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FEDERAL RESERVE'S SECOND MONETARY POLICY REPORT FOR 2001

HEARING

BEFORE THE

COMMITTEE ON BANKING, HOUSING, AND URBAN AFFAIRS UNITED STATES SENATE

ONE HUNDRED SEVENTH CONGRESS

FIRST SESSION

ON

OVERSIGHT ON THE MONETARY POLICY REPORT TO CONGRESS PURSUANT TO THE FULL EMPLOYMENT AND BALANCED GROWTH ACT OF 1978

JULY 24, 2001

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FEDERAL RESERVE'S SECOND MONETARY POLICY REPORT FOR 2001

TUESDAY, JULY 24, 2001

U.S. SENATE,
COMMITTEE ON BANKING, HOUSING, AND URBAN AFFAIRS,
Washington, DC.

The Committee met at 10:05 a.m., in room SH–216 of the Hart Senate Office Building, Senator Paul S. Sarbanes (Chairman of the Committee) presiding.

OPENING STATEMENT OF SENATOR PAUL S. SARBANES

Chairman SARBANES. The Committee will come to order. I am very pleased this morning to welcome Chairman Greenspan before the Committee on Banking, Housing and Urban Affairs, to testify on the Federal Reserve's SemiAnnual Monetary Policy Report to the Congress.

I do want to note for the Members that once we have a quorum, I intend to interrupt our proceedings in order to lay before the Committee the nomination of Harvey Pitt, to be a Member of the Securities and Exchange Commission.

We held that hearing, as Members will recall, last Thursday, and we want to move the nomination forward. As soon as we have a full quorum, we will turn to that, presumably, very briefly. I think it will go very quickly.

The oversight hearings traditionally held by the House and Senate banking committees on the Federal Reserve's monetary policy report were given a statutory basis in legislation last year, which Senator Gramm and I and other Members of the Committee developed, in consultation, I might note, with the Federal Reserve.

These hearings have come to play, in my view, an important role in informing the Congress, the financial community, and the general public about the conduct of monetary policy by the Fed. And I want to thank Senator Gramm for his very constructive contribution in crafting last year's legislation, and I am pleased the Committee is holding this hearing pursuant to the authorities that were provided in that legislation.

We now confront a troubling outlook for the U.S. economy. While excess inventories have been reduced, we still seem to face continuing downward pressures, both from weakening domestic investment activity and weakening export markets.

In the last year, U.S. economic growth has been sluggish, too slow to keep the unemployment rate from rising. On Friday of this week, the Commerce Department will release the report on eco-

nomic growth in the second quarter and it is expected to show the fourth consecutive quarter of slow growth.

Private-sector job count has fallen by 350,000 in the last 3 months. Initial claims for unemployment insurance stand at the highest level since the last period of rising unemployment during and after the last recession.

The Fed's index of manufacturing output has dropped 5 percent, 5.0 percent, in the last 9 months, which is almost the 5.3 percent drop that was experienced in the last recession. The unemployment rate has already risen by 6 tenths of a percentage point to 4½ percent. It would have risen to 5½ percent, had there not been such a large exodus from the labor market over the last year.

On the positive side, inflation at both the consumer and producer levels appears to be under control. Core inflation of personal consumption expenditures, which is a different measure than the CPI, was only 1.7 percent in the last year. The core producer price index is up only 1.6 percent. In both cases, these levels are little different from the average rate of core inflation for the entire expansion.

Wage pressures also appear to be contained.

Consumer spending, which has been the principal source of growth, has held up, despite the weakness of the economy and the decline in the stock market. But whether that will be sustained remains to be seen.

It is also hoped that the business inventories that have been shrinking all year will soon get down to the desired level and begin to add growth to the economy rather than subtract from it.

To its credit, the Federal Reserve has lowered interest rates repeatedly over the past 6 months. I would point out, however, that the real Federal funds rate—in other words, when measured relative to the core rate of inflation—is still above, well above the levels to which the Federal Reserve lowered the real Federal funds rates in the last economic downturn and the ensuing recovery.

And that is a matter that I hope to pursue with the Chairman in the question period.

There are obviously a great many questions about the outlook for the United States and the world economy which the Committee will want to raise with Chairman Greenspan this morning and I, like my colleagues, look forward to hearing his statement and his responses to our questions.

Senator Gramm.

Senator GRAMM. Mr. Chairman, I understand a quorum is now present. Do you want to go ahead and do the vote before I speak?

Chairman SARBANES. Yes, why don't we go ahead and do that.

A quorum is now present. I ask unanimous consent that we consider the nomination of Harvey L. Pitt to be a Member of the Securities and Exchange Commission, for the remainder of the term of Paul Carey, a term which expires June 5, 2002, and for a subsequent term expiring June 5, 2007.

The Clerk will call the roll.

The CLERK. Chairman Sarbanes.

Chairman SARBANES. Aye.

The CLERK. Mr. Dodd.

Senator DODD. Aye.

The CLERK. Mr. Johnson.

Senator SARBANES. Aye, by proxy.
The CLERK. Mr. Reed.
Senator REED. Aye.
The CLERK. Mr. Schumer.
Senator SCHUMER. Aye.
The CLERK. Mr. Bayh.
Senator BAYH. Aye.
The CLERK. Mr. Miller.
Senator MILLER. Aye.
The CLERK. Mr. Carper.
Senator CARPER. Aye.
The CLERK. Ms. Stabenow.
Senator STABENOW. Aye.
The CLERK. Mr. Corzine.
Senator CORZINE. Aye.
The CLERK. Mr. Akaka.
Senator SARBANES. Aye, by proxy.
The CLERK. Mr. Gramm.
Senator GRAMM. Aye.
The CLERK. Mr. Shelby.
Senator GRAMM. Aye, by proxy.
The CLERK. Mr. Bennett.
Senator BENNETT. Aye.
The CLERK. Mr. Allard.
Senator ALLARD. Aye.
The CLERK. Mr. Enzi.
Senator ENZI. Aye.
The CLERK. Mr. Hagel.
Senator GRAMM. Aye, by proxy.
The CLERK. Mr. Santorum.
Senator GRAMM. Aye, by proxy.
The CLERK. Mr. Bunning.
Senator BUNNING. Aye.
The CLERK. Mr. Crapo.
Senator GRAMM. Aye, by proxy.
The CLERK. Mr. Ensign.
Senator GRAMM. Aye, by proxy.

The CLERK. The ayes are 21, the noes are zero, Mr. Chairman.

Chairman SARBANES. Very good. The Committee will report the nomination of Harvey Pitt to the Senate. We will leave the record open so that those Members who are not present and had not left a proxy have an opportunity to vote.

Senator Gramm.

OPENING STATEMENT OF SENATOR PHIL GRAMM

Senator GRAMM. Well, Mr. Chairman, first I want to thank you for the prompt attention you have given to the President's nominees. I think it is very important that we confirm people for these financial positions, especially positions like Chairman of the SEC.

Your leadership has been very constructive toward achieving that goal, and I want to thank you again for this quick action.

Chairman Greenspan, I want to welcome you back before the Committee.

I think it is clear, in looking at our economic circumstances, that we are in a slowdown, and at this point, everyone is trying to determine exactly what is happening in the economy.

It is obvious to me this is not a traditional post-World War II slowdown or recession. It is further obvious to me that when, several years back, you were talking about irrational exuberance, you were right.

I have tried, in the limited amount of time that I have had to think about this problem, to look at what was happening in terms of the economy, the acceleration of economic growth, and the reaction of the capital market.

Perhaps now we can say with more certainty than we could then, that there was an over-reaction.

Clearly, just as the explosion in equity values had a positive impact on investment, as people sought to get in front of this technological explosion, the readjustment, the restructuring, the bursting of this speculative bubble has had the opposite effect in terms of investment.

I wonder if we are not in some new situation that is very parallel to old business cycles.

If I had time, I would go back and read some of the stuff that we read as graduate students on business cycles that were primarily produced by over-reactions to spurts in technological growth and the speculative bubbles that result from it.

It is also clear now that we made the right decision in passing the tax cut. If we had known then what we know now, we might have been more expansive.

Obviously, now we are caught up in some political gamesmanship of debating whether we should have done the tax cuts and were they too big or too small?

I think there is, to some extent, a potential debate as to whether the economy, if this slowdown continues, can carry the big surplus that we are running.

I hope it can. I like paying off debt. I would like to begin to take the Social Security surplus and see it invested.

But I think that is a decision we are going to have to make as we get further along.

I know everyone is interested in hearing you, Mr. Chairman. I am grateful, at this moment, when there is some uncertainty, that we have someone as knowledgeable and thoughtful as you.

I conclude, Mr. Chairman, by saying that, despite the decline in equity values, I still cannot imagine a safer investment than the long-term future of the American economy, unless it is investing in Texas.

[Laughter.]

As I tell people, when they come visit my State, if a long-term investment in Texas is not a good investment, there is not a good investment on the planet. And, to a very slightly lesser extent, you can say that about the American economy.

So uncertainties are out there. But when you look at the long-term future, an investment in America and an investment in American equity is still the best long-term investment you can make. And in the end, if that is not a good investment, then there is no good investment.

And so, Mr. Chairman, thank you for your great work. This Committee is certainly proud of its friendship and association with you.

Chairman SARBANES. I think I should note for the record that we think Maryland is equally a good investment.

[Laughter.]

And I am sure that each Member of the Committee feels the same way about his own State, and we will register that for the record so that each Member doesn't have to do it.

[Laughter.]

Senator GRAMM. Whether that is irrational exuberance or not, I don't know.

[Laughter.]

Chairman SARBANES. Senator Dodd.

OPENING STATEMENT OF SENATOR CHRISTOPHER J. DODD

Senator DODD. Texas has never been accused of irrational exuberance.

[Laughter.]

Thank you, Mr. Chairman, for allowing that unanimous consent request to be made so that we can all be part of the record.

Let me welcome you as well, Mr. Chairman. It is a pleasure to have you back before the Committee. We have had you here in better times, obviously, as the economic indicators show. But as Senator Gramm has just said, I cannot think of anyone better I would rather have at the helm than you at a time like this, and as we try to sort all of this out.

Many of us here, of course, unlike my good friend from Texas, have a different point of view with regard to the tax cut. I know you share a similar view with that of Senator Gramm. But there are many of us who are worried about the size of that tax cut—not a tax cut, per se—and whether or not it is going to crowd out our ability to do other things which also contribute to economic growth.

I offered an amendment to the tax bill that would have reduced that tax cut but it would have made a smaller tax cut, and invest dollars in the infrastructure of the country.

I realize at the time, procedurally, that is hard to do in a tax bill, to target dollars specifically to one area of the budget.

But the point I wanted to make was that I don't know of any period in the history of our Nation where we have ever had sustained economic growth where the physical infrastructure of America was deteriorating. And certainly, no one had to go any further than to read the accounts of what happened to my good friend and the Chairman's beloved City of Baltimore in the last week or so, the tragedy in that city.

That is a problem that could have occurred in almost any city in this country. So I will come back to the questions on this, but I was concerned about whether or not we are going to be able to have the room within our budget to do this.

I am anxious to still pursue that with you a bit, the strength of the dollar, the weakness of growth in foreign markets, making it more difficult for us to export goods and to what extent you see that continuing on the horizon as a serious problem for us.

I will get to those in due time. But, again, I do want to thank you immensely. You have been a great pilot over the last decade or more on these matters and I am confident that you will give us some good advice as well, as we try and get this righted again so that our economy can enjoy the kind of prosperity we did during the 1990's.

And I look forward to your testimony. Thank you.

Chairman SARBANES. Senator Bennett.

OPENING STATMENT OF SENATOR ROBERT F. BENNETT

Senator BENNETT. Thank you, Mr. Chairman.

Chairman Greenspan, welcome again with all of my colleagues. I look forward to the questioning period. I simply want to take the opening statement as an opportunity to thank you for your doggedness in seeing to it that the rate reductions have been as large as they have been.

A reading of the minutes indicates that there are some of your colleagues in the Federal Reserve System who would have gladly opted for 25 basis points when 50 was clearly what was needed. And if it had not been for your leadership, 25 is probably what we would have gotten.

In several of those circumstances, I think the rate would be higher than the 3.75 that it is now, maybe as high as 4.75. And I think that would make things substantially worse if we had had that result. So, as I read the tea leaves, it has been your personal persistence and spine that has gotten it down to 3.75. I would be happy if it were 3.0.

I will leave that to you because your past performance has been stellar in that area and I think it needs to be pointed out the Federal Reserve System is not unanimous. There are disagreements within it. And it has been a time when somebody has had to step up. And you have done it and I want you to know that it does not go unnoticed or unappreciated.

With that, Mr. Chairman, I will pass and look forward to the testimony from our witness.

Chairman SARBANES. Thank you very much, Senator Bennett.

Senator Reed.

OPENING STATEMENT OF SENATOR JACK REED

Senator REED. Thank you very much, Mr. Chairman, and welcome, Chairman Greenspan.

As my colleagues have said, in these challenging times, we are all grateful that your experience is there, working as Chairman of the Federal Reserve Board.

We have some interesting developments, troubling in some respects. There is a rise in consumer debt. It seems to be rising inexorably. A decline in national and personal savings that we have to deal with. A gap in our current account deficit that is persistent. And then worldwide, economies seem to be softening and not responding to individual national stimulus attempts.

Nevertheless, with your stewardship, and your colleagues', inflation remains in check and unemployment remains relatively low, although it is beginning to edge up. Consumers continue to spend and sustain the economy.

In many respects, we are at a crossroads. This morning, we hope that you can give us some clarification of the best route to proceed forward at this critical juncture.

I thank you for your service and look forward to your testimony. Thank you.

Chairman SARBANES. Senator Allard.

OPENING STATEMENT OF SENATOR WAYNE ALLARD

Senator ALLARD. Thank you, Mr. Chairman. I want to thank you for holding this hearing. And I would like to join my colleagues in welcoming the Chairman. I am anxious to hear what he has to say today and look forward to hearing what he has to say, particularly about monetary policy and other economic issues.

As we are all aware, as was mentioned by some of my previous colleagues here, America is facing increasing economic uncertainty. And therefore, I think it is critical that Congress address the issues of long-term solvency for Social Security and Medicare and put the government on a plan to continue to pay down the national debt and also continue to cut taxes.

Thank you, Mr. Chairman.

Chairman SARBANES. Senator Bayh.

OPENING STATEMENT OF SENATOR EVAN BAYH

Senator BAYH. Mr. Chairman, thank you for attending today. I am looking forward to hearing your comments and will give my own in response to your testimony.

Chairman SARBANES. Senator Enzi.

OPENING STATMENT OF SENATOR MICHAEL B. ENZI

Senator ENZI. Thank you, Mr. Chairman. I welcome Chairman Greenspan and look forward to hearing his testimony.

Chairman SARBANES. It will be included in the record.

Senator Miller.

OPENING STATEMENT OF SENATOR ZELL MILLER

Senator MILLER. It is good to have you with us Chairman Greenspan I have no remarks at this time.

Chairman SARBANES. Senator Bunning.

OPENING STATMENT OF SENATOR JIM BUNNING

Senator BUNNING. Mr. Chairman, I would like to thank you for holding this hearing and I would like to thank the Chairman of the Federal Reserve for testifying.

Last year at this time, we were concerned that the Fed was thinking about raising rates. The Fed very wisely did not. Things were going pretty well last July. I know that you were very concerned about the bubble in the equity markets, especially in the Nasdaq. But the economy was still growing at a very strong pace.

Well, obviously, much has changed in the last year. The growth rate of the economy has slowed tremendously, almost stopped. Unemployment is up and trillions of dollars have evaporated from the economy because of the losses in the equity markets.

As you know, I have been very critical of the Fed's reluctance to act last fall. I believe the Fed waited too long. I don't think we

would be having the problems we are now having if the Fed had acted sooner.

I know the Fed has a different opinion on that and I am sure we will continue to disagree. The Fed has acted. It did not act as quickly as I thought necessary and I think that the last Fed Fund rate cut should have been cut substantially, 50 basis points rather than 25.

We must get our country back on track. The Fed has cut rates and hopefully, the President's fiscal policy, along with the Fed's monetary policy moves, will fix the economy that is ailing very badly.

Mr. Chairman, I once again thank you for coming before our Committee and I look forward to the opportunity to talk with you during the question and answer period.

Thank you, Mr. Chairman.

Chairman SARBANES. Thank you, Senator Bunning.

Senator Carper.

OPENING STATEMENT OF SENATOR THOMAS R. CARPER

Senator CARPER. Mr. Chairman, welcome. Far be it for me to carp about your performance and that of the Federal Reserve.

I think you are right on target with respect to your management of our monetary policy. And I am not going to Monday morning quarterback what you do.

Thank you for being aggressive. Thank you for continuing to apply your stewardship to the economic needs and direction of our country and I look forward to your comments.

Welcome.

Chairman SARBANES. Senator Stabenow.

OPENING STATEMENT OF SENATOR DEBBIE STABENOW

Senator STABENOW. Thank you, Mr. Chairman. And Chairman Greenspan as well. I welcome you today.

This is a time of nervousness and uncertainty and we welcome your thoughts. I know there will be a lot of debate and discussion this morning about the issue of tax cuts and fiscal policy.

Let me just indicate that as we are now seeing checks in the mail, as they say, most of us on our side of the aisle wish those in the short term had been larger. We actually had proposed something in the range of $1,000, as opposed to $300, but with more caution in the long run, rather than locking in 10 years of decisions at some point, doing something more substantial to help American families and move the economy now, but with more caution in the long run.

As to that caution, I hope that you will this morning speak as you did in January, when you told the Senate Budget Committee, of which I am a Member, that Congress should consider some type of trigger along with our tax and spending decisions to make sure that we don't return to deficits sometime in the next 10 years, which I am gravely concerned about.

A prominent Member of this Committee, Senator Bayh, and Senator Snowe and myself took your suggestion to heart and made a proposal before the Senate. We achieved 49 votes, not enough to pass it, but certainly a substantial vote for the kind of trigger that

would indicate that if tax cuts or spending put us back into deficits and dipped into Social Security and Medicare, that they would be suspended until there were revenues available to proceed with the tax cut.

So I would certainly hope that you would respect and speak about that, given the recent sluggishness in the economy and weak economic projections.

Many of us are gravely concerned about what is going to happen long term as it relates to our debt and, unfortunately, gravely concerned about putting us farther into debt in the long run and what happens to us starting in 2011 with the baby boomers, many of us in this room, who are beginning to retire at that point and the strains on Social Security and Medicare.

So we welcome you again and look forward to your comments and testimony. And I am hopeful that, as you did at the beginning of the year, give us wise counsel about how we can proceed in a way that does not dip into Social Security and Medicare or put us back into large deficits, which many of us worked very, very hard to eliminate.

Thank you, Mr. Chairman.

Chairman SARBANES. Senator Corzine.

OPENING STATEMENT OF SENATOR JON S. CORZINE

Senator CORZINE. Welcome, Mr. Chairman.

I am grateful for your insights and respected judgment. I think it is particularly important in a period of acute uncertainty that I think we now face, to have the kind of balance that you bring to the judgments in monetary policy and fiscal recommendations.

I hope that we will be able to draw out some of your perspectives on an issue that is very much in the public debate that we are now only beginning to talk and that is the restructuring of Social Security, having many of the same kinds of implications that we faced as we put in place what I think is a poorly framed 10-year fiscal policy which leaves us very few options.

And so, I hope that we can wean some of those insights that you might bring to that process into the discussion today.

I look forward to hearing your comments.

Chairman SARBANES. Thank you very much.

I just want to note for the benefit of Members and actually to the people attending, with respect to the Harvey Pitt nomination, we confirm him to become a member of the Securities and Exchange Commission.

The President has the authority under the statute to choose a chairman from amongst those composing the commission. And President Bush has indicated his intention to name Harvey Pitt as the Chairman. But the Congress does not actually deal with—unlike the Federal Reserve Board, where actually, we deal with the chairmanship of the Federal Reserve Board and it comes to us for confirmation.

And that is why the approval we gave was for membership on the SEC and not as chairman of the SEC.

Chairman Greenspan, we are happy to turn to you and we look forward to hearing from you.

STATEMENT OF ALAN GREENSPAN, CHAIRMAN, FEDERAL RESERVE SYSTEM

Chairman GREENSPAN. Thank you, Mr. Chairman, and Members of the Committee. I appreciate the opportunity this morning to present the Federal Reserve's semi-annual report on monetary policy.

I have excerpted my remarks from a rather long written text and would appreciate the full text be included for the record.

Chairman SARBANES. The full text will be included in the record.

Chairman GREENSPAN. Monetary policy this year has confronted an economy that slowed sharply late last year and has remained weak this year following an extraordinary period of buoyant expansion.

By aggressively easing the stance of monetary policy, the Federal Reserve has moved to support demand and, we trust, help lay the groundwork for the economy to achieve maximum sustainable growth. Our accelerated action reflected the pronounced downshift in economic activity, which was accentuated by the especially prompt and synchronous adjustment of production by businesses utilizing the faster flow of information coming from the adoption of new technologies.

A rapid and sizable easing was made possible by reasonably well-anchored inflation expectations, which helped to keep underlying inflation at a modest rate, and by the prospect that inflation would remain contained as resource utilization eased and energy prices backed down.

In addition to the more accommodative stance of monetary policy, demand should be assisted going forward by the effects of the tax cut, by falling energy costs, by the spur to production once businesses work down their inventories to more comfortable levels and, most important, by the inducement to resume increases in capital spending. That inducement should be provided by the continuation of cost-saving opportunities associated with rapid technological innovation. Such innovation has been the driving force raising the growth of structural productivity over the last half dozen years. To be sure, measured productivity has softened in recent quarters, but by no more than one would anticipate from cyclical influences layered on top of a faster long-term trend.

But the uncertainties surrounding the current economic situation are considerable, and until we see more concrete evidence that the adjustments of inventories and capital spending are well along, the risks would seem to remain mostly tilted toward weakness in the economy. Still, the Federal Open Market Committee opted for a smaller policy move at our last meeting because we recognize that the effects of policy actions are felt with a lag, and with our cumulative 2¾ percentage points of easing this year, we have moved a considerable distance in the direction of monetary stimulus. Certainly, should conditions warrant, we may need to ease further. But we must not lose sight of the prerequisite of longer-run price stability for realizing the economy's full growth potential over time.

Despite the recent economic slowdown, the past decade has been extraordinary for the American economy. The synergies of key technologies markedly elevated prospective rates of return on high-tech investments, led to a surge in business capital spending, and sig-

nificantly increased the growth rate of structural productivity. The capitalization of those higher expected returns lifted equity prices, which in turn contributed to a substantial pickup in household spending on a broad range of goods and services, especially on new homes and durable goods. This increase in spending by both households and businesses exceeded even the enhanced rise in real household incomes and business earnings. The evident attractiveness of investment opportunities in the United States induced substantial inflows of funds from abroad, raising the dollar's exchange rate while financing a growing proportion of domestic spending.

By early 2000, the surge in household and business purchases had increased growth of the stocks of many types of consumer durable goods and business capital equipment to rates that could not be sustained. Overall, capacity in high-tech manufacturing industries, for example, rose nearly 50 percent last year, well in excess of its already rapid rate of increase over the previous 3 years. Hence, a temporary glut in these industries and falling short-term prospective rates of return were inevitable at some point. Moreover, as I testified before this Committee last year, the economy as a whole was growing at an unsustainable pace, drawing further on an already diminished pool of available workers and relying increasingly on savings from abroad. Clearly, some moderation in the pace of spending was necessary and expected if the economy was to progress along a more balanced growth path.

In the event, the adjustment occurred much faster than most businesses anticipated, with the slowdown likely intensified by the rise in the cost of energy that until quite recently had drained businesses and households of purchasing power.

Moreover, weakness emerged among our trading partners in Europe, Asia and Latin America. The interaction of slowdowns in a number of countries simultaneously has magnified the softening each of the individual economies would have experienced on its own.

Some backup in inventories occurred, especially in the United States. Innovations, such as more advanced supply-chain management and flexible manufacturing technologies have enabled firms to adjust production levels more rapidly to changes in sales. But these improvements apparently have not solved the thornier problem of correctly anticipating demand. Although inventory-sales ratios in most industries rose only moderately, extrapolation of the downtrend in inventory-sales ratios over the past decade suggests that considerable imbalances emerged late last year.

As a result, a round of inventory rebalancing was undertaken and the slowdown in the economy that began in the middle of 2000 intensified. The adjustment process started late last year when manufacturers began to cut production to stem the accumulation of unwanted inventories. But inventories did not actually begin falling until early this year as producers decreased output levels considerably further.

At some point, inventory liquidation will come to an end and its termination will spur production and incomes. Of course, the timing and force with which that process of recovery plays out will depend on the behavior of final demand. In that regard, demand for

capital equipment, particularly in the near-term, could pose a continuing problem. Despite evidence that expected long-term rates of return on the newer technologies remain high, growth of investment in equipment and software has turned decidedly negative. Sharp increases in uncertainties about the short-term outlook have significantly foreshortened the timeframe over which business are requiring new capital projects to pay off.

In addition, a deterioration in sales, profitability, and cashflow has exacerbated the weakness in capital spending. Pressures on profit margins have been unrelenting.

Much of the squeeze on profit margins of domestic operations results from a rise in unit labor costs, which has reflected a faster upward movement in hourly compensation, coupled with the cyclical slowdown in the growth of output per hour. In part, fixed costs, nonlabor as well as labor, are being spread over a smaller production base for many industries.

The surge in energy costs has also pressed down on profit margins, especially in the fourth and first quarters. The decline in energy prices since the spring, however, should be contributing positively to margins in the third quarter. Moreover, the rate of increase in compensation is likely to moderate, with inflation expectations contained and labor markets becoming less taut in response to the slower pace of growth in economic activity. In addition, continued rapid gains in structural productivity should help to suppress the rise in unit labor costs over time.

Of course, investment spending ultimately depends on the strength of consumer demand for goods and services. Here, too, longer-run increases in real incomes of consumers, engendered by the rapid advances in structural productivity, should provide support to demand over time. And thus far this year, consumer spending has indeed risen further, presumably assisted in part by the continued rapid growth in the market value of homes, from which a significant amount of equity is being extracted. Moreover, household disposable income is now being bolstered by tax cuts.

But there are also downside risks to consumer spending over the next few quarters. We can expect the decline in stock market wealth that has occurred over the past year to restrain growth of household spending relative to income, just as the previous increase gave an extra spur to household demand. Furthermore, while most survey measures suggest consumer sentiment has stabilized recently, softer job markets can induce a further deterioration in confidence and spending intentions.

While this litany of risks should not be downplayed, it is notable how well the U.S. economy has withstood the many negative forces weighing on it. Economic activity has held up remarkably in the face of a difficult adjustment toward a more sustainable pattern of expansion.

The economic developments of the last couple of years have been a particular challenge for monetary policy. Once the financial crises of late 1998 that followed the Russian default eased, growing optimism, if not euphoria, about profit opportunities produced a surge in investment that outstripped what the Nation could finance on a sustainable basis from domestic saving and funds attracted from abroad.

The shortfall showed through in a significant rise in average real long-term corporate interest rates starting in early 1999. By June of that year, it was evident to the Federal Open Market Committee that to continue to hold the funds rate at the then-prevailing level of 4¾ percent in the face of rising real long-term corporate rates would have required a major infusion of liquidity into an economy already threatening to overheat, and the Federal Open Market Committee began to raise its Federal funds rate target.

By summer of last year, it started to become apparent that the growth of demand finally was slowing, and seemingly by enough to bring it into approximate alignment with the expansion of potential supply, as indicated by the fact that the pool of available labor was no longer being drawn down. It was well into autumn, however, before one could be confident that the growth of aggregate demand had softened enough to bring it into a more lasting balance with potential supply.

Growth continued to decline to a point that, by our December meeting, the Federal Open Market Committee decided that the time to counter cumulative economic weakness was close at hand. We altered our assessment of the risks to the economy, and with incoming information following the meeting continuing to be downbeat, we took our first easing action on January 3. We viewed the faster downshift in economic activity, in part a consequence of the technology-enhanced speed and volume of information flows, as calling for a quicker pace of policy adjustment. Acting on that view, we have lowered the Federal funds rate 2¾ percentage points since the turn of the year, with last month's action leaving the Federal funds rate at 3¾ percent.

In reducing the Federal funds rate so substantially this year, we have been responding to our judgment that a good part of the recent weakening of demand was likely to persist for a while and that there were significant downside risks, even to a reduced central tendency forecast. Moreover, with inflation low and likely to be contained, the main threat to satisfactory economic performance appeared to come from excessive weakness in activity.

As a consequence of the policy actions of the Federal Open Market Committee, some of the stringent financial conditions evident late last year have been eased. Real interest rates are down on a wide variety of borrowing instruments. Private rates have benefited from some narrowing of risk premiums in many markets. And the growth of liquidity, as measured by M2, has picked up. More recently, incoming data on economic activity have turned from persistently negative to more mixed.

