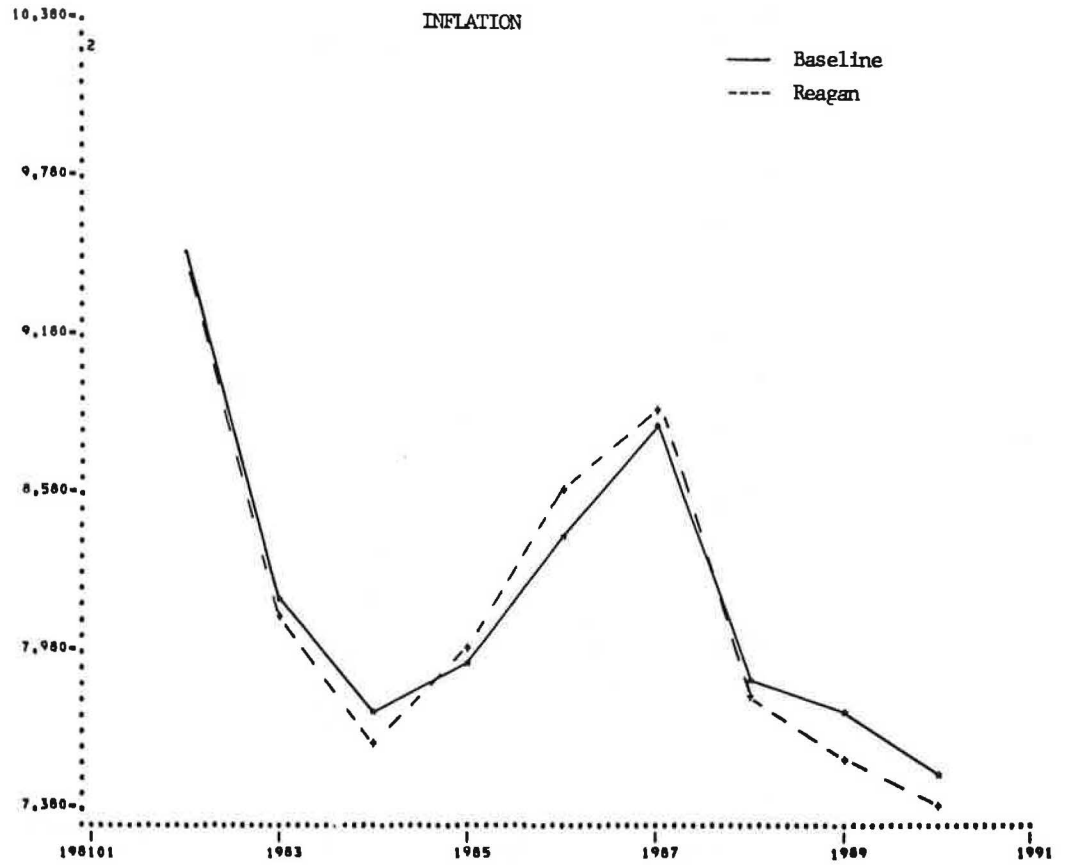


Figure 3. Unemployment rate (percent).

