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The U.S. in 2001: Macroeconomic Policy and the New Economy

The prospects for peace and prosperity for the rest of this century and beyond depend as much on monetary policy as on any other factor.

—Laurence Summers, former U.S. Secretary of the Treasury;
President of Harvard University

. . . the New Economy has created such downward pressure on prices that it is safe to say inflation is dead—dead as a doornail. That is, unless the Fed gums things up by raising interest rates. . . the business model of the New Economy . . . works perfectly well on its own.

—Professor William A. Sahlman, Harvard Business School

On 20 January 2001, George W. Bush was sworn in as the forty-third President of the United States. The preceding ten years represented the longest continuous peacetime economic expansion in American history. Unemployment and inflation were at low levels not seen for several decades and the standard of living of average Americans had reached unprecedented highs. Nonetheless, Bush faced several economic uncertainties.

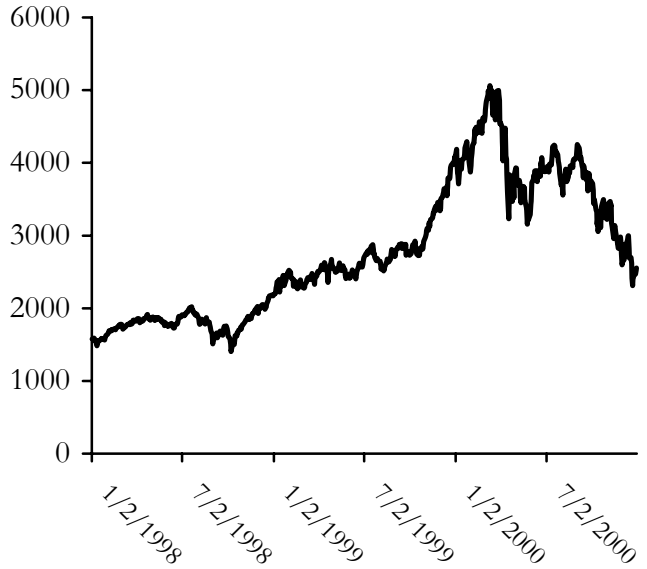
Technological innovations and organizational changes associated with the emergence of the so-called New Economy during the late 1990s may have raised the efficiency and productive capacity of the American economy. However, uncertainty surrounded the durability of these productivity gains and their implications for macroeconomic developments remained poorly understood.

Moreover, after a decade of strong growth, the U.S. economy demonstrated some signs of emerging weakness in early 2001. Business and consumer confidence fell, orders declined and economic activity weakened. In response, the Federal Reserve reduced interest rates by a total of one percentage point in January alone. By the time of Bush's inauguration, the technology-dominated Nasdaq stock market had declined by more than 50% from its highs of March 2000 (see **Chart 1**) and less dramatic, but still substantial, falls had been seen in other stock indices. Yet inflation remained subdued, unemployment remained at low levels and the U.S. dollar remained strong on currency markets.

The remainder of this case presents four views of macroeconomic developments in the United States during the late 1990s, which should be read against the background of the data presented in the exhibits.

Professor Huw Pill prepared this case from published sourcess the basis for class discussion. Cases are not intended to serve as endorsements, sources of primary data, or illustrations of effective or ineffective management.

Chart 1: The Nasdaq stock index Jan. 1998 – Dec. 2000



Source: NASDAQ.

1. The HBS Professor

The following are excerpts from an article by William A. Sahlman, the Dimitri V. D'Arbeloff—MBA Class of 1955 Professor of Business Administration at Harvard Business School. The article, entitled "The New Economy is Stronger Than You Think," was published in the ***Harvard Business Review*** *in November 1999.*

Some people—in particular, panicky policy makers at the Fed—fear that the New Economy is a bubble about to burst. They're dead wrong. Barring any government interference, the New Economy is rock solid and here to stay.

Chicken Little told us that the sky was falling in. Alan Greenspan and his cohorts at the Fed would have us believe it just might—what with the "irrational exuberance" of the capital markets and their increasing fear that inflation may soon raise its ugly head. I'm here to assure you that Chicken Little and Alan Greenspan have a lot in common; they fret for no good reason. The sky—that is, the U.S economy—is just fine, thank you. In fact, it's never been better—sturdy, resilient and raring to grow. And it will remain that way for years and years to come if the government just manages to stay out of its way.

The New Economy is strong because it is based on a business system that works. It makes sense—simple as that. Any business system that relentlessly drives out inefficiency, focuses intelligent business process re-engineering and gives customers more of what they want will be sustainable. On top of that, the New Economy is strong because it is built on several important factors to which traditional economists don't lend much credence: America's admiration for entrepreneurs and its tolerance of failure, not to mention its easy access to capital. The New Economy is strong, too, because it is attracting the best and brightest minds in the country. There was a time when all the smart MBAs went into consulting and investment banking. Now they're becoming entrepreneurs or

zipping off to Silicon Valley to join an existing team, where they can turn the cranks and pull the levers that make the New Economy thrive. …

The New Business Model

What's more important than the details is the big picture. The combination of entrepreneurship and the Internet has allowed New Economy companies to achieve those very efficient business models they were after. Costs came down and are being pushed lower every day. Needless to say, prices are sinking too (see **Exhibit 3**). In fact, the New Economy has created such downward pressure on prices that it is safe to say inflation is dead—dead as a doornail. That is, unless the Fed gums things up by raising interest rates or unless other government agencies interfere with the competitive process. The business model of the New Economy, you see, works perfectly well on its own. It creates a system in which both businesses and their customers win. …

The unrelenting drive for efficiency in the New Economy is a marvelous thing and will certainly hold down prices and stave off inflation. But the New Economy is strong and sustainable for other interrelated reasons. …

Americans love entrepreneurs (and) money is flowing to them with enormous ease. In fact, the United States has the most entrepreneur-friendly capital markets in the world. … A company like Amazon has been able to raise well over $1 billion in the capital markets despite reporting large losses. …

The Golden Age

The naysayers of the New Economy argue that the stock market has run amok (see **Exhibit 10**) and that doom looms ahead. Yet from a different perspective, the "irrational exuberance" of the stock market has actually played an important role in increasing productivity (see **Exhibit 4**) and decreasing inflation. Why? The more money that flows into the disruptive companies of the New Economy, the better the New Economy's inefficiency-busting, inflation-crushing model works. As New Economy companies grow stronger, they put more competitive pressure on existing players, pushing prices and costs down, down, down. The real threat to the economy right now is not growth but the government putting an artificial stop to it by raising interest rates.

The New Economy is strong and resilient. At the same time we are experiencing dramatic growth, we are experiencing deflationary pressures. Granted, the road ahead won't be easy for business executives. That's a given. After all, companies new and old will be under constant attack, having to reinvent themselves or get out of the way. Today's media heroes may well be tomorrow's goats. And labor too, will pay a price. Many workers will be required to learn new skills or find new jobs altogether. As in every revolution, not all will benefit equally nor will the pain be spread evenly. But years hence, we will look back at this time as a golden age. That is, if the policy makers don't turn it into lead.

