## Prefatory Note

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[^0]
## Part 1

## CURRENT ECONOMIC AND FINANCIAL CONDITIONS

## Summary and Outlook

Prepared for the Federal Open Market Committee by the staff of the Board of Governors of the Federal Reserve System

## Summary and Outlook

## Domestic Developments

The outlook for economic activity over the next two years is noticeably stronger in this forecast than in the last Greenbook, mainly as the result of revisions to our policy assumptions. We have taken on board the 50 -basis point reduction in the federal funds rate at the November meeting, and we have responded to the tilt in the political balance in the Congress by incorporating additional fiscal stimulus beginning in 2004. Financial market conditions have improved somewhat over the intermeeting period, reflecting the easier stance of monetary policy and the receipt of economic data that market participants saw as reassuring. Because of these developments, we now expect real GDP to increase 3.3 percent in 2003 (an upward revision of 0.3 percentage point from the October Greenbook) and 4.3 percent in 2004 (an upward revision of 0.4 percentage point).

Although we see the longer-term prospects of the economy as having brightened, we-unlike market participants-have not been surprised on the upside by recent economic data. Through October, consumer spending maintained its relatively shallow trajectory, as households scaled back their purchases of new motor vehicles and spent cautiously on other goods and services. Hiring and capital spending have been stagnant as firms remain averse to taking on new risks. Weakness has been most pronounced in the manufacturing sector. The principal exception to this pattern of softness has been housing: Home sales and residential construction activity have continued to be robust. On balance, we still expect real GDP to edge up at an annual rate of just 1 percent in the fourth quarter.

The duration of this period of subpar economic growth is obviously uncertain, but we continue to believe that an acceleration should become evident over the course of next year. Monetary and fiscal policies are stimulative, and the growth of labor productivity remains very strong. Equity prices have moved up from their lows in early October, and overall financing conditions appear to be supportive of economic growth. However, geopolitical and other risks continue to take a toll of business and consumer confidence, and until these uncertainties diminish, the expansion in economic activity is likely to be on the sluggish side. ${ }^{1}$

With real GDP growing at a pace below its potential, the unemployment rate is projected to rise to 6 percent by early 2003. With economic activity accelerating over the course of 2003, the jobless rate edges down to 5.9 percent by the fourth quarter of next year and then drops to 5.4 percent by the end of 2004. With less slack in labor and product markets, core inflation is a bit higher in this forecast than in the October Greenbook. Nonetheless, the projected margin of underutilized resources should keep the overall trajectory for core

[^1]PCE price inflation downward: After increasing 1.7 percent this year, core PCE prices are projected to rise 1.4 percent in 2003 and 1.3 percent in 2004.

## Key Background Factors

As noted, we have revised downward the path for the federal funds rate in response to the easing of policy at the last FOMC meeting. The funds rate remains at $1-1 / 4$ percent for the next year and a half before rising gradually in the second half of 2004. The interest rate on the ten-year Treasury note has firmed over the intermeeting period and is expected to change little over the forecast period despite the assumed tightening of policy in 2004. Although a sustained period of above-potential economic growth normally would be expected to result in rising long-term yields, that influence is offset by the stance of monetary policy, which is easier, given our assumptions, than participants in futures markets currently expect.

In contrast, the path of the Baa corporate bond rate has been adjusted down a bit, reflecting the compression of corporate spreads relative to ten-year Treasury yields over the intermeeting period. This reduction in risk spreads results from both policy easing and incoming economic data, which the market has interpreted as reducing the likelihood that the economy would slip back into recession. Even so, risk spreads remain unusually wide, and we project that these spreads will narrow over the remainder of the forecast period, as the pace of bond defaults eases and concerns about corporate governance fade to some degree.

Since the last Greenbook, equity prices have moved up relative to our expectations, and we have assumed that the level of stock prices will be nearly 4 percent higher throughout the forecast period. As in our previous projection, we assume a trajectory for stock prices that rises at an annual rate of nearly 7 percent from the current levels; this rate of increase roughly maintains riskadjusted parity with the return on Treasury securities.

Conditions in the corporate bond market have improved in recent weeks, and firms have stepped up their issuance. Nonetheless, the overall pace of business financing in capital markets and at banks remains relatively light, owing largely-we believe - to subdued demand for credit. Moreover, although bond spreads have dropped noticeably, financing remains expensive for risky firms.

In the household sector, debt has continued on a strong uptrend, led by further robust growth of mortgage debt. Although bankruptcy filings and delinquency rates for nonprime borrowers remain elevated, the affected group is small, and most households appear to have ready access to credit.

