

Testimony of Chairman Alan Greenspan

The Federal Reserve's semiannual report on monetary policy

Before the Committee on Banking and Financial Services, U.S. House of Representatives July 22, 1999

Chairman Greenspan presented identical testimony before the Committee on Banking, Housing, and Urban Affairs, U.S. Senate, on July 28, 1999

Thank you, Mr. Chairman and other members of the Committee, for this opportunity to present the Federal Reserve's [semiannual report on monetary policy](#).

To date, 1999 has been an exceptional year for the American economy, but a challenging one for American monetary policy. Through the first six months of this year, the U.S. economy has further extended its remarkable performance: Almost 1-1/4 million jobs were added to payrolls on net, and gross domestic product apparently expanded at a brisk pace, perhaps near that of the prior three years.

At the root of this impressive expansion of economic activity has been a marked acceleration in the productivity of our nation's workforce. This productivity growth has allowed further healthy advances in real wages and has permitted activity to expand at a robust clip while helping to foster price stability.

Last fall, the Federal Open Market Committee (FOMC) eased monetary policy to counter a seizing-up of financial markets that threatened to disrupt economic activity significantly. As those markets recovered, the FOMC had to assess whether that policy stance remained appropriate. By late last month, when it became apparent that much of the financial strain of last fall had eased, that foreign economies were firming, and that demand in the United States was growing at an unsustainable pace, the FOMC raised its intended federal funds rate 1/4 percentage point, to 5 percent. To have refrained from doing so in our judgment would have put the U.S. economy's expansion at risk.

If nothing else, the experience of the last decade has reinforced earlier evidence that a necessary condition for maximum sustainable economic growth is price stability. While product prices have remained remarkably restrained in the face of exceptionally strong demand and expanding potential supply, it is imperative that we do not become complacent.

The already shrunken pool of job-seekers and considerable strength of aggregate demand suggest that the Federal Reserve will need to be especially alert to inflation risks. Should productivity fail to continue to accelerate and demand growth persist or strengthen, the economy could overheat. That would engender inflationary pressures and put the sustainability of this unprecedented period of remarkable growth in jeopardy. One indication that inflation risks were rising would be a tendency for labor markets to tighten further. But the FOMC also needs to continue to assess whether the existing degree of pressure in these

markets is consistent with sustaining our low-inflation environment. If new data suggest it is likely that the pace of cost and price increases will be picking up, the Federal Reserve will have to act promptly and forcefully so as to preclude imbalances from arising that would only require a more disruptive adjustment later--one that could impair the expansion and bring into question whether the many gains already made can be sustained.

Recent Developments

A number of important forces have been shaping recent developments in the U.S. economy. One has been a recovery of financial markets from the disruptions of last fall. By the end of 1998, the extreme withdrawal from risk-taking and consequent seizing-up of markets had largely dissipated. This year, risk spreads have narrowed further--though generally not to the unrealistically low levels of a year ago--and a heavy volume of issuance in credit markets has signaled a return to their more-normal functioning. Equity prices have risen to new highs and, in the process, have elevated price-earnings ratios to historic levels.

Abroad, many financial markets and economies also have improved. Brazil weathered a depreciation of its currency with limited fallout on its neighbors. In Asia, a number of the emerging market economies seemed to be reviving after the trying adjustments of the previous year or so. Progress has not been universal, and in many economies prospects remain clouded, depending importantly on the persistence of efforts to make fundamental reforms whose necessity had been made so painfully obvious in the crises those economies endured. Nonetheless, the risks of further major disruptions to financial and trade flows that had concerned the FOMC when it eased policy last fall have clearly diminished. Improving global prospects also mean that the U.S. economy will no longer be experiencing declines in basic commodity and import prices that held down inflation in recent years.

In the domestic economy, data becoming available this year have tended to confirm that productivity growth has stepped up. It is this acceleration of productivity over recent years that has explained much of the surprising combination of a slowing in inflation and sustained rapid real growth. Increased labor productivity has directly limited the rise of unit labor costs and accordingly damped pressures on prices. This good inflation performance, reinforced also by falling import prices, in turn has fostered further declines in inflation expectations over recent years that bode well for pressures on costs and prices going forward.