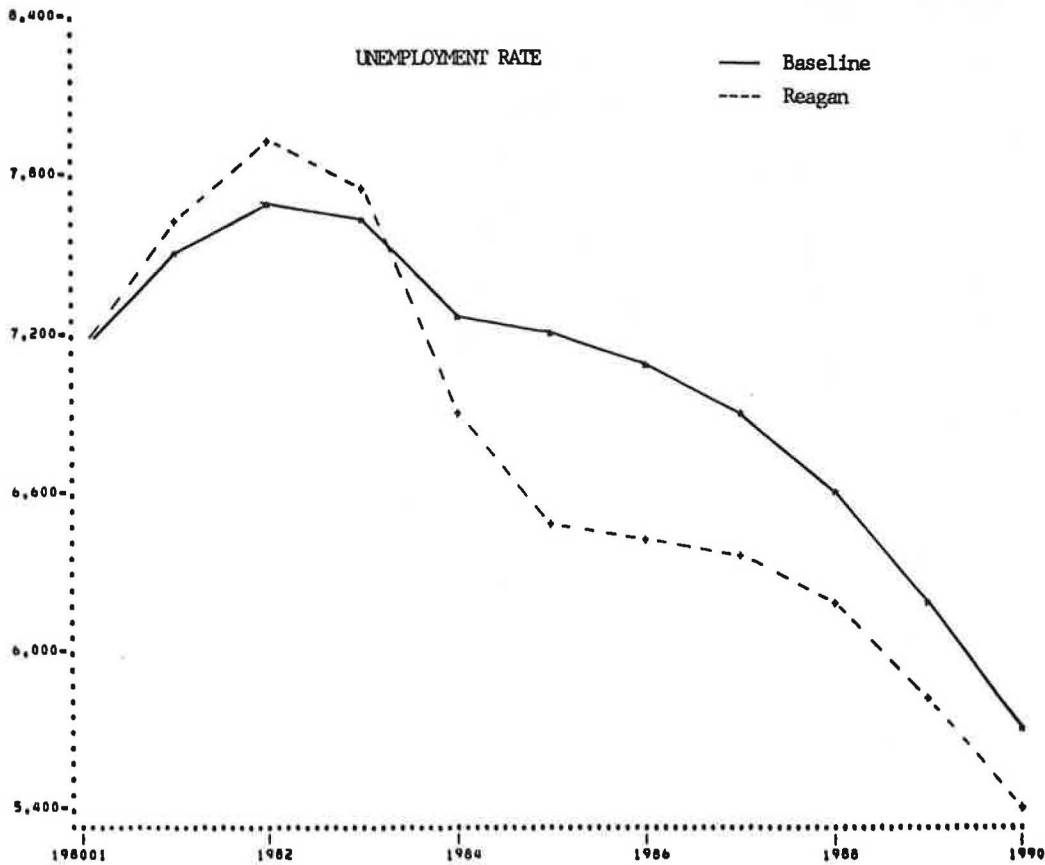


Figure 4. Real GNP growth (percent).

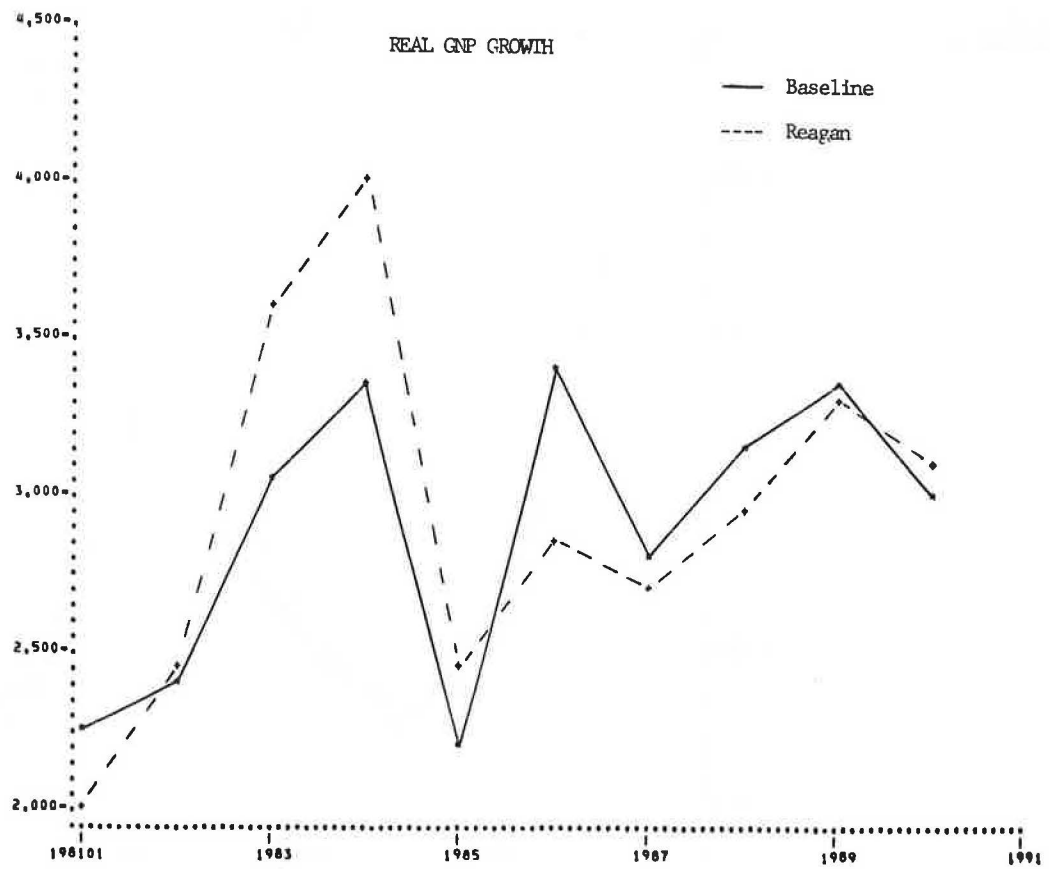


Figure 5. Productivity growth (percent).