2. The Vice-Chairman of the Federal Reserve

The following are excerpts from remarks made by Roger W. Ferguson, the Vice-Chairman of the Federal Reserve Board. His speech, entitled "Technology, Macroeconomics and Monetary Policy" was delivered at the Rochester Institute of Technology, Rochester, New York in December 2000. (The full text of the speech is available at www.federal reserve.gov/boarddocs/speeches/2000/200012062.htm.)

… Since 1995, real gross domestic product has grown, on average, more than 4½% per year (see **Exhibit 1**). This pace is significantly above that in the previous five years, and you have to go back to

the 1960s to find even closely comparable periods of consistently robust economic expansion. In this environment, the unemployment rate has fallen to 4% (see **Exhibit 5**), and the underlying rate of price inflation has slowed, on net, despite very high rates of resource utilization. Even the most optimistic of forecasters could not have anticipated such a favorable confluence of economic events.

Productivity Growth and Cost Reductions

So, what happened? As a policymaker, I'd like to think that well-executed monetary and fiscal policies—each focused importantly on their respective long-run goals of achieving price stability and reining in deficit spending—played some role in creating economic conditions that fostered non-inflationary economic growth. Our economy has also benefited from past actions by the government to deregulate industries. The removal of unnecessary government regulation started more than twenty years ago during the Administration of President Ford and gathered momentum during the Carter years. It has altered the business landscape by allowing, indeed forcing, businesses to focus more clearly on a more competitive marketplace with fewer constraints and increased flexibility.

But the dominant force of late appears to have been a significant increase in the rate of productivity growth: Output per hour in the non-farm business sector—a conventional measure of productivity—has increased at an annual rate of almost 3 percent since 1995, well above the pace earlier in the decade (see **Exhibit 12**). Cyclical forces … have probably played some role in these efficiency gains. But I suspect that longer-term, structural changes, reflecting the boom in capital spending and the revolution in information technology, probably have been more important. …

The Macroeconomic Implications of Faster Productivity Growth

Theory teaches us that the step-up in the growth rate of technological change certainly has important implications for economic activity and inflation. The main reason policymakers and economists are interested in the growth rate of productivity is that it helps us to understand the economy's potential to supply goods and services. The effects on the economy's ability to produce goods and services are clear, but theory predicts that a new higher level of productivity growth would also affect the demand for goods and services.

The most immediate effects would be on capital investment, as we have seen. A more rapid pace of technological change raises the real rate of return on new investments—perhaps significantly. Put another way, a more rapid pace of technological change makes investments in capital goods embodying the new technology more profitable. When businesses recognize the new technological possibilities, capital spending accelerates to take advantage of the new profit opportunities.

The employment and income generated by business spending on capital goods boosts consumer spending and sets off another round of investment spending. Typically referred to by economists as "multiplier-accelerator" effects, such processes would continue as long as the real rate of return on a new capital project exceeded the real cost for capital for that project. Through this process, an innovation on the supply side of the economy generates a comparable increase in aggregate demand.

It is important to emphasize that higher productivity growth translates into higher real income growth for employees. This added income is seen most clearly in the higher wages paid to that growing number of workers whose cash compensation is tied to company performance. In addition, for those workers who have been granted stock options, higher profits today and the potential for further increases tomorrow translates into higher stock prices for their company and ultimately an increase in their overall compensation. But real incomes should increase even for workers whose compensation is not directly linked to company performance, as profitable business opportunities bolster the demand for scarce labor.

Theory also teaches that the increase in the rate of return on capital—even if generated by a rise in the growth rate of technical change—ultimately requires an increase in real market interest rates. Market interest rates must rise in order to maintain equilibrium between the higher demand for investment funds and the supply of investment funds. And, indeed, we have seen that market interest rates, particularly for corporate issuers, have risen steadily for the last year or so (see **Exhibit 8**).

Interestingly, rates of return for forms of capital other than computer equipment, including both structures and non-computer equipment, either have not increased or have not risen as much as the rates of return on their high-tech counterparts (see **Exhibit 13**). It is therefore possible that, during this period, investment flows have been reallocated away from firms producing traditional capital goods and toward firms and industries that make high-tech goods and services.

This somewhat abstract description of the effects of a step-up in the growth rate of technical change bears a striking resemblance to the developments of recent years in labor markets, prices of goods and services, capital investments, and fixed-income markets. But there's still an element missing—the stock market. A higher rate of technical change that raises the productivity and hence the profitability of capital should elevate the value of equities. Since equity prices reflect market expectations of future cash flow and dividends, any adjustment in profit expectations can and does lead to a resetting of equity prices. Are stocks today overvalued, correctly valued, or undervalued? I certainly do not know, and I am not aware of anyone who does. As a result, I believe that it would be unwise—and indeed impossible—for the Federal Reserve to target specific levels of valuations in equity markets.

However, equity markets obviously do have spillover effects on the real economy and, thus, need to be considered in assessing the aggregate balance of supply and demand. Given the efficiency and forward-looking nature of financial markets, even expected future technical innovations will have an immediate effect on equity valuations.

Equity values, in turn, can influence consumer behavior. … (They are also) a source of investment capital, and valuations in the stock market are one determinant of the cost of capital for businesses. External financing conditions, including equity valuations, are important because recent investments have increasingly been financed from external sources. At present, external funds account for about 20 percent of nominal capital expenditures—close to the highs of the past two decades.

Monetary Policy and the "New" Economy

As I have said many times before, uncertainty about productivity trends poses a major challenge in the design and implementation of monetary policy. As you can imagine, it is very difficult to infer the true structure of the economy through the interpretation of the twists and turns of incoming economic data. How do we know, for example, if unexpected developments are just temporary movements away from stable longer-run relationships or are manifestations of changes in the underlying economic structure? In many cases, this judgment is difficult to make with much confidence even considerably after the fact. In the meantime, we must bear in mind … the considerable uncertainty regarding statistical constructs such as … the "sustainable" rate of growth of the economy. … Some fog always obstructs our vision, but when the structure of the economy is changing, the fog is considerably denser than at other times. …

It also is important to be aware of the potential for unanticipated developments to emerge that might have implications for policymaking. The rate of growth of our economy has stepped down from the unsustainable pace of earlier this year. During such a period, potential risks emerge more clearly.

First, we must be mindful that an unexpected slowdown might occur in the growth of productivity. I am cautiously optimistic that the rapid pace of productivity growth can be extended. However, we now know that an unexpected and unrecognized slowdown in productivity growth occurred in 1973. The causes are still debated, but we know that the slowdown contributed to "stagflation," which emerged as employees demanded increased compensation, based on unrealistically high expectations of productivity growth and gradually rising inflation expectations, and employers granted those increases. To maintain profit margins, businesses then passed on those cost increases through to prices. This pass-through occurred as the rate of growth in the economy subsided. This is the reverse of the good news that we have experienced in this expansion.