In testimony before this committee several years ago, I raised the possibility that we were entering a period of technological innovation that occurs perhaps once every fifty or one-hundred years. The evidence then was only marginal and inconclusive. Of course, tremendous advances in computing and telecommunications were apparent, but their translations into improved overall economic efficiency and rising national productivity were conjectural at best. While the growth of output per hour had shown some signs of quickening, the normal variations exhibited by such data in the past were quite large. More intriguing was the remarkable surge in capital investment after 1993, especially in high-tech goods, a full two years after a general recovery was under way. This suggested a marked increase in the perceived prospective rates of return on the newer technologies.

That American productivity growth has picked up over the past five years or so has become increasingly evident. Nonfarm business productivity (on a methodologically consistent basis) grew at an average rate of a bit over 1 percent per year in the 1980s. In recent years, productivity growth has picked up to more than 2 percent, with the past year averaging

about 2-1/2 percent.

To gauge the potential for similar, if not larger, gains in productivity going forward, we need to attempt to arrive at some understanding of what has occurred to date. A good deal of the acceleration in output per hour has reflected the sizable increase in the stock of labor-saving equipment. But that is not the whole story. Output has grown beyond what normally would have been expected from increased inputs of labor and capital alone. Business restructuring and the synergies of the new technologies have enhanced productive efficiencies. American industry quite generally has shared an improved level of efficiency and cost containment through high-tech capital investment, not solely newer industries at the cutting edge of innovation. Our century-old motor vehicle industry, for example, has raised output per hour by a dramatic 4-1/2 percent annually on average in the past two years, compared with a lackluster 1-1/4 percent on average earlier this decade. Much the same is true of many other mature industries, such as steel, textiles, and other stalwarts of an earlier age. This has confirmed the earlier indications of an underlying improvement in rates of return on the newer technologies and their profitable synergies with the existing capital stock.

These developments have created a broad range of potential innovations that have granted firms greater ability to profitably displace costly factors of production whenever profit margins have been threatened. Moreover, the accelerating use of newer technologies has markedly enhanced the flexibility of our productive facilities. It has dramatically reduced the lead times on the acquisition of new equipment and enabled firms to adjust quickly to changing market demands. This has indirectly increased productive capacity and effectively, at least for now, eliminated production bottlenecks and the shortages and price pressures they inevitably breed.

This greater ability to pare costs, increase production flexibility, and expand capacity are arguably the major reasons why inflationary pressures have been held in check in recent years. Others have included the one-time fall in the prices of oil, other commodities, and imports more generally. In addition, a breaking down of barriers to cross-border trade, owing both to the new technologies and to the reduction of government restrictions on trade, has intensified the pressures of competition, helping to contain prices. Coupled with the decline in military spending worldwide, this has freed up resources for more productive endeavors, especially in a number of previously nonmarket economies.

More generally, the consequent erosion of pricing power has imparted an important imperative to hold down costs. The availability of new technology to each company and its rivals affords both the opportunity and the competitive necessity of taking steps to reduce costs, which translates on a consolidated basis into increased national productivity.

The acceleration in productivity owes importantly to new information technologies. Prior to this IT revolution, most of twentieth-century business decisionmaking had been hampered by limited information. Owing to the paucity of timely knowledge of customers' needs, the location of inventories, and the status of material flows throughout complex production systems, businesses built in substantial redundancies.

Doubling up on materials and staffing was essential as a cushion against the inevitable misjudgments made in real time when decisions were based on information that was hours, days, or even weeks old. While businesspeople must still operate in an uncertain world, the

recent years' remarkable surge in the availability of real-time information has enabled them to remove large swaths of inventory safety stocks, redundant capital equipment, and layers of workers, while arming them with detailed data to fine-tune specifications to most individual customer needs.

Despite the remarkable progress witnessed to date, history counsels us to be quite modest about our ability to project the future path and pace of technology and its implications for productivity and economic growth. We must remember that the pickup in productivity is relatively recent, and a key question is whether that growth will persist at a high rate, drop back toward the slower standard of much of the last twenty-five years, or climb even more. By the last I do not just mean that productivity will continue to grow, but that it will grow at an increasingly faster pace through a continuation of the process that has so successfully contained inflation and supported economic growth in recent years.