The period of sub-par economic performance, however, is not yet over, and we are not free of the risk that economic weakness will be greater than currently anticipated and require further policy response. That weakness could arise from softer demand from abroad, as well as from domestic developments. But we need also to be aware that our front-loaded policy actions this year coupled with the tax cuts underway should be increasingly affecting economic activity as the year progresses, and for 2002, the Federal Reserve Governors and Reserve Bank Presidents see significant growth and contained inflation.

As for the years beyond that horizon, there is still, in my judgment, ample evidence that we are experiencing only a pause in the investment in a broad set of innovations that has elevated the underlying growth in productivity to a rate significantly above that of the two decades preceding 1995. By all evidence, we are not yet dealing with maturing technologies that, after having sparkled for a half-decade, are now in the process of fizzling out. To the contrary, once the forces that are currently containing investment initiatives dissipate, new applications of innovative technologies should again strengthen demand for capital equipment and restore solid economic growth over time that benefits us all.

Thank you, Mr. Chairman. I look forward to your questions.

Chairman SARBANES. Yes, thank you, Mr. Chairman.

I am concerned by this—I hope it is not a growing sentiment that, in a sense, nothing can be done. But it is reflected in an article this morning in *The New York Times* which says—first, the lead paragraph: Despite six interest rate cuts by the Federal Reserve this year and the possibility of more to come, analysts say that monetary policy is packing less of a punch so far than expected.

And one of the investment houses not too long ago stated that a number of factors have, "blunted the power of monetary policy compared to past easing campaigns."

And there seems to be a perception that the easing campaign that the Fed has followed over the last 7 months has sort of come close to running out the string.

The question I wanted to put to you is to take a look at the real Federal funds rate, which is of course the market rate less core inflation.

Here's where the Fed has us now, on the real funds rate. This is where the Fed went to in the early 1990's, when we had that very significant economic downturn.

The conclusion I draw from this, and I want to ask you about this, is that there is still substantial room for the Fed to ease in an effort to try to stimulate the economy. And in any event, regardless of any judgment made on what the Fed has done so far, you have done it very rapidly. I recognize that, month after month. But what the Fed has done so far doesn't match the actions the Fed has taken on previous occasions, actually, under your leadership.

Your leadership has been there for a long time now, under your leadership. And therefore, there is still room for the Fed to take substantial measures in terms of trying to move the economy with respect to interest rate cuts.

Would you address that?

Chairman GREENSPAN. Certainly, Mr. Chairman.

First, let me just say that, clearly, where monetary policy goes from here will depend crucially on the evolving situation in the economy.

With respect to the notion of the ineffectiveness of Fed policy, I think it is important to understand that when you evaluate monetary policy, which we tend to do by disaggregating its impact in short-term rates, long-term rates, the exchange rate, and a few other different variables, we never quite, even after we add up all of our evaluations of those so-called channels of monetary policy ef-

fect, replicate the broader correlations that exist between monetary policy and economic growth, in effect implying that we don't fully capture all of the various different channels which impact on the economy because of movement in short-term Federal funds rates.

The article to which you refer—which is an interesting and, I think, thoughtful article—lines up these individual items. And if indeed that was all that was involved in the process, then I would say that we would be concerned about what the impact of monetary policy is.

But if you look back historically, that does not explain the full impact. I am not saying that there is a black box or anything of that nature. But the complexity of our economy is such, and the way liquidity flows through the system is such, that you essentially get very complex differences in the way monetary policy plays out.

But at the end of the day, it does seem to be effective.

Chairman SARBANES. Well, I just want to note that there is, it seems to me, room to continue to move with respect to the real Federal funds rate. We hope the Open Market Committee will consider that.

Let me ask you one more question because my time is about to expire.

You say in your statement, you ask this question: Do we have the capability to eliminate booms and busts in economic activity?

And then you say: Can fiscal and monetary policy, acting at their optimum, eliminate the business cycle?

And then you say: The answer is no because there is no tool to change human nature, and you develop that.

Now, is the no answer to eliminating booms and busts, or is the no answer to eliminating the business cycle? Because we could not, presumably, have a business cycle movement without having the extremes of it—in other words, having booms and busts.

I am prepared to sort of entertain reasonably the one possibility, but I am very much against entertaining the other possibility.

Did you mean to say no to both or to the notion of, well, we sort of have a business cycle that we have to deal with. But don't we have the tools to prevent these extremes and have the booms and the busts?

Chairman GREENSPAN. I think it is a question of nomenclature.

The point that I was endeavoring to make, for which I think there is ample evidence, is that we have had business cycles before there was a central bank or, more exactly, during the whole period when there was no central bank in this country. And so the business cycle is such, clearly, from what historical analysis suggests with some degree of forcefulness, that there tends to be a general attitude amongst those who are committed to the economy, that as things stabilize over an increasingly protracted period of time, euphoria tends to build in, and it is very difficult to contain by policy.

The point I was trying to make, not that fiscal and monetary policy are ineffectual. I am saying that to presume under all conditions that monetary and fiscal policy can create a stable, sustained, not fluctuating economy, seems to be alien to historical data.

Chairman SARBANES. Senator Gramm.

Senator GRAMM. Well, thank you, Mr. Chairman.

I would just say, in adding to what you just said, that the greatest bust in American history occurred when we did have a central bank, in the Great Depression. And I think that as economists have looked at that period, the conclusion is that they were doing the wrong thing.

First of all, let me say that I don't have a firm fix on exactly what is happening in the American economy. I guess if somebody forced me to go into an economics classroom somewhere and give a lecture today, trying to explain it, I would start by talking about the end of the cold war and the release of resources from defense to other economically productive activities.

I would talk about the failure of the Soviet Union, discrediting not just communism, but socialism, around the world, and the profound changes that have occurred in places like South America, with the rise of more virulent capitalism and democracy.

I would talk about the unleashing of human energy that came from winning the cold war and, in the process, bringing enhanced freedom to everybody, but freedom for the first time to literally hundreds of millions of people.

And I would try to look at that in terms of what all of this unleashed in terms of new energy, new technology, new investment, the evolution of new products, and the evolution of a new marketing system using electronic communications.

And I would guess that probably with that background, it is easy to understand how the capital market would have had difficulty in assimilating all this information and coming to a correct decision.

It is probably inevitable that in the process, there are periods where investment would overrun the reality, where you would have an effort to assess what all these changes mean to equity values, and there have to be periods where the overassessment occurred.

Going back to the boom and the bust, since we have lived in a golden age since roughly 1982, if this is the bust, the boom was sure as hell worth it.

You agree with that, right?

Chairman GREENSPAN. Yes, Senator.

Senator GRAMM. Now if the bust turned out to be a lot worse, then we might want to reevaluate. But as of today, this has been a miraculous economic period.

It seems to me that we don't know how much adjustment has to occur. But the same technology and basic environment is out there. And again, I return to the notion of an economic bubble that has burst with equity adjustments going through the retrenchment.

Clearly, at some point, this process has to begin again. The question is, how long is that—and back to the Chairman's question—what can we do in terms of policy that would speed it up without doing so much that we contribute to a problem in the future, given this lag of some 18 months, between changes in monetary policy and the full effect on the economy.

I would like to give you a chance to respond.

Chairman GREENSPAN. Senator, I think the underlying structure of technological advance is in place, as I indicated in my remarks. By all of the measures, by all of the evaluations that we make, we are only partway through a major technological expansion which

has elevated the underlying growth of structural productivity, meaning the trend growth in productivity over periods of years.

In the context of that, the long-term expected rate of return has risen, as has the long-term expected rate of growth of earnings. That automatically induces a reevaluation of what the equity values in the economy are.

Whenever you get into that sort of process, there is always the danger—and it seems to happen more often than not—that if there are real underlying forces to raise equity values because of the structural productivity advances which have occurred, there is a tendency to overdo it. In other words, as I said previously, in many of the technological areas, as I think I put it in my prepared remarks, we have seen demand doubling for certain newer technologies every year, but the supply goes up three or four times a year. And so what happens is that you get a glut, a huge retrenchment, but it doesn't undercut the fact that that demand was essentially there. And it may indeed even slow down because of the supply shock effect. But it doesn't change the longer-term structural possibilities for higher earnings, higher rates of return, and higher productivity.

And in that regard, as I have indicated in my prepared remarks, I see nothing in what has been going on in the most recent period to alter the view that when we are through this period, and it has been a very traumatic adjustment process, we will go back to a rate of increase which is significantly above where we were in the two decades prior to 1995.

We will not go back to some of the 50 percent increases in capacity, which is what occurred last year in the high-tech area. At least I hope not. But we will have solid expansion in those areas because we have to complete this set of the synergies of a very significant number of technologies. And we have not completed them yet. They still have a significant way to go.

Senator GRAMM. Thank you, Mr. Chairman.

Chairman SARBANES. Thank you. Senator Dodd.

Senator DODD. Thank you very much, Mr. Chairman.

Again, I raise the issue—let me just get a quick answer, if I can for you, on the issue of—I realize we are talking about monetary policy here. But nonetheless, the issue of, the physical infrastructure issue. I made the statement that I cannot recall or I don't know of a period of economic growth, sustained economic growth, without a sustained investment in the maintenance of America's physical infrastructure.

I just wonder if you would question that, the legitimacy of that statement.

Chairman GREENSPAN. Senator, I am not familiar with the various measures that one would be required to determine whether a particular infrastructure is adequate or not.

We know what the capital stock in, say, State and local governments is. We know what our highway system is. We know what our sewage issues are. And we know, as was pointed out, pretty much about, for example, the urban infrastructure, specifically things like that very significant tunnel near Camden Yards. We know what those things are. But whether they are adequate or in-

adequate is difficult to say because, in one sense, nothing is ever adequate. In other words, there is always more to be done.

So it is a question of judgment and I think one of the important aspects of a democratic society is to make those judgments as to what proportion of economic activity is devoted to public infrastructure or the private infrastructure which goes along with it. But there is no question that there has been significant capital investment by State and local governments in the last 4 or 5 years.

Senator DODD. Thank you. And I will come back to the subject at hand here.

Let me raise two questions, if I can. One is regarding the international scene. And you referenced that in your statement here. Again, no one knows better than you the indications we are seeing, the recent problems in Argentina, certainly throughout Latin America, by and large, anyway, the Asian problems, even Europe.

We saw the Department of Commerce report, the trade deficit, a low number of around $28 billion in the last quarter. But while at first it may seem like a great number, it also indicates a lack of activity. And obviously, the strength of the dollar is contributing significantly to that as well.

Now the obvious question, given the globalization of the marketplace and the dependency of the United States on relatively strong economies internationally.

As you look ahead and speak with some optimism about a recovery beginning toward the end of this year or next year, I wonder if you could give us some indication of how directly linked you believe the recovery of the United States is going to be dependent upon a modest recovery or some recovery internationally as well. And particularly in the Asian and European markets.

Chairman GREENSPAN. Senator, the best way to describe it is that we are all dependent on each other. It is a simultaneous interaction in which all economies are working in a manner which reinforces either strength or weakness for each other.

The problems that we have seen are, in one sense, more domestic than they are international. And clearly, Argentina has got some fairly significant problems which they are addressing and, indeed, as we have observed in recent days, the financial markets, which are always the best way to tell how well things are going because they somehow learn what is actually going on, have actually improved somewhat with respect to Argentine securities, bonds, interest rates, and pressure on the peso-dollar link.

One thing I think we can say is that, unlike 1997, when we had been through a period of extraordinary acceleration in economic activity, especially amongst the so-called Asian tigers, we got hit with a number of problems in which a lot of the difficulties we ran into were the result of endeavors to hold fixed exchange rates, to arbitrage those exchange rates in a manner which tried to pick up profits on differential interest rates, and the profits would depend solely on the maintenance of those fixed exchange rates.

And they broke, as indeed one would have expected that to happen. That created a lot of contagion in the sense that the investors in these emerging markets generally pulled back from all emerging markets.

The tinder out there, if I may use the term, is much less than it was in 1997. There are very few fixed exchange rate problems. The extent to which debt was extended is much less. The reserves are better.

That is not to say that we don't have a problem. I am just merely saying that the resources are far better than they were back then. And the probabilities of running into the type of crises which we ran into there are certainly less.

Having said that, obviously, the United States was in much stronger shape back then and we acted as a support, as did others in Europe and elsewhere.

But, overall, I think that as I said, the tinder is less and one presumes that it can be contained without much of a problem.

Senator DODD. Thank you. My time is up. Your comments on capital spending in the high-tech area, I hope I get a chance to come back. That is a very important part of your testimony.

Thank you for your answer on this question. Thank you, Mr. Chairman.

Chairman SARBANES. Thank you, Senator Dodd.

Senator Bennett.

Senator BENNETT. Thank you, Mr. Chairman.

Chairman Greenspan, we have a circumstance where we have some interesting bedfellows getting together right now on economic issues—the unions and the National Association of Manufacturers. Both seem to be very concerned about the strong dollar and the impact of the dollar.

We have some economists, some of whom are friends of yours, complaining about commodities, basic material prices going down everywhere at very significant lows.

And all of this comes to the question of the amount of liquidity—that is, the amount of money—available in the economy. The assumption being that if there were more money available, more liquidity, the dollar would not be as strong as it is and that commodity prices would begin to recover.

Taking a basic commodity that is produced out in Utah, as one fellow put it to me, he says, when copper is scarcer than money, the price of copper goes up. When money is scarcer than copper, the price of copper goes down. And the price of copper is going down.

Would you address that whole question of liquidity and commodity prices and a strong dollar?

Chairman GREENSPAN. First of all I think that the demand for commodities is, to a substantial extent, more an indicator of industrial activity and its use than it is of financial liquidity. In fact, I rarely use commodity prices as a single useful indicator for broad inflation, which is really where the issue of liquidity rests. I use it, however, to a substantial extent as a measure of what is going on in areas of new orders, industrial activity, and, indeed, world trade in various commodities.

The reason why copper and aluminum and, say, steel scrap prices——

Senator BENNETT. And gold.

Chairman GREENSPAN [continuing]. Are down is more an issue of the question of what is industrial activity doing. If liquidity were

a crucial factor in determining commodity prices, then they should be buoyed at this stage because, for example, M2 has been going up at double-digit annual rates in the last number of months. And we don't see that.

And I think that the issue with respect to demand for copper is going to depend very critically on what it always depended on—underlying demand. Demand goes up, industrial production goes up, industrial demand goes up, the price of copper goes up.

Senator BENNETT. So you would disagree with Lawrence Kudlow and David Gitlitz and others who say that we are in fact on the edge of a liquidity crisis. And the word deflation should begin to be in our vocabulary now.

Chairman GREENSPAN. Yes, Senator, I do disagree.

Senator BENNETT. Let's talk about deflation in Japan because there are these economists who are saying that the Japanese model indicates that inflation is the big problem we worry about, but in Japan, they are deflating the economy.

Are we in any risk whatsoever repeating the Japanese circumstance?

Chairman GREENSPAN. I think not, Senator. The problem in Japan is a rupture in their financial intermediation process, meaning moving savings into investment. The major financial intermediary in Japan has been banks. And indeed, unlike the United States where we have got many alternate mechanisms to move savings through capital markets, through secondary mortgage markets and the like, the banking system in Japan is disproportionately what is employed to move savings into investment.

With the dramatic decline in the value of commercial real estate, which is, I would say, really the vast majority of the collateral which underlies loans in the banking system there, they have had a huge increase in nonperforming loans, as the Japanese officials have indicated and have been endeavoring to address.

But the consequence of that is that lending has come off very dramatically because the banks are most concerned about the capital position which they have, and the uncertainties with respect to the nonperforming loans have induced a significant contraction in lending. And the result is that the Japanese system, which is, remember, the second largest economy in the world, is endeavoring to function without an operating financial intermediation system.

They are addressing the issue. Clearly, their endeavors at reforms are exactly what they should be, and I hope that they move as expeditiously as possible in that regard.

But whatever one may say about the United States, and we have quite significant problems, and unquestionably, the loss of a very large amount of stock market wealth does press down on the economy, but it is scarcely an issue of lack of liquidity or a lack of financial intermediation that creates problems for us. I would say that the issue of Japan versus the United States is really two separate types of problems. We do not have that particular problem.

Senator BENNETT. Thank you very much.

Chairman SARBANES. Senator Reed.

Senator REED. Thank you very much, Mr. Chairman. And again, thank you, Chairman Greenspan.

Long-term interest rates are higher now than they were at the start of the year. It raises the question, as short-term rates have been pulled down through Federal Reserve action, why have the longer-term rates not fallen also?

Chairman GREENSPAN. Well, actually, Senator, they declined quite significantly in the latter part of last year, actually in anticipation of the fact that at some point, monetary policy would be kicking in, and you could start to see it very late in the year in Federal funds futures markets. So that the markets were already adjusting as of January the 1st.

In addition, the changing attitudes toward what the size of the surpluses was going to be and, hence, the amount of liquidation of U.S. Treasury securities was altered. That is, the rate of decline in Treasury outstanding debt moved from a sharp decline to one which was somewhat more modest, which in effect implied that there was going to be a greater supply of Treasury bonds, which is of course a crucial part of our bond market, and that tended to keep rates somewhat higher.

Nonetheless, they have moved in a way in which some commentators have questioned whether there is an inflation expectation out there. And the best measure that we have got for that is the so-called differential in the Treasury market which tries to infer the expected inflation rate in the Consumer Price Index as the difference between our Treasury index bonds, the ones that we use for inflation indexing, and the regular bonds. That gap is a useful measure. That did rise significantly for a while, but it has retraced most of the rise. And I would conclude that the failure of long-term rates to come down more than they have is largely a supply issue and not one of real concerns about inflation.

If anything, one would have to argue it is an expected higher real rate of return which would be consonant and consistent with rising economic activity in 2002.

Senator REED. Mr. Chairman, the tax cuts, a very small part of it that is being distributed this year in the form of rebates, tends to cut against your efforts because it might be slightly inflationary. It is putting more money, more incentives for people to go out and spend.

Do you see that in any way impeding your efforts to keep inflation down?

Chairman GREENSPAN. Senator, it could, under certain circumstances. I don't see it as impeding us at the moment because, as I indicated before, all of our measures suggest fairly firmly that inflation is being contained and that there is no evidence of which I am aware that the tax cut has significantly altered those inflation expectations.

Senator REED. One of the longer-term consequences of the tax cut is the potential to further erode national savings since, essentially, government savings are being dissipated.

We have a consistent problem over time of marshaling sufficient savings for investment. As you see the long term, does this continue to bother you about the lack of not only household savings, but now, a significant departure from governmental savings?

Chairman GREENSPAN. Well, I certainly agree with you. In other words, it is not only an issue of normal savings flows to finance

capital investment. But with the demographics changing quite dramatically a decade from now, it is fairly apparent that we are going to have to pick up the rate of productivity growth, which clearly requires capital investment, if we are going to concurrently supply the amount of goods and services that both retirees, which will be increasing in very rapid numbers, as well as workers, will require in the decade, or I should say, in the years beyond, say, 2010, 2011.

Senator REED. It seems that without a productivity increase, and I think your testimony suggests that at least we are in a productivity pause, a lot of the projected benefits of the tax cut, indeed, the projected hopes of your policy, would come undone, that a lot rests upon your presumption or assumption that productivity will continue to increase as it has over the last several years. And that is historically—again, one could raise the issue of whether that is historically borne out.

Chairman GREENSPAN. Well, it is not clear to me that the tax cut, which is really quite a modest size, is having any material effect on the underlying productivity structure of the economy. As I said before, it could, if it were very large, and it could have an effect if there were underlying inflationary implications in a lot of it. But I cannot say that I see any of that at the moment.

Senator REED. But, again, Mr. Chairman, a lot of your, I think the basis of your analysis, not just in the tax cut, but many other issues, turn on the notion of productivity increases.

That is probably the biggest uncertainty that we face today.

Chairman GREENSPAN. Well, I don't know if it is quite uncertain, but I certainly agree with you that a goodly part of the way I look at the evolution of the American economy does presuppose the resurrection of measured productivity growth coinciding with what I believe to be the level of structural productivity growth.

Senator REED. Thank you, Mr. Chairman. Thank you, Chairman.

Chairman SARBANES. Thank you very much, Senator Reed.

Senator Allard.

Senator ALLARD. Thank you. Chairman Greenspan, I think you would agree with me that housing has played a significant role in our economy, historically, and continues to play a significant role today.

These are not necessarily high-tech jobs. And I wondered if you could elaborate—and you did not mention that, make comment in your remarks about housing. I just wondered if you could maybe elaborate on the trends for housing prices, spending on residential structures, and mortgage interest rates.

Chairman GREENSPAN. Senator, I think one of the things that is occurring in this country is the evolution of housing into a very sophisticated, complex industry, in the sense that we not only have got the standard homebuilding aspects of homeownership-related activities, but we are also beginning to find that as homeownership rises, and as the market value of homes continues to rise, even in a period when stock prices are falling, we are observing a rather remarkable employment of that so-called home equity wealth in all sorts of household decisions.

Indeed, as I point out in my written remarks, it seems to us that the rise in the value of homes, which if anything, has accelerated during this period of rapid decline in stock prices, has created a

very substantial buffer of unrealized capital gains which are being drawn upon through the home equity market, through cash-outs, and through the turn-over of existing homes, which has been, as you know, quite substantial despite the weakness in the economy.

In that regard, the housing sector, thinking in terms of the total sector, has been a very important contributor to the American economy, and I think one of the major reasons why, as I put it in my prepared remarks, that that litany of all the negatives which you can easily line up has not in fact cracked the economy's underlying stability.

And in that regard, I would say that we are still seeing an increase in homeownership. The rate of ownership has risen, as I recall, to 67 percent. And it is interesting in the sense that, as I indicated before the House last week, a disproportionate amount of that rise in homeownership is amongst minorities, and a goodly part of implied construction and existing home turn-over is being impacted by immigration, strangely enough.

Senator ALLARD. Thank you. In light of other factors such as the wage rate, what do you see happening to the national homeownership rate?

Chairman GREENSPAN. Well, it has been rising at a fairly pronounced pace. And I should certainly expect that at the existing level of new home construction that it will continue to do so. And there is still a fairly large number of households who would like to become homeowners. And until we see that dissipating, the underlying demographics will push us forward.

Remember, unlike European economies or the Japanese economy, where labor forces are not growing as fast percentage-wise as ours are, the level and contribution of new home construction is much less in their GDP than ours. And I think this is an area where expanding population is a crucial factor in impacting on economic activity, as it works its way through home-building and the overall infrastructure of the system.

Senator ALLARD. Mr. Chairman, I have one last question.

From an economic perspective, what can be done to address the issue of affordable housing?

Chairman GREENSPAN. Well, obviously as technology improves, the ability to significantly increase modular and manufactured housing in one form or another, you do see the impacts of the ability to own homes improve especially in the moderate- to lower-income groups.

To be sure, you are not getting—let's put it this way: when I was young, a mobile home was something which you dragged along behind a car on a highway and, if necessary, lived in. The manufactured home industry has changed very dramatically, as you know, and has constructed innumerable, multifaceted types of structures which has enabled the productivity that is embodied in the manufacturing process that has been doubtless the fastest part of productivity growth in this country, and that has been a significant factor in getting available homes at all levels.

Going beyond manufactured homes, there is still an awful lot of technology which is going into the improvement of construction capabilities, and I should think that that is by far the best way to create affordable housing.

You can subsidize it, if you want, and that can obviously impact on the availability of homes. But there is nothing like American productivity to create lower-cost, usable—in fact, in many cases, quite impressive—homes, at relatively low prices.

Senator ALLARD. Thank you, Mr. Chairman. Thank you, Chairman Sarbanes.

Chairman SARBANES. I think some of us were also hoping you would add lower interest rates as a way of getting more affordable housing since, if you look at the little book about what you pay monthly, it is very markedly affected by what the interest rate is.

Senator Bayh.

Senator BAYH. Thank you, Mr. Chairman.

Chairman Greenspan, one brief observation and then three very brief questions.

My observation, I wanted to note the confirmation of Roger Ferguson, a good individual, by an overwhelming margin in the U.S. Senate.

I think the vote was something like 98 to 2, or thereabouts.

I thought you might be interested to know that one of our colleagues who was in opposition opined that the reason, therefore, was his similarity to you.

But I wanted to reassure you that the 98 of us who voted for Mr. Ferguson felt exactly the same way. So, indirectly, you had a significant vote of confidence in the U.S. Senate surrounding the Ferguson nomination.

My three brief questions, Mr. Chairman, really build off of the questions of my colleagues.

First, with regard to productivity and your comments in response to Senator Reed. You were very sanguine about following the temporary downtick we have had here, productivity resuming its more robust pace of recent years.

In previous testimony, I have heard you mention past historic parallels where we have had new technologies come on the scene, whether it is the proliferation of electricity, the automobile, the railroad, or what have you.

And you have indicated previously that there was a spurt of productivity growth for a period of years. It is hard to define exactly how long. Eventually that regresses to some sort of mean.

How do we go about determining when the current productivity acceleration, once it resumes, will experience a similar regression?

Chairman GREENSPAN. Senator, that is the most difficult question we have in this particular area. As I said before, we know that we are only partway through capturing or exploiting all of the various new technologies which are in front of us. But the rate of growth in productivity obviously is a function of how fast we exploit that unknown, unrealized potential. And that is very difficult to judge.

We will know when we are getting to a point when we have run out of possibilities, as indeed we noticed, for example, in the big railroad boom. Remember, the railroad boom was extraordinary. It changed the face of the American economy in, indeed, a very similar sort of way that information technology is doing today.

It peaked in 1920—or, I should say, as I recall, the mileage of tracks in the United States peaked in 1920. So, obviously, it would

go, but you could see the rate of increase starting to slow down and you knew that there was going to be saturation at some particular point.

It is when we begin to see elements of saturation. We have seen some at least early signs in personal computers in households because there has been a very big surge. But still, we have a long way to go to get it up to where, for example, television is. I think we will have some advance warning, but I am not sure we will be able to project very far into the future.

All I can say at this moment is that we are nowhere near there as yet. But I do believe that when we start to run into the maturities and saturations that invariably hit technologies, we will have some advance warning of that.

Senator BAYH. An interesting additional element with the proliferation of information technology. It is not just its use through the economy, but the restructuring of the organization of work itself around the new technology, which perhaps is an additional productivity kicker that exists today.

Chairman GREENSPAN. In fact, Senator, that may be more important than we realize. Indeed, that clearly was the case, as best I can judge, in how electric power worked from the latter part of the 19th century into the 1920's. You did not get the real kick in productivity until the buildings in which you housed electric power and electric motors and ran production systems changed. So that there is this effect of how you do things which gets changed. And it is increasingly the case that it is not the technology, the hardware, or even the software itself. It is how you reorganize, and it takes a long while before that takes place.

Senator BAYH. I see my yellow light is on. I will ask my two final questions together, Mr. Chairman. I will try to be succinct.

One is an issue that you and I have discussed before with the increased percentage of trade or the increased bubble of trade as a percentage of world growth and the increase in capital flows.

You mentioned with regard to, I think Senator Dodd's ques-tion, some of the strengths in the world economy today that perhaps can reassure us against the effects of a global financial shock of some type.

My question to you is in regard to the International Monetary Fund.

With the growth of world trade, the potential size of the shock at some future point might be larger. Does the fund have the resources, the wherewithal, to address a future shock?

Is that an issue that we should be focusing on, ensuring that they do have such resources? Number one.

Number two, with regard to Senator Allard's question, my final question with regard to home equity. This has been a good thing for the American economy, and temporarily helpful in addressing the consumer issue and the current sluggishness.

My question to you is, since it has historically been a significant percentage of household savings, is this a worrisome long-term trend, people drawing down their home equity substantially?

Those are my two questions—the IMF and the home equity draw-down, in the long run.

Chairman GREENSPAN. Let me address the home equity issue first. If unrealized capital gains were declining, which, of course, is what happens when you extract equity from homes, yes, it would be a problem. But there is no evidence of that. Indeed, despite the fact of significant extraction of home equity gains, the level of unrealized capital gains in homes continues to rise apace. So it is not a depleting asset, if I may put it that way. It could be, but, fortunately, it is not.

The IMF issue is a more fundamental and more difficult one to address because what we do know, as we have discussed before, is that the real volume of trade tends to increase faster than gross domestic products. The amount of financing of trade increases even faster than the underlying growth in trade, which means, effectively, that the ratio of international finance to the tax bases of the industrialized countries—let's assume that is the major players in the IMF—is rising inordinately. And that somehow suggests that if we were to maintain an international presence proportional to the increase in the aggregate finance, it would mean that an ever larger proportion of the tax base of the industrialized countries would have to be dedicated to that particular process.

Since that is readily dismissable as most unlikely, it therefore says that, yes indeed, we do have certain limits that must of necessity be imposed on international financial organizations, largely because of the allocation of resources and the technologies which have so augmented the size of international finance.