The second risk to good performance is that the investment boom, at least in some sectors, may overshoot. We are not only in the longest expansion in the history of our nation but also in the longest investment boom. Expectations of future returns from capital may not materialize, and companies may find that they have over-invested in capital stock. Other investment booms have ended with a pullback in investment that has slowed growth sharply, and we should be mindful that such an outcome is not impossible. Indeed, the recent re-leveling of the stock prices of some high-tech companies may suggest that we are entering a period of reduced optimism about future profits and less rapid growth in business investment.

The third risk is that the capital inflows from abroad that have been funding our domestic investments may dry up (see **Exhibit 2**). The elevated stock market has reduced household savings. Net government saving has increased greatly, in the form of the surplus at the federal, state, and local levels, but as a nation we also rely on capital inflows from overseas. Capital inflows, as you know, are the counterpart of our record current account deficit. The gap between domestic savings and investment is large and growing, and if the inflow of foreign capital reversed suddenly, the consequences for our economy would be noticeable.

A fourth risk arises from ongoing adjustments in financial markets to the perception of a riskier economic environment. Over the course of this year, commercial banks have tightened their lending standards, and quality spreads have increased in the bond market—especially in the high-yield sector (see **Exhibit 8**). Activity in the IPO market has subsided as equity investors have turned away from riskier ventures. Taking into account also the decline in equity prices since the spring and the rise in the foreign exchange value of the dollar (see **Exhibit 9**), financial markets are imposing more restraint on the economy than they have in recent years. A reassessment of risks is a natural and desirable byproduct of financial market adjustments, and of returning to more sustainable economic conditions. There is always a danger, however, that participants will overreact in such a period of adjustment. …

3. The Out-going Clinton Administration

The following are excerpts from ***The Economic Report of the President*** *transmitted to Congress in January 2001. This report was prepared by the Clinton administration, which naturally claimed credit for creating the economic environment in which emergent technologies could prosper. (The full text of the report is available at w3.access.gpo.gov/usbudget/fy2002/pdf/2001_erp.pdf.)*

Over the last eight years (of the Clinton administration) the American economy has transformed itself so radically that we have witnessed the creation of a New Economy. …

The remarkable economic trends of the 1990s took many by surprise. They represent a distinct change from the 1970s and 1980s, decades in which the economy was plagued by persistent inflation, periodically high unemployment, slow growth in productivity, rising inequality and large Federal

budget deficits. Stagflation was an unwelcome phenomenon of the 1970s, as two major oil shocks were followed by simultaneous inflation and recession. The massive and costly recession of the early 1980s and the collapse of oil prices in 1986 broke the back of the very high inflation rates that had emerged in the late 1970s. But as unemployment fell below 6% in the late 1980s, core inflation started to climb again. …

What Makes the Economy New?

Three interrelated factors lie behind the extraordinary economic gains (of the 1990s): technological innovation, organizational changes in business, and public policy.

Information technology has long been important to the economy. But in the early 1990s a number of simultaneous advances in information technology—computer hardware, software and telecommunications—allowed these new technologies to be combined in ways that sharply increased their economic potential. In part to realize this potential, entrepreneurs instituted widespread changes in business organizations, reconfiguring their existing businesses and starting new ones. …

Public policy was the third driving force. The (Clinton) administration embraced policies and strategies based on fiscal discipline, investing in people and technologies, opening markets at home and abroad, and developing an institutional framework that supported continued global integration. Together these created an environment in which the new technologies and organizational changes could flourish. The interactions among these three factors have created a virtuous cycle in which developments in one area reinforce and stimulate developments in another. …

Sustaining the Virtuous Cycle

The Omnibus Budget and Reconciliation Act of 1993 was the right policy at the right time. … In 1992 the new (Clinton) administration was elected on a promise to turn the (Federal budget) deficits (inherited from the Reagan/Bush years) around. After a tough political battle in 1993, the administration was able to deliver on that promise (see **Exhibit 7**). … The markets responded quickly to this serious effort to address the deficit by lowering expectations of inflation, and long-term interest rates accordingly fell (see **Exhibit 8**). …

The most direct link between improved fiscal discipline and growth is that through lower interest rates, which encourages investment. As interest rates fall, financing of all kinds of activities becomes less costly. In addition, low interest rates help keep the stock market strong, allowing companies both old and new to lower their cost of capital. Ultimately, the combination of falling prices for investment goods and reduced interest costs stimulated dramatic growth in investment. … Investment is not the only engine of growth, but new technologies cannot be acquired without it. Strong investment is essential to rapid growth, and by reducing the amount of saving that must go to finance the public debt, fiscal discipline has made room for strong investment. …

4. The President of the United States

The following are excerpts from the address made by George W. Bush, President of the United States, to the joint session of Congress on 27 February 2001. (The full text of the address is available at www.whitehouse.gov/news/releases/2001/02/20010228.html.)

… America today is a nation with great challenges, but greater resources. An artist using statistics as a brush could paint two very different pictures of our country. One would have warning signs: increasing layoffs, rising energy prices, too many failing schools, persistent poverty, the stubborn vestiges of racism. Another picture would be full of blessings: a balanced budget, big surpluses, a

military that is second to none, a country at peace with its neighbors, technology that is revolutionizing the world, and our greatest strength—concerned citizens who care for our country and care for each other.

Neither picture is complete in and of itself. And tonight I challenge and invite Congress to work with me to use the resources of one picture to repaint the other; to direct the advantages of our time to solve the problems of our people. Some of these resources will come from government. Some—but not all.

Year after year in Washington, budget debates seem to come down to an old, tired argument: on one side, those who want more government, regardless of the cost; on the other, those who want less government, regardless of the need. We should leave those arguments to the last century, and chart a different course.

Government has a role, and an important role. Yet, too much government crowds out initiative and hard work, private charity and the private economy. Our new governing vision says government should be active, but limited; engaged, but not overbearing. And my budget is based on that philosophy. …

For lower-income families, my tax plan restores basic fairness. Right now, complicated tax rules punish hard work. A waitress supporting two children on $25,000 a year can lose nearly half of every additional dollar she earns above the $25,000. Her overtime, her hardest hours, are taxed at nearly 20 percent. This sends a terrible message: you'll never get ahead. But America's message must be different. We must honor hard work, never punish it. …

Tax relief is right and tax relief is urgent. The long economic expansion that began almost 10 years ago is faltering. Lower interest rates will eventually help, but we cannot assume they will do the job all by themselves.

Forty years ago, and then 20 years ago, two Presidents, one Democrat, one Republican, John F. Kennedy and Ronald Reagan, advocated tax cuts to, in President Kennedy's words, get this country moving again. They knew then what we must do now. To create economic growth and opportunity, we must put money back into the hands of the people who buy goods and create jobs.