The business and financial community does not as yet appear to sense a pending flattening in this process of increasing productivity *growth*. This is certainly the widespread impression imparted by corporate executives. And it is further evidenced by the earnings forecasts of more than a thousand securities analysts who regularly follow S&P 500 companies on a firm-by-firm basis, which presumably embody what corporate executives are telling them. While the level of these estimates is no doubt upwardly biased, unless these biases have significantly changed over time, the revisions of these estimates should be suggestive of changes in underlying economic forces. Except for a short hiatus in the latter part of 1998, analysts' expectations of five-year earnings growth have been revised up continually since early 1995. If anything, the pace of those upward revisions has quickened of late. True, some of that may reflect a pickup in expected earnings of foreign affiliates, especially in Europe, Japan, and the rest of Asia. But most of this year's increase almost surely owes to domestic influences.

There are only a limited number of ways that the expected long-term growth of domestic profits can increase, and some we can reasonably rule out. There is little evidence that company executives or security analysts have significantly changed their views in recent months of the longer-term outlook for continued price containment, the share of profits relative to wages, or anticipated growth of hours worked. Rather, analysts and the company executives they talk to appear to be expecting that unit costs will be held in check, or even lowered, as sales expand. Hence, implicit in upward revisions of their forecasts, when consolidated, is higher expected national productivity growth.

Independent data on costs and prices in recent years tend to confirm what aggregate data on output and hours worked indicate: that productivity growth has risen. With price inflation stable and domestic operating profit margins rising, the rate of increase in total consolidated unit costs must have been falling.

Even taking into account the evidence of declining unit interest costs of nonfinancial corporations, unit labor cost increases (which constitute three quarters of total unit costs) must also be slowing. Because until very recently growth of compensation per hour has been rising, albeit modestly, it follows that productivity *growth* must have been rising these past five years, as well. Accelerating productivity is thus evident in underlying consolidated income statements of nonfinancial corporations, as well as in our more direct, though doubtless partly flawed, measures of output and input.

That said, we must also understand the limits to this process of productivity-driven growth. To be sure, the recent acceleration in productivity has provided an offset to our taut labor markets by holding unit costs in check and by adding to the competitive pressures that have contained prices. But once output-per-hour growth stabilizes, even if at a higher rate, any pickup in the growth of nominal compensation per hour will translate directly into a more-rapid rate of increase in unit labor costs, heightening the pressure on firms to raise the prices of the goods and services they sell. Thus, should the increments of gains in technology that have fostered productivity slow, any extant pressures in the labor market should ultimately show through to product prices.

Meanwhile, though, the impressive productivity growth of recent years also has had important implications for the growth of aggregate demand. If productivity is driving up real incomes and profits--and, hence, gross domestic *income*--then gross domestic product must mirror this rise with some combination of higher sales of motor vehicles, other consumer goods, new homes, capital equipment, and net exports. By themselves, surges in economic growth are not necessarily unsustainable--provided they do not exceed the sum of the rate of growth in the labor force and productivity for a protracted period. However, when productivity is accelerating, it is very difficult to gauge when an economy is in the process of overheating.

In such circumstances, assessing conditions in the labor market can be helpful in forming those judgments. Employment growth has exceeded the growth in working-age population this past year by almost 1/2 percentage point. While somewhat less than the spread between these growth rates over much of the past few years, this excess is still large enough to continue the further tightening of labor markets. It implies that real GDP is growing faster than its potential. To an important extent, this excess of the growth of demand over supply owes to the wealth effect as consumers increasingly perceive their capital gains in the stock and housing markets as permanent and, evidently as a consequence, spend part of them, an issue to which I shall return shortly.

There can be little doubt that, if the pool of job seekers shrinks sufficiently, upward pressures on wage costs are inevitable, short--as I have put it previously--of a repeal of the law of supply and demand. Such cost increases have invariably presaged rising inflation in the past, and presumably would in the future, which would threaten the economic expansion.

By themselves, neither rising wages nor swelling employment rolls pose a risk to sustained economic growth. Indeed, the Federal Reserve welcomes such developments and has attempted to gauge its policy in recent years to allow the economy to realize its full, enhanced potential. In doing so, we must remain concerned with evolving shorter-run imbalances that can constrain long-run economic expansion and job growth.