And I think everyone is becoming increasingly aware of that, which means that how you come at international financial problems has to be altered and, in a sense, fitted into what the degree of finance is available from the industrialized countries to finance the IMF, the World Bank, and the long series of developing banks that we have in our system.

Senator BAYH. Thank you, Mr. Chairman.

Chairman SARBANES. Thank you, Senator Bayh.

Senator Enzi.

Senator ENZI. Thank you, Mr. Chairman. I want to continue some of the international questions because we are learning that we are more internationally connected all of the time.

Both the House and the Senate have passed a Sudan peace act. They are substantially the same with one exception. And that is the one that prohibits companies that are developing oil and gas in the Sudan from being able to raise capital in the United States or to have their securities traded in the U.S. market.

The New York Times had condemned that in an editorial. What are your views of the provisions of the possibility of politicizing the capital markets?

Chairman GREENSPAN. Well, it seems like a very minor issue, Senator but it is obviously far more important, as you imply. The clear outcome of such a law would effectively be to move financing from New York to London. Indeed, there is even some concern within the banking system that in order to comply with such a law, the banks would have to make certain that their customers were not in violation of the statute, which is very difficult to do.

The effect of that I think would be essentially to move a considerable amount of financing out of the United States to

London, Frankfurt, Tokyo. And since such a crucial part of the effectiveness of the American economy is a very sophisticated capital market and its financial infrastructure, I am most concerned that if we move in directions which undermine our financial capacity, we are undermining the potential long-term growth of the American economy.

I find the motive for the legislation obviously commendable. But I think it is not been thoroughly thought through and I don't think that the implications of this particular type of statute are useful to the United States and, indeed, I think it is downright harmful.

Senator ENZI. Thank you. And another international issue that has come to my attention—and you and I have been corresponding about it and I appreciate all the information you have provided, is about the Bank for International Settlements. Of course, the private shareholders in the United States, about 130,000 shares' worth, are owned by mutual funds and private investors.

I am kind of concerned about what is going to be done with those shares that are being repurchased. And of course, I am also concerned about a price that appears to be below the fair value.

What is going to be done with those shares and when will the Federal Reserve make a decision as to whether or not to buy or receive these private shares?

Chairman GREENSPAN. Well, of course, we are not involved as purchaser in any way with those shares. Our sole relationship here is the fact that we have two seats on the board of the Bank for International Settlements: myself and the president of the Federal Reserve Bank of New York, Bill McDonough. We very recently joined the board on the grounds that it was our increasing conclusion that it was in the best interests of the United States for us to be on that board after having for many generations decided not to be there.

We consulted with the State Department, the Treasury Department, and a number of people on the Hill to be sure that they saw it the way we did and, indeed, that was the case.

With respect to the individual share issue, this was handled in a way which as best I can judge, was reasonably sensible. They had a number of investment banks, reputable investment banks, try to make evaluations of what the appropriate price should be for those minority shareholders, and it is the same procedure that goes on in the private sector all the time. And while we raised questions in the beginning and certain things got changed, as I recall as a consequence. But at the end, we looked at the results, thought them fair, and voted in favor.

Senator ENZI. It was my understanding that this was being done so that the central banks would own all of the shares.

Our central bank will not own any of the shares?

Chairman GREENSPAN. We do not own shares and will not own shares.

Senator ENZI. I will be addressing a few additional questions on that that don't pertain to the economy. But I do have a definite interest in it and think that it will have some effect on the economy.

So I thank you for your answer.

Chairman GREENSPAN. I would be glad to answer in any detail you need.

Senator ENZI. Thank you.

Chairman SARBANES. Thank you, Senator Enzi.

Senator Corzine.

Senator CORZINE. Yes, thank you, Mr. Chairman.

Mr. Chairman, I identify with one item that you put in your written statement. You said forecasts of inflation, however, like all economic forecasts, do not have an enviable record.

We have seen, and I would look at some of the forecasts that we had at the first part of the year relative to where growth is now and at least in an evolving sense, that maybe the second half is not going to be as strong as was projected by both outside and public economists.

But I want to tie this to a view that we have, a personal view, and some would call it political view that we have, over-committed with regard to our tax cut.

You used the term, modest tax cut, earlier in responding to a question. And certainly, if one looks at this certainly in the context of extenders, sunsets, omissions that are almost certain to be included in any interest expense, one could at least make the case that modest is not where we are.

And my framing of this is, we are about to address another issue that is going to take forecasting activities into account with regard to Social Security, withdrawing 2 percent of the payroll taxes potentially to finance private accounts.

I am concerned about our ability to be effective in these forecasts and dealing with decisions on a discrete, 10- or 25-year timeframe, as opposed to how I believe the Fed very appropriately looks at an evolving situation.

I guess my first question is, have we been too aggressive in using these kinds of forecasts to put in place judgments with regard to how flows of revenues will come to the Treasury?

I am concerned that actually that yield curve that you spoke so eloquently about may reflect—and I think when you used the word supply, it actually implies that people think we have a substantial change in the underlying conditions of our debt markets going forward.

And aren't we running a serious risk of aggravating that potentially by some of the discussions with regard to Social Security?

So I will give you an open field there. But I am very troubled by the commitment that we are making to the political arena to these long-term decisions that can be very damaging to the long-run underlying health of the economy.

Then one more technical situation.

We seem to be having a debate about whether trust funds and assets that go into trust funds may be real or accounting devices.

It strikes me that IOU's from the Federal Government in a Social Security trust fund are real assets. They have interest rates maybe administered as opposed to market-implied, but they are real.

And I wonder if you would have any insights that would help us with a problem that seems to recur in the political debate.

Chairman GREENSPAN. Senator, I think the problem that we have is lack of a choice to make long-term forecasts because the policies which are being discussed are of that nature. Go back, as

you remember, 30, 40 years ago. It was very rare that budgetary processes or tax policies extended beyond 1 or 2 years. And the major reason was we did not have to. But as we have gotten to an ever increasing proportion of the budget which are entitlement programs, and as we have endeavored to make long-term commitments in one form or another which necessarily imply both the receipt side and the outlay side as we go forward, we have had no choice but to try to do the best we can in making long-term forecasts and making judgments as to the fiscal impact of both the receipt side and the outlay side. It is a precarious exercise.

Indeed, I think when I was here in February, or certainly I do remember in early Budget Committee discussions in the Senate on that issue, that there is a great deal of uncertainty as you get into the 5-, 7-, 10-year period. But if you introduce the policy or the law, there is an implicit forecast that you are making with respect to that statute. And it is better to do as best you can even though, admittedly, the farther out you go, the less certain you can conceivably be.

So I grant you there is a problem in these longer-term forecasts and these longer-term estimates. I do not deny that people make decisions on the basis of them without full understanding, I believe, of how weak some of the forecasts are, and how weak, as the people who make them such as myself, perceive them to be.

There is no choice and we have just got to do the best we can.

With respect to the trust funds——

Senator CORZINE. And with regard to that, is there a time when it would be proper public policy to review those with changed conditions?

Do you believe that we should?

Chairman GREENSPAN. I think we should be doing that all the time. In other words, you are in continuous session, if I may put it that way, and the basic purpose is to continuously evaluate what is in the law, what has been done. And I think that is the purpose of a number of the hearings that at least I appear at is to review what the statutes that you passed are doing. And clearly, in many instances, and appropriately so, you have changed them.

With respect to the trust fund question, I think there is a tricky question here. And the issue essentially is, as I pointed out earlier, that the crucial question of savings in this economy really relates to the ability for us to build an adequate capital stock to pro-duce enough goods and services in the future to accommodate both retirees and workers in the future. The finance that is involved to do that is utterly a secondary question. If you don't achieve that end result, it is an exercise that cannot be called an effective retirement program.

The issue with Social Security should be are we building the level of capital assets that will be required to produce the real goods and services? And in order to do that, are we accumulating the amount of savings that we need to finance the investments which will produce the goods and services? And here, whether you are talking about a private system or whether you are talking about a public system, the question is not what assets are in the fund, but whether the claims are increasing.

It is wholly irrelevant whether in fact you have U.S. Treasuries, corporate bonds, or corporate stock. It is important with respect to what the rate of return is. But I have argued elsewhere that there is an illusion there, which we have to be careful about, of shifting retirement funds from the private sector to the public sector, and I don't think that that is a particularly good idea.

But I think the standard has got very little, if anything, to do with what the nature of the securities are, but what is the rate of savings implicit in the program.

Senator CORZINE. They are assets, however they are generated.

Chairman GREENSPAN. The crucial question is—are they ultimate claims on real resources? And the answer is yes.

Senator CORZINE. Thank you, Mr. Chairman.

Chairman SARBANES. Thank you, Senator Corzine.

Senator Bunning.

Senator BUNNING. Thank you, Mr. Chairman.

I am sorry Senator Bayh has departed. If he's going to quote me, I would like to have an opportunity to respond, only to the point that if he would have followed up and used the full text of my reasons for voting against Roger Ferguson for a spot on the Federal Reserve, he would have found out that I want an independent Federal Reserve. And I did not think that a person who thought exactly the same as Chairman Greenspan would be an independent thinker on the Federal Reserve.

Mr. Chairman, I would like to start off by asking the same question that I asked at Gov. Ferguson's confirmation hearing.

Hindsight being 20/20, do you now think that the Fed waited too long to reduce the target Fed fund rates? And I am speaking about last September, October, November, December?

Chairman GREENSPAN. No, Senator. Let me tell you why.

When we examine the impact of monetary policy on the economy in the context of the discussion I was having with the Chairman, we find that there are long and variable lags. And in that context, the difference of whether or not you move in one period or 3 or 4 weeks later has very little effect, except under conditions where there is a potential cracking of the confidence in the economy.

In fact, back in early December, I remember discussing in a speech concerns that I had—indeed, I think I may have even used it before this Committee—about with the sharp reduction in the rate of growth, the dangers that the fabric of consumer confidence could be breached was a serious issue because, while the technology was changing very rapidly, human nature doesn't, and you could very rapidly induce a major contraction. And I think that possibility was there in December, early December.

Senator BUNNING. You don't think it was earlier than that?

Chairman GREENSPAN. No. But let me go to the point. The question you raise

I think is a substantive question which I think would have been of grave concern, say, in January.

In the event, the fabric of consumer confidence has not been breached. In other words, we did not get the type of concerns that could have been affected by a failure of monetary policy to respond earlier. Had we had that breach, then I would say the point you are making would have some strength to it. In the event it did not,

and we are now 7 months beyond the event, and whatever the risks were back then, they have changed. That is not to say that we don't have risks in the future, but it is very difficult now to argue——

Senator BUNNING. But we have had quite a few alternate changes by the Fed since that time.

Chairman GREENSPAN. Sure. No, what I am basically saying is, to the extent that—in your judgment, for example, not in mine—but let's assume that it would have been desirable to move earlier and we did not move, and the event of a breaching of confidence occurred at that time, then I would say that the argument you are making is a substantive one.

I am merely saying that it did not happen and by now, whatever the consequences between moving in, say, November or January were, are now fairly dissipated in the system——

Senator BUNNING. I understand, because we have had quite a few Fed fund rate cuts since that time.

Chairman GREENSPAN. Right.

Senator BUNNING. Therefore, people are expecting the economy now to pick back up. But it hasn't. And we don't expect it to do it, and there is always a lag when Fed fund rates are cut when the economy starts to respond to them.

That is why I say the Greenspan Fed is great reducing. But going up, it is another question. We can get into that argument.

During your testimony last week, you stated: Despite all the shocks that are involved in both the domestic and international economy, our economy is still not doing well, but clearly far better given what has happened than I would have forecasted 6, 8, 9 months ago.

Considering that 9 months ago places us in the month of October of last year, why did the Fed wait until January to begin easing monetary policy?

If you knew what you knew last September and October, then why did you not act to it and respond to it immediately?

Chairman GREENSPAN. Let me amend my remarks of last week.

Senator BUNNING. Okay.

Chairman GREENSPAN. It was 6 months, not 8 or 9. In other words, if I said 8 or 9, I was mistaken.

Senator BUNNING. I am just quoting what you said. Those are your quotes.

Chairman GREENSPAN. No, no, it is perfectly valid. I am just saying that I was wrong. I did not mean to say—I had not actually done the arithmetic.

I think we became aware that we were having a serious problem in December because the anecdotes were really quite remarkable. You would see one business person after the other saying, my orders have just fallen through the floor.

Senator BUNNING. They were coming to you 2 months after they came to me, then, because I had them coming to me at the end of September and they are saying, the economy has hit the wall. What are we going to do about it?

Chairman GREENSPAN. Now certain parts of the economy were hitting the wall. The same people came to me.

Senator BUNNING. Thank you, Mr. Chairman.

Chairman SARBANES. Thank you, Senator Bunning.

Senator Carper.

Senator CARPER. Has Mr. Schumer already gone?

Chairman SARBANES. But you were here earlier.

Senator CARPER. I was.

Chairman SARBANES. For quite a while and then left, and Senator Schumer has just arrived, more or less.

Senator CARPER. Mr. Chairman, I guess most questions have been asked and probably answered during the time that I was out.

Let me just venture a guess that maybe you haven't spent much time focusing on energy and the implications of the change, the drops in energy prices and what effect that that is having on our economy and is likely to have.

As I look at what is hopefully going to happen here in the second half of the calendar year of the effect of what you have done, the monetary policy has to be kicking in right about now. The effect of the rebates will have some impact, I think a positive one, in the next couple of months. And the effect of the energy policy and the drops in prices.

Certainly, in a psychological sense, they have to have an effect, and also, in a very real dollars and cents sense.

Your thoughts, please.

Chairman GREENSPAN. Senator, I think it is more than psychological. It is really quite important.

First of all, as I indicated in my prepared remarks, the profit margins were very significantly squeezed by the sharp rise basically in natural gas, electric power, and actually, as I recall, a number of petrochemical feedstock products. The result of that was, in the fourth quarter and especially in the first half, some really significant downward pressure on profit margins. It was a significant part of the increase in unit costs in the consolidated domestic system.

We started, of course, to get very dramatic declines in natural gas prices starting very late last year. We went from, as I recall, $10 per million BTU's down to approximately three today in the spot market. But remember, businesses use longer-term contracts. And so the contract prices have had much less of a sharp rise and decline. But they are declining. And as I indicated in my remarks, we expect that lower prices of energy, with the exception of electric power, have worked to improve profit margins by lowering costs.

In the household sector, remember the extraordinary problem that we had with respect to natural gas during the winter. The bills that people got were just awesome and unexpected, and there is no doubt that they impacted on consumer expenditures. People pulled back. Those rates are falling. You can see them quite appreciably, to that extent, it is opening up consumer purchasing power.

The gasoline price changes have been really quite dramatic. It was a shortage of refinery capacity earlier this year which prevented the increases in crude inventories being put through the refineries into inventories of gasoline, especially reformulated gas, which caused a big spike in prices, which has now reversed, as the refinery margins, which went up very sharply earlier this year, have now come all the way back down.

And in that regard, even electric power is beginning to ease. It has been an extraordinary event in California, as you know, to run into really quite mild weather. And the combination of conservation in California and the weather has brought down the load factor well beneath sort of a restricted capacity to produce. Now the summer is not behind us yet and there is considerable concern that you can get spikes and they can run into trouble. But we have gotten through a goodly part of the summer with prices very dramatically below where they were. We are talking well under 10 cents per kilowatt hour in the wholesale market now. And that has been a small fraction of some of the prices we saw back earlier in the year.

Senator CARPER. Obviously, this is something that you think about a great deal. And I do as well.

I think the factors were aligned, the stars were aligned appropriately earlier this year to, with the energy crisis, particularly with electricity in California, but natural gas and others, the stars were aligned in order to compel us as a Nation to work with our new Administration, our new President, and the Senate and the Congress, to formulate an energy policy that says, let's produce more energy, and as we do that, let's conserve more energy.

And I have a concern now that as the crisis appears to be abating—I filled up with gas yesterday in Harrington, Delaware, Mr. Chairman. I filled it up for $1.23 a gallon, which I haven't seen for a while, before I came over here——

Chairman SARBANES. People will be coming from all over the country to buy that gas.

[Laughter.]

Senator CARPER. And if they come, they can come to the Delaware State Fair, which runs through Saturday, Mr. Chairman.

Chairman SARBANES. It is the same thing in Salisbury, Maryland, I hasten to add.

[Laughter.]

Senator CARPER. But Mr. Chairman, my fear is that as the crisis abates, we may let this opportunity to formulate a meaningful energy policy for our country slip away as well.

Do you have any quick thoughts you would want to add on that?

Chairman GREENSPAN. Senator, I fully agree with that. I think that we have to remember that the reason why energy demand has come off as much as it has is the economy is slowing, and that the world economy being the crucial element in crude oil demand having slowed, has induced a temporary marked rise in crude oil inventories, especially in the United States.

It has given us a sense of, well, there is no particular problem at all. But when you look at it in detail, it gets to be really quite significant in the sense that, with the technologies that we have managed to mount over the last decade or so, we have the capacity to drain natural gas reservoirs at a far faster pace than we did, say, 10, 15 years ago, which means that you have to get a continuously increasing amount of drilling just to stay where you are.

But since we have committed such a substantial part of our new electric power requirements to natural gas, we are running into a long-term problem of how do we square this ability to, one, have natural gas an increasing source within our electric power system, and at the same time have a rate of drilling and new finds of nat-

ural gas adequate to meet that overall demand. And I think that we are being sort of tranquilized by the lower price of natural gas. We are not, incidentally, back to where we were 2 or 3 years ago, but we obviously have come off a very extraordinary spike.

So the need to have drilling capacity in the United States is urgent, largely because, unlike oil, we cannot import indefinite amounts. Most of our imports—in fact, the vast proportion—are coming from Canada. And they eventually are going to run into some problems. As I recall, I think a sixth of our demand is met from Canadian natural gas.

Liquified natural gas, which we could effectively bring from anywhere in the world, is a cryogenic, very complex process of trans-portation which has got a lot of problems and environmental concerns associated with it. Natural gas is a critical issue in this country and we have to, one, focus on how we can conserve it and how we can produce it because we are going to have a problem out there.

The electric power grid infrastructure is obviously something which I think needs to be addressed and that is something which increasingly we are going to become aware needs some major overhaul.

These are issues which you cannot address overnight. They are long-term problems. And unless we address them while we are in fact in temporary surplus, we are going to find that it is going to become really much more difficult and the type of problem which is going to induce us to make the types of decisions which are probably mistakes.

Senator CARPER. Thank you for your timely and sage counsel very much.

Thank you, Mr. Chairman.

Chairman SARBANES. Thank you.

Senator Ensign.

OPENING STATEMENT OF SENATOR JOHN ENSIGN

Senator ENSIGN. Thank you, Mr. Chairman.

Chairman Greenspan, we are considering some legislation later this year to raise the minimum wage. Specifically, Senator Kennedy has a bill to raise the minimum wage $1.50 an hour over the next 2 years.

Can you comment on what you think the impact will have on the economy. Should this legislation become law. Is it going to enhance the slowdown? Will it have any effect at all?

Chairman GREENSPAN. Senator, I haven't looked at the impact of the minimum wage on the labor markets and its impact on the structure of the economy. I did, however, make some extended remarks on the issue before the House and, indeed, before the Senate previously on the question that a lot of economists raise as to whether the minimum wage is an effective tool for maintaining and supporting long-term growth in earnings.

My major concern here, as I have said previously on numerous occasions, is that we are dealing with basically a number of teenagers who, even in the tightest of labor markets, have been unable to get jobs.

For example, at the peak of the pressures last year and the year before, we still had a significant amount of teenage unemployment. And if these individuals were able to work at a rate lower than the minimum wage because they cannot earn the minimum wage, they would get the very early technical skills that you need to enter the work force, and that you enter at the lowest level and you work your way up. My concern is that to prevent people from getting in at the lower ladders—cutting off the lower part of the ladders—I think essentially delegates a lot of people to a very long and unfortunate period of trying to find the proper place in the labor market.

So I think, with the evidence showing that the minimum wage tends to create unemployment, that it is a tool which we should be very careful about using. And I understand the politics of this. I am fully aware of the fact that I am discussing a subject which everybody thinks I am on the wrong track on. But that is the way I perceive what the evidence shows. And I must say that a significant number of economists hold the same view, perhaps even a majority.

Senator ENSIGN. Perhaps to follow up further on the impact, with regard to the economy today, if you could consider that and get back to me in writing. We know that there are other wages that are tied to a minimum wage as the baseline.

And so, as the minimum wage is raised, other wages are raised as well. During good economic times, did the increased minimum wage weaken the economy? That can certainly be argued.

During more difficult economic times, could increasing the minumum wage lead us further into a slowing of the economy?

I would be curious to see your comments on that?

Chairman GREENSPAN. Senator, would you like me to do that in the form of a letter?

Senator ENSIGN. In a letter would be fine.

A couple of other things that I want to explore. First, I want to get back to Senator Corzine's comments on assets.

The op-ed yesterday in *The Wall Street Journal* was addressing whether they are real assets. The point of the op-ed in *The Wall Street Journal* that was being made was that the reason that you cannot look at a trust fund or these reserves that are owed as a real asset is, even though it is the word of the United States, if those obligations are higher in the future, as everybody has said, there is only two ways to redeem those assets.

The first way is, to cut benefits and, the second, is to raise taxes. The point that you were making about the rate of return, it was kind of glossed over that whether it is public or private. The rate of return would seem to me in this proposal, when we are looking at Social Security reform, that it is incredibly important to whether or not we can meet the baby boomers' needs into the future.

In other words, we can raise the rate of return on real assets. Benefits don't have to be cut and taxes don't have to be raised.

If we are not able to raise the rate of return, then something's going to have to give.

Chairman GREENSPAN. I happen to agree with that. I don't think that is what the issue is. You have to have increasing productivity to produce the goods, and implicit in that is a real rate of return on asset investment.

I think the question really is a different one. If you, for example, create an amount of savings or let's say an increase in the Social Security trust fund, all else being equal, that will create a surplus in the unified budget and a reduction in the debt outstanding. And in that regard, you could say that the government surplus is equal to that and, indeed, since it is also by definition government savings, the question is not that, but whether the unified budget overall remains in surplus. Because what the argument has been in the past is, yes, we did invest in Social Security trust funds, but we consumed the savings, and in that regard, there was no government savings associated with it.

I don't think it has anything to do with what type of securities are there. The question basically is that if you have a Social Security surplus, even if it is less than what would be actuarially required were it a private pension fund, it nonetheless is savings. If, however, you use those funds for increased government expenditures and therefore, reduce the unified surplus to balance, the government savings have disappeared. But you are still holding in the Social Security trust funds special issues of the U.S. Treasury.

Senator ENSIGN. Except that, your point is, and I think that you have argued this before, that the history of these two bodies up here is to use the surplus, to spend it, and subsequently to grow the size of government.

I think what many people fear is we are counting on that money for Social Security. People like to get reelected, and the easiest way to get reelected is to give things away.

And if you protect that money in a private account, politicians cannot give that money away.

Chairman GREENSPAN. No, I have argued in that regard myself.

Senator ENSIGN. Thank you, Mr. Chairman.

Chairman SARBANES. Senator Schumer.

Senator SCHUMER. Sorry, Mr. Chairman. I am trying to rearrange my schedule here.

I just have three questions on three different subjects.

The first is, I know that Senators Sarbanes and Reed talked to you about the somewhat befuddling drop of 275 basis points in interest and very little effect on long-term rates.

I guess I would like to ask a broader question. Have you seen any evidence that the cost of credit has dropped for consumers at all since these rate drops because not only our country, but I guess the whole world is sort of hanging on every move of the American consumer, who is supposed to get us out of this little decline we are in.

Chairman GREENSPAN. Short-term rates have dropped quite considerably. And adjustable-rate mortgages have, which are not insignificant or irrelevant to this. I haven't seen the numbers lately, but a good deal of consumer credit interest rates are down.

Senator SCHUMER. Right.

Chairman GREENSPAN. So the answer is yes.

Senator SCHUMER. But what proportion of consumer borrowing depends on short-term as opposed to long-term rates?

Chairman GREENSPAN. I would have to supply that for the record. Clearly, long-term mortgages are the major issue.

Senator SCHUMER. One other thing. You mentioned that one of the reasons—I think this was to Senator Reed—that you thought that rates hadn't come down enough was that the rate of decline of Treasury debt had been not as great as we thought.

Was that due to the economy, the slowing of the economy? Is that due to the tax cut?

Chairman GREENSPAN. I think it is basically due to a series of things. One, the tax cut, two, expenditure increases, which were higher than expected. And three, the economy.

Senator SCHUMER. Right. So the tax cut did have a negative effect on this.

Chairman GREENSPAN. Oh, yes, no question.

Senator SCHUMER. Because one of the things I argue about, our surplus, which, as you know, when you helped make it happen with your prodding, was hard-earned, is it gave you and it gives the Fed the flexibility that they might not have had in a deficit situation in terms of reduction of rates and things like that.

Don't you worry that this tax cut might impair some of your effectiveness in terms of the decline, the ability to get the economy going?

It seems a direct implication of what you are saying. We had this discussion once that it would have been more prudent to go a little more slowly on the tax cut, given the squishiness of the economy.

It seems to me that what you have said here is vindication of that view.

Chairman SARBANES. Especially the future tax cut, not the tax cut for this year. Or you may argue that you needed a stimulus. But this projected tax cut.

Senator SCHUMER. I meant the 10-year deal.

Chairman SARBANES. Yes.

Chairman GREENSPAN. I think the qualification that the Chairman makes is an important qualification. Remember when this issue of the tax cut came up before this Committee and the Budget Committee, I said I was in favor of a tax cut. But at the time, the Congress had a bill up and the administration had a bill up. And my view was that I was not going to comment on the merits of either one. But I did think a tax cut was a desirable thing to do. I still do. And I would like to leave it at that, if I may.

Senator SCHUMER. Only because I like you so much, I will leave it at that, as you may.

[Laughter.]

But there is an obvious follow-up question which I will let hang in the air and you don't have to answer it. I will just say, the next question is, it seems to me that even in the short-term retrospect, the 10-year tax cut was too large for the good of our economy.

And at least I would say, I wish that had been a more pointed point at the time. Caution should always be the watchword of our policies in this regard.

It has taken our party a long time to learn that on the spending side. And I think we also have to learn it on the tax cut side.

But let's go on to the next question, unless you want to answer.

[Laughter.]

Chairman GREENSPAN. Fortunately, one of my colleagues has given me some numbers on the interest rates on consumer loans.

For example, between November and May, new car loans are down by a full percentage point. Personal loans are down almost as much. And credit card loans are down almost as much.

Senator SCHUMER. There is some drop. But on the long-term side, not.

Chairman GREENSPAN. Correct.

Senator SCHUMER. And that is what Senator Sarbanes—that is where the long-term tax cut——

Chairman GREENSPAN. Long-term, 30-year mortgage rates have not moved appreciably.

Senator SCHUMER. I find it just amazing that so quickly we have learned that maybe we did something—not wrong. I don't disagree with you that we needed a tax cut. I know that some of my colleagues do. But we went overboard.

We do need a fiscal watchdog, particularly when people say it is 1.35 and we all know it is not. We know the debt that we lose—the paydown on the debt that we lose and with all these little gimmicks that were put in there—estate tax cut goes down in 2010, college tuition, up through 2006.

But I will leave it at that. The next question I have is about Social Security.

We are now beginning to grapple with the issue. You were the major voice when first I believe the fellow from Brookings, whose name escapes me—and then the President proposed that 15 percent, approximately 15 percent of the trust fund be used for investment in equities, as a way of getting some kick in the market.

Not doing what the President proposed, which I think takes the money out of Social Security and lets people invest, but, rather, have the trust fund itself invest.

And since that time, it seems that there has been some writings about ways to deal with your very legitimate concern, which is that you don't want the government—the Sudan problem. And I agree with—I cannot remember who brought it up, but my colleague from Wyoming I think it was, that that would be terrible.

As much as I believe I want to end slavery in Sudan, this would be cutting our nose to spite our face and send our capital markets right overseas.

But that there are ways to greatly insulate the government's—this trust fund, the Social Security trust fund investing in equities, requiring that it be broad-based funds, setting a whole group of people whose term expire.

The best proof is you and the Fed. I think you are, as you should be—as you know, I fought a 20-year battle mostly against some of my colleagues on the Democratic side when I was in the House, to insulate the Fed from the political vicissitudes.

Has your thinking changed at all on that, or evolved a little bit, or maybe softened a little bit, because these things that I have read—Aaron is the guy from Brookings. I am sorry.

Chairman GREENSPAN. Henry Aaron.

Senator SCHUMER. Henry Aaron, yes. He has written a pretty interesting piece, a proposal on how to insulate the trust fund from that.

Chairman GREENSPAN. Yes, I vaguely recall.

Let me just say this. As I have testified, there is a big distinction between defined contribution plans and defined benefit plans. We have got in the Federal Government several defined contribution plans, including the Federal Reserve.