We must act quickly. The Chairman of the Federal Reserve has testified before Congress that tax cuts often come too late to stimulate economic recovery. So I want to work with you to give our economy an important jump-start by making tax relief retroactive. …

Exhibit 1a Annual U.S. National Income Accounts 1987-1999 (billions of (chained[1]) 1996 U.S. dollars, except where noted)

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
GDP	6,113.3	6,368.4	6,591.8	6,707.9	6,676.4	6,880.0	7,062.6	7,347.7	7,543.8	7,813.2	8,159.5	8,515.7	8,875.8
Consumption	4,113.4	4,279.5	4,393.7	4,474.5	4,466.6	4,594.5	4,748.9	4,928.1	5,075.6	5,237.5	5,423.9	5,678.7	5,978.8
Fixed investment	856.0	887.1	911.2	894.6	832.5	886.5	958.4	1,045.9	1,109.2	1,212.7	1,328.6	1,485.3	1,621.4
Change in inventory	29.6	18.4	29.6	16.5	-1.0	17.1	20.0	66.8	30.4	30.0	63.8	80.2	45.3
Exports	408.0	473.5	529.4	575.7	613.2	651.0	672.7	732.8	808.2	874.2	981.5	1,003.6	1,033.0
Imports	564.2	585.6	608.8	632.2	629.0	670.8	731.8	819.4	886.6	963.1	1,094.8	1,224.6	1,355.3
Government spending[2]	1,292.5	1,307.5	1,343.5	1,387.3	1,403.4	1,410.0	1,398.8	1,400.1	1,406.4	1,421.9	1,455.4	1,486.4	1,536.1
GDP growth (annual percentage change)	3.4	4.2	3.5	1.8	-0.5	3.0	2.7	4.0	2.7	3.6	4.4	4.4	4.2

[1] The "chained" U.S. dollar price deflator index allows for the change in the composition of GDP over time, thereby giving a more accurate reflection of price trends than a series based on a fixed year.

[2] Excluding transfer payments (note when comparing with exhibit 7).

Exhibit 1b Quarterly U.S. National Income Accounts 1999: I-2000: III (billions of (chained) 1996 U.S. dollars, except where noted; seasonally adjusted figures at an annual rate)

	1999: I	1999: II	1999: III	1999: IV	2000: I	2000: II	2000: III
GDP	8,730.0	8,783.2	8,905.8	9,084.1	9,191.8	9,318.9	9,369.5
Consumption	5,860.2	5,940.2	6,013.8	6,101.0	6,213.5	6,260.6	6,329.8
Fixed investment	1,574.0	1,607.1	1,637.8	1,666.6	1,730.9	1,777.6	1,791.3
Change in inventory	48.1	13.1	39.1	80.9	36.6	78.6	72.5
Exports	1,003.3	1,017.6	1,042.6	1,068.4	1,084.8	1,121.8	1,158.8
Imports	1,283.1	1,332.2	1,385.2	1,420.9	1,461.7	1,525.2	1,586.4
Government spending	1,517.1	1,519.9	1,537.8	1,569.5	1,565.1	1,583.7	1,578.2
GDP growth (quarter-on-quarter percentage change at an annual rate)	*3.5*	*2.5*	*5.7*	*8.3*	*4.8*	*5.6*	*2.2*

Source: Economic Report of the President, January 2001.

Exhibit 2 U.S. Balance of Payments 1987-2000 (millions of U.S. dollars)

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000[1]
Exports (+)	250,208	320,230	362,120	389,307	416,913	440,352	456,832	502,398	575,845	612,057	679,702	670,324	684,358	767,861
Imports (-)	-409,765	-447,189	-477,365	-498,337	-490,981	-536,458	-589,441	-668,590	-749,574	-803,327	-876,367	-917,178	-1,029,917	-1,209,841
Balance of Trade	**-159,557**	**-126,959**	**-115,245**	**-109,030**	**-74,068**	**-96,106**	**-132,609**	**-166,192**	**-173,729**	**-191,270**	**-196,665**	**-246,854**	**-345,559**	**-441,980**
Net services	7,874	12,392	24,607	30,172	45,803	60,439	63,661	69,153	77,782	89,157	90,733	79,956	80,588	81,689
Balance on goods and services	-151,684	-114,566	-90,638	-78,857	-28,266	-35,666	-68,949	-97,039	-95,947	-102,113	-105,932	-166,898	-264,971	-360,291
Net income	14,293	18,687	19,824	28,550	24,130	22,954	23,904	16,694	20,547	18,876	6,186	-6,211	-18,483	-17,313
Transfers	-23,265	-25,274	-26,169	-26,654	10,752	-35,013	-37,637	-38,260	-34,057	-40,081	-40,794	-44,029	-48,025	-49,395
Balance on current account	**-160,655**	**-121,153**	**-96,982**	**-76,961**	**6,616**	**-47,724**	**-82,681**	**-118,605**	**-109,457**	**-123,318**	**-140,540**	**-217,138**	**-331,479**	**-426,999**
Net increase in U.S. assets abroad (-)	-79,296	-106,573	-175,383	-81,234	-64,388	-74,410	-200,552	-176,056	-352,376	-413,923	-488,940	-335,436	-430,187	-464,781
Net increase in foreign assets in US (+)	248,634	246,522	224,928	141,571	110,808	170,663	282,040	305,989	465,684	571,706	756,962	482,235	753,564	909,137
Other capital account transactions	365	493	336	-6,579	-4,479	612	-88	-469	372	693	350	637	-3,500	668
Balance on capital account	**169,703**	**140,442**	**49,881**	**53,757**	**41,941**	**96,865**	**81,400**	**129,464**	**113,680**	**158,476**	**268,372**	**147,436**	**319,877**	**445,024**
Statistical discrepancy	-9,048	-19,289	47,101	23,204	-48,557	-49,141	1,281	-10,859	-4,223	-35,158	-127,832	69,702	11,602	18,025

Source: Economic Report of the President, January 2001.

[1] First three quarters at an annual rate.

Exhibit 3 Consumer Price Inflation 1987-2000 (percent per annum)

	All items	All items less food	All items less energy	All items less food and energy	All items less medical care
1987	3.6	3.5	4.1	4.1	3.5
1988	4.1	4.1	4.4	4.4	3.9
1989	4.8	4.6	4.7	4.5	4.6
1990	5.4	5.3	5.2	5.0	5.2
1991	4.2	4.5	4.6	4.9	3.9
1992	3.0	3.5	3.2	3.7	2.8
1993	3.0	3.1	3.2	3.3	2.7
1994	2.6	2.7	2.7	2.8	2.5
1995	2.8	2.8	3.0	3.0	2.7
1996	3.0	2.9	2.8	2.7	2.8
1997	2.3	2.3	2.5	2.4	2.3
1998	1.6	1.4	2.3	2.3	1.5
1999	2.2	2.2	2.0	2.1	2.1

Percentage change over same month in 1999	All items
2000: Jan	2.7
Feb	3.2
Mar	3.8
Apr	3.1
May	3.2
June	3.7
July	3.7
Aug	3.4
Sept	3.5
Oct	3.4
Nov	3.4

Source: Economic Report of the President, January 2001.