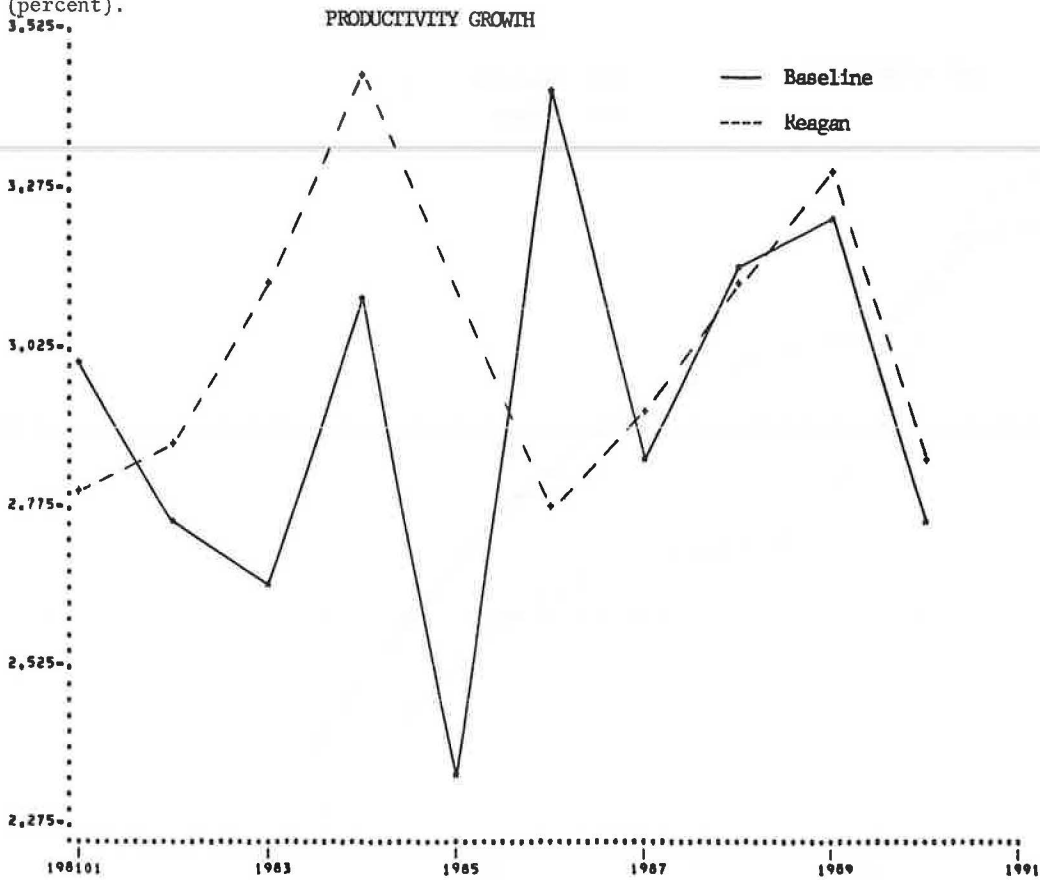
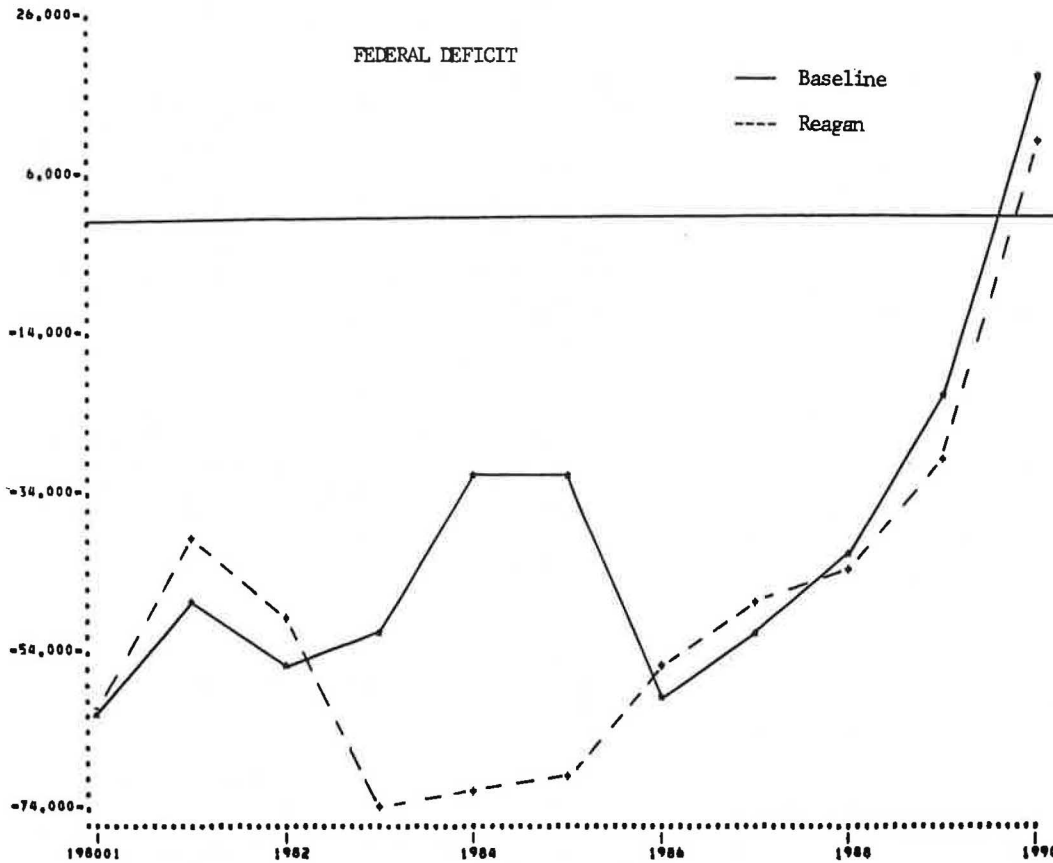