With productivity growth boosting both aggregate demand and aggregate supply, the implications for the real market interest rates that are consistent with sustainable economic growth are not obvious. In fact, current real rates, although somewhat high by historical standards, have been consistent with continuing rapid growth in an environment where, as a consequence of greater productivity growth, capital gains and high returns on investment give both households and businesses enhanced incentives to spend.

Other Considerations

Even if labor supply and demand were in balance, however, other aspects of the economic environment may exhibit imbalances that could have important implications for future developments. For example, in recent years, as a number of analysts have pointed out, a significant shortfall has emerged in the private saving with which to finance domestic investment in plant and equipment and houses.

One offset to the decline in household saving out of income has been a major shift of the federal budget to surplus. Of course, an important part of that budgetary improvement, in turn, owes to augmented revenues from capital gains and other taxes that have flowed from the rising market value of assets. Still, the budget surpluses have helped to hold down interest rates and facilitate private spending.

The remaining gap between private saving and domestic investment has been filled by a sizable increase in saving invested from abroad, largely a consequence of the technologically driven marked increase in rates of return on U.S. investments. Moreover, in recent years, with many foreign economies faltering, U.S. investments have looked particularly attractive. As U.S. international indebtedness mounts, however, and foreign economies revive, capital inflows from abroad that enable domestic investment to exceed domestic saving may be difficult to sustain. Any resulting decline in demand for dollar assets could well be associated with higher market interest rates, unless domestic saving rebounds.

Near-Term Outlook

Going forward, the Members of the Federal Reserve Board and presidents of the Federal Reserve Banks believe there are mechanisms in place that should help to slow the growth of spending to a pace more consistent with that of potential output growth. Consumption growth should slow some, if, as seems most likely, outsized gains in share values are not repeated. In that event, businesses may trim their capital spending plans, a tendency that would be reinforced by the higher level of market interest rates that borrowers now face. But with large unexploited long-term profit opportunities stemming from still-burgeoning innovations and falling prices of many capital goods, the typical cyclical retrenchment could be muted.

Working to offset somewhat this anticipated slowing of the growth of domestic demand, our export markets can be expected to be more buoyant because of the revival in growth in many of our important trading partners.

After considering the various forces at work in the near term, most of the Federal Reserve governors and Bank presidents expect the growth rate of real GDP to be between 3-1/2 and 3-3/4 percent over the four quarters of 1999 and 2-1/2 to 3 percent in 2000. The unemployment rate is expected to remain in the range of the past eighteen months.

Inflation, as measured by the four-quarter percent change in the consumer price index, is expected to be 2-1/4 to 2-1/2 percent over the four quarters of this year. CPI increases thus far in 1999 have been greater than the average in 1998, but the governors and bank presidents do not anticipate a further pickup in inflation going forward. An abatement of the recent run-up in energy prices would contribute to such a pattern, but policymakers' forecasts also reflect their determination to hold the line on inflation, through policy actions if necessary. The central tendency of their CPI inflation forecasts for 2000 is 2 to 2-1/2 percent.

Preemptive Policymaking

In its deliberations this year, the FOMC has had to wrestle with the issue of what policy setting has the capacity to sustain this remarkable expansion, now in its ninth year. For monetary policy to foster maximum sustainable economic growth, it is useful to preempt forces of imbalance before they threaten economic stability. But this may not always be possible--the future at times can be too opaque to penetrate. When we can be preemptive, we should be, because modest preemptive actions can obviate more drastic actions at a later date that could destabilize the economy.

I should emphasize that preemptive policymaking is equally applicable in both directions, as has been evident over the years both in our inclination to raise interest rates when the potential for inflationary pressures emerged, as in the spring of 1994, or to lower rates when the more palpable risk was economic weakness, as in the fall of last year. This even-handedness is necessary because emerging adverse trends may fall on either side of our long-run objective of price stability. Stable prices allow households and firms to concentrate their efforts on what they do best: consuming, producing, saving, and investing. A rapidly rising or a falling general price level would confound market signals and place strains on the system that ultimately may throttle economic expansion.

In the face of uncertainty, the Federal Reserve at times has been willing to move policy based on an assessment that risks to the outlook were disproportionately skewed in one direction or the other, rather than on a firm conviction that, absent action, the economy would develop imbalances. For instance, both the modest policy tightening of the spring of 1997 and some portion of the easing of last fall could be viewed as insurance against potential adverse economic outcomes.