Exhibit 4 Productivity Growth 1987-1999 (annual percentage change)

	Output per hour of all persons		Output		Hours of all Persons		Unit labor costs	
	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector
1987	0.5	0.4	3.5	3.5	3.0	3.2	3.4	3.4
1988	1.2	1.3	4.3	4.5	3.0	3.2	3.5	3.2
1989	1.0	0.8	3.5	3.4	2.5	2.6	1.8	1.9
1990	1.3	1.1	1.5	1.4	0.2	0.3	4.3	4.3
1991	1.1	1.2	-1.2	-1.3	-2.3	-2.4	3.6	3.6
1992	3.9	3.7	3.7	3.5	-0.2	-0.2	1.4	1.6
1993	0.5	0.5	3.1	3.3	2.6	2.9	1.9	1.7
1994	1.3	1.3	4.9	4.7	3.5	3.3	0.7	0.8
1995	0.7	0.9	3.1	3.4	2.4	2.4	1.4	1.2
1996	2.8	2.5	4.4	4.3	1.6	1.7	0.4	0.5
1997	2.1	1.8	5.2	5.1	3.1	3.2	0.8	0.9
1998	2.7	2.6	5.0	5.1	2.3	2.4	2.5	2.4
1999	3.1	2.9	4.8	4.8	1.6	1.8	1.8	1.8

Source: Economic Report of the President, January 2001.

Exhibit 5 U.S. Unemployment and Capacity Utilization Rates 1987-1999 (percent)

	All	Males			Females			Industrial capacity utilization
		Total	16–19 years	20 years and over	Total	16–19 years	20 years and over	
1987	6.2	6.2	*17.8*	*5.4*	6.2	*15.9*	*5.4*	81.3
1988	5.5	5.5	*16.0*	*4.8*	5.6	*14.4*	*4.9*	84.0
1989	5.3	5.2	*15.9*	*4.5*	5.4	*14.0*	*4.7*	84.1
1990	5.6	5.7	*16.3*	*5.0*	5.5	*14.7*	*4.9*	82.3
1991	6.8	7.2	*19.8*	*6.4*	6.4	*17.5*	*5.7*	79.3
1992	7.5	7.9	*21.5*	*7.1*	7.0	*18.6*	*6.3*	80.2
1993	6.9	7.2	*20.4*	*6.4*	6.6	*17.5*	*5.9*	81.3
1994	6.1	6.2	*19.0*	*5.4*	6.0	*16.2*	*5.4*	83.1
1995	5.6	5.6	*18.4*	*4.8*	5.6	*16.1*	*4.9*	83.3
1996	5.4	5.4	*18.1*	*4.6*	5.4	*15.2*	*4.8*	82.6
1997	4.9	4.9	*16.9*	*4.2*	5.0	*15.0*	*4.4*	83.5
1998	4.5	4.4	*16.2*	*3.7*	4.6	*12.9*	*4.1*	82.1
1999	4.2	4.1	*14.7*	*3.5*	4.3	*13.2*	*3.8*	81.2

Source: Economic Report of the President, January 2001.

Exhibit 6 U.S. Monetary and Credit Growth 1987-1999 (annual percentage change)

	M1	M2	M3	Debt[1]
1987	3.5	3.6	5.5	9.4
1988	4.9	5.8	6.6	9.1
1989	0.8	5.5	4.0	7.3
1990	4.0	3.8	1.6	6.5
1991	8.7	3.0	1.3	4.4
1992	14.3	1.6	0.3	4.6
1993	10.3	1.6	1.4	4.9
1994	1.8	0.4	1.7	4.7
1995	-2.0	4.1	6.0	5.4
1996	-4.1	4.7	7.3	5.4
1997	-0.7	5.7	9.1	5.5
1998	2.2	8.7	11.0	6.9
1999	2.3	6.0	8.3	6.8

Source: Economic Report of the President, January 2001.

[1] Consists of outstanding credit market debt of the U.S. government, state and local governments, and the private non-financial sectors.

Exhibit 7 U.S. Federal Government Receipts, Outlays, Surplus/Deficit and Debt 1987-1999 (billions of U.S. dollars)

	Total			On-budget			Off-budget			Federal debt *(end of period)*		Gross domestic product
	Receipts	Outlays	Surplus	Receipts	Outlays	Surplus	Receipts	Outlays	Surplus	Gross Federal	Held by the public	
1987	854.4	1,004.1	-149.8	641.0	810.3	-169.3	213.4	193.8	19.6	2,346.1	1,889.9	4,647.0
1988	909.3	1,064.5	-155.2	667.8	861.8	-194.0	241.5	202.7	38.8	2,601.3	2,051.8	5,014.7
1989	991.2	1,143.7	-152.5	727.5	932.8	-205.2	263.7	210.9	52.8	2,868.0	2,191.0	5,405.5
1990	1,032.0	1,253.2	-221.2	750.3	1,028.1	-277.8	281.7	225.1	56.6	3,206.6	2,411.8	5,735.6
1991	1,055.0	1,324.4	-269.4	761.2	1,082.7	-321.6	293.9	241.7	52.2	3,598.5	2,689.3	5,930.4
1992	1,091.3	1,381.7	-290.4	788.9	1,129.3	-340.5	302.4	252.3	50.1	4,002.1	3,000.1	6,218.6
1993	1,154.4	1,409.5	-255.1	842.5	1,142.9	-300.5	311.9	266.6	45.3	4,351.4	3,248.8	6,558.4
1994	1,258.6	1,461.9	-203.3	923.6	1,182.5	-258.9	335.0	279.4	55.7	4,643.7	3,433.4	6,944.6
1995	1,351.8	1,515.8	-164.0	1,000.8	1,227.2	-226.4	351.1	288.7	62.4	4,921.0	3,604.8	7,324.0
1996	1,453.1	1,560.6	-107.5	1,085.6	1,259.7	-174.1	367.5	300.9	66.6	5,181.9	3,734.5	7,694.6
1997	1,579.3	1,601.3	-22.0	1,187.3	1,290.7	-103.4	392.0	310.6	81.4	5,369.7	3,772.8	8,185.2
1998	1,721.8	1,652.6	69.2	1,306.0	1,336.0	-30.0	415.8	316.6	99.2	5,478.7	3,721.6	8,673.5
1999	1,827.5	1,703.0	124.4	1,383.0	1,382.3	0.7	444.5	320.8	123.7	5,606.1	3,632.9	9,130.4

Source: Economic Report of the President, January 2001.

Exhibit 8 Bond Yields and Interest Rates 1987-1999 (percent per annum)