Senator SCHUMER. Right.

Chairman GREENSPAN. The crucial issue is that in a defined contribution plan, where the rights to the fund itself in here in the individual, and should those funds be misused in some form or another, the losses go to the individual.

In a defined benefit plan where, in effect, the Federal Government guarantees the benefits, the recipient could not care less what is in the fund, what they do with it, or anything else. It has no effect on the individual.

I regret that I haven't had a chance to review Henry Aaron's piece. I do recall I had problems with it when I read it. But essentially, my concern is that, as much as we endeavor to insulate these particular types of funds, we never fully succeed. And I might say that the evidence of State and local funds, which are defined benefit plans, generally have not been as well run. And indeed, there has been a good deal of political gamesmanship played and I don't want to get back into political history—but there are people back there who I think would have found ways very readily around some of these constrictions and it is that which worries me, mainly.

Senator SCHUMER. Thank you both, Mr. Chairman.

Chairman SARBANES. We will now move to a second round for those who have stayed on, I want to participate.

Mr. Chairman, I want to run through some points with you very quickly.

First of all, I want to come back to a point made at the outset because I am very concerned about this sort of drumbeat in the press. This is a story reporting on your testimony over on the House side.

It said:

> In an effort to stave off recession, the Federal Reserve has slashed interest rates six times this year, totalling 2.75 percentage points, the most aggressive credit-easing campaign in nearly two decades.

Now this drumbeat that the Fed has done much more than it is ever done before and somehow, it is way out at the end of the string in terms of what it is trying to do, it just runs directly counter to this chart, on the real Federal funds rate, which, after all, you have to adjust related to inflation.

Chairman GREENSPAN. Is that with the PCE deflator or with the CPI deflator?

Chairman SARBANES. Core CPI. Here's how far you have come now. This is where you went back in the early 1990's. It is also illustrated by this chart, which shows the—and this is how you came down back then.

Here, you have done it more quickly, and I commend you for that. I think that was the right move.

But I just want to make the point that there is still room to go. I do not regard the Fed as having engaged in the most aggressive credit-easing campaign in nearly two decades. I think you have followed a vigorous policy since January. But I don't think it is the

most vigorous and I don't think you ought to be dissuaded from doing more by some notion that somehow you have gone out to the limits or close to the limits in terms of what you have already done.

Now I want to touch just once more on this boom and bust and business cycle.

We are not in a recession. Correct? Everyone talks this gloom talk and we are concerned about the economic downturn. But the fact is we have not yet had a quarter with negative growth.

Chairman GREENSPAN. That is correct, Senator.

Chairman SARBANES. And to have a recession, if we stick with the definition we have consistently used in the past, we would need to have two successive quarters of negative growth.

Is that correct?

Chairman GREENSPAN. That is one definition of recession, and the one that I suspect is used by most people.

Chairman SARBANES. Right.

Chairman GREENSPAN. But there are others. For example, the National Bureau of Economic Research, as you know, endeavors after the fact to designate peaks and troughs in the business cycle.

Chairman SARBANES. Right.

Chairman GREENSPAN. And it doesn't always exactly coincide with the two quarters of GDP negative growth.

Chairman SARBANES. Of course, I agree with what Senator Gramm said when he was here. We have had a pretty good run here on the economy, and to the extent that we are getting this slowing, which has not yet, in my view, crossed into a recession, I think we can attribute some of this success to a careful mix of fiscal and monetary policy that has enabled us thus far at least to avoid what I would call a bust.

It hasn't avoided the business cycle, but avoided a bust. And I think we need to continue to work toward that objective.

That leads me to the point, you say in your statement: Surely, one reason long-term rates have held up is changed expectations in the Treasury market, as forecasts of the unified budget surplus were revised down, indicating that the supplies of outstanding marketable Treasury debt are unlikely to shrink as rapidly as previously anticipated.

Now, my criticism of the excessive tax cut was that, when it projected out into future years, not whatever we did to get a stimulus this year, but projected out into future years, it led to these forecasts with respect to the unified budget surplus that were significantly revised down. And that is occurring all the time. It is constantly being revised downwards.

And in a sense, it broke the kind of relationship that had been set up between a restrained fiscal policy and the ability, then, of the Fed to accommodate or adjust its monetary policy.

So it seems to me that as we look ahead, the task of the Fed has been made much more difficult in terms of bringing down the long-term rates because of this development.

Would you agree with that?

Chairman GREENSPAN. I think it is a marginal issue, Senator, in the sense that it is true that mortgage rates have not been lowered and Treasury rates are higher. But as I indicated to one of your colleagues earlier, if you go back to the period before we started

to ease, the anticipation was that that was about to happen, because you could see it in the Federal funds futures markets, correctly obviously in retrospect, and you got a dramatic decline in long-term rates.

So while I don't deny that clearly—I mean, the logic of it is indisputable—that the greater the surplus, the lower the rates, other things equal, I don't think the orders of magnitude are large enough to really materially affect the outcome, even though I grant you that——

Chairman SARBANES. I was just picking up off your own statement that, surely, one reason long-term rates have held up is changed expectations.

Chairman GREENSPAN. Yes, the point you are making I think is a correct point.

Chairman SARBANES. Right.

Chairman GREENSPAN. It is just I don't think the orders of magnitude are really very large.

Chairman SARBANES. Senator Bennett.

Senator BENNETT. Thank you very much, Mr. Chairman. I appreciate the second round.

First, Chairman Greenspan, on an issue that nobody else has talked about and that we can dispose of relatively quickly, I would like to meet with you or whomever you might designate at the Fed to talk about critical infrastructure protection concerns.

You know from my past history with Y2K, I am concerned about what happens if the computers fail. And when we got through with the Y2K experience, Senator Dodd and I, it hit me, well, we have missed this one in terms of what would happen if the computers failed by accident, what would happen if they failed on purpose?

And I have now wallowed in the intelligence community and the defense community and have a sense of what is going on there.

But if I were someone who wished this country ill, I would not attack the defense computers. I would try to get into the Fed wire and see to it that it is shut down.

And you have all kinds of computers, contractors and so on. And I would like to ask you to allow me to wallow in that as well in my effort to see to it that the Congress comes up to speed on the issue of credit infrastructure protection.

Chairman GREENSPAN. Senator, if the Fedwire got shut down for any material period of time, with the huge volumes that are going over it, I can assure you we would have difficulties. And as a consequence, as soon as you would like to get together on that issue, we would be more than pleased to make available to you what we do to prevent that from happening.

Chairman SARBANES. I might note, Senator Bennett did really stellar work on the Y2K issue. He headed up a special committee of this Committee. And with Senator Dodd, I think they made a really major contribution in pushing various sectors in the economy to get up to standard.

And I am pleased he's continuing his interest in these problems.

Senator BENNETT. Let me talk now about the national debt.

As we have had these exchanges over the years, when the surplus first started to rear its lovely head, much to the surprise of everyone, we immediately tried to decide what to do about it. And

your testimony to us at the time was don't do anything about it. Just let it run.

Pay down the national debt. If you find that you are paying down the debt too much, you can always increase it again. Therefore, you counseled us to kind of hold our fire on that and let it go forward.

I think that was wise counsel.

Then as the surplus began to loom even larger, you endorsed a tax cut as one of the ways to deal with it.

Without engaging in an exchange with my friend from New York as to the appropriateness of the size of this tax cut, or the timing of this tax cut, it now looks as if some kind of surplus is going to be with us in one form or another, for a relatively long period of time.

Maybe not 50 years, but at least to the degree that we can tell, 10 years.

So let's step aside from the debate on taxes and simply talk about paying down the national debt and the size of the national debt that would be a logical number to focus on.

Can you give us any kind of reasonable target as to where the debt ought to be?

And I always view this not in absolute terms, but in relative terms. That is, the debt as a percentage of GDP, is the number that I talk about.

And I would be very grateful if you could respond to that. If that is the wrong relative relationship, tell me and say where it is that we ought to be.

Chairman GREENSPAN. No, no. I agree with you on that, Senator.

Right now, as you know, our debt to the public is $3¼ trillion, which is roughly 3 percent plus of the GDP.

Senator BENNETT. Wait a minute. No. Three percent of GDP?

Chairman GREENSPAN. What did I say? Three percent?

Senator BENNETT. Yes.

Chairman GREENSPAN. Sorry about that. I am missing a digit.

Senator BENNETT. Yes. I was going to say, it sounds closer to 30 percent to me.

Chairman GREENSPAN. It is a little over 30 percent of GDP.

Senator BENNETT. Yes.

Chairman GREENSPAN. Well, it is wishful thinking, maybe.

[Laughter.]

The estimates that we make try to figure out how far down you can get the debt down. And we have come up against the issue that you still want to have savings bonds, which serve many useful purposes. There are State and local holdings which are not an insignificant amount and are very useful to State and local governments to have U.S. Treasury issues that focus on their ability to escrow accounts and do a number of other things. Then there is a significant amount of debt held by foreign accounts, whether they are central banks or private foreigners, which probably would be very difficult to reduce prior to maturity. In other words, theoretically, we could bid them away, but at extraordinary premiums.

So if you look at the process of the maturities of the debt, it is evident that when you get below a trillion dollars, you are running into downside resistance, which at that point would be less than 10 percent of the GDP. That is a very valuable thing to do, in my

judgment. When you are running into a situation in which the demographics of the society are such that you are going to have an ever-increasing problem of maintaining the retirement benefits that, to start off the period with a very low Federal debt is probably a wise thing to do.

And that is indeed what I think we are doing. I think that is what the policy of this Government and the Congress is, and I think that is sensible.

Senator BENNETT. If we hit the targets in the surplus forecasts that we had, we will do that on the path that we are currently on?

Mr. GREENSPAN. I would think so. Crucial to the forecast, however, is that structural productivity is fairly close to where earlier projections have put it, and as far as I am concerned, there is no reason to doubt that.

Senator BENNETT. I see. Thank you. Thank you, Mr. Chairman.

Chairman SARBANES. Thank you. Well, it is one of the prerogatives of being the Chairman that you can ask even a few more questions right at the end.

I am going to impose on you for just a couple of minutes.

First of all, I cannot let the statement about the minimum wage simply go unchallenged. Alan Kruger at Princeton did a study of the impact of the minimum wage and reached the conclusion that it had not had a negative effect on unemployment.

Chairman GREENSPAN. I am quite familiar with that study.

Chairman SARBANES. And contrary to the impression that might have been drawn from your previous response, that most of the people drawing a minimum wage are teenagers, in fact, upwards of two-thirds of them are adults.

Chairman GREENSPAN. My concern is mainly on the teenagers.

Chairman SARBANES. Well, the problem there, of course, is how do you address that without depressing the wage for the adults?

But there are lots of people who do household work, for example, and many other activities that I think would simply see a cut in their wage and in their standard of living without markedly affecting the job market.

So it is a difficult issue. But we have tried to put this floor under people and it seems to me a worthwhile endeavor.

The Fed now has under consideration a regulation dealing with predatory lending. Gov. Ferguson, when he was here, indicated that it would probably be some time in the fall when the Fed would be able to finalize that regulation.

I just want to underscore that I think there is a tremendous opportunity for the Fed to make a very significant contribution in addressing this problem in this regulation as you move toward finalizing it.

Some of the major players in the sub-prime lending market are in fact moving now to change their own practices in response to many of the criticisms that have been leveled. Clearly, I think there is a perception on the part of many that there are certain practices going on that really cross the line in terms of what is appropriate or reasonable.

And I think the Fed has a real opportunity in this regulation to really move us ahead on that issue. And I simply encourage the Fed to do that.

I know you have spoken yourself on the predatory lending issue and we appreciate the observations you have made. And I just wanted to leave that with you.

Finally, the Open Market Committee meets 8 times a year, every 6 weeks. Is that about it, roughly speaking?

Chairman GREENSPAN. That is correct, Mr. Chairman.

Chairman SARBANES. And has that always been its pattern?

Chairman GREENSPAN. That is a good question. I think not. Let me ask our historians here.

Mr. KOHN. It used to be 12 times a year.

Chairman GREENSPAN. We used to meet 12 times?

Mr. KOHN. Twelve times a year.

Chairman GREENSPAN. How did San Francisco Bank handle that when they had to go by train?

[Laughter.]

Mr. KOHN. Well, in fact, there were 4 times required and then there was an Executive Committee in the early 1950's that met.

But at least from the 1970's on, it was about 12 times a year. And that 12 times a year may have begun before that.

Chairman SARBANES. Well, I am just inquiring because I don't think you can probably get away with it, but there is an inordinate focus that takes place around an Open Market Committee. You have everyone sort of holding their breath for 2 or 3 weeks before and sort of letting out their breath for 1 or 2 weeks afterwards.

It is almost like polls in a presidential campaign. Nothing happens in between. Everyone waits for the poll. So you get everyone waiting for the Open Market Committee.

Actually, we try to do these hearings on a regular and periodic basis, in part, as we discussed, to make them more a normal part of the business.

Do you sense that with these Open Market Committees? You are doing it fairly frequently, I don't know that I have any suggestion.

But there is a tremendous amount of commotion that springs up around every Open Market Committee meeting.

Chairman GREENSPAN. I don't know how you avoid that, Mr. Chairman I think that so long as we move in discrete fashions, meaning that we actually alter the rate in a discrete manner, it has an impact on the money markets.

Historically, when we used to work with so-called net borrowed reserves, where we were not focusing on interest rates directly, it was actually quite possible for us to increase and decrease at very small increments and, indeed, there were many occasions when big disputes would occur among so-called Fed-watchers as to whether we had tightened or eased. And in that context, we did not have the impact that you are referring to.

I am not sure it is a serious problem. One of the reasons I say that is we have developed a Federal funds futures market. That means people in the investment community are increasingly reacting to the same events that we react to. And so more often than not, when we move, it is not a shock to the system because it has already been anticipated and embodied in the forward markets.

There are occasions, whether by deliberate action on our part or other reasons such as events occurring very quickly without a chance for anyone to fully absorb them, that we would move more

or less than the market would expect. The consequence is market adjustments, and we want market adjustments. The purpose of having a policy is to effectively impact on the market structure itself. But I know of no way that by altering the number of meetings or how we do them which could address the real problem that you allude to.

Chairman SARBANES. Let me observe that we tried to move Gov. Ferguson through in short order, so he's now of course been confirmed.

The President has announced his intention to nominate—he's named two people so far for vacancies on the Federal Reserve Board. But that is an intention to nominate. We have not yet received those papers here and the nomination has not officially been sent to us, so we await that development before we can move forward to holding hearings, which obviously, we would intend to do in an effort to get the board back up to full strength.

I mean, you are down so far, you even have had some worries about a quorum problem, as I understand it.

Chairman GREENSPAN. Yes. We have five members, and most of the time we are dealing with quorums of four. But there are very rare occasions when we would need five votes for certain actions on our part. So we would be concerned if we fell below five. And clearly, we would be hopeful that we could be moved back up to the full complement of seven.

Chairman SARBANES. We will be very sensitive to that concern.

And finally, let me announce that the final vote on the nomination of Harvey Pitt to be a Member of the Securities and Exchange Commission was 21 to nothing, all Members of the Committee having voted.

I yield to Senator Schumer right here at the end.

Senator SCHUMER. Thank you. I have one last question. I appreciate both Chairs' indulgence. It is not about the previous subjects.

It is about an issue that greatly concerns me, which is the balance of payments deficit. I won't get into what it is. We all know what it is. Just to say that foreign ownership of U.S. Treasuries because of this is now 35 percent, corporate bonds, 45 percent, and in our huge equity market, it is up to 11 percent already.

So, I guess the worry we all have is that at some point, foreign investors won't be there to continue paying for our investments, and then we could face some really catastrophic disinvestment.

And I know that we are at the end of the hearing, so I know the answers will have to be brief. But do you have any historical guidance for us on this? I know you have studied it, as to what to do about this issue, if anything?

Is recession the only way to deal with it? We all know it is a problem. What should we be doing about this, if anything?

Chairman GREENSPAN. Senator, I could say that we have spent an inordinate amount of time at the Federal Reserve addressing exactly this issue. And I think, as I have mentioned to you before, we have concluded that the propensity to import goods in the United States relative to our incomes is higher than our trading partners. And so if everyone were growing at the same rate in the world, we would have a chronic balance of payments deficit. That, in effect, is the source of the historical balance of payments deficit.

Most recently, at times, it has been engendered not from the export and import side, but from the capital investment side where the desire to hold U.S. dollar-denominated assets was greater than was being required by our trade deficit and, in a sense, the trade deficit opened up because the system must balance.

We think it is a difficult issue. We have long been concerned about the issue that you are raising. At some point something has got to give somewhere. But we have had that concern for over 5 years and it is still maintained itself. We don't know a simple solution to this. But clearly, it is a policy problem that engages us and engages the Administration as well.

Senator SCHUMER. From the dollar stance that we have had, does that bear some reexamination?

Chairman GREENSPAN. As you know, Senator, with respect to the dollar, I, like all of my colleagues, other than the Secretary of the Treasury who has been designated the spokesman by all of us—correctly, in my judgment—on the issue of the dollar, as a consequence of that, I regret that I cannot respond.

Senator SCHUMER. That is twice today.

[Laughter.]

Thank you, Mr. Chairman.

Chairman SARBANES. Mr. Chairman, one final observation.

I have talked with the Secretary of Commerce, Secretary Evans, who is interested in this issue of improving the Federal Government statistics, the statistical infrastructure.

Of course, some of that agency is under his jurisdiction, although not all of it. We are trying to work together. And I have also talked with the CEA people about it.

And I just wanted to, in a sense, get you back on record. I recall you testified before a committee at one point, while you eschewed advocating any increase in spending—in fact, I think you said, I have your quote here: I am extraordinarily reluctant to advocate any increase in spending. So it is got to be either a very small amount or a very formidable argument that is involved. And I find in this case that both conditions are met.

I take it that is still your view about improving the Federal statistical infrastructure.

Chairman GREENSPAN. That is correct, Mr. Chairman.

Chairman SARBANES. Thank you. The Committee is adjourned.

Thank you very much.

[Whereupon, at 12:59 p.m., the hearing was adjourned.]

[Prepared statements, response to written questions, and additional material for the record follow:]

PREPARED STATEMENT OF SENATOR JON CORZINE

Thank you, Mr. Chairman for holding this important hearing. I want to thank Chairman Greenspan for appearing before the Committee today. As we all know, when Mr. Greenspan speaks—America, and much of the rest of the world, listens.

Mr. Chairman, it is of vital importance that Congress discusses the many issues that shape our economic and monetary policy so that as we proceed in our legislative agenda we remain ever mindful of working to strengthen America's economy and seeking to improve the lives of our citizens.

As we all are well aware, our economy has struggled of late. The efforts of the Fed, in attempting to revive our lagging economy, have been well documented. Yet despite six interest rate cuts this year, our economy remains sluggish. Our most prominent economists all seem to disagree as to when the true effects of the Fed's monetary policy will kick-in. But all agree that the effects, to-date, have been relatively modest. As Richard Stevenson pointed out in his piece in today's *New York Times:*

> ". . . in this business cycle the three main vehicles through which lower rates affect business, investor and consumer behavior—the stock, bond and currency markets—have remained persistently unresponsive to the Fed's actions.

There is little doubt that the challenge the Fed finds itself confronting is a daunting one. Consider our current economic condition.

A long overhang of business investment.

Extraordinary current account deficits.

A negative personal savings rate.

Low productivity growth.

Disappointing corporate earnings.

Long-term interest rates that resist monetary policy and remain steadfastly high.

Rising unemployment and the reverse wealth effect seem destined to negatively impact the one thing that has, to this point, served as the safety pin of our economic fortunes—consumer confidence and spending.

The Fed's task becomes even more daunting when you consider that the global economy is also showing indications of a slowdown.

That said, our economic situation would certainly be much, much worse had it not been for the Fed's aggressive actions this year. Ultimately, I believe the Fed rate-cuts will provide the necessary jolt to turn our sluggish economy into a healthy one.

The question before us is how we can bring about this economic revival sooner rather than later.

As always, I look forward to hearing Chairman Greenspan's thoughts regarding the state of our economy and our future economic outlook. Judging from the number of flashbulbs, cameras and tape recorders that are present today, I can tell I am not alone.

Thank you, Mr. Chairman.

PREPARED STATEMENT OF ALAN GREENSPAN

CHAIRMAN, BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM

JULY 24, 2001

I appreciate the opportunity this morning to present the Federal Reserve's semi-annual report on monetary policy.

Monetary policy this year has confronted an economy that slowed sharply late last year and has remained weak this year, following an extraordinary period of buoyant expansion.

By aggressively easing the stance of monetary policy, the Federal Reserve has moved to support demand and, we trust, help lay the groundwork for the economy to achieve maximum sustainable growth. Our accelerated action reflected the pronounced downshift in economic activity, which was accentuated by the especially prompt and synchronous adjustment of production by businesses utilizing the faster flow of information coming from the adoption of new technologies. A rapid and sizable easing was made possible by reasonably well-anchored inflation expectations, which helped to keep underlying inflation at a modest rate, and by the prospect that inflation would remain contained as resource utilization eased and energy prices backed down.

In addition to the more accommodative stance of monetary policy, demand should be assisted going forward by the effects of the tax cut, by falling energy costs, by the spur to production once businesses work down their inventories to more comfortable levels, and, most important, by the inducement to resume increases in

capital spending. That inducement should be provided by the continuation of cost-saving opportunities associated with rapid technological innovation. Such innovation has been the driving force raising the growth of structural productivity over the last half-dozen years. To be sure, measured productivity has softened in recent quarters, but by no more than one would anticipate from cyclical influences layered on top of a faster long-term trend.

But the uncertainties surrounding the current economic situation are considerable, and, until we see more concrete evidence that the adjustments of inventories and capital spending are well along, the risks would seem to remain mostly tilted toward weakness in the economy. Still, the FOMC opted for a smaller policy move at our last meeting because we recognized that the effects of policy actions are felt with a lag, and, with our cumulative 2¾ percentage points of easing this year, we have moved a considerable distance in the direction of monetary stimulus. Certainly, should conditions warrant, we may need to ease further, but we must not lose sight of the prerequisite of longer-run price stability for realizing the economy's full growth potential over time.

Despite the recent economic slowdown, the past decade has been extraordinary for the American economy. The synergies of key technologies markedly elevated prospective rates of return on high-tech investments, led to a surge in business capital spending, and significantly increased the growth rate of structural productivity. The capitalization of those higher expected returns lifted equity prices, which in turn contributed to a substantial pickup in household spending on a broad range of goods and services, especially on new homes and durable goods. This increase in spending by both households and businesses exceeded even the enhanced rise in real household incomes and business earnings. The evident attractiveness of investment opportunities in the United States induced substantial inflows of funds from abroad, raising the dollar's exchange rate while financing a growing portion of domestic spending.

By early 2000, the surge in household and business purchases had increased growth of the stocks of many types of consumer durable goods and business capital equipment to rates that could not be sustained. Even though demand for a number of high-tech products was doubling or tripling annually, in some cases new supply was coming on even faster. Overall, capacity in high-tech manufacturing industries, for example, rose nearly 50 percent last year, well in excess of its already rapid rate of increase over the previous 3 years. Hence, a temporary glut in these industries and falling short-term prospective rates of return were inevitable at some point. This tendency was reinforced by a more realistic evaluation of the prospects for returns on some high-tech investments, which, while still quite elevated by historical standards, apparently could not measure up to the previous exaggerated hopes. Moreover, as I testified before this Committee last year, the economy as a whole was growing at an unsustainable pace, drawing further on an already diminished pool of available workers and relying increasingly on savings from abroad. Clearly, some moderation in the pace of spending was necessary and expected if the economy was to progress along a more balanced growth path.

In the event, the adjustment occurred much faster than most businesses anticipated, with the slowdown likely intensified by the rise in the cost of energy that until quite recently had drained businesses and households of purchasing power. Growth of outlays of consumer durable goods slowed in the middle of 2000, and shipments of nondefense capital goods have declined since autumn.

Moreover, weakness emerged more recently among our trading partners in Europe, Asia, and Latin America. The interaction of slowdowns in a number of countries simultaneously has magnified the softening each of the individual economies would have experienced on its own.

Because the extent of the slowdown was not anticipated by businesses, some backup in inventories occurred, especially in the United States. Innovations, such as more advanced supply-chain management and flexible manufacturing technologies, have enabled firms to adjust production levels more rapidly to changes in sales. But these improvements apparently have not solved the thornier problem of correctly anticipating demand. Although inventory-sales ratios in most industries rose only moderately, those measures should be judged against businesses' desired levels. In this regard, extrapolation of the downtrend in inventory-sales ratios over the past decade suggests that considerable imbalances emerged late last year. Confirming this impression, purchasing managers in the manufacturing sector reported in January that inventories in the hands of their customers had risen to excessively high levels.

As a result, a round of inventory rebalancing was undertaken, and the slowdown in the economy that began in the middle of 2000 intensified. The adjustment process started late last year when manufacturers began to cut production to stem the accu-

mulation of unwanted inventories. But inventories did not actually begin falling until early this year as producers decreased output levels considerably further.

Much of the inventory reduction in the first quarter reflected a dramatic scaling back of motor vehicle assemblies. However, inventories of computers, semiconductors, and communications products continued to build into the first quarter, and these stocks are only belatedly being brought under control. As best we can judge, some progress seems to have been made on inventories of semiconductors and computers, but little gain is apparent with respect to communications equipment. Inventories of high-tech products overall have probably been reduced a bit, but a period of substantial liquidation of stocks still seemingly lies ahead for these products.

For all inventories, the rate of liquidation appears to have been especially pronounced this winter, and the available data suggest that it continued, though perhaps at a more moderate pace, this spring. A not inconsequential proportion of the current liquidation undoubtedly is of imported products, and thus will presumably affect foreign production, but most of the adjustment has fallen on domestic producers.

At some point, inventory liquidation will come to an end, and its termination will spur production and incomes. Of course, the timing and force with which that process of recovery plays out will depend on the behavior of final demand. In that regard, the demand for capital equipment, particularly in the near term, could pose a continuing problem. Despite evidence that expected long-term rates of return on the newer technologies remain high, growth of investment in equipment and software has turned decidedly negative. Sharp increases in uncertainties about the short-term outlook have significantly foreshortened the time frame over which businesses are requiring new capital projects to pay off. The consequent heavier discounts applied to those long-term expectations have induced a major scaling back of new capital spending initiatives, though one that presumably is not long-lasting given the continuing inducements to embody improving technologies in new capital equipment.

In addition, a deterioration in sales, profitability, and cash flow has exacerbated the weakness in capital spending. Pressures on profit margins have been unrelenting. Although earnings weakness has been most pronounced for high-tech firms, where the previous extraordinary pace of expansion left oversupply in its wake, weakness is evident virtually across the board, including most recently in earnings of the foreign affiliates of American firms.

Much of the squeeze on profit margins of domestic operations results from a rise in unit labor costs. Gains in compensation per hour picked up over the past year or so, responding to a long period of tight labor markets, the earlier acceleration of productivity, and the effects of an energy-induced run-up in consumer prices. The faster upward movement in hourly compensation, coupled with the cyclical slowdown in the growth of output per hour, has elevated the rate of increase in unit labor costs. In part, fixed costs, nonlabor as well as labor, are being spread over a smaller production base for many industries.

The surge in energy costs has also pressed down on profit margins, especially in the fourth and first quarters. In fact, a substantial portion of the rise in total costs of domestic nonfinancial corporations between the second quarter of last year and the first quarter of this year reflected the increase in energy costs. The decline in energy prices since the spring, however, should be contributing positively to margins in the third quarter. Moreover, the rate of increase in compensation is likely to moderate, with inflation expectations contained and labor markets becoming less taut in response to the slower pace of growth in economic activity. In addition, continued rapid gains in structural productivity should help to suppress the rise in unit labor costs over time.

Eventually, the high-tech correction will abate, and these industries will reestablish themselves as a solidly expanding, though less frenetic, part of our economy. When they do, growth in that sector presumably will not return to the outsized 50 percent annual growth rates of last year, but rather to a more sustainable pace.

Of course, investment spending ultimately depends on the strength of consumer demand for goods and services. Here, too, longer-run increases in real incomes of consumers engendered by the rapid advances in structural productivity should provide support to demand over time. And thus far this year, consumer spending *has* indeed risen further, presumably assisted in part by a continued rapid growth in the market value of homes, from which a significant amount of equity is being extracted. Moreover, household disposable income is now being bolstered by tax cuts.

But there are also downside risks to consumer spending over the next few quarters. Importantly, the same pressure on profits and the heightened sense of risk that have held down investment have also lowered equity prices and reduced household wealth despite the rise in home equity. We can expect the decline in stock mar-

ket wealth that has occurred over the past year to restrain the growth of household spending relative to income, just as the previous increase gave an extra spur to household demand. Furthermore, while most survey measures suggest consumer sentiment has stabilized recently, softer job markets could induce a further deterioration in confidence and spending intentions.