As I have already indicated, by its June meeting the FOMC was of the view that the full extent of this insurance was no longer needed. It also did not believe that its recent modest tightening would put the risks of inflation going forward completely into balance. However, given the many uncertainties surrounding developments on both the supply and demand side of the economy, the FOMC did not want to foster the impression that it was committed in short order to tighten further. Rather, it judged that it would need to evaluate the incoming data for more signs that further imbalances were likely to develop.

Preemptive policymaking requires that the Federal Reserve continually monitor economic conditions, update forecasts, and appraise the setting of its policy instrument. Equity prices figure importantly in that forecasting process because they influence aggregate demand. As I testified last month, the central bank cannot effectively directly target stock or other asset prices. Should an asset bubble arise, or even if one is already in train, monetary policy properly calibrated can doubtless mitigate at least part of the impact on the economy. And, obviously, if we could find a way to prevent or deflate emerging bubbles, we would be better off. But identifying a bubble in the process of inflating may be among the most formidable challenges confronting a central bank, pitting its own assessment of fundamentals against the combined judgment of millions of investors.

By itself, the interpretation that we are currently enjoying productivity acceleration does not ensure that equity prices are not overextended. There can be little doubt that if the nation's productivity growth has stepped up, the level of profits and their future potential would be elevated. That prospect has supported higher stock prices. The danger is that in these circumstances, an unwarranted, perhaps euphoric, extension of recent developments can

drive equity prices to levels that are unsupportable even if risks in the future become relatively small. Such straying above fundamentals could create problems for our economy when the inevitable adjustment occurs. It is the job of economic policymakers to mitigate the fallout when it occurs and, hopefully, ease the transition to the next expansion.

Century Date Change Preparations

I would be remiss in this overview of near-term economic developments if I did not relay the ongoing efforts of the Federal Reserve, other financial regulators, and the private sector to come to grips with the rollover of their computer systems at the start of the upcoming century. While I have been in this business too long to promise that 2000 will open on an entirely trouble-free note, the efforts to address potential problems in the banking and financial system have been exhaustive. For our part, the Federal Reserve System has now completed remediation and testing of all its mission-critical applications, including testing its securities and funds-transfer systems with our thousands of financial institution customers.

As we have said previously, while we do not believe consumers need to hold excess cash because we expect the full array of payment options to work, we have taken precautions to ensure that ample currency is available. Further, the Federal Reserve established a special liquidity facility at which sound depository institutions with good collateral can readily borrow at a slight penalty rate in the months surrounding the rollover. The availability of this back-stop funding should make depository institutions more willing to provide loans and lines of credit to other financial institutions and businesses and to meet any deposit withdrawals as this century closes.

The banking industry is also working hard, and with evident success, to prepare for the event. By the end of May, 98 percent of the nation's depository institutions examined by Federal Financial Institutions Examination Council agencies were making satisfactory progress on their Year 2000 preparations. The agencies are now in the process of examining supervised institutions for compliance with the June 30 milestone date for completing testing and implementation of remediated mission-critical systems. Supervisors also expect institutions to prepare business resumption contingency plans and to maintain open lines of communication with customers and counterparties about their own readiness. The few remaining laggards among financial institutions in Year 2000 preparedness have been targeted for additional follow-up and, as necessary, will be subject to formal enforcement actions.

Conclusion

As a result of our nation's ongoing favorable economic performance, not only has the broad majority of our people moved to a higher standard of living, but a strong economy also has managed to bring into the productive workforce many who had for too long been at its periphery. The unemployment rate for those with less than a high-school education has declined from 10-3/4 percent in early 1994 to 6-3/4 percent today, twice the percentage point decline in the overall unemployment rate. These gains have enabled large segments of our society to obtain skills on the job and the self-esteem associated with work.

The questions before us today are what macroeconomic policy settings can best extend this favorable performance. No doubt, a monetary policy focused on promoting price stability over the long run and a fiscal policy focused on enhancing national saving by accumulating budget surpluses have been key elements in creating an environment fostering the capital

investment that has driven the gains to productivity and living standards. I am confident that by maintaining this discipline, policymakers in the Congress, in the executive branch, and at the Federal Reserve will give our vital U.S. economy its best chance of continuing its remarkable progress.

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