	U.S. Treasury securities					Corporate bonds (Moody's)		High-grade municipal bonds (Standard & Poor's)	New home mortgage yields	Commercial paper (6 months)	Prime rate charged by banks	Discount rate, Federal Reserve Bank of New York	Federal funds rate
	Bills (new issues)		*Constant maturities*			*Aaa*	*Baa*						
	3-month	*6-month*	*3-year*	*10-year*	*30-year*								
1987	5.82	6.05	7.68	8.39	8.59	9.38	10.58	7.73	9.31	6.85	8.21	5.66	6.66
1988	6.69	6.92	8.26	8.85	8.96	9.71	10.83	7.76	9.19	7.68	9.32	6.20	7.57
1989	8.12	8.04	8.55	8.49	8.45	9.26	10.18	7.24	10.13	8.80	10.87	6.93	9.21
1990	7.51	7.47	8.26	8.55	8.61	9.32	10.36	7.25	10.05	7.95	10.01	6.98	8.10
1991	5.42	5.49	6.82	7.86	8.14	8.77	9.80	6.89	9.32	5.85	8.46	5.45	5.69
1992	3.45	3.57	5.30	7.01	7.67	8.14	8.98	6.41	8.24	3.80	6.25	3.25	3.52
1993	3.02	3.14	4.44	5.87	6.59	7.22	7.93	5.63	7.20	3.30	6.00	3.00	3.02
1994	4.29	4.66	6.27	7.09	7.37	7.96	8.62	6.19	7.49	4.93	7.15	3.60	4.21
1995	5.51	5.59	6.25	6.57	6.88	7.59	8.20	5.95	7.87	5.93	8.83	5.21	5.83
1996	5.02	5.09	5.99	6.44	6.71	7.37	8.05	5.75	7.80	5.42	8.27	5.02	5.30
1997	5.07	5.18	6.10	6.35	6.61	7.26	7.86	5.55	7.71	5.62	8.44	5.00	5.46
1998	4.81	4.85	5.14	5.26	5.58	6.53	7.22	5.12	7.07	...	8.35	4.92	5.35
1999	4.66	4.76	5.49	5.65	5.87	7.04	7.87	5.43	7.04	...	8.00	4.62	4.97

Source: Economic Report of the President, January 2001.

Exhibit 9 U.S. Dollar Exchange Rate 1987-1999 (For Canadian dollar, German mark and Japanese yen – foreign currency per dollar. For Euro and Pound sterling – dollars per foreign currency unit)

	Canadian dollar	Euro	German mark	Japanese yen	Pound sterling	Nominal currency index[1]	Real currency index[1]
						March 1973 = 100	
1987	1.3259	...	1.7981	144.60	1.6398	94.8	120.6
1988	1.2306	...	1.7570	128.17	1.7813	88.2	110.7
1989	1.1842	...	1.8808	138.07	1.6382	91.9	105.7
1990	1.1668	...	1.6166	145.00	1.7841	87.9	104.8
1991	1.1460	...	1.6610	134.59	1.7674	86.4	103.9
1992	1.2085	...	1.5618	126.78	1.7663	84.9	100.7
1993	1.2902	...	1.6545	111.08	1.5016	87.1	98.1
1994	1.3664	...	1.6216	102.18	1.5319	85.6	97.8
1995	1.3725	...	1.4321	93.96	1.5785	80.8	97.1
1996	1.3638	...	1.5049	108.78	1.5607	84.6	94.4
1997	1.3849	...	1.7348	121.06	1.6376	91.2	95.6
1998	1.4836	...	1.7597	130.99	1.6573	95.8	108.2
1999	1.4858	1.0653	...	113.73	1.6172	94.1	107.4
1999: I	1.5120	1.1204	...	116.67	1.6321	93.5	107.8
1999: II	1.4733	1.0567	...	120.80	1.6061	95.5	107.2
1999: III	1.4865	1.0493	...	113.15	1.6019	94.5	107.6
1999: IV	1.4724	1.0368	...	104.31	1.6295	92.7	107.1
2000: I	1.4539	0.9859	...	106.96	1.6055	94.7	106.0
2000: II	1.4809	0.9334	...	106.72	1.5320	97.5	108.1
2000: III	1.4824	0.9042	...	107.73	1.4773	99.2	108.5

Source: Economic Report of the President, January 2001.

[1]Increase implies appreciation; decrease implies depreciation.

Exhibit 10 U.S. Stock Prices and Ratios

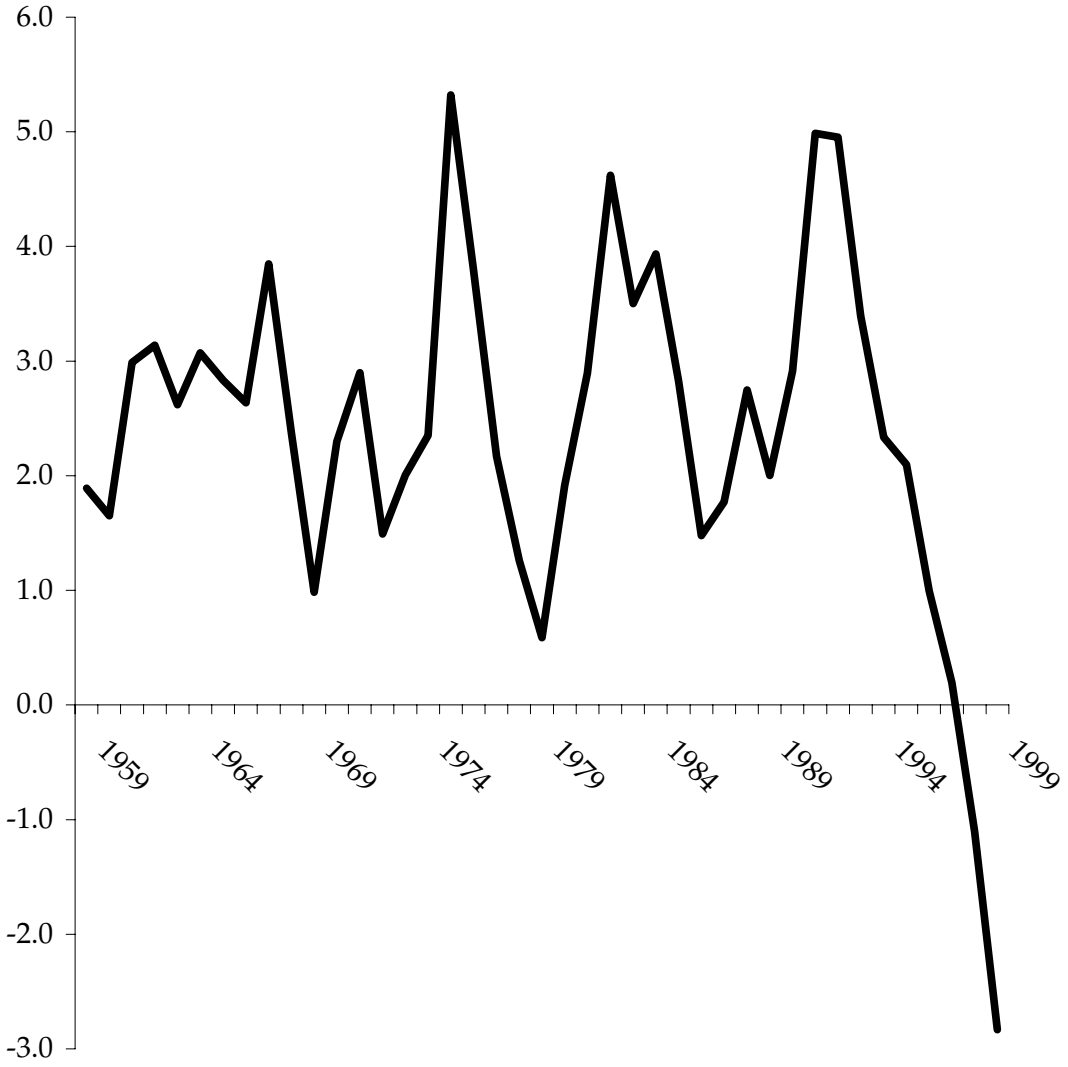
	Dow Jones industrial average	Standard & Poor's composite index	Nasdaq composite index	Dividend/ price ratio[1] %	Earnings/ price ratio[2] %
1987	2,275.99	286.83	402.57	3.08	5.48
1988	2,060.82	265.79	374.43	3.64	8.01
1989	2,508.91	322.84	437.81	3.45	7.42
1990	2,678.94	334.59	409.17	3.61	6.47
1991	2,929.33	376.18	491.69	3.24	4.79
1992	3,284.29	415.74	599.26	2.99	4.22
1993	3,522.06	451.41	715.16	2.78	4.46
1994	3,793.77	460.42	751.65	2.82	5.83
1995	4,493.76	541.72	925.19	2.56	6.09
1996	5,742.89	670.50	1,164.96	2.19	5.24
1997	7,441.15	873.43	1,469.49	1.77	4.57
1998	8,625.52	1,085.50	1,794.91	1.49	3.46
1999	10,464.88	1,327.33	2,728.15	1.25	3.17
2000: Jan	11,281.26	1,425.59	4,013.49	1.18	...
Feb	10,541.93	1,388.87	4,410.87	1.21	...
Mar	10,483.39	1,442.21	4,802.99	1.18	3.40
Apr	10,944.31	1,461.36	3,863.64	1.14	...
May	10,580.27	1,418.48	3,528.42	1.17	...
June	10,582.93	1,461.96	3,865.48	1.12	3.57