While this litany of risks should not be downplayed, it is notable how well the U.S. economy has withstood the many negative forces weighing on it. Economic activity has held up remarkably in the face of a difficult adjustment toward a more sustainable pattern of expansion.

The economic developments of the last couple of years have been a particular challenge for monetary policy. Once the financial crises of late 1998 that followed the Russian default eased, efforts to address Y2K problems and growing optimism—if not euphoria—about profit opportunities produced a surge in investment, particularly in high-tech equipment and software. The upswing outstripped what the Nation could finance on a sustainable basis from domestic saving and funds attracted from abroad.

The shortfall of saving to finance investment showed through in a significant rise in average real long-term corporate interest rates starting in early 1999. By June of that year, it was evident to the Federal Open Market Committee that to continue to hold the funds rate at the then-prevailing level of 4¾ percent in the face of rising real long-term corporate rates would have required a major infusion of liquidity into an economy already threatening to overheat. In fact, the increase in our target Federal funds rate of 175 basis points through May of 2000 barely slowed the expansion of liquidity, judging from the M2 measure of the money supply, whose rate of increase declined only modestly through the tightening period.

By summer of last year, it started to become apparent that the growth of demand finally was slowing, and seemingly by enough to bring it into approximate alignment with the expansion of potential supply, as indicated by the fact that the pool of available labor was no longer being drawn down. It was well into autumn, however, before one could be confident that the growth of aggregate demand had softened enough to bring it into a more lasting balance with potential supply. Growth continued to decline to a point that by our December meeting, the Federal Open Market Committee decided that the time to counter cumulative economic weakness was close at hand. We altered our assessment of the risks to the economy, and with incoming information following the meeting continuing to be downbeat, we took our first easing action on January 3. We viewed the faster downshift in economic activity, in part a consequence of the technology-enhanced speed and volume of information flows, as calling for a quicker pace of policy adjustment. Acting on that view, we have lowered the Federal funds rate 2¾ percentage points since the turn of the year, with last month's action leaving the Federal funds rate at 3¾ percent.

Most long-term interest rates, however, have barely budged despite the appreciable reductions in short-term rates since the beginning of the year. This has led many commentators to ask whether inflation expectations have risen. Surely, one reason long-term rates have held up is changed expectations in the Treasury market, as forecasts of the unified budget surplus were revised down, indicating that the supplies of outstanding marketable Treasury debt are unlikely to shrink as rapidly as previously anticipated. Beyond that, it is difficult to judge whether long-term rates have held up because of firming inflation expectations or a belief that economic growth is likely to strengthen, spurring a rise in real long-term rates.

One measure often useful in separating the real interest rates from inflation expectations is the spread between rates on nominal 10-year Treasury notes and inflation-indexed notes of similar maturity. That spread rose more than three-fourths of a percentage point through the first 5 months of this year, a not insignificant change, though half of that increase has been reversed since. By the nature of the indexed instrument, the spread between it and the comparable nominal rate reflects expected CPI inflation. While actual CPI inflation has picked up this year, this rise has not been mirrored uniformly in other broad price measures. For example, there has been little, if any, acceleration in the index of core personal consumption expenditure prices, which we consider to be a more reliable measure of inflation. Moreover, survey readings on long term inflation expectations have remained quite stable.

The lack of pricing power reported overwhelmingly by business people underscores the quiescence of inflationary pressures. Businesses are experiencing, the effects of softer demand in product markets overall, but these effects have been especially marked for many producers at earlier stages of processing, where prices generally have been flat to down thus far this year. With energy prices now also moving lower and the lessening of tautness in labor markets expected to dampen wage increases, overall prices seem likely to be contained in the period ahead.

Forecasts of inflation, however, like all economic forecasts, do not have an enviable record. Faced with such uncertainties, a central bank's vigilance against inflation is more than a monetary policy cliche; it is, of course, the way we fulfill our ultimate mandate to promote maximum sustainable growth.

A central bank can contain inflation over time under most conditions. But do we have the capability to eliminate booms and busts in economic activity? Can fiscal and monetary policy acting at their optimum eliminate the business cycle, as some of the more optimistic followers of J.M. Keynes seemed to believe several decades ago?

The answer, in my judgment, is no, because there is no tool to change human nature. Too often people are prone to recurring bouts of optimism and pessimism that manifest themselves from time to time in the buildup or cessation of speculative excesses. As I have noted in recent years, our only realistic response to a speculative bubble is to lean against the economic pressures that may accompany a rise in asset prices, bubble or not, and address forcefully the consequences of a sharp deflation of asset prices should they occur.

While we are limited in our ability to anticipate and act on asset price bubbles, expectations about future economic developments nonetheless inevitably play a crucial role in our policymaking. If we react only to past or current developments, lags in the effects of monetary policy could end up destabilizing the economy, as history has amply demonstrated.

Because accurate point forecasts are extraordinarily difficult to fashion, we are forced also to consider the probability distribution of possible economic outcomes. Against these distributions, we endeavor to judge the possible consequences of various alternative policy actions, especially the consequences of a policy mistake. We recognize that this policy process may require substantial swings in the Federal funds rate over time to help stabilize the economy, as, for example, recurring bouts of consumer and business optimism and pessimism drive economic activity.

In reducing the Federal funds rate so substantially this year, we have been responding to our judgment that a good part of the recent weakening of demand was likely to persist for a while, and that there were significant downside risks even to a reduced central tendency forecast. Moreover, with inflation low and likely to be contained, the main threat to satisfactory economic performance appeared to come from excessive weakness in activity.

As a consequence of the policy actions of the FOMC, some of the stringent financial conditions evident late last year have been eased. Real interest rates are down on a wide variety of borrowing instruments. Private rates have benefited from some narrowing of risk premiums in many markets. And the growth of liquidity, as measured by M2, has picked up. More recently, incoming data on economic activity have turned from persistently negative to more mixed.

The period of sub-par economic performance, however, is not yet over, and we are not free of the risk that economic weakness will be greater than currently anticipated, and require further policy response. That weakness could arise from softer demand abroad as well as from domestic developments. But we need also to be aware that our front-loaded policy actions this year coupled with the tax cuts under way should be increasingly affecting economic activity as the year progresses.

The views of the Federal Reserve Governors and Reserve Bank Presidents reflect this assessment. While recognizing the downside risks to their current forecast, most anticipate at least a slight strengthening of real activity later this year. This is implied by the central tendency of their individual projections, which is for real GDP growth over all four quarters of 2001 of 1¼ to 2 percent. Next year, the comparable figures are 3 to 3¼ percent. The civilian unemployment rate is projected to rise further over the second half of the year, with a central tendency of 4¾ to 5 percent by the fourth quarter and 4¾ to 5¼ percent four quarters later. This easing of pressures in product and labor markets lies behind the central tendency for PCE price inflation of 2 to 2½ percent over the four quarters of this year and 1¾ to 2½ percent next year.

As for the years beyond this horizon, there is still, in my judgment, ample evidence that we are experiencing only a pause in the investment in a broad set of innovations that has elevated the underlying growth in productivity to a rate significantly above that of the 2 decades preceding 1995. By all evidence, we are not yet dealing with maturing technologies that, after having sparkled for a half-decade, are now in the process of fizzling out. To the contrary, once the forces that are currently containing investment initiatives dissipate, new applications of innovative technologies should again strengthen demand for capital equipment and restore solid economic growth over time that benefits us all.

RESPONSE TO WRITTEN QUESTIONS OF SENATOR SARBANES FROM ALAN GREENSPAN

Q.1. Productivity Growth: Structural productivity growth caused much of the rapid growth that our economy experienced from 1995 to 2000. Chairman Greenspan postulated that structural productivity growth rates have returned to the pre-1974 rate of 2.75 percent per year, compared to the 1974–1995 rate of 1.5 percent per year. Given that quarterly productivity growth rates are highly variable, yet the productivity growth rate for the first quarter of this year was negative 1.2 percent. Do you think there is enough empirical proof to validate your hypothesis that we have seen fundamental change in structural productivity? On the basis of the evidence outstanding, do you believe that it is wise to make projections and implement revenue decisions on these 10-year projections of productivity?

A.1. Longer-term projections of output growth necessarily involve projections of structural productivity growth. The only issue is what is the appropriate rate of structural productivity growth to write down. Deriving an estimate of past growth in structural productivity is complicated by the inherent volatility of quarterly labor productivity data and the important impact economic cycles have on measured productivity, often exaggerating the productivity numbers in a period of boom and understating them in times of weakness. In addition, the raw data used to construct productivity, output and labor hours, are subject to revision. Indeed, the most recent revisions to the national income and product accounts released at the end of July show that productivity grew 2.6 percent over the 1998 to 2000 period, down from the previous estimate of 3.2 percent. Still, actual productivity grew 2.3 percent over the 1995 to 2000 period, substantially faster than the 1½ percent pace over the previous twenty years. Moreover, labor productivity rose 1.6 percent over the four quarters ending in the second quarter of this year, a time of cyclical weakness.

Looking ahead, the outlook for structural productivity depends critically on the prospective returns on investment and the corresponding growth of business investment. There continue to be good reasons for expecting returns on investment, especially in newer technologies, to remain high, and for investment to turn up and resume solid growth, once many of the near-term uncertainties that have been holding down capital outlays recede. In these circumstances, the outlook for structural productivity growth continues to be favorable, and it seems reasonable to expect productivity performance in the coming years to continue to be in excess of that which prevailed over the 2 decades ending in 1995.

Q.2. Consumer Leverage: According to the OCC, consumers are more highly leveraged now than at any measured point in history. Not only are debt service payments at historic highs, but the increase in debt has been financed through instruments other than mortgages. For example, *The Chicago Sun Times* reported that the average credit card debt per household is $8,123 and has grown threefold over the past decade. Debt service payments constitute over 14 percent of disposable income. If the economy continues to worsen, do you think that the precarious position that consumers

are in today could create a vicious cycle in which poor economic conditions and high personal debt interact to reduce demand more than expected?

A.2. As financial markets have developed over recent decades, mortgage and consumer credit have become increasingly available to households. This has contributed to household debt expanding more rapidly than disposable personal income, bringing the household debt-to-income measure to higher levels. So long as household earnings unfold in line with expectations, high debt levels do not pose much of a problem. But, when employment conditions and earnings deteriorate more than had been contemplated, strains can emerge that potentially could affect demand. The slowdown in earnings growth in the past year has contributed to a rise in the debt-service burden, and delinquency rates on various types of household debt have risen mildly. Acting to cushion the impact of earnings shortfalls for many borrowers, and to cushion household demand, has been the still-high level of assets. Indeed, the excess of household assets over household debt, household net worth, recently has been about five and a half times disposable income; despite declines in equity prices over the past year or so, this continues to exceed historically more typical ratios of net worth to income of five or a little less. Thus, household debt positions should not pose a serious threat to household spending, given generally strong asset positions, absent a considerable deterioration of labor market conditions. Nonetheless, this is a matter that deserves continued close attention in the period ahead.

Q.3. Unemployment: While the standard measure of unemployment has increased over the past two years to 4.4 percent, there is some concern that real unemployment is much higher. Specifically, measures of unemployment that include so-called "discouraged workers," the unemployed who have stopped looking for work, have been rising at a much faster rate. Chairman Greenspan, do you think that the real unemployment problem is larger than is generally perceived?

A.3. The evidence on this matter is not completely clear, though all measures of unemployment remain below levels that prevailed in the mid-1990's. An alternative measure that I have found helpful from time to time, those unemployed plus those outside the labor force who report that they want a job now, has risen by an amount similar to the official unemployment series. Some broader measures published by the Bureau of Labor Statistics that include discouraged workers, as well as marginally attached workers and those working part-time for economic reasons, have registered increases that have been a little larger than the official series. However, none of these measures suggest that the rise in the official series is seriously distorting the deterioration in job market conditions that has occurred over the past year.

Q.4. Balance of Payments: CBO's budget estimates for the next decade assume a strong growth in business investment. For the economy to match this lofty goal, funds have to be available to be invested. These funds can come from either domestic or international savings. If the international component of funding grows, our current account deficit will continue to grow. But for the fund-

ing to come from within, America will have to save more. Do you agree with CBO that business investment will be robust over the next 10 years, and if so, where will the funding for investments come from? Finally, do you believe that any policy changes will be necessary to ensure that there is enough funding available for American businesses to continue to make productive investments?

A.4. There continue to be good reasons to be optimistic about the outlook for business investment over the next decade. As noted in the response to Question 1, the prospects for returns on investments, especially those involving new technologies, remain favorable, looking beyond the recent period of weakness. The investment boom of the second half of the 1990's was financed by the swing from Federal Government deficits to surpluses, as well as through the current account; meanwhile, the contribution from personal saving actually fell. Looking ahead, there are reasons to believe that personal saving will be providing more resources to support growth in investment, but probably much more will be needed. Thus, it is important that the Federal Government preserve discipline in managing its finances, or else even more will be required from abroad.

Q.5. Consumer Confidence: Chairman Greenspan, in your testimony you said "softer job markets could induce a further deterioration in confidence and spending intentions." In your view, what role does consumer confidence play in setting monetary policy?

A.5. Consumer confidence plays little direct role in setting monetary policy, but can play a very important indirect role to the degree it has a bearing on the outlook for household consumption or housing spending or risks to that outlook. Household spending is by far the largest component of aggregate demand, and shifts in measures of consumer confidence can provide a helpful early warning of impending shifts in consumption or housing demand.

Q.6. Economic Effects of the Shrinking Surplus: At the beginning of the year Congress projected the Federal Government running a surplus of $281 billion. Today that projection is down to $160 billion. Chairman Greenspan, what do you believe the economic implications of the shrinking surplus are with regard to national savings, investment, and interest rates?

A.6. In assessing the deterioration in the Federal budget, it is important to keep in mind that portion which is due to a cyclically weaker economy and to technical factors, such as timing shifts in corporate receipts. Such influences are only temporary and will later be reversed. Forthcoming projection updates by CBO and OMB should prove helpful in sorting out temporary from more lasting influences on the budget, such as tax cuts and other factors affecting average tax rates. These reports should also contribute to the dialogue on potential output growth in the coming decade. Nonetheless, fiscal measures approved this year imply smaller surpluses going forward. Taken alone, this implies an effect on national saving and interest rates. However, other factors bearing on private saving and interest rates have also taken on a different cast since earlier this year, complicating any assessment.

Q.7. Uncertainty: Chairman Greenspan, in your testimony before this Committee in July 2000, you projected real GDP growth for the year 2001 to be between 3.25 and 3.75 percent. In February of 2001, you revised your GDP growth projections downward to between 2 and 2½ percent. And last week you again revised your projections for real GDP down to 1.25 to 2 percent. Does this mean that we, as policy makers, need to keep a more vigorous eye on the possibility of even slower growth than your current projections?

A.7. Economic forecasts should always be viewed as having confidence intervals around them, the central tendencies of the Board members and Reserve Bank presidents are no exception. After each of its meetings from last December to June, the FOMC has informed the public that it has seen the risks to the outlook to be weighted on the side of economic weakness, reflecting its concern that the economy might grow more slowly. As a consequence, the Federal Reserve has been especially attentive to the possibility that the economy could grow more slowly than anticipated and has responded aggressively to evidence that the weaker growth was emerging.

RESPONSE TO WRITTEN QUESTIONS OF SENATOR ENSIGN FROM ALAN GREENSPAN

At the July 24 hearing on the Federal Reserve's semiannual monetary policy report, you asked me to respond for the hearing record to a question you raised with respect to the impact of minimum wages on economic conditions.

I am pleased to enclose my response, which I am also transmitting to the Committee for inclusion in the record.

As I noted during my testimony before the Senate Banking Committee on July 24, my opposition to the minimum wage stems from my belief that by denying jobs to many potentially low-wage workers—especially younger workers—the minimum wage, on balance, hurts the very group it is intended to help. I believe by denying these workers an opportunity to accumulate labor market skills, the minimum wage inhibits economic growth over the long term.

You asked whether I thought that an increase in the minimum wage might retard economic growth in the short term as well, and whether any deleterious effects would be greater during periods of relative economic stagnation. Although research into the economics of the minimum wage has only rarely addressed its implications for the macroeconomy, I expect that these implications are relatively small. At the minimum wage levels currently under discussion, the reduction in aggregate employment and the accompanying misallocation of human (and other) resources are not likely to exert much influence on economic growth. However, I would expect an increase in the minimum wage to modestly boost inflation.

The economic effects of an increase in the minimum wage are naturally greater the longer it takes market wages to "catch up" with the new legislated minimum. For a given increase in the minimum wage, this period is likely to be shorter during times of strong economic growth or high inflation. Moreover, the adverse impact of the minimum wage on the employment opportunities of low-wage workers is presumably mitigated by the faster job cre-

ation that accompanies good economic times. Conversely, when overall rates of job growth are low, the negative impact of a higher minimum wage likely would show through more clearly to higher unemployment rates of low-wage workers.

RESPONSE TO WRITTEN QUESTIONS OF SENATOR SCHUMER FROM ALAN GREENSPAN

At the July 24 hearing on the Federal Reserve's semiannual monetary policy report, you asked me to respond for the hearing record to a question you raised with respect to the proportion of consumer debt that depends on short-term versus long-term interest rates.

I am pleased to enclose my response, which I am also transmitting to the Committee for inclusion in the record.

During my testimony before the Senate Banking Committee on July 24, you asked for information on the proportion of household borrowing that depends on short-term interest rates versus the proportion that depends on long-term rates.

As background, let me present the latest data on the extent of the decline in interest rates on both types of household loans since the middle of last year, when long-term interest rates began to drop on signs that the pace of economic growth was moderating. Since mid-2000, interest rates on both 30-year fixed-rate mortgages and adjustable-rate mortgages have fallen about 1½ percentage points, while interest rates on home equity lines of credit—which generally are linked to the prime rate at banks—have declined 2½ percentage points. In addition, the average interest rate on credit cards has fallen 1½ percentage points, while the average rate on auto loans has dropped nearly a full percentage point. In sum, interest rates on all major types of household credit have declined considerably.

With that background, let me turn to your specific question. About three-quarters of all household borrowing is in the form of home mortgages, and most of these mortgage loans carry fixed interest rates. This year, fixed-rate loans have accounted for more than 80 percent of home mortgage originations—an unusually high proportion because households generally view current fixed rates as quite attractive. As for non-mortgage borrowing, credit card debt is about 40 percent of this total, while auto loans and other loans—generally with maturities of 3 to 5 years—make up the balance.

For use at 10:00 a.m., EDT
Wednesday
July 18, 2001

Board of Governors of the Federal Reserve System

Monetary Policy Report to the Congress

Pursuant to section 2B of the Federal Reserve Act

July 18, 2001

Letter of Transmittal

BOARD OF GOVERNORS OF THE
FEDERAL RESERVE SYSTEM
Washington, D.C., July 18, 2001

THE PRESIDENT OF THE SENATE
THE SPEAKER OF THE HOUSE OF REPRESENTATIVES

The Board of Governors is pleased to submit its Monetary Policy Report to the Congress pursuant to section 2B of the Federal Reserve Act.

Sincerely,

Alan Greenspan, Chairman

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Monetary Policy Report to the Congress

Report submitted to the Congress on July 18, 2001, pursuant to section 2B of the Federal Reserve Act

MONETARY POLICY AND THE ECONOMIC OUTLOOK

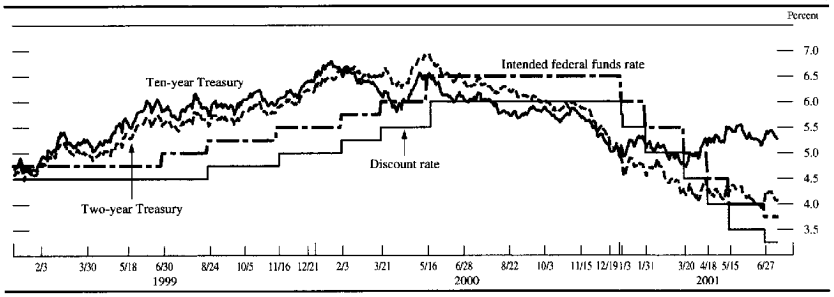
When the Federal Reserve submitted its report on monetary policy in mid-February, the Federal Open Market Committee (FOMC) had already reduced its target for the federal funds rate twice to counter emerging weakness in the economy. As the year has unfolded, the weakness has become more persistent and widespread than had seemed likely last autumn. The shakeout in the high-technology sector has been especially severe, and with overall sales and profits continuing to disappoint, businesses are curtailing purchases of other types of capital equipment as well. The slump in demand for capital goods has also worked against businesses' efforts to correct the inventory imbalances that emerged in the second half of last year and has contributed to sizable declines in manufacturing output this year. At the same time, foreign economies have slowed, limiting the demand for U.S. exports.

To foster financial conditions that will support strengthening economic growth, the FOMC has lowered its target for the federal funds rate four times since February, bringing the cumulative decline this year to 2¾ percentage points. A number of factors spurred this unusually steep reduction in the federal funds rate. In particular, the slowdown in growth was rapid and substantial and carried considerable risks that the sluggish performance of the economy in the first half of this year would persist. Among other things, the abruptness of the slowing, by jarring consumer and business confidence, raised the possibility of becoming increasingly self-reinforcing were households and businesses to postpone spending while reassessing their situations. In addition, other financial developments, including a higher foreign exchange value of the dollar, lower equity prices, and tighter lending terms and standards at banks, were tending to restrain aggregate demand and thus were offsetting some of the influence of the lower federal funds rate. Finally, despite some worrisome readings early in the year, price increases remained fairly well contained, and prospects for inflation have become less of a concern as rates of resource utilization have declined and energy prices have shown signs of turning down.

The information available at midyear for the recent performance of both the U.S. economy and some of our key trading partners remains somewhat downbeat, on balance. Moreover, with inventories still excessive in some sectors, orders for capital goods very soft, and the effects of lower stock prices and the weaker job market weighing on consumers, the economy may expand only slowly, if at all, for a while longer. Nonetheless, a number of factors are in place that should set the stage for stronger growth later this year and in 2002. In particular, interest rates have declined since last fall; the lower rates have helped businesses and households strengthen their financial positions and should show through to aggregate demand in coming quarters. The recently enacted tax cuts and the apparent cresting of energy prices should also bolster aggregate demand fairly soon. In addition, as firms at some point become more satisfied with their inventory holdings, the cessation of liquidation will boost production and, in turn, provide a lift to employment and incomes; a subsequent shift to inventory accumulation in association with the projected strengthening in demand should provide additional impetus to production. Moreover, with no apparent sign of abatement in the rapid pace of technological innovation, the outlook for productivity growth over the longer run remains favorable. The efficiency gains made possible by these innovations should spur demand for the capital equipment that embodies the new technologies once the overall economic situation starts to improve and should support consumption by leading to solid increases in real incomes over time.

Even though an appreciable recovery in the growth of economic activity by early next year seems the most likely outcome, there is as yet no hard evidence that this improvement is in train, and the situation remains very uncertain. In these circumstances, the FOMC continues to believe that the risks are weighted toward conditions that may generate economic weakness in the foreseeable future. At the same time, the FOMC recognizes the importance of sustaining the environment of low inflation and well-

Selected interest rates



NOTE. The data are daily and extend through July 12, 2001. The dates on the horizontal axis are those of scheduled FOMC meetings and of any intermeeting policy actions.

anchored inflation expectations that enabled the Federal Reserve to react rapidly and forcefully to the slowing in real GDP growth over the past several quarters. When, as the FOMC expects, activity begins to firm, the Committee will continue to ensure that financial conditions remain consistent with holding inflation in check, a key requirement for maximum sustainable growth.

Monetary Policy, Financial Markets, and the Economy over the First Half of 2001

By the time of the FOMC meeting on December 19, 2000, it had become evident that economic growth had downshifted considerably, but the extent of that slowing was only beginning to come into focus. At that meeting, the FOMC concluded that the risks to the economy in the foreseeable future had shifted to being weighted mainly toward conditions that may generate economic weakness and that economic and financial developments could warrant further close review of the stance of policy well before the next scheduled meeting. Subsequent data indicated that holiday retail sales had come in below expectations and that conditions in the manufacturing sector had deteriorated. Corporate profit forecasts had also been marked down, and it seemed possible that the resulting decline in equity values, along with the expense of higher energy costs, could damp future business investment and household spending. In response, the FOMC held a telephone conference on January 3, 2001, and decided to reduce the target federal funds rate ½ percentage point, to 6 percent, and indicated that the risks to the outlook remained weighted toward economic weakness.

The timing and size of the cut in the target rate seemed to ease somewhat the concerns of financial market participants about the longer-term outlook for the economy. Equity prices generally rose in January, risk spreads on lower-rated corporate bonds narrowed significantly, and the yield curve steepened. However, incoming data over the month revealed that the slowing in consumer and business spending late last year had been sizable. Furthermore, a sharp erosion in survey measures of consumer confidence, a backup of inventories, and a steep decline in capacity utilization posed the risk that spending could remain depressed for some time. In light of these developments, the FOMC at its scheduled meeting on January 30 and 31 cut its target for the federal funds rate another ½ percentage point, to 5½ percent, and stated that it continued to judge the risks to be weighted mainly toward economic weakness.

The information reviewed by the FOMC at its meeting on March 20 suggested that economic activity continued to expand, but slowly. Although consumer spending seemed to be rising moderately and housing had remained relatively firm, stock prices had declined substantially in February and early March, and reduced equity wealth and lower consumer confidence had the potential to damp household spending going forward. Moreover, manufacturing output had contracted further, as businesses continued to work down their excess inventories and cut back on capital equipment expenditures. In addition, economic softness abroad raised the likelihood of a weakening in U.S. exports. Core inflation had picked up a bit in January, but some of the increase reflected the pass-through of a rise in energy prices that was unlikely to continue, and the FOMC judged that the slowdown in the growth of aggregate demand

would ease inflationary pressures on labor and other resources. Accordingly, the FOMC on March 20 lowered its target for the federal funds rate another ½ percentage point, to 5 percent. The members also continued to see the risks to the outlook as remaining weighted mainly toward economic weakness. Furthermore, the FOMC recognized that in a rapidly evolving economic situation, it would need to be alert to the possibility that a conference call would be desirable during the relatively long interval before the next scheduled meeting to discuss the possible need for a further policy adjustment.

Capital markets continued to soften in late March and early April, in part because corporate profits and economic activity remained quite weak. Although equity prices and bond yields began to rise in mid-April as financial market investors became more confident that a cumulative downward spiral in activity could be avoided, reports continued to suggest flagging economic performance and risks of extended weakness ahead. In particular, spending by consumers had leveled out and their confidence had fallen further. The FOMC discussed economic developments in conference calls on April 11 and April 18, deciding on the latter occasion to reduce its target for the federal funds rate another ½ percentage point, to 4½ percent. The Committee again indicated that it judged the balance of risks to the outlook as weighted toward economic weakness.

When the FOMC met on May 15, economic conditions remained quite sluggish, especially in manufacturing, where production and employment had declined further. Although members were concerned that some indicators of core inflation had moved up in the early months of the year and that part of the recent backup in longer-term interest rates may have owed to increased inflation expectations, most saw underlying price increases as likely to remain damped as continued subpar growth relieved pressures on resources. In light of the prospect of continued weakness in the economy and the significant risks to the economic expansion, the FOMC reduced its target for the federal funds rate an additional ½ percentage point, to 4 percent. With the softening in aggregate demand still of unknown persistence and dimension, the FOMC continued to view the risks to the outlook as weighted toward economic weakness. Still, the FOMC recognized that it had eased policy substantially this year and that, in the absence of further sizable adverse shocks to the economy, at future meetings it might need to consider adopting a more cautious approach to further policy actions.

Subsequent news on economic activity and corporate profits failed to point to a rebound. In June, interest rates on longer-term Treasuries and on higher-quality private securities declined, some risk spreads widened, and stock prices fell as financial market participants trimmed their expectations for economic activity and profits. When the FOMC met on June 26 and 27, conditions in manufacturing appeared to have worsened still more. It also seemed likely that slower growth abroad would restrain demand for exports and that weakening labor markets would hold down growth in consumer spending. In light of these developments, but also taking into account the cumulative 250 basis points of easing already undertaken and the other forces likely to be stimulating spending in the future, the FOMC lowered its target for the federal funds rate ¼ percentage point, to 3¾ percent, and continued to view the risks to the outlook as weighted toward economic weakness.

The Board of Governors of the Federal Reserve System approved cuts in the discount rate in the first half of the year that matched the FOMC's cuts in the target federal funds rate. As a result, the discount rate declined from 6 percent to 3¼ percent over the period.