To date, the Congress has passed only two appropriations bills for the current fiscal year (accounting for about half of discretionary spending); both were for the military, leaving the remainder of the government to operate under a continuing resolution. Even so, actual spending is rising in line with our expectations, largely because most agencies have recourse to unused backlogs of budget authority.

Regarding our fiscal policy assumptions, we believe that the new political alignment of the Congress will result in a more favorable climate for the passage of tax cuts. Accordingly, to better reflect our assessment of the admittedly wide range of possibilities, we have assumed enactment of an additional $\$ 25$ billion worth of personal income tax reductions effective in January 2004; such an action would augment the previously enacted reduction in personal income tax rates also effective as of that date. ${ }^{2}$ Also, we have revised down spending a bit in fiscal years 2003 and 2004, bringing it closer to the President's last budget. Under these assumptions, we project that the federal unified budget deficit for fiscal year 2003 will edge up to $\$ 176$ billion, but then fall to $\$ 159$ billion in 2004 as faster economic growth boosts tax receipts. On balance, we estimate that federal fiscal policy will provide a positive stimulus to real aggregate demand of slightly more than $1 / 2$ percentage point of GDP in 2003 and again in 2004.

We recognize that a substantially larger fiscal stimulus package could be enacted early next year. Policy actions assumed in this forecast do not reflect this possibility, which is analyzed separately in the alternative simulations section.

Economic activity abroad appears to have been slightly stronger in the second half of this year than we had projected in the October Greenbook. We expect foreign output to accelerate over the projection period, but the rate of growth is below the rate projected for the United States. The real trade-weighted foreign exchange value of the dollar is now a bit lower in the current quarter than forecast in the October Greenbook, and we assume that the value of the dollar will decline around $3 / 4$ percent per year from its current level, a little less than assumed in the last round.

Crude oil prices currently stand near \$27 per barrel for West Texas intermediate (WTI), about the same level projected for the current quarter in the October Greenbook. As a result of rising OPEC production, prices have fallen

[^2]noticeably from the elevated level reached earlier this summer. Looking ahead, we have assumed (in line with futures quotes) that the price of WTI will fall to around $\$ 24$ per barrel by the end of 2003 and to about $\$ 23$ per barrel by the end of 2004 .

## Recent Developments and the Near-Term Forecast

After increasing 4 percent in the third quarter, real GDP is projected to rise at annual rates of only 1 percent in the current quarter and 2-1/4 percent in the first quarter of next year. A key element of the fourth-quarter slowdown is the drop in motor vehicle production. After boosting assemblies significantly in the third quarter, automakers have cut their fourth-quarter output to deal with emerging inventory problems. These cutbacks in assemblies are forecast to reduce real GDP growth by $1-1 / 4$ percentage points in the current quarter after raising growth by 1 percentage point in the third quarter. The resulting 2-1/4 percentage point swing accounts for the bulk of the projected deceleration in real GDP in the current quarter.

We project that total real personal consumption expenditures will be unchanged in the fourth quarter from the third-quarter average and will rise at an annual rate of 2-3/4 percent in the first quarter of next year. Real PCE was roughly flat in August and fell markedly in September before edging up in October. Purchases of light motor vehicles have dropped back from the elevated levels of July and August, likely reflecting reduced sales incentives and a payback from the pulling forward of spending by consumers who viewed the earlier incentives as temporary. Over the next few months, we expect household expenditures to edge up because of modest increases in real disposable personal income as well as the waning effects of past stock market declines.

Homes sales and residential construction remain quite robust against a backdrop of low mortgage interest rates. Private housing starts in October dropped from their torrid September reading but remained at a high level, one that we believe is roughly in line with the favorable underlying fundamentals. Moreover, permit issuance in October remained above the level of starts, and the backlog of unused permits rose further, lending support to our forecast that homebuilding will strengthen in the final two months of this quarter and remain at the December level through the first few months of next year.

Business fixed investment is likely to drop again in the fourth quarter but then to rise in the first quarter of next year. The most recent data on orders and shipments of nondefense capital goods, together with reports from business contacts, are consistent with a tepid fourth-quarter gain in real spending on equipment and software. In the first quarter of next year, E\&S spending growth is projected to be more solid, with high-tech, transportation, and other equipment spending all expected to contribute positively. Outlays for