Source: Economic Report of the President, January 2001.

[1]Aggregate cash dividends (based on latest known annual rate) divided by aggregate market value based on Wednesday closing prices. Monthly data are averages of weekly figures; annual data are averages of monthly figures. Based on the 500 stocks in the S&P composite index.

[2]Quarterly data are ratio of earnings (after taxes) for 4 quarters ending with particular quarter to price index for last day of that quarter. Annual data are averages of quarterly ratios. Based on the 500 stocks in the S&P composite index.

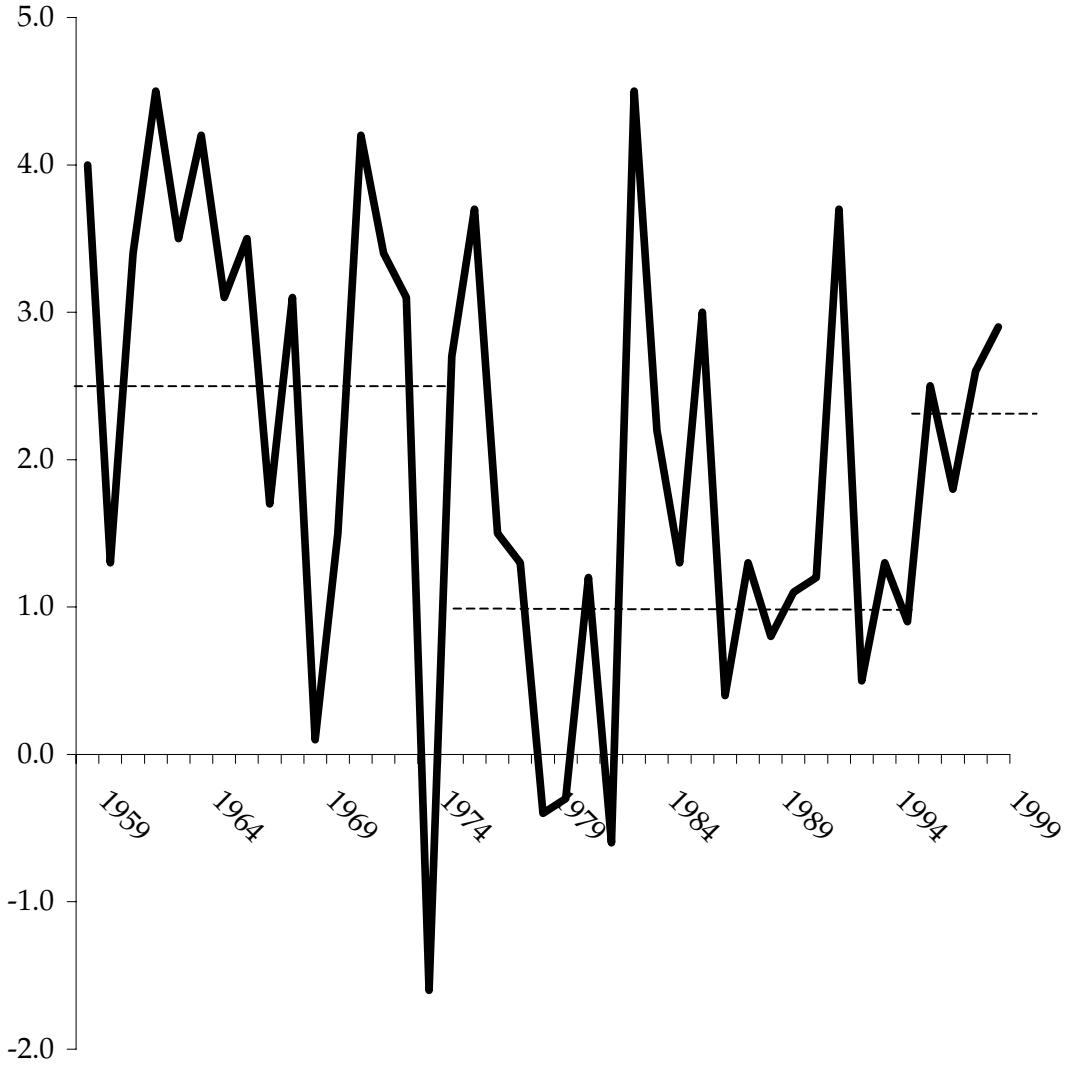
Exhibit 11 Net U.S. Private Savings Rate 1959-1999 (percent of GDP)



Source: Economic Report of the President, January 2001.

Note: The private savings rate is defined as the ratio of personal and business saving net of investment to GDP.