Economic Projections for 2001 and 2002

The members of the Board of Governors and the Federal Reserve Bank presidents, all of whom participate in the deliberations of the FOMC, expect economic growth to remain slow in the near term, though most anticipate that it will pick up later this year at least a little. The central tendency of the forecasts for the increase in real GDP over the four quarters of 2001 spans a range of 1¼ percent to 2 percent, and the central tendency of the forecasts for real GDP growth in 2002 is 3 percent to 3¼ percent. The civilian unemployment rate, which averaged 4½ percent in the second quarter of 2001, is expected to move up to the area of 4¾ percent to 5 percent by the end of this year. In 2002, with the economy projected to expand at closer to its trend rate, the unemployment rate is expected to hold steady or perhaps to edge higher. With pressures in labor and product markets abating and with energy prices no longer soaring, inflation is expected to be well contained over the next year and a half.

Despite the projected increase in real GDP growth, the uncertainty about the near-term outlook remains considerable. This uncertainty arises not only from the difficulty of assessing when businesses will feel that conditions are sufficiently favorable to warrant a pickup in capital spending but also from the difficulty

Economic projections for 2001 and 2002
Percent

Indicator	Board of Governors and Reserve Bank presidents	
	Range	Central tendency
	2001	
Change, fourth quarter to fourth quarter[1]		
Nominal GDP	3¼–5	3½–4¼
Real GDP[2]	1–2	1¼–2
PCE prices	2–2¾	2–2½
Average level, fourth quarter		
Civilian unemployment rate	4¾–5	4¾–5
	2002	
Change, fourth quarter to fourth quarter[1]		
Nominal GDP	4¾–6	5–5½
Real GDP[2]	3–3½	3–3¼
PCE prices	1½–3	1¾–2½
Average level, fourth quarter		
Civilian unemployment rate	4¾–5½	4¾–5¼

1. Change from average for fourth quarter of previous year to average for fourth quarter of year indicated.
2. Chain-weighted.

of gauging where businesses stand in the inventory cycle. Nonetheless, all the FOMC participants foresee a return to solid growth by 2002. By then, the inventory correction should have run its course, and the monetary policy actions taken this year, as well as the recently enacted tax reductions, should be providing appreciable support to final demand.

In part because of lower interest rates, many firms have been able to shore up their balance sheets. And although some lower-rated firms, especially in telecommunications and other sectors with gloomy near-term prospects, may continue to find it difficult to obtain financing, businesses generally are fairly well positioned to step up their capital spending once the outlook for sales and profits improves. By all accounts, technological innovation is still proceeding rapidly, and these advances should eventually revive high-tech investment, especially with the price of computing power continuing to drop sharply.

In addition, consumer spending is expected to get a boost from the tax cuts and from falling energy prices, which should help offset the effects of the weaker job market and the decline over the past year in stock market wealth. Housing activity, which has been buoyed in recent quarters by low mortgage interest rates, is likely to remain firm into 2002. Significant concerns remain about the foreign economic outlook and the prospects for U.S. exports. Nevertheless, economic activity abroad is expected to benefit from a strengthening of the U.S. economy, a stabilization of the global high-tech sector, an easing of oil prices, and stimulative macroeconomic policies in some countries.

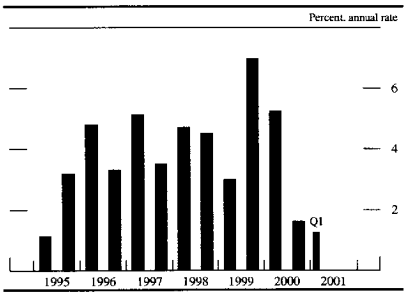
The chain-type price index for personal consumption expenditures rose 2¼ percent over the four quarters of 2000, and most FOMC participants expect inflation to remain around that rate through next year; indeed, the central tendency of their forecasts for the increase in this price measure is 2 percent to 2½ percent in 2001 and 1¾ percent to 2½ percent in 2002. One favorable factor in the inflation outlook is the behavior of energy prices. Those prices have declined recently after having increased rapidly in the past couple of years, and prospects are good that they could stabilize or even fall further in coming quarters. In addition to their direct effects, lower energy prices should tend to limit increases in other prices by reducing input costs for a wide range of energy-intensive goods and services and by helping damp inflation expectations. More broadly, the competitive conditions that have restricted businesses' ability to raise prices in recent years are likely to persist. And although labor costs could come under upward pressure as wages tend to catch up to previous increases in productivity, the slackening in resource utilization this year is expected to contribute to reduced inflation pressures going forward.

Economic and Financial Developments in 2001

Economic growth remained very slow in the first half of 2001 after having downshifted in the second half of 2000. Real gross domestic product rose at an annual rate of just 1¼ percent in the first quarter, about the same as in the fourth quarter, and appears to have posted at best a meager gain in the second quarter. Businesses have been working to correct the inventory imbalances that emerged in the second half of last year, which has led to sizable declines in manufacturing output, and capital spending has weakened appreciably. In contrast, household spending—especially for motor vehicles and houses—has held up well. Employment increased only modestly over the first three months of the year and turned down in the spring; the unemployment rate in June stood at 4½ percent, ½ percentage point higher than in the fourth quarter of last year.

The inflation news early this year was not very favorable, as energy prices continued to soar and as measures of core inflation—which exclude food and energy—registered some pickup. More recently,

Change in real GDP



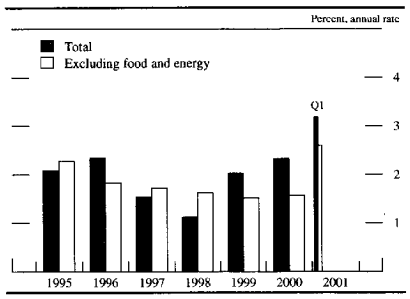
NOTE. Here and in the subsequent charts, except as noted, change is measured to the final quarter of the indicated period from the final quarter of the preceding period.

however, energy prices have moved lower, and the monthly readings on core inflation have returned to more moderate rates. Moreover, apart from energy, prices at earlier stages of processing have been quiescent this year.

The Household Sector

Growth in household spending has slowed noticeably from the rapid pace of the past few years. Still, it was fairly well maintained in the first half of 2001 despite the weaker tenor of income, wealth, and consumer confidence, and the personal saving rate declined a bit further. A greater number of households encountered problems servicing debt, but widespread difficulties or restrictions on the availability of credit did not emerge.

Change in PCE chain-type price index



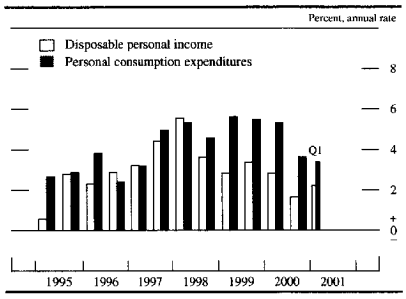
NOTE. Data are for personal consumption expenditures (PCE).

Consumer Spending

Real consumer spending grew at an annual rate of 3½ percent in the first quarter. Some of the increase reflected a rebound in purchases of light motor vehicles, which were boosted by a substantial expansion of incentives and rose to just a tad below the record pace of 2000 as a whole. In addition, outlays for non-auto goods posted a solid gain, and spending on services rose modestly despite a weather-related drop in outlays for energy services. In the second quarter, however, the rise in consumer spending seems to have lessened as sales of light motor vehicles dropped a bit, on average, and purchases of other goods apparently did not grow as fast in real terms as they had in the first quarter.

The rise in real consumption so far this year has been considerably smaller than the outsized gains in the second half of the 1990s and into 2000. But the increase in spending still outstripped the growth in real disposable personal income (DPI), which has been restrained this year by further big increases in consumer energy prices and by the deterioration in the job market; between the fourth quarter of 2000 and May, real DPI increased just about 2 percent at an annual rate, well below the average pace of the preceding few years. In addition, the net worth of households fell again in the first quarter, to a level 8 percent below the high reached in the first quarter of 2000. On net, the ratio of household net worth to DPI has returned to about the level reached in 1997, significantly below the recent peak but still high by historical standards. In addition, consumer sentiment indexes, which had risen to extraordinary levels in the late 1990s and remained there through last fall, fell sharply around the turn of the year. However, these indexes have not deteriorated further, on net,

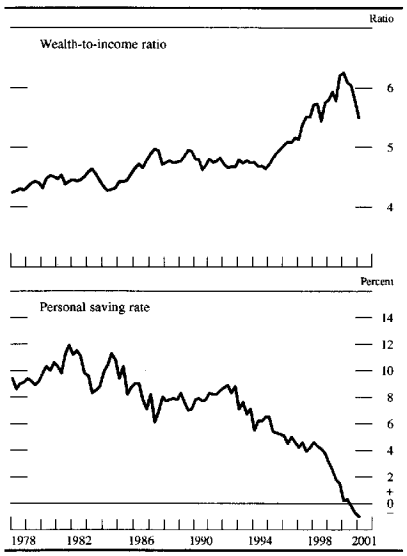
Change in real income and consumption



since the winter and are still at reasonably favorable levels when compared with the readings for the pre-1997 period.

Rising household wealth almost certainly was a key factor behind the surge in consumer spending between the mid-1990s and last year, and thus helps to explain the sharp fall in the personal saving rate over that period. The saving rate has continued to fall this year—from −0.7 percent in the fourth quarter of 2000 to −1.1 percent in May—even though the boost to spending growth from the earlier run-up in stock prices has likely run its course and the effects of lower wealth should be starting to feed through to spending. The apparent decline in the saving rate may simply reflect noisiness in the data or a slower response of spending to wealth than average historical experience might suggest. In addition, consumers probably base their spending decisions on income prospects over a longer time span than just a few quarters. Thus, to the extent that consumers do not expect the current sluggishness in real income growth to persist, the tendency to maintain spending for a time by dipping into savings or by borrowing may have offset the effect of the decline in wealth on the saving rate.

Wealth and saving



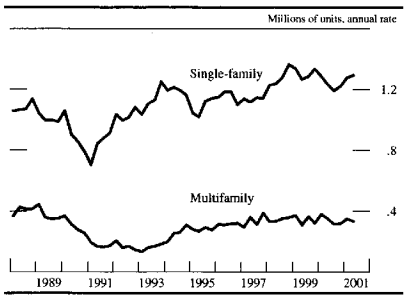
NOTE. The data extend through 2001:Q1. The wealth-to-income ratio is the ratio of household net worth to disposable personal income.

Residential Investment

Housing activity remained buoyant in the first half of this year as lower mortgage interest rates appear to have offset the restraint from smaller gains in employment and income and from lower levels of wealth. In the single-family sector, starts averaged an annual rate of 1.28 million units over the first five months of the year—4 percent greater than the hefty pace for 2000 as a whole. Sales of new and existing homes strengthened noticeably around the turn of the year and were near record levels in March; they fell back in April but reversed some of that drop in May. Inventories of new homes for sale are exceptionally low; builders' backlogs are sizable; and, according to the Michigan survey, consumers' assessments of homebuying conditions remain favorable, mainly because of perceptions that mortgage rates are low.

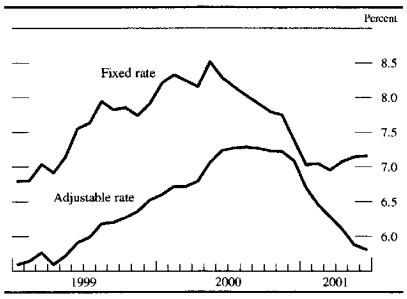
Likely because of the sustained strength of housing demand, home prices have continued to rise faster than overall inflation, although the various measures that attempt to control for shifts in the regional composition of sales and in the characteristics of houses sold provide differing signals on the magnitude of the price increases. Notably, over the year ending in the first quarter, the constant-quality price index for new homes rose 4 percent, while the repeat-sales price index for existing homes was up nearly 9 percent. Despite the higher prices, the share of income required to finance a home purchase—one measure of affordability—has fallen in recent quarters as mort-

Private housing starts



NOTE. The data extend through 2001:Q2; the data for that quarter are the averages for April and May.

Mortgage rates



NOTE. The data, which are monthly and extend through June 2001, are contract rates on thirty-year mortgages from the Federal Home Loan Mortgage Corporation.

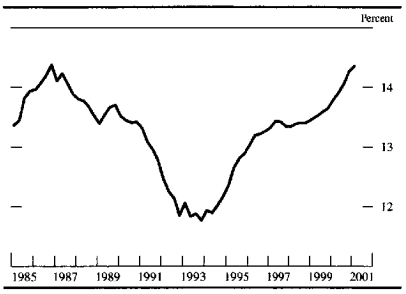
gage rates have dropped back after last year's bulge, and that share currently is about as low as it has been at any time in the past decade. Rates on thirty-year conventional fixed-rate loans now stand around 7¼ percent, and ARM rates are at their lowest levels in a couple of years.

In the multifamily sector, housing starts averaged 343,000 units at an annual rate over the first five months of the year, matching the robust pace that has been evident since 1997. Moreover, conditions in the market for multifamily housing continue to be conducive to new construction. The vacancy rate for multifamily rental units in the first quarter held near its low year-earlier level, and rents and property values continued to rise rapidly.

Household Finance

The growth of household debt is estimated to have slowed somewhat in the first half of this year to a still fairly hefty 7½ percent annual rate—about a percentage point below its average pace over the previous two years. Households have increased both their home mortgage debt and their consumer credit (debt not secured by real estate) substantially this year, although in both cases the growth has moderated a bit recently. The relatively low mortgage interest rates have boosted mortgage borrowing both by stimulating home purchases and by making it attractive to refinance existing mortgages and extract some of the buildup in home equity. The rapid growth in consumer credit has been concentrated in credit card debt, perhaps reflecting households' efforts to sustain their consumption in the face of weaker income growth.

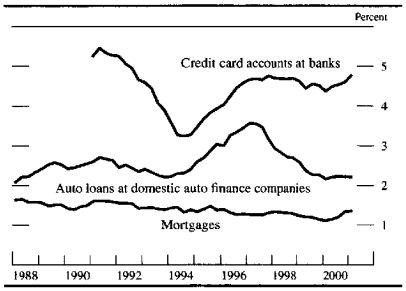
Household debt service burden



NOTE. The data are quarterly and extend through 2001:Q1. Debt burden is an estimate of the ratio of debt payments to disposable income; debt payments consist of the estimated required payments on outstanding mortgage and consumer debt.

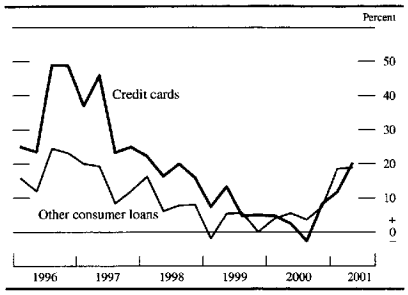
The household debt service burden—the ratio of minimum scheduled payments on mortgage and consumer debt to disposable personal income—rose to more than 14 percent at the end of the first quarter, a twenty-year high, and available data suggest a similar reading for the second quarter. In part because of the elevated debt burden, some measures of household loan performance have deteriorated a bit in recent quarters. The delinquency rate on home mortgage loans has edged up but remains low, while the delinquency rate on credit card loans has risen noticeably and is in the middle part of its range over the past decade. Personal bankruptcies jumped to record levels in the spring, but some of the spurt was probably the result of a rush to file before Congress passed bankruptcy reform legislation.

Delinquency rates on household loans



NOTE. The data are quarterly and extend through 2001:Q1. Data on credit card delinquencies are from bank Call Reports; data on auto loan delinquencies are from the Big Three automakers; data on mortgage delinquencies are from the Mortgage Bankers Association.

Net percentage of large commercial banks tightening standards for consumer loans



NOTE. The data extend through May 2001 and are based on the Federal Reserve's Senior Loan Officer Opinion Survey on Bank Lending Practices, which is generally conducted four times per year. Net percentage is percentage reporting a tightening less percentage reporting an easing.

Lenders have tightened up somewhat in response to the deterioration of household financial conditions. In the May Senior Loan Officer Opinion Survey on Bank Lending Practices, about a fifth of the banks indicated that they had tightened the standards for approving applications for consumer loans over the preceding three months, and about a fourth said that they had tightened the terms on loans they are willing to make, substantial increases from the November survey. Of those that had tightened, most cited actual or anticipated increases in delinquency rates as a reason.

The Business Sector

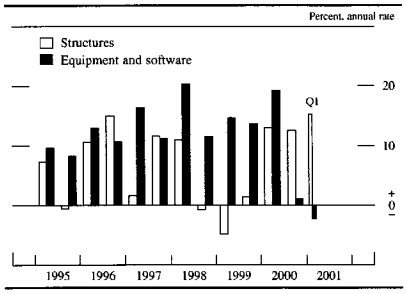
The boom in capital spending that has helped fuel the economic expansion came to a halt late last year. After having risen at double-digit rates over the preceding five years, real business fixed investment flattened out in the fourth quarter of 2000 and rose only a little in the first quarter of 2001. Demand for capital equipment has slackened appreciably, reflecting the sluggish economy, sharply lower corporate profits and cash flow, earlier overinvestment in some sectors, and tight financing conditions facing some firms. In addition, inventory investment fell substantially in the first quarter as businesses moved to address the overhangs that began to develop late last year. With investment spending weakening, businesses have cut back on new borrowing. Following the drop in longer-term interest rates in the last few months of 2000, credit demands have been concentrated in longer-term markets, though cautious investors have required high spreads from marginal borrowers.

Fixed Investment

Real spending on equipment and software (E&S) began to soften in the second half of last year, and it posted small declines in both the fourth quarter of 2000 and the first quarter of 2001. Much of the weakness in the first quarter was in spending on high-tech equipment and software; such spending, which now accounts for about half of E&S outlays when measured in nominal terms, declined at an annual rate of about 12 percent in real terms—the first real quarterly drop since the 1990 recession. An especially sharp decrease in outlays for communications equipment reflected the excess capacity that had emerged as a result of the earlier surge in spending, the subsequent re-evaluation of profitability, and the accompanying financing difficulties faced by some firms. In addition, real spending on computers and peripheral equipment, which rose more than 40 percent per year in the second half of the 1990s, showed little growth, on net, between the third quarter of 2000 and the first quarter of 2001. The leveling in real computer spending reportedly reflects some stretching out of businesses' replacement cycles for personal computers as well as a reduced demand for servers. Outside the high-tech area, spending rose in the first quarter as purchases of motor vehicles reversed some of the decline recorded over the second half of 2000 and as outlays for industrial equipment picked up after having been flat in the fourth quarter.

Real E&S spending likely dropped further in the second quarter. In addition to the ongoing contraction in outlays on high-tech equipment, the incoming data for orders and shipments point to a decline in investment in non-high-tech equipment, largely reflecting the weakness in the manufacturing sector this year.

Change in real business fixed investment

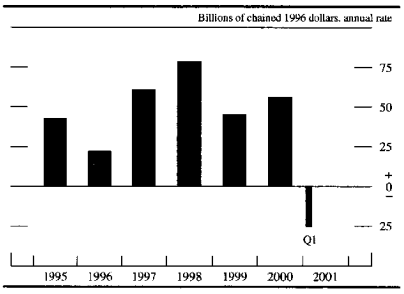


Outlays on nonresidential construction posted another sizable advance in early 2001 after having expanded nearly 13 percent in real terms in 2000, but the incoming monthly construction data imply a sharp retrenchment in the second quarter. The downturn in spending comes on the heels of an increase in vacancy rates for office and industrial space in many cities. Moreover, while financing generally remains available for projects with viable tenants, lenders are now showing greater caution. Not surprisingly, one bright spot is the energy sector, where expenditures for drilling and mining have been on a steep uptrend since early 1999 (mainly because of increased exploration for natural gas) and the construction of facilities for electric power generation remains very strong.

Inventory Investment

A sharp reduction in the pace of inventory investment was a major damping influence on real GDP growth in the first quarter of 2001. The swing in real nonfarm inventory investment from an accumulation of $51 billion at an annual rate in the fourth quarter of 2000 to a liquidation of $25 billion in the first quarter of 2001 subtracted 3 percentage points from the growth in real GDP in the first quarter. Nearly half of the negative contribution to GDP growth came from the motor vehicle sector, where a sizable cut in assemblies (added to the reduction already in place in the fourth quarter) brought the overall days' supply down to comfortable levels by the end of the first quarter. A rise in truck assemblies early in the second quarter led to some backup of inventories in that segment of the market, but truck stocks were back in an acceptable range by June; automobile assemblies were up only a little in the second quarter, and stocks remained lean.

Change in real nonfarm business inventories

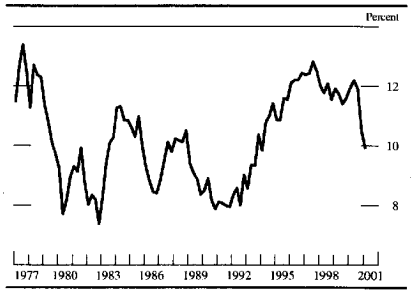


Firms outside the motor vehicles industry also moved aggressively to address inventory imbalances in the first half of the year, and this showed through to manufacturing output, which, excluding motor vehicles, fell at an annual rate of 7½ percent over this period. These production adjustments—along with a sharp reduction in the flow of imports—contributed to a small decline in real non-auto stocks in the first quarter, and book-value data for the manufacturing and trade sector point to a further decrease, on net, in April and May. As of May, stocks generally seemed in line with sales at retail trade establishments, but there were still some notable overhangs in wholesale trade and especially in manufacturing, where inventory–shipments ratios for producers of computers and electronic products, primary and fabricated metals, and chemicals remained very high.

Business Finance

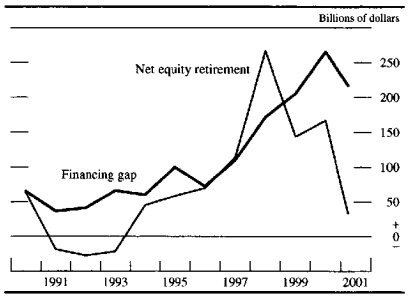
The economic profits of U.S. corporations fell at a 19 percent annual rate in the first quarter after a similar decline in the fourth quarter of 2000. As a result, the ratio of profits to GDP declined 1 percentage point over the two quarters, to 8.5 percent; the ratio of the profits of nonfinancial corporations to sector output fell 2 percentage points over the interval, to 10 percent. Investment spending has declined by more than profits, however, reducing somewhat the still-elevated need of nonfinancial corporations for external funds to finance capital expenditures. Corporations have husbanded their increasingly scarce internal funds by cutting back on cash-financed mergers and equity repurchases. While

Before-tax profits of nonfinancial corporations as a percent of sector GDP



NOTE. Data extend through 2001:Q1. Profits are from domestic operations of nonfinancial corporations, with inventory valuation and capital consumption adjustments, divided by gross domestic product of nonfinancial corporate sector.

Financing gap and net equity retirement at nonfarm nonfinancial corporations

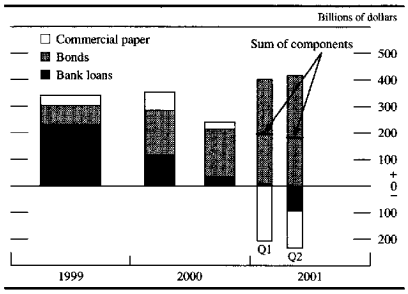


NOTE. The data through 2000 are annual; the final observation is for 2001:Q1 and is at an annual rate. The financing gap is the difference between capital expenditures and internally generated funds. Net equity retirement is the difference between equity retired through share repurchases, domestic cash-financed mergers, or foreign takeovers of U.S. firms and equity issued in public or private markets, including funds invested by venture capital partnerships.

equity retirements have therefore fallen, so has gross equity issuance, though by less. Inflows of venture equity capital, in particular, have been reduced substantially. Businesses have met their financing needs by borrowing heavily in the bond market while paying down both commercial and industrial (C&I) loans at banks and commercial paper. In total, after having increased 9½ percent last year, the debt of nonfinancial businesses rose at a 5 percent annual rate in the first quarter of this year and is estimated to have risen at about the same pace in the second quarter.

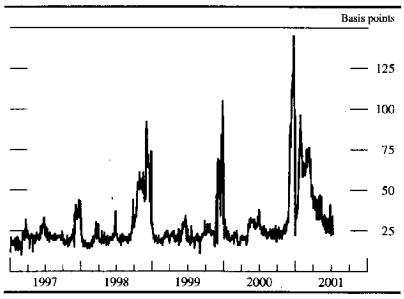
The decline in C&I loans and commercial paper owes, in part, to less hospitable conditions in shorter-term funding markets. The commercial paper market was rattled in mid-January by the defaults of two large California utilities. Commercial paper is issued

Major components of net business financing



NOTE. Seasonally adjusted annual rate for nonfarm nonfinancial corporate businesses. The data for 2001:Q2 are estimated.

Spread of low-tier CP rate over high-tier CP rate

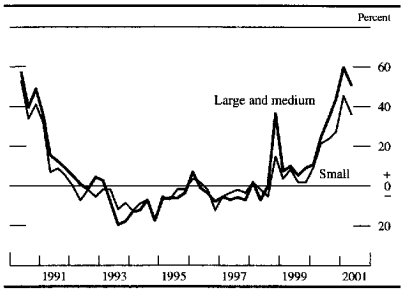


NOTE. The data are daily and extend through July 12, 2001. The series shown is the difference between the rate on A2/P2 nonfinancial commercial paper and the AA rate.

only by highly rated corporations, and default is extremely rare. The defaults, along with some downgrades, led investors in commercial paper to pull back and reevaluate the riskiness of issuers. For a while, issuance by all but top-rated names became very difficult and quality spreads widened significantly, pushing some issuers into the shortest maturities and inducing others to exit the market entirely. As a consequence, the amount of commercial paper outstanding plummeted. In the second quarter, risk spreads returned to more typical levels and the runoff moderated. By the end of June, the amount of nonfinancial commercial paper outstanding was nearly 30 percent below its level at the end of 2000, with many firms still not having returned to the market.

Even though banks' C&I loans were boosted in January and February by borrowers substituting away

Net percentage of domestic banks tightening standards for commercial and industrial loans, by size of borrower



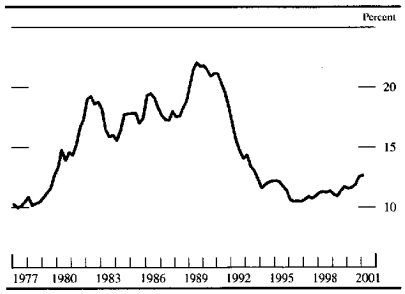
NOTE. The data are based on the Federal Reserve's Senior Loan Officer Opinion Survey on Bank Lending Practices, which is generally conducted four times per year. The data extend through May 2001. Small firms are those with annual sales of less than $50 million.

from the commercial paper market, loans declined, on net, over the first half of the year, in part because borrowers paid down their bank loans with proceeds from bond issues. Many banks reported on the Federal Reserve's Bank Lending Practices surveys this year that they had tightened standards and terms—including the premiums charged on riskier loans, the cost of credit lines, and loan covenants—on C&I loans. Loan officers cited a worsened economic outlook, industry-specific problems, and a reduced tolerance for risk as the reasons for having tightened. Despite these adjustments to banks' lending stance, credit appears to remain amply available for sound borrowers, and recent surveys of small businesses indicate that they have not found credit significantly more difficult to obtain.

Meanwhile, the issuance of corporate bonds this year has proceeded at about double the pace of the preceding two years. With the yields on high-grade bonds back down to their levels in the first half of 1999 and with futures quotes suggesting interest rates will be rising next year, corporations apparently judged it to be a relatively opportune time to issue. Although investors remain somewhat selective, they have been willing to absorb the large volume of issuance as they have become more confident that the economy would recover and a prolonged disruption to earnings would be avoided. The heavy pace of issuance has been supported, in part, by inflows into bond mutual funds, which may have come at the expense of equity funds.

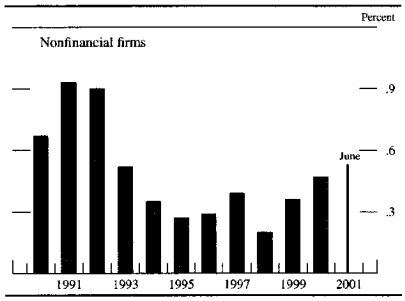
The flows are forthcoming at relatively high risk spreads, however. Spreads of most grades of corporate debt relative to rates on swaps have fallen a little this year, but spreads remain unusually high for lower investment-grade and speculative-grade credits. The

Net interest payments of nonfinancial corporations relative to cash flow



NOTE. The data are quarterly and extend through 2001:Q1.

Liabilities of failed businesses as a proportion of total liabilities



NOTE. Annual average. Value for June 2001 is a twelve-month trailing average.
SOURCE. Dun & Bradstreet.

elevated spreads reflect the deterioration in business credit quality that has occurred as the economy has slowed. While declines in interest rates have held aggregate interest expense at a relatively low percentage of cash flow, many individual firms are feeling the pinch of decreases in earnings. Over the twelve months ending in May, 11 percent of speculative-grade bonds, by dollar volume, have defaulted—the highest percentage since 1991 and a substantial jump from 1998, when less than 2 percent defaulted. This deterioration reflects not only the unusually large defaults by the California utilities, but also stress in the telecommunications sector and elsewhere. However, some other measures of credit performance have shown a more moderate worsening. The ratio of the liabilities of failed businesses to those of all nonfinancial businesses and the delinquency rate on C&I loans at banks have risen noticeably from their lows in 1998, but both remain well below levels posted in the early 1990s.