Figure 6. Federal Deficit (\$ billions).



DISCUSSION OF ECONOMIC OUTLOOK

George N. Sarames, Lockheed Aircraft

My question concerns long term productivity gains of 1.8 percent. This is difficult to accept in view of four factors. One is that R&D is not picking up, and that takes 10 to 20 years to have an impact on production. The second is the labor force. The baby boom is over but will the poor teenage workers of the 70's become skilled workers of the 80's? Not without massive retraining. Third, foreign sales will be a much bigger proportion of output. Neither U.S. business nor government is prepared to be strong in foreign business. The fourth is the service industries, still growing. These do not add up to the 1.8 percent necessary to maintain a 3 percent growth in GNP. Unemployment will still be at 7 percent.

Nariman A. Behravesh

We are not optimists on productivity. We do see the reversal of some trends that should help. The points are good points. But energy adjustments are over or in process, so U.S. manufacturing will become less sensitive to energy shocks.

The growing up of the baby cohort accomplishes two things. These people have been in the labor force, and have built up their experience and their productivity. Clearly some of the baby boom continue to be unemployed, for example black teenagers. There are still problems. My point is that there have been some trends reversed in regulation, which will help productivity. There is still room for improvement.

We have had to explain why our productivity forecast is not higher. We hope for higher produc-

tivity because of change in real wages. We move from labor surplus to a labor short economy. So real wages, declining during the 1970's, will rise fairly rapidly during the 1980's. Then productivity activity will take care of itself. Additional labor is hired when it pays. When it is better to substitute capital for expensive labor, that is done. This reversal is on the way.

Sean Mooney, Pan American

This question is to both speakers. It concerns the next two or three years. Yesterday the CPI came out, up 12.7 percent and the Administration had a session. We do not know what the conclusions were. If the Administration sees inflation rising or staying at current levels, what will it do? It might keep on with current policies and assume that they will work. Or it might put severe restraints on the economy, as in the U.K., severe monetary restraint and no aid to business.

The third alternative would be to put on wage-price controls. Or lastly, they might try jawboning. The coal miners' settlement was 31 percent to 36 percent, but there was nothing from the Administration that this was excessive.

What are the probable alternative scenarios? Especially, what is the likelihood of very severe restraint?

Leon Taub

It will be interesting. The last alternative, severe restraint, is unlikely. There is a strong commitment against wage and price controls. So the Administration cannot avoid lapsing into jawboning. That has little effect so is not a major change in policy. There may be a marginal effect, and it is not a bad