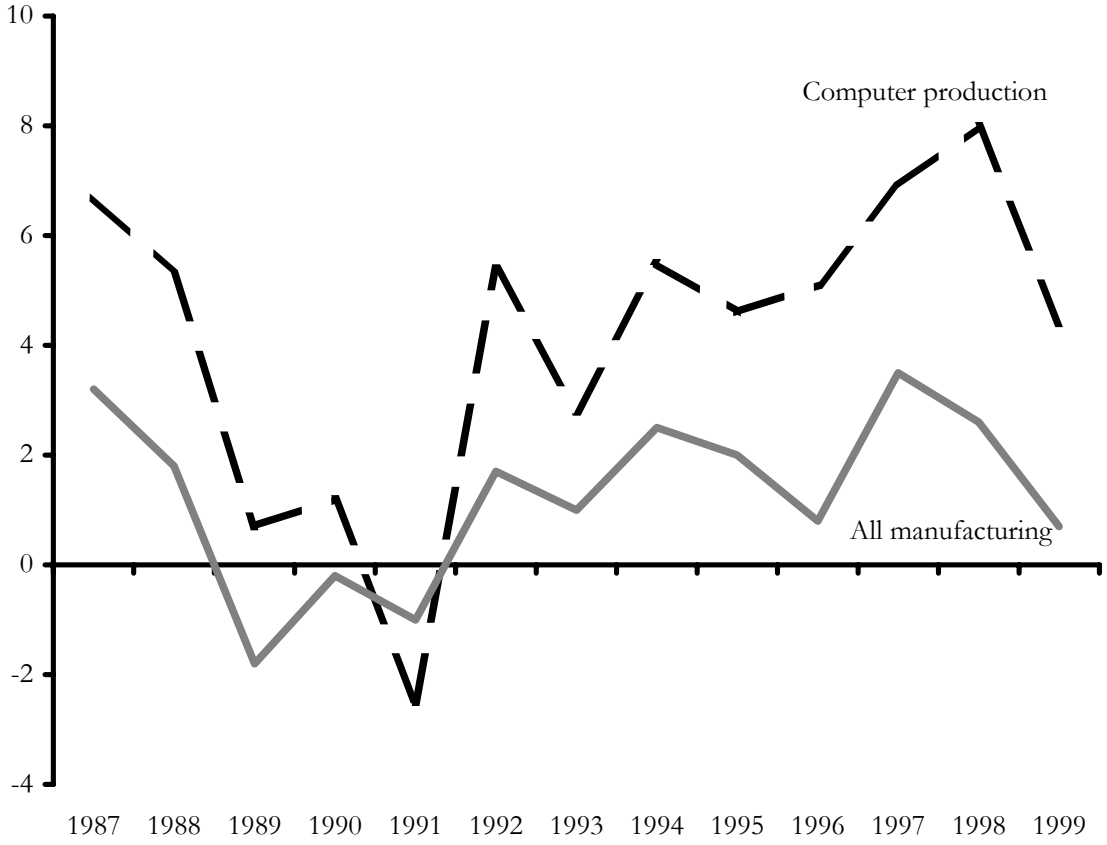
Exhibit 12 Increases in Output per Hour in the Non-Farm Business Sector 1959-1999 (annual percentage change)



Source: Economic Report of the President, January 2001.

Note: Dashed lines represent period means.

Exhibit 13 Productivity Growth in Computer Production and all Manufacturing 1987-1999



Source: Bureau of Labor Statistics.

Notes: Productivity is measured as multi-factor productivity growth.

Exhibit 14a Ratio of Debt Outstanding to GDP 1959-1999 (percentage of GDP)

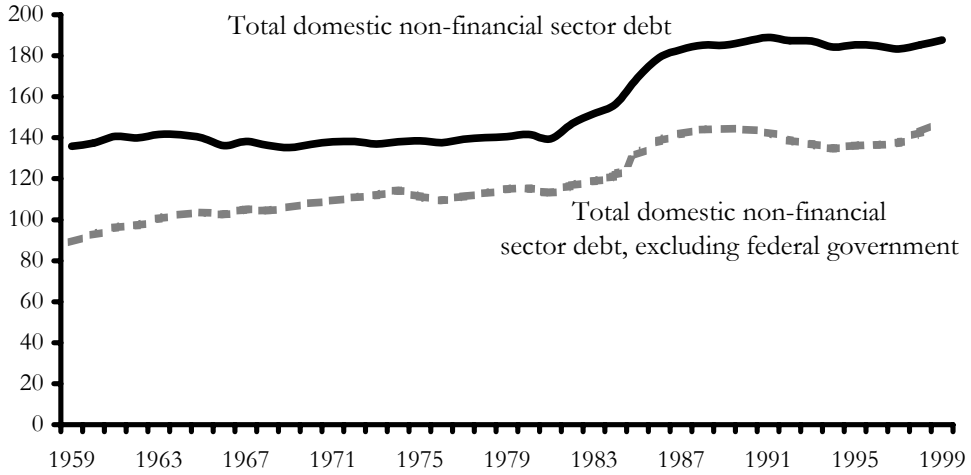
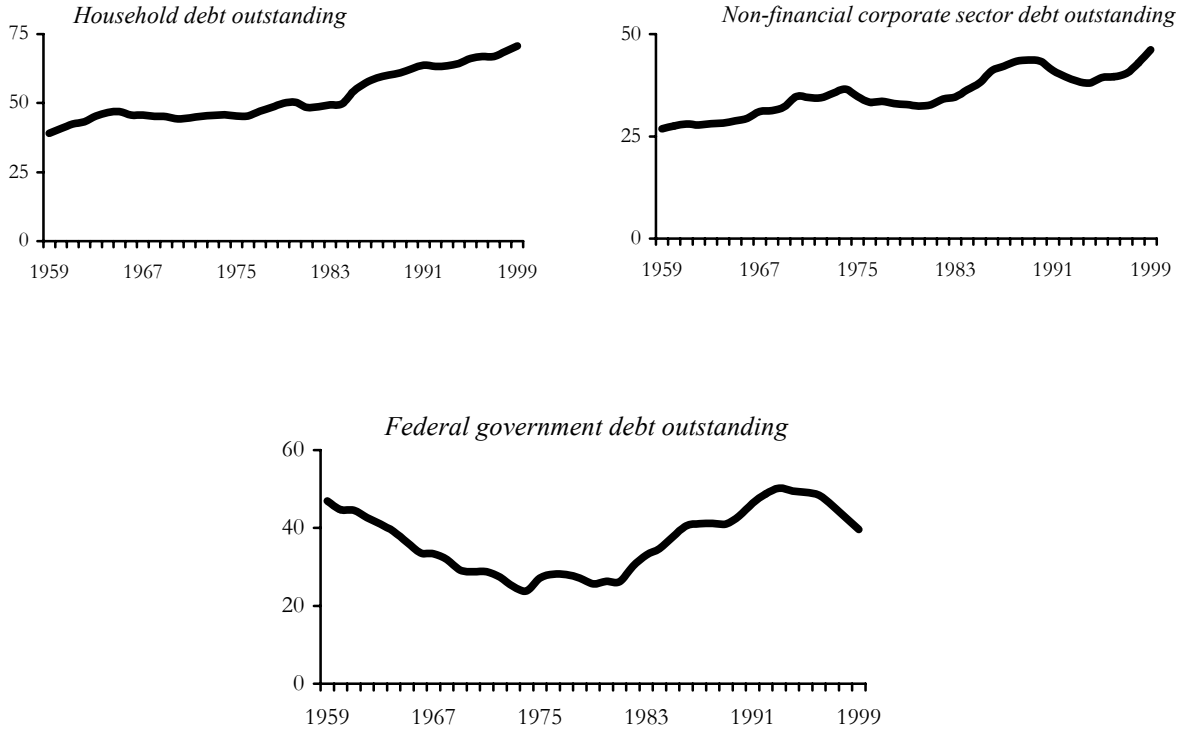


Exhibit 14b Ratio of Debt Outstanding to GDP 1959-1999 (percentage of GDP)



Source: Federal Reserve flow of funds statistics.