Commercial mortgage debt increased at about an 8¾ percent annual rate in the first half of this year, and the issuance of commercial-mortgage-backed securities (CMBS) maintained its robust pace of the past several years. While spreads of the yields on investment- and speculative-grade CMBS over swap rates have changed little this year, significant fractions of banks reported on the Bank Lending Practices survey that they have tightened terms and standards on commercial real estate loans. Although the delinquency rates on CMBS and commercial real estate loans at banks edged up in the first quarter, they remained near record lows. Nevertheless, those commercial banks that reported taking a more cautious approach toward commercial real estate lending

stated that they are doing so, in part, because of a less favorable economic outlook in general and a worsening of the outlook for commercial real estate.

The Government Sector

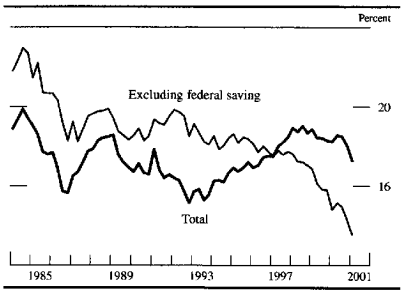
The fiscal 2001 surplus in the federal unified budget is likely to be smaller than the surplus in fiscal 2000 because of the slower growth in the economy and the recently enacted tax legislation. Nonetheless, the unified surplus will remain large, and the paydown of the federal debt is continuing at a rapid clip. As a consequence, the Treasury has taken a number of steps to preserve liquidity in a shrinking market. The weaker economy is also reducing revenues at the state and local level, but these governments remain in reasonably good fiscal shape overall and are taking advantage of historically low interest rates to refund existing debt and to issue new debt.

Federal Government

The fiscal 2001 surplus in the federal government's unified budget is likely to come in below the fiscal 2000 surplus of $236 billion. Over the first eight months of the fiscal year—October to May—the unified budget recorded a surplus of $137 billion, $16 billion higher than during the comparable period last year. But over the balance of the fiscal year, receipts will continue to be restrained by this year's slow pace of economic growth and the associated decline in corporate profits. Receipts will also be reduced significantly over the next few months by the payout of tax rebates and the shift of some corporate payments into fiscal 2002, provisions included in the Economic Growth and Tax Relief Reconciliation Act of 2001.

Federal saving, which is basically the unified budget surplus adjusted to conform to the accounting practices followed in the national income and product accounts (NIPA), has risen dramatically since hitting a low of −3½ percent of GDP in 1992 and stood at 3¾ percent of GDP in the first quarter—a swing of more than 7 percentage points. Reflecting the high level of federal saving, national saving, which comprises saving by households, businesses, and governments, has been running at a higher rate since the late 1990s than it did over most of the preceding decade, even as the personal saving rate has plummeted. The deeper pool of national saving, along with large inflows of foreign capital, has provided resources for the technology-driven boom in domestic investment in recent years.

National saving as a percent of nominal GDP



NOTE. The data extend through 2001:Q1. National saving comprises the gross saving of households, businesses, and governments.

Federal receipts in the first eight months of the current fiscal year were just 4½ percent higher than during the first eight months of fiscal 2000—a much smaller gain than those posted, on average, over the preceding several years. Much of the slowing was in corporate receipts, which dropped below year-earlier levels, reflecting the recent deterioration in profits. In addition, individual income tax payments rose less rapidly than over the preceding few years, mainly because of slower growth in withheld tax payments. This spring's nonwithheld payments of individual taxes, which are largely payments on the previous year's liability, were relatively strong. Indeed, although there was no appreciable "April surprise" this year—that is, these payments were about in line with expectations—liabilities again appear to have risen faster than the NIPA tax base in 2000. One factor that has lifted liabilities relative to income in recent years is that rising levels of income and a changing distribution have shifted more taxpayers into higher tax brackets. Higher capital gains realizations also have helped raise liabilities relative to the NIPA tax base over this period. (Capital gains are not included in the NIPA income measure, which, by design, includes only income from current production.)

The faster growth in outlays that emerged in fiscal 2000 has extended into fiscal 2001. Smoothing through some timing anomalies at the start of the fiscal year, nominal spending during the first eight months of fiscal 2001 was more than 4 percent higher than during the same period last year; excluding the sizable drop in net interest outlays that has accompanied the paydown of the federal debt, the increase in spending so far this year was nearly 6 percent. Spending in the past couple of years has been boosted by

sizable increases in discretionary appropriations as well as by faster growth in outlays for the major health programs. The especially rapid increase in Medicaid outlays reflects the higher cost and utilization of medical care (including prescription drugs), growing enrollments, and a rise in the share of expenses picked up by the federal government. Outlays for Medicare have been lifted, in part, by the higher reimbursements to providers that were enacted last year.

Real federal expenditures for consumption and gross investment, the part of government spending that is included in GDP, rose at a 5 percent annual rate in the first quarter. Over the past couple of years, real nondefense purchases have remained on the moderate uptrend that has been evident since the mid-1990s, while real defense purchases have started to rise slowly after having bottomed out in the late 1990s.

The Treasury has used the substantial federal budget surpluses to pay down its debt further. At the end of June, the outstanding Treasury debt held by the public had fallen nearly $600 billion, or 15 percent, from its peak in 1997. Relative to nominal GDP, publicly held debt has dropped from nearly 50 percent in the mid-1990s to below 33 percent in the first quarter, the lowest it has been since 1984.

Declines in outstanding federal debt and the associated reductions in the sizes and frequency of auctions of new issues have diminished the liquidity of the Treasury market over the past few years. Bid–asked spreads are somewhat wider, quote sizes are smaller, and the difference between yields on seasoned versus most-recently issued securities has increased. In part, however, these developments may also reflect a more cautious attitude among securities dealers following the market turmoil in the fall of 1998.

The Treasury has taken a number of steps to limit the deterioration in the liquidity of its securities. In recent years, it has concentrated its issuance into fewer securities, so that the auction sizes of the remaining securities are larger. Last year, in order to enable issuance of a larger volume of new securities, the Treasury began buying back less-liquid older securities, and it also made every second auction of its 5- and 10-year notes and 30-year bond a reopening of the previously issued security. In February, the Treasury put limits on the noncompetitive bids that foreign central banks and governmental monetary entities may make, so as to leave a larger and more predictable pool of securities available for competitive bidding, helping to maintain the liquidity and efficiency of the market. In May, the Treasury announced that it would begin issuing Treasury bills with a four-week maturity to provide it with greater flexibility and cost efficiency in managing its cash balances, which, in part because new securities are now issued less frequently, have become more volatile. Finally, also in May, the Treasury announced it would in the next few months seek public comment on a plan to ease the "35 percent rule," which limits the bidding at auctions by those holding claims on large amounts of an issue. With reopenings increasingly being used to maintain liquidity in individual issues, this rule was constraining many potential bidders. As discussed below, the reduced issuance of Treasury securities has also led the Federal Reserve to modify its procedures for acquiring such securities and to study possible future steps for its portfolio.

In early 2000, as investors focused on the possibility that Treasury securities were going to become increasingly scarce, they became willing to pay a premium for longer-dated securities, pushing down their yields. However, these premiums appear to have largely unwound later in the year as market participants made adjustments to the new environment. These adjustments include the substitution of alternative instruments for hedging and pricing, such as interest rate swaps, prominent high-grade corporate bonds, and securities issued by government-sponsored enterprises (GSEs). To benefit from adjustments by market participants, in 1998, Fannie Mae and Freddie Mac initiated programs to issue securities that share some characteristics with Treasury securities, such as regular issuance calendars and large issue sizes; in the first half of this year they issued $88 billion of coupon securities and $502 billion of bills under these programs. The GSEs have also this year begun buying back older securities to boost the size of their new issues. Nevertheless, the market for Treasury securities remains considerably more liquid than markets for GSE and other fixed-income securities.

State and Local Governments

State and local governments saw an enormous improvement in their budget positions between the mid-1990s and last year as revenues soared and spending generally was held in check; accordingly, these governments were able both to lower taxes and to make substantial allocations to reserve funds. More recently, however, revenue growth has slowed in many states, and reports of fiscal strains have increased. Nonetheless, the sector remains in relatively good fiscal shape overall, and most governments facing revenue shortfalls have managed to

adopt balanced budgets for fiscal 2002 with only minor adjustments to taxes and spending.

Real consumption and investment spending by state and local governments rose at nearly a 5 percent annual rate in the first quarter and apparently posted a sizable increase in the second quarter as well. Much of the strength this year has been in construction spending, which has rebounded sharply after a reported decline in 2000 that was hard to reconcile with the sector's ongoing infrastructure needs and the good financial condition of most governments. Hiring also remained fairly brisk during the first half of the year; on average, employment rose 30,000 per month, about the same as the average monthly increase over the preceding three years.

Although interest rates on municipal debt have edged up this year, they remain low by historical standards. State and local governments have taken advantage of the low interest rates to refund existing debt and to raise new capital. Credit quality has remained quite high in the municipal sector even as tax receipts have softened, with credit upgrades outpacing downgrades in the first half of this year. Most notable among the downgrades was that of California's general obligation bonds. Standard and Poor's lowered California's debt two notches from AA to A+, citing the financial pressures from the electricity crisis and the likely adverse effects of the crisis on the state's economy.

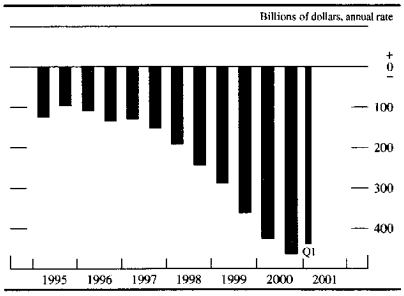
The External Sector

The deficits in U.S. external balances narrowed sharply in the first quarter of this year, largely because of a smaller deficit in trade in goods and services. Most of the financial flows into the United States continued to come from private foreign sources.

Trade and Current Account

After widening continuously during the past four years, the deficits in U.S. external balances narrowed in the first quarter of 2001. The current account deficit in the first quarter was $438 billion at an annual rate, or 4.3 percent of GDP, compared with $465 billion in the fourth quarter of 2000. Most of the reduction of the current account deficit can be traced to changes in U.S. trade in goods and services; the trade deficit narrowed from an annual rate of $401 billion in the fourth quarter of 2000 to $380 billion in the first quarter of this year. The trade deficit

U.S. current account

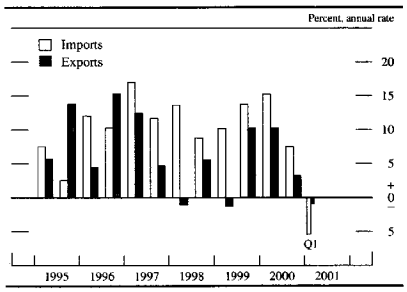


in April continued at about the same pace. Net investment income payments were a bit less in the first quarter than the average for last year primarily because of a sizable decrease in earnings by U.S. affiliates of foreign firms.

As U.S. economic growth slowed in the second half of last year and early this year, real imports of goods and services, which had grown very rapidly in the first three quarters of 2000, expanded more slowly in the fourth quarter and then contracted 5 percent at an annual rate in the first quarter. The largest declines were in high-tech products (computers, semiconductors, and telecommunications equipment) and automotive products. In contrast, imports of petroleum and petroleum products increased moderately. A temporary surge in the price of imported natural gas pushed the increase of the average price of non-oil imports above an annual rate of 1 percent in the first quarter, slightly higher than the rate of increase recorded in 2000.

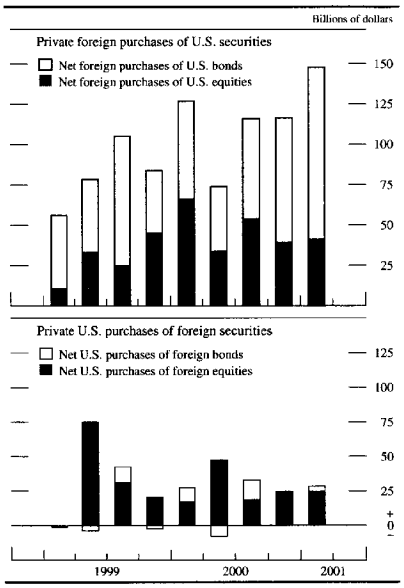
U.S. real exports were hit by slower growth abroad, the strength of the dollar, and plunging global demand for high-tech products. Real exports of goods and services, which had grown strongly in the first three quarters of 2000, fell 6½ percent at an annual rate in the fourth quarter of last year and declined another 1 percent in the first quarter of this year. The largest declines in both quarters were in high-tech capital goods and automotive products (primarily in intra-firm trade with Canada). By market destination, the largest increases in U.S. goods exports during the first three quarters of 2000 had been to Mexico and countries in Asia; the recent declines were mainly in exports to Asia and Latin America. In contrast, goods exports to Western Europe increased steadily throughout the entire period. About 45 percent of U.S. goods exports in the first quarter of 2001 were

Change in real imports and exports of goods and services



NOTE. Change for the half-year indicated is measured from the preceding half-year, and the change for 2001:Q1 is from 2000:Q4. Imports and exports for each half-year are the average of the levels for component quarters.

U.S. international securities transactions



SOURCE. Department of Commerce, *Survey of Current Business*.

capital equipment; 20 percent were industrial supplies; and 5 to 10 percent each were agricultural, automotive, consumer, and other goods.

After increasing through much of 2000, the spot price of West Texas intermediate (WTI) crude oil reached a peak above $37 per barrel in September, the highest level since the Gulf War. As world economic growth slowed in the latter part of 2000, oil price declines reversed much of the year's price gain. In response, OPEC reduced its official production targets in January of this year and again in March. As a result, oil prices have remained relatively high in 2001 despite weaker global economic growth and a substantial increase in U.S. oil inventories. Oil prices have also been elevated by the volatility of Iraqi oil exports arising from tense relations between Iraq and the United Nations. During the first six months of this year, the spot price of WTI has fluctuated, with only brief exceptions, between $27 and $30 per barrel.

Financial Account

In the first quarter of 2001, as was the case in 2000 as a whole, nearly all of the net financial flows into the United States came from private foreign sources. Foreign official inflows were less than $5 billion and were composed primarily of the reinvestment of accumulated interest earnings. Reported foreign exchange intervention purchases of dollars were modest.

Inflows arising from private foreign purchases of U.S. securities accelerated further in the first quarter and are on a pace to exceed last year's record. All of the pickup is attributable to larger net foreign purchases of U.S. bonds, as foreign purchases of both corporate and agency bonds accelerated and private foreign sales of Treasuries paused. Foreign purchases of U.S. equities are only slightly below their 2000 pace despite the apparent decline in expected returns to holding U.S. equities.

The pace at which U.S. residents acquired foreign securities changed little between the second half of last year and the first quarter of this year. As in previous years, most of the foreign securities acquired were equities.

Net financial inflows associated with direct investment slowed a good bit in the first quarter, as there were significantly fewer large foreign takeovers of U.S. firms and U.S. direct investment abroad remained robust.

The Labor Market

Labor demand weakened in the first half of 2001, especially in manufacturing, and the unemployment rate rose. Increases in hourly compensation have

continued to trend up in recent quarters, while measured labor productivity has been depressed by the slower growth of output.

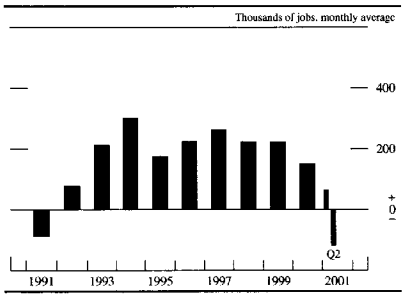
Employment and Unemployment

After having risen an average of 149,000 per month in 2000, private payroll employment increased an average of only 63,000 per month in the first quarter of 2001, and it declined an average of 117,000 per month in the second quarter. The unemployment rate moved up over the first half of the year and in June stood at 4½ percent, ½ percentage point higher than in the fourth quarter of last year.

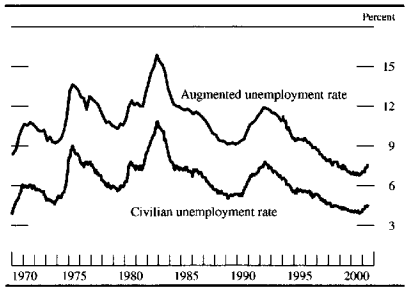
Much of the weakness in employment in the first half of the year was in the manufacturing sector, where job losses averaged 78,000 per month in the first quarter and 116,000 per month in the second quarter. Since last July, manufacturing employment has fallen nearly 800,000. Factory job losses were widespread in the first half of the year, with some of the biggest cutbacks at industries struggling with sizable inventory overhangs, including metals and industrial and electronic equipment. The weakness in manufacturing also cut into employment at help-supply firms and at wholesale trade establishments.

Apart from manufacturing and the closely related help-supply and wholesale trade industries, employment growth held up fairly well in the first quarter but began to slip noticeably in the second quarter. Some of the slowing in the second quarter reflected a drop in construction employment after a strong first quarter that likely absorbed a portion of the hiring that normally takes place in the spring; on average, construction employment rose a fairly brisk 15,000 per month over the first half, about the same as in 2000. Hiring in the services industry (other than help-supply firms) also slowed markedly in the second quarter. Employment in retail trade remained on a moderate uptrend over the first half of the year, and employment in finance, insurance, and real estate increased modestly after having been unchanged, on net, last year.

Net change in private nonfarm payroll employment



Measures of labor utilization



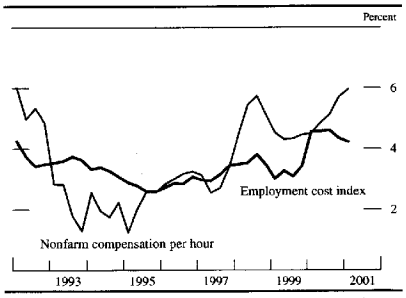
NOTE. The data extend through June 2001. The augmented unemployment rate is the number of unemployed plus those who are not in the labor force and want a job, divided by the civilian labor force plus those who are not in the labor force and want a job. In January 1994, a redesigned survey was introduced; data from that point on are not directly comparable with those of earlier periods.

Labor Costs and Productivity

Through the first quarter, compensation growth remained quite strong—indeed, trending higher by some measures. These gains likely reflected the influence of earlier tight labor markets, higher consumer price inflation—largely due to soaring energy prices—and the greater real wage gains made possible by faster structural productivity growth. The upward pressures on labor costs could abate in coming quarters if pressures in labor markets ease and energy prices fall back.

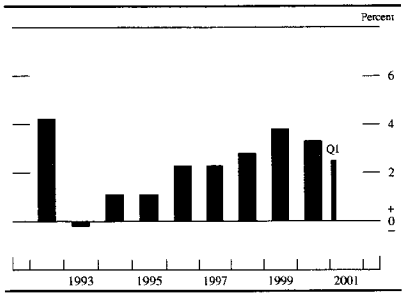
Hourly compensation, as measured by the employment cost index (ECI) for private nonfarm businesses, moved up in the first quarter to a level about 4¼ percent above its level of a year earlier; this compares with increases of about 4½ percent over the preceding year and 3 percent over the year before that. The slight deceleration in the most recent twelve-month change in the ECI is accounted for by a slowdown in the growth of compensation for sales workers relative to the elevated rates that had prevailed in early 2000; these workers' pay includes a substantial commission component and thus is especially sensitive to cyclical developments. Compensation per hour in the nonfarm business sector—a measure that picks up some forms of compensation that

Measures of change in hourly compensation



NOTE. The data extend through 2001:Q1. The ECI is for private industry excluding farm and household workers. Nonfarm compensation per hour is for the nonfarm business sector.

Change in output per hour, nonfarm businesses



NOTE. Changes are Q4 to Q4 except the change for 2001:Q1, which is from 2000:Q1.

the ECI omits but that sometimes has been revised substantially once the data go through the annual revision process—shows a steady uptrend over the past couple of years; it rose 6 percent over the year ending in the first quarter after having risen 4½ percent over the preceding year.

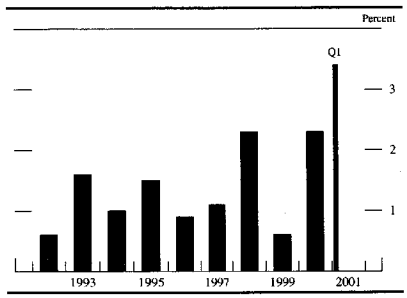
According to the ECI, wages and salaries rose at an annual rate of about 4½ percent in the first quarter. Excluding sales workers, wages rose 5 percent (annual rate) in the first quarter and 4¼ percent over the year ending in March; this compares with an increase of 3¾ percent over the year ending in March 2000. Separate data on average hourly earnings of production or nonsupervisory workers also show a discernable acceleration of wages: The twelve-month change in this series was 4¼ percent in June, ½ percentage point above the reading for the preceding twelve months.

Benefit costs as measured in the ECI have risen faster than wages over the past year, with the increase over the twelve months ending in March totaling 5 percent. Much of the pressure on benefits is coming from health insurance, where employer payments have accelerated steadily since bottoming out in the mid-1990s and are now going up about 8 percent per year. The surge in spending on prescription drugs accounts for some of the rise in health insurance costs, but demand for other types of medical care is increasing rapidly as well. Moreover, although there has been some revamping of drug coverage to counter the pressures of soaring demand, many employers have been reluctant to adjust other features of the health benefits package in view of the need to retain workers in a labor market that has been very tight in recent years.

Measured labor productivity in the nonfarm business sector has been bounced around in recent quarters by erratic swings in hours worked by self-employed individuals, but on balance, it has barely risen since the third quarter of last year after having increased about 3 percent per year, on average, over the preceding three years. This deceleration coincides with a marked slowing in output growth and seems broadly in line with the experience of past business cycles; these readings remain consistent with a noticeable acceleration in structural productivity having occurred in the second half of the 1990s. Reflecting the movements in hourly compensation and in actual productivity, unit labor costs in the nonfarm business sector jumped in the first quarter and have risen 3½ percent over the past year.

Looking ahead, prospects for favorable productivity performance will hinge on a continuation of the rapid technological advances of recent years and on

Change in unit labor costs, nonfarm businesses



NOTE. Changes are Q4 to Q4 except the change for 2001:Q1, which is from 2000:Q1.

the willingness of businesses to expand and update their capital stocks to take advantage of the new efficiency-enhancing capital that is becoming available at declining cost in many cases. To be sure, the current weakness in business investment will likely damp the growth of the capital stock relative to the pace of the past couple of years. But once the cyclical weakness in the economy dissipates, continued advances in technology should provide impetus to renewed capital spending and a return to solid increases in productivity.

Prices

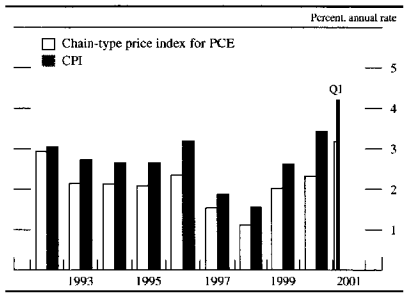
Inflation moved higher in early 2001 but has moderated some in recent months. After having risen 2¼ percent in 2000, the chain price index for personal consumption expenditures (PCE) increased about 3¼ percent in the first quarter of 2001 as energy prices soared and as core consumer prices—which exclude food and energy—picked up. Energy prices continued to rise rapidly in April and May but eased in June and early July. In addition, core PCE price inflation has dropped back after the first-quarter spurt, and the twelve-month change in this series, which is a useful indicator of the underlying inflation trend, stood at 1½ percent in May, about the same as the change over the preceding twelve months. The core consumer price index (CPI) continued to move up at a faster pace than the core PCE measure over the past year, rising 2½ percent over the twelve months ending in May, also the same rate as over the preceding year.

PCE energy prices rose at an annual rate of about 11 percent in the first quarter and, given the big increases in April and May, apparently posted another sizable advance in the second quarter. Unlike the surges in energy prices in 1999 and 2000, the increases in the first half of 2001 were not driven by developments in crude oil markets. Indeed, natural gas prices were the major factor boosting overall energy prices early this year as tight inventories and concerns about potential stock-outs pushed spot prices to extremely high levels; natural gas prices have since receded as additional supplies have come on line and inventories have been rebuilt. In the spring, gasoline prices soared in response to strong demand, refinery disruptions, and concerns about lean inventories; with refineries back on line, imports up, and inventories restored, gasoline prices have since fallen noticeably below their mid-May peaks. Electricity prices also rose substantially in the first half of the year, reflecting higher natural gas prices as well as the problems in California. Capacity problems in California and the hydropower shortages in the Northwest persist, though California's electricity consumption has declined recently and wholesale prices have dropped. In contrast, capacity in the rest of the country has expanded appreciably over the past year and, on the whole, appears adequate to meet the normal seasonal rise in demand.

Core PCE prices rose at a 2½ percent annual rate in the first quarter—a hefty increase by the standards of recent years. But the data are volatile, and the first-quarter increase, no doubt, exaggerates any pickup. Based on monthly data for April and May, core PCE inflation appears to have slowed considerably in the second quarter; the slowing was concentrated in the goods categories and seems consistent with reports that retailers have been cutting prices to spur sales in an environment of soft demand.

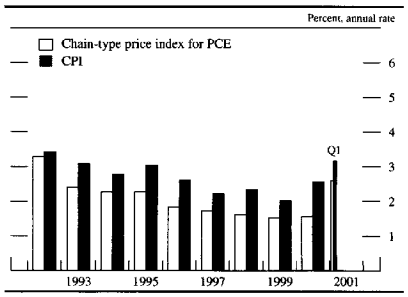
Core consumer price inflation—whether measured by the PCE index or by the CPI—in recent quarters

Change in consumer prices



NOTE. The CPI is for all urban consumers (CPI-U).

Change in consumer prices excluding food and energy



NOTE. The CPI is for all urban consumers (CPI-U).

almost certainly has been boosted by the effects of higher energy prices on the costs of producing other goods and services. Additional pressure has come from the step-up in labor costs. That said, firms appear to have absorbed much of these cost increases in lower profit margins. Meanwhile, non-oil import prices have remained subdued, thus continuing to restrain input costs for many domestic industries and to limit the ability of firms facing foreign competition to raise prices for fear of losing market share. In addition, apart from energy, price pressures at earlier stages of processing have been minimal. Indeed, excluding food and energy, the producer price index (PPI) for intermediate materials has been flat over the past year, and the PPI for crude materials has fallen 11 percent. Moreover, inflation expectations, on balance, seem to have remained quiescent: According to the Michigan survey, the median expectation for inflation over the upcoming year generally has been running about 3 percent this year, similar to the readings in 2000.

In contrast to the step-up in consumer prices, prices for private investment goods in the NIPA were up only a little in the first quarter after having risen about 2 percent last year. In large part, this pattern was driven by movements in the price index for computers, which fell at an annual rate of nearly 30 percent in the first quarter as demand for high-tech equipment plunged. This drop in computer prices was considerably greater than the average decrease of roughly 20 percent per year in the second half of the 1990s and the unusually small 11 percent decrease in 2000. Monthly PPI data suggest that computer prices were down again in the second quarter, though much less than in the first quarter.

All told, the GDP chain-type price index rose at an annual rate of 3¼ percent in the first quarter and has risen 2¼ percent over the past four quarters, an acceleration of ½ percentage point from the comparable year-earlier period. The price index for gross domestic purchases—which is defined as the prices paid for consumption, investment, and government purchases—also accelerated in the first quarter—to an increase of about 2¾ percent; the increase in this measure over the past year was 2¼ percent, about the same as over the preceding year. Excluding food and energy, the latest four-quarter changes in both GDP and gross domestic purchases prices were roughly the same as over the preceding year.

Alternative measures of price change

Percent, Q1 to Q1

Price measure	1998 to 1999	1999 to 2000	2000 to 2001
Chain-type			
Gross domestic product	1.5	1.8	2.3
Gross domestic purchases	1.2	2.3	2.2
Personal consumption expenditures	1.5	2.5	2.2
Excluding food and energy	1.8	1.6	1.7
Fixed-weight			
Consumer price index	1.7	3.3	3.4
Excluding food and energy	2.2	2.2	2.7

NOTE. A fixed-weight index uses quantity weights from a base year to aggregate prices from each distinct item category. A chain-type index is the geometric average of two fixed-weight indexes and allows the weights to change each year. The consumer price indexes are for all urban consumers. Changes are based on quarterly averages.

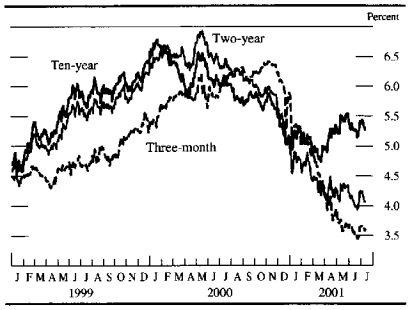
U.S. Financial Markets

Longer-term interest rates and equity prices have shown remarkably small net changes this year, given the considerable shifts in economic prospects and major changes in monetary policy. To some extent, the expectations of the economic and policy developments in 2001 had already become embedded in financial asset prices as last year came to a close; from the end of August through year-end, the broadest equity price indexes fell 15 percent and investment-grade bond yields declined 40 to 70 basis points. In addition, however, equity prices and long-term interest rates were influenced importantly by growing optimism in financial markets over the second quarter of 2001 that the economy and profits would rebound strongly toward the end of 2001 and in 2002. On net, equity prices fell 6 percent in the first half of this year as near-term corporate earnings were revised down substantially. Rates on longer-term Treasury issues rose a little, but those on corporate bonds were about unchanged, with the narrowing spread reflecting greater investor confidence in the outlook. But risk spreads remained wide by historical standards for businesses whose debt was rated as marginally investment grade or below; many of these firms had been especially hard hit by the slowdown and the near-term oversupply of high-tech equipment and services, and defaults by these firms became more frequent. Nevertheless, for most borrowers the environment for long-term financing was seen to be quite favorable, and firms and households tended to tap long-term sources of credit in size to bolster their financial conditions and lock in more favorable costs.

Interest Rates

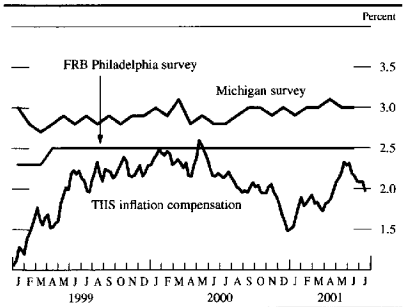
In response to the abrupt deceleration in economic growth and prospects for continued weakness in the economy, the FOMC lowered the target federal funds rate 2¾ percentage points in six steps in the first half

Rates on selected Treasury securities



NOTE. The data are daily and extend through July 12, 2001.

Measures of long-term inflation expectations



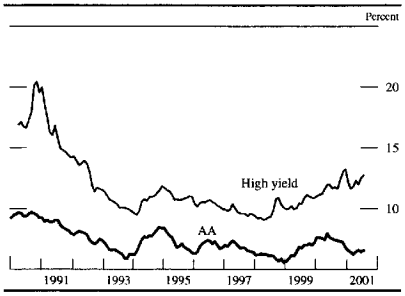
NOTE. The data for the Michigan survey, which are monthly and extend through June 2001, measure five-year to ten-year inflation expectations. The data for the FRB Philadelphia survey, which are quarterly and extend through 2001:Q2, measure ten-year inflation expectations. TIIS inflation compensation is the rate of inflation at which the price of the ten-year Treasury inflation-indexed security equals the value of a portfolio of zero-coupon securities that replicates its payments; data for this measure are weekly averages and extend through July 13, 2001.

of this year, an unusually steep decline relative to many past easing cycles. Through March, the policy easings combined with declining equity prices and accumulating evidence that the slowdown in economic growth was more pronounced than had been initially thought led to declines in yields on intermediate- and longer-term Treasury securities. Over the second quarter, despite the continued decrease in short-term rates and further indications of a weakening economy, yields on intermediate-term Treasury securities were about unchanged, while those on longer-term securities rose appreciably. On net, yields on intermediate-term Treasury securities fell about ¾ percentage point in the first half of this year, while those on longer-term Treasury securities rose about ¼ percentage point.

The increase in longer-term Treasury yields in the second quarter appears to have been the result of a number of factors. The main influence seems to have been increased investor confidence that the economy would soon pick up. That confidence likely arose in part from the aggressive easing of monetary policy and also in part from the improving prospects for, and passage of, a sizable tax cut. The tax cut and the growing support for certain spending initiatives implied stronger aggregate demand and less federal saving than previously anticipated. The prospect that the federal debt might be paid down less rapidly may also have reduced slightly the scarcity premiums investors were willing to pay for Treasury securities. Finally, a portion of the rise may have been the result of increased inflation expectations. Inflation compensation as measured by the difference between nominal Treasury rates and the rates on inflation-indexed Treasury securities rose about ¼ percentage point in the second quarter. Despite this increase, there is little evidence that inflation is expected to go up from its current level. At the end of last year, inflation compensation had declined to levels suggesting investors expected inflation to fall, and the rise in inflation compensation in the second quarter largely reversed those declines. Moreover, survey measures of longer-term inflation expectations have changed little since the middle of last year.

Yields on longer-maturity corporate bonds were about unchanged, on net, over the first half of this year. Yields on investment-grade bonds are near their lows for the past ten years, but those on speculative-grade bonds are elevated. Spreads of corporate bond yields relative to swap rates narrowed a bit, although they still remain high. Amidst signs of deteriorating credit quality and a worsening outlook for corporate earnings, risk spreads on speculative-grade bonds had risen by about 2 percentage points late last year, reaching levels not seen since 1991. Much of this widening was reversed early in the year, as investors became more confident that corporate balance sheets would not deteriorate substantially, but speculative-grade bond spreads widened again recently in response to negative news about second-quarter earnings and declines in share prices, leaving these spreads at the end of the second quarter only slightly below where they began the year. Nonetheless, investors, while somewhat selective, appear to remain receptive to new issues with speculative-grade ratings.

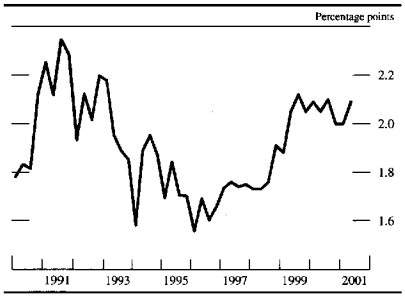
Corporate bond yields



NOTE. The data are monthly averages and extend through June 2001. The AA rate is calculated from bonds in the Merrill Lynch AA index with seven to ten years remaining to maturity. The high-yield rate is the yield on the Merrill Lynch 175 high-yield index.

Interest rates on commercial paper and C&I loans have fallen this year by about as much as the federal funds rate, although some risk spreads widened. The average yield spread on second-tier commercial paper over top-tier paper widened to about 100 basis points in late January, about four times its typical level, following defaults by a few prominent issuers. As the year progressed, investors became less concerned about the remaining commercial paper borrowers, and this spread has returned to a more normal level. According to preliminary data from the Federal Reserve's quarterly Survey of Terms of Business Lending, the spread over the target federal funds rate of the average interest rate on commercial bank C&I loans edged up between November and May and remains in the elevated range it shifted to in late 1998. Judging from the widening since 1998 of the average spread between rates on riskier and less-risky loans, banks have become especially cautious about lending to marginal credits.

Spread of average business loan rate over intended federal funds rate



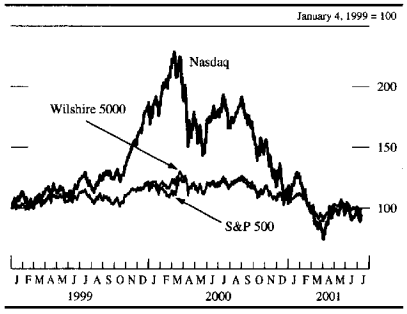
NOTE. The data, which are based on the Federal Reserve's Survey of Terms of Business Lending, are for loans made by domestic commercial banks. The survey is conducted in the middle month of each quarter; the final observation is for May 2001 and is preliminary.

Equity Markets

After rising in January in response to the initial easing of monetary policy, stock prices declined in February and March in reaction to profit warnings and weak economic data, with the Wilshire 5000, the broadest major stock price index, ending the first quarter down 13 percent. Stock prices retraced some of those losses in the second quarter, rising 7 percent, as first-quarter earnings releases came in a little above sharply reduced expectations and as investors became more confident that economic growth and corporate profits would soon pick up. On net, the Wilshire 5000 ended the half down 6 percent, the DJIA declined 3 percent, and the tech-heavy Nasdaq fell 13 percent. Earnings per share of the S&P 500 in the first quarter decreased 10 percent from a year earlier. A disproportionate share of the decline in S&P earnings—more than half—was attributable to a plunge in the technology sector, where first-quarter earnings were down nearly 50 percent from their peak in the third quarter of last year.

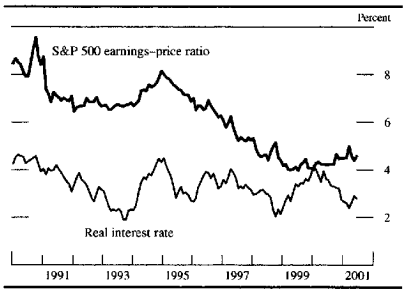
The decline in stock prices has left the Wilshire 5000 down by about 20 percent, and the Nasdaq down by about 60 percent, from their peaks in March 2000. Both of these indexes are near their levels at the end of 1998, having erased the sharp run-up in prices in 1999 and early 2000. But both indexes remain more than two and one-half times their levels

Major stock price indexes



NOTE. The data are daily and extend through July 12, 2001.

S&P 500 earnings–price ratio and the real interest rate



NOTE. The data are monthly and extend through June 2001. The earnings–price ratio is based on I/B/E/S consensus estimates of earnings over the coming year. The real rate is estimated as the difference between the ten-year Treasury rate and the five-year to ten-year expected inflation rate from the FRB Philadelphia survey.

at the end of 1994, when the bull market shifted into a higher gear. The ratio of expected one-year-ahead earnings to equity prices began to fall in 1995 when, as productivity growth picked up, investors began to build in expectations that increases in earnings would remain rapid for some time. This measure of the earnings-price ratio remains near the levels reached in 1999, suggesting that investors still anticipate robust long-term earnings growth, likely reflecting expectations for continued strong gains in productivity.

Despite the substantial variation in share prices over the first half of this year, trading has been orderly, and financial institutions appear to have encountered no difficulties that could pose broader systemic concerns. Market volatility and a less ebullient outlook have led investors to buy a much smaller share of stock on margin. At the end of May, margin debt was 1.15 percent of total market capitalization, equal to its level at the beginning of 1999 and well below its high of 1.63 percent in March of last year.

Federal Reserve Open Market Operations

As noted earlier, the Federal Reserve has responded to the diminished size of the auctions of Treasury securities by modifying its procedures for acquiring such securities. To help maintain supply in private hands adequate for liquid markets, since July of last year the System has limited its holdings of individual securities to specified percentages, ranging from 15 percent to 35 percent, of outstanding amounts. To stay within these limits, the System has at times not rolled over all of its holdings of maturing securities, generally investing the difference by purchasing other Treasury securities on the open market. The Federal Reserve also has increased its holdings of longer-term repurchase agreements (RPs), including RPs backed by agency securities and mortgage-backed securities, as a substitute for outright purchases of Treasury securities. In the first half of the year, longer-term RPs, typically with maturities of twenty-eight days, averaged $13 billion.

As reported in the previous *Monetary Policy Report*, the FOMC also initiated a study to evaluate assets to hold on its balance sheet as alternatives to Treasury securities. That study identified several options for further consideration. In the near term, the Federal Reserve is considering purchasing and holding Ginnie Mae mortgage-backed securities, which are explicitly backed by the full faith and credit of the U.S. government, and engaging in repurchase operations against foreign sovereign debt. For possible implementation later, the Federal Reserve is studying whether to auction longer-term discount window credit, and it will over time take a closer look at a broader array of assets for repurchase and for holding outright, transactions that would require additional legal authority.

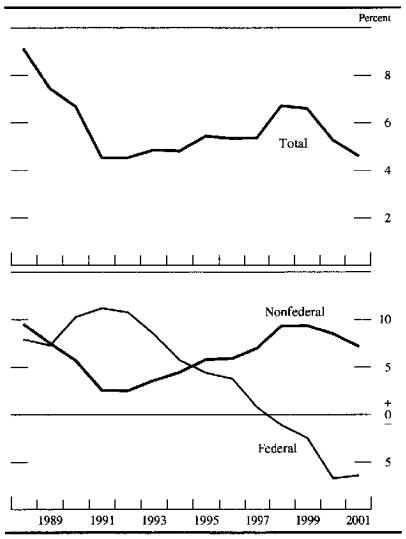
Debt and the Monetary Aggregates

The growth of domestic nonfinancial debt in the first half of 2001 is estimated to have remained moderate, slowing slightly from the pace in 2000 as a reduction in the rate of increase in nonfederal debt more than offset the effects of smaller net repayments of federal debt. In contrast, the monetary aggregates have grown rapidly so far this year, in large part because the sharp decline in short-term market interest rates has reduced the opportunity cost of holding the deposits and other assets included in the aggregates.

Debt and Depository Intermediation

The debt of the domestic nonfinancial sectors is estimated to have expanded at a 4¾ percent annual rate over the first half of 2001, a touch below the 5¼ percent growth recorded in 2000. Changes in the growth of nonfederal and federal debt this year have mostly offset each other. The growth of nonfederal debt moderated from 8½ percent in 2000 to a still-robust 7¼ percent pace in the first half of this year. Households' borrowing slowed some but was still substantial, buoyed by continued sizable home and durable goods purchases. Similarly, business borrowing mod-

Growth of domestic nonfinancial debt

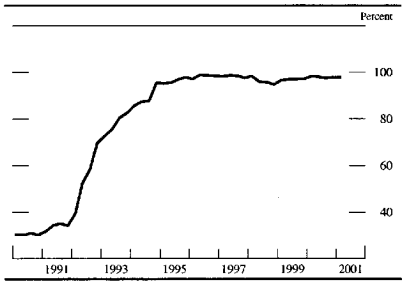


NOTE. Annual growth rates are computed from fourth-quarter averages. Growth in the first half of 2001 is the June average relative to the fourth-quarter average at an annual rate and is based on partially estimated data. Domestic nonfinancial debt consists of the outstanding credit market debt of governments, households and nonprofit organizations, nonfinancial businesses, and farms.

erated even as bond issuance surged, as a good portion of the funds raised was used to pay down commercial paper and bank loans. Tending to boost debt growth was a slowing in the decline in federal debt to a 6¼ percent rate in the first half of this year from 6¾ percent last year, largely because of a decline in tax receipts on corporate profits.

The share of credit to nonfinancial sectors held at banks and other depository institutions edged down in the first half of the year. Bank credit, which accounts for about three-fourths of depository credit, increased at a 3½ percent annual rate in the first half of the this year, well off the 9½ percent growth registered in 2000. Banks' loans to businesses and households decelerated even more, in part because borrowers preferred to lock in the lower rates available from longer-term sources of funds such as bond and mortgage markets and perhaps also in part because banks firmed up their lending stance in reaction to concerns about loan performance. Loan delinquency and charge-off rates have trended up in recent quarters, and higher loan-loss provisions have weighed on profits. Nevertheless, through the first

Percent of all U.S. commercial bank assets at well-capitalized banks



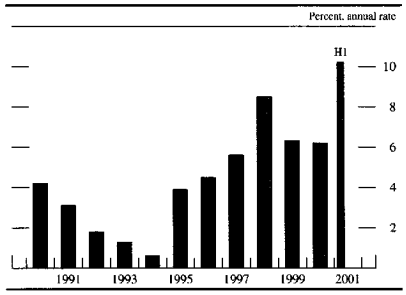
Note. The data are quarterly and extend through 2001:Q1. Capital status is determined using the regulatory standards for the leverage, tier 1, and total capital ratios.

quarter, bank profits remained in the high range recorded for the past several years, and virtually all banks—98 percent by assets—were well capitalized. With banks' financial condition still quite sound, they remain well positioned to meet future increases in the demand for credit.

The Monetary Aggregates

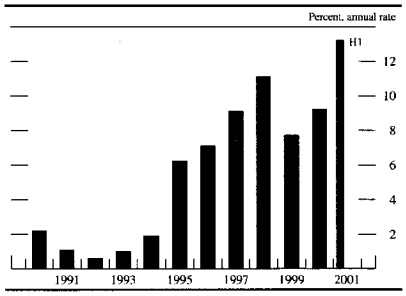
The monetary aggregates have expanded rapidly so far this year, although growth rates have moderated somewhat recently. M2 rose 10¼ percent at an annual rate in the first half of this year after having grown 6¼ percent in 2000. The interest rates on many of the components of M2 do not adjust quickly or fully to

M2 growth rate



NOTE. M2 consists of currency, travelers checks, demand deposits, other checkable deposits, savings deposits (including money market deposit accounts), small-denomination time deposits, and balances in retail money market funds. See footnote under the domestic nonfinancial debt chart for details on the computation of growth rates.

M3 growth rate



NOTE. M3 consists of M2 plus large-denomination time deposits, balances in institutional money market funds, RP liabilities (overnight and term), and eurodollars (overnight and term). See footnote under the domestic nonfinancial debt chart for details on the computation of growth rates.

changes in market interest rates. As a consequence, the steep declines in short-term market rates this year have left investments in M2 assets relatively more attractive, contributing importantly to the acceleration in the aggregate. M2 has also probably been buoyed by the volatility in the stock market this year, and perhaps by lower expected returns on equity investments, leading investors to seek the safety and liquidity of M2 assets.

M3, the broadest monetary aggregate, rose at a 13¼ percent annual rate through June, following 9¼ percent growth in 2000. All of the increase in M3, apart from that accounted for by M2, resulted from a ballooning of institutional money market funds, which expanded by nearly a third. Yields on these funds lag market yields somewhat, and so the returns to the funds, like those on many M2 assets, became relatively attractive as interest rates on short-term market instruments declined.

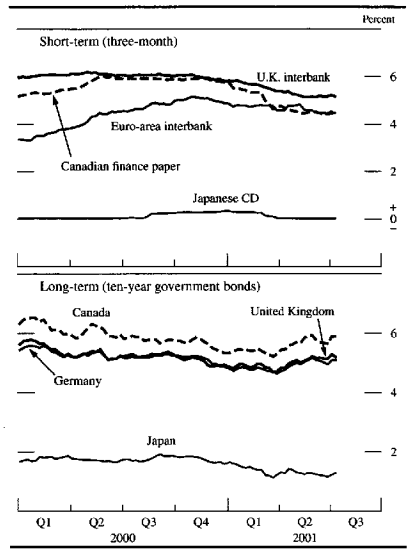
International Developments

So far this year, average foreign growth has weakened further and is well below its pace of a year ago. Activity abroad was restrained by the continued high level of oil prices, the global slump of the high-technology sector, and spillover effects from the U.S. economic slowdown, but in some countries domestic demand softened as well in reaction to local factors. High oil prices kept headline inflation rates somewhat elevated, but even though core rates of inflation have edged up in countries where economic slack has diminished, inflationary pressures appear to be well under control.

Monetary authorities in most cases reacted to signs of slowdown by lowering official rates, but by less than in the United States. Partly in response to these actions, yield curves have steepened noticeably so far in 2001. Although long-term interest rates moved down during the first quarter, they more than reversed those declines in most cases as markets reacted to a combination of the anticipation of stronger real growth and the risk of increased inflationary pressure. Foreign equity markets—especially for high-tech stocks—were buffeted early this year by many of the same factors that affected U.S. share prices: negative earnings reports, weaker economic activity, buildups of inventories of high-tech goods, and uncertainties regarding the timing and extent of policy responses. In recent months, the major foreign equity indexes moved up along with U.S. stock prices, but they have edged off lately and in most cases are down, on balance, for the year so far.

Slower U.S. growth, monetary easing by the Federal Reserve, fluctuations in U.S. stock prices, and the large U.S. external deficit have not undermined dollar strength. After the December 2000 FOMC meeting, the dollar lost ground against the major currencies; but shortly after the FOMC's surprise rate cut on

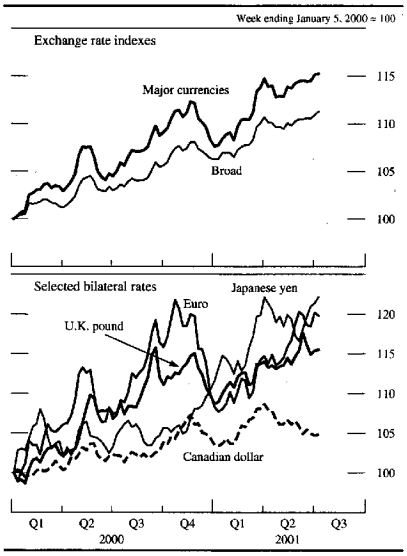
Foreign interest rates



NOTE. The data are weekly and extend through July 11, 2001.

January 3, the dollar reversed all of that decline as market participants evidently reassessed the prospects for recovery in the United States versus that in our major trading partners. The dollar as measured by a trade-weighted index against the currencies of major industrial countries gained in value steadily in the first three months of 2001, reaching a fifteen-year high in late March. Continued flows of foreign funds into U.S. assets appeared to be contributing importantly to the dollar's increase. Market reaction to indications that the U.S. economy might be headed toward a more prolonged slowdown undercut the dollar's strength somewhat in early April, and the dollar eased further after the unexpected April 18 rate cut by the FOMC. However, the dollar has more than made up that loss in recent months as signs of weakness abroad have emerged more clearly. On balance, the dollar is up about 7 percent against the major currencies so far this year; against a broader index that includes currencies of other important trading partners, the dollar has appreciated 5 percent.

Nominal U.S. dollar exchange rates



NOTE. The data are weekly and extend through July 11, 2001. Indexes (top panel) are trade-weighted averages of the exchange value of the dollar against major currencies and against the currencies of a broad group of important U.S. trading partners. Bilateral rates (bottom panel) are in foreign currency units per dollar.

The dollar has gained about 9 percent against the yen, on balance, as the Japanese economy has remained troubled by structural problems, stagnant growth, and continuing deflation. Industrial production has been falling, and real GDP declined slightly in the first quarter, with both private consumption and investment contracting. Japanese exports also have sagged because of slower demand from many key trading partners. Early in the year, under increasing pressure to respond to signs that their economy was weakening further, the Bank of Japan (BOJ) slightly reduced the uncollateralized overnight call rate, its key policy interest rate. By March, the low level of equity prices, which had been declining since early 2000, was provoking renewed concerns about the solvency of Japanese banks. In mid-March, the BOJ announced that it was shifting from aiming at a particular overnight rate to targeting balances that private financial institutions hold at the Bank, effectively returning the overnight rate to zero; the BOJ also announced that it would continue this easy monetary stance until inflation moves up to zero or above. After the yen had moved near the end of March to its weakest level relative to the dollar in more than four years, Japanese financial markets were buoyed by the surprise election in May of Junichiro Koizumi to party leadership and thereby to prime minister. The yen firmed slightly for several weeks thereafter, but continued weak economic fundamentals and increased market focus on the daunting challenges facing the new government helped push the yen back down and beyond its previous low level.

At the start of 2001, economic activity in the euro area had slowed noticeably from the more rapid rates seen early last year but still was fairly robust. Average GDP growth of near 2 percent was only slightly below estimated rates of potential growth, although some key countries (notably Germany) were showing signs of faltering further. Although high prices for oil and food had raised headline inflation, the rate of change of core prices was below the 2 percent ceiling for overall inflation set by the European Central Bank (ECB). The euro also was showing some signs of strength, having moved well off the low it had reached in October. However, negative spillovers from the global slowdown started to become more evident in weaker export performance in the first quarter, and leading indicators such as business confidence slumped. Nevertheless, the ECB held policy steady through April, as further weakening of the euro against the dollar (following a trend seen since the FOMC's rate cut in early January), growth of M3 in excess of the ECB's reference rate, and signs of an

edging up of euro-area core inflation were seen as militating against an easing of policy.

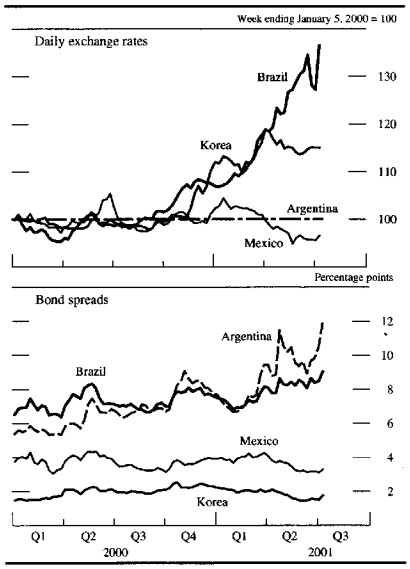
In early May, the ECB surprised markets with a 25 basis point reduction of its minimum bid rate and parallel reductions of its marginal lending and deposit rates. In explaining the step, the ECB noted that monetary developments no longer posed a threat to price stability and projected that moderation of GDP growth would damp upward price pressure. The euro has continued to fall since then and, on balance, has declined 9 percent against the dollar since the beginning of the year. Faced with a similar slowdown in the U.K. economy that was exacerbated by the outbreak of foot-and-mouth disease, the Bank of England also cut its official call rate three times (by a total of 75 basis points) during the first half of the year. The Labor Party's victory in parliamentary elections in early June seemed to raise market expectations of an early U.K. euro referendum and put additional downward pressure on sterling, but that was partly offset by signs of stronger inflationary pressure. On balance, the pound has lost about 6 percent against the dollar this year, while it has strengthened against the euro.

The exchange value of the Canadian dollar has swung over a wide range in 2001. In the first quarter, the Canadian dollar fell about 5 percent against the U.S. dollar as the Canadian economy showed signs of continuing a deceleration of growth that had started in late 2000. Exports—especially autos, auto equipment, and electronic equipment—suffered from weaker U.S. demand. Softer global prices for non-oil commodities also appeared to put downward pressure on the Canadian currency. With inflation well within its target range, the Bank of Canada cut its policy rate several times by a total of 125 basis points. So far this year, industries outside of manufacturing and primary resources appear to have been much less affected by external shocks, and domestic demand has maintained a fairly healthy pace. Since the end of March, the Canadian dollar has regained much of the ground it had lost earlier and is down about 2 percent on balance since the beginning of the year.

Global financial markets were rattled in February by serious problems in the Turkish banking sector. Turkish interest rates soared and, after market pressures led authorities to allow the Turkish lira to float, it experienced a sharp depreciation of more than 30 percent. An IMF program announced in mid-May that will bring $8 billion in support this year and require a number of banking and other reforms helped steady the situation temporarily, but market sentiment started to deteriorate again in early July.

In Argentina, the weak economy and the government's large and growing debt burden stoked market fears that the government would default on its debt and alter its one-for-one peg of the peso to the dollar. In April, spreads on Argentina's internationally traded bonds moved up sharply, and interest rates spiked. In June, the government completed a nearly $30 billion debt exchange with its major domestic and international creditors aimed at alleviating the government's cash flow squeeze, improving its debt amortization profile, and giving it time to enact fiscal reforms and revive the economy. Argentine financial conditions improved somewhat following agreement on the debt swap. However, this improvement proved temporary, and an apparent intensification of market concerns about the possibility of a debt default triggered a sharp fall in Argentine financial asset prices at mid-July. This financial turbulence in Argentina negatively affected financial markets in several other emerging market economies. The turmoil in Argentina took a particular toll on Brazil, where an energy crisis added to other problems that have kept growth

Emerging markets



NOTE. The data are weekly and extend through July 11, 2001. Exchange rates (top panel) are in foreign currency units per dollar. Bond spreads (bottom panel) are the J.P. Morgan Emerging Market Bond Index "plus" (sovereign yield) spreads over U.S. Treasuries.

very slow since late last year. Intervention purchases of the *real* by the Brazilian central bank and a 300 basis point increase in its main policy interest rate helped take some pressure off the currency, but the *real* has declined about 24 percent so far this year.

The weak performance of the Mexican economy at the end of last year caused largely by a fall in exports to the United States (notably including a sharp drop in exports of automotive products) and tight monetary policy carried over into early 2001. With inflation declining, the Bank of Mexico loosened monetary policy in May for the first time in three years. Problems with Mexican growth did not spill over to financial markets, however. The peso has remained strong and is up about 3 percent so far this year, and stock prices have risen.

Average growth in emerging Asia slowed significantly in the first half; GDP grew more slowly or even declined in economies that were more exposed to the effects of the global drop in demand for high-tech products. Average growth of industrial production in Malaysia, Singapore, and Hong Kong, for example, fell from a 15 percent annual rate in late 2000 to close to zero in mid-2001. The turnaround of the high-tech component of industrial production in those countries was even more abrupt—from more than a 30 percent rate of increase to a slight decline by midyear. In the Philippines and Indonesia, economic difficulties were compounded by serious political tensions. Currencies in many of these countries moved down versus the dollar, and stock prices declined. In Korea, the sharp slump in activity that began late last year continued into 2001, as weakness in the external sector spread to domestic consumption and investment. The Bank of Korea lowered its target interest rate a total of 50 basis points over the first half of the year in response to the weakening in activity. The Chinese economy, which is less dependent on technology exports than many other countries in the region, continued to expand at a brisk pace in the first half of this year, as somewhat softer export demand was offset by increased government spending.