## Summary of the Near-Term Outlook

(Percent change at annual rate except as noted)

| Measure | 2002:Q4 |  | 2003:Q1 |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Oct. <br> GB | Dec. <br> GB | Oct. <br> GB | Dec. <br> GB |
| Real GDP | 1.0 | 1.0 | 2.2 | 2.3 |
| Private domestic final purchases | . 1 | . 2 | 2.3 | 2.8 |
| Personal consumption expenditures | . 3 | . 0 | 2.2 | 2.6 |
| Residential investment | 2.9 | 6.1 | -2.1 | -1.0 |
| Business fixed investment | -2.5 | -. 7 | 4.6 | 5.5 |
| Government outlays for consumption and investment | 3.3 | 2.2 | 2.5 | 3.3 |
|  | Contribution to growth (percentage points) |  |  |  |
| Inventory investment | . 4 | . 6 | . 2 | -. 4 |
| Net exports | -. 1 | -. 2 | -. 3 | -. 3 |

nonresidential structures are expected to post further declines this quarter and next, reflecting plunging outlays on office and industrial buildings, sectors in which vacancy rates currently are very high.

The massive inventory runoff that began in early 2001 appears to have ended in mid-2002. Excluding motor vehicles, inventory-sales ratios appear comfortable by historical standards in most sectors, and we believe that non-auto firms will build stocks at a moderate rate in the fourth quarter of this year and the first quarter of next. Despite the cutbacks in auto assemblies, automakers' production apparently is outstripping sales, and we expect days' supply of light vehicles in the fourth quarter to move up to 71 days, well above the industry's 65 -day target level. Improving sales and restrained production in this sector should result in a better inventory picture over the first half of next year.

Federal spending should grow a bit more slowly on average in the current quarter and the first quarter of next year relative to earlier this year, as increases in spending associated with homeland security and the war on terrorism begin to moderate. Our near-term forecast is boosted slightly by the costs of the ongoing overseas deployment of troops and military equipment. Real spending by state and local governments is likely to rise at a relatively subdued pace in the near term, reflecting pressures arising from deteriorating budget balances.

In September, exports were stronger and imports weaker than we had anticipated. We believe that both categories posted small gains for the third
quarter as a whole and that, arithmetically, net exports had essentially no effect on the change in real GDP. For both the fourth quarter of this year and the first quarter of next, we project that net exports will make a small arithmetic deduction from the change in real GDP.

Labor markets have yet to improve materially. Private payrolls have risen only a bit from their April trough, and aggregate hours have been roughly flat, on net, since the beginning of the year. Initial claims for unemployment insurance remain at a level that we interpret as consistent with little or no change in employment in the fourth quarter. ${ }^{3}$ Indeed, the forecast calls for private payrolls and hours to remain unchanged in the fourth quarter and then to rise a bit in the first quarter of next year along with output. The unemployment rate declined between June and September of this year before ticking up in October, and it is expected to edge up over the next few months.

Both wage inflation and core consumer price inflation have remained subdued. However, bad weather in October caused widespread refinery disruptions and consequently a sharp rise in gasoline prices. We expect that jump to be reversed fairly quickly as gasoline inventories are rebuilt, but not soon enough to avert a temporary rise in overall consumer price inflation in the fourth quarter. We project that core PCE inflation will hold steady at an annual rate of 1.8 percent in the fourth quarter before edging down to 1.6 percent in the first quarter of next year.

## The Longer-Term Outlook for the Economy

We project that real GDP will rise 3-1/4 percent in 2003 and 4-1/4 percent in 2004. Currently a high level of uncertainty about prospects for growth of real activity appears to be inhibiting firms from hiring new workers and investing in plant and equipment, while low consumer confidence and the lagged effects of past declines in wealth are restraining consumer spending. However, we expect these forces to wane next year. As that process unfolds, the ongoing impetus from strong underlying productivity growth, accommodative monetary policy, and stimulative fiscal policy should translate into increasingly robust gains in real GDP.

Household spending. We now expect real PCE to increase at an annual rate of $2-3 / 4$ percent in the first half of 2003, up a bit from the average pace expected in
3. The Bureau of Labor Statistics has reported a drop in initial claims for unemployment insurance in recent weeks, but the seasonal factors that the BLS uses appear to have been distorted by the sharp increase in claims that followed the events of September 11, 2001. With seasonal factors that remove the influence of that period, claims have been running higher, though they are still down noticeably from the levels of a month ago.

| Projections of Real GDP <br> (Percent change at annual rate from end of <br> preceding period except as noted) |  |  |  |
| :---: | ---: | ---: | ---: |
| Measure | 2003 |  | 2004 |
|  | H 1 | H 2 |  |
| Real GDP | $\mathbf{2 . 6}$ | $\mathbf{4 . 1}$ | 4.3 |
| Previous | 2.4 | 3.6 | 3.9 |
| Final sales | 2.7 | 3.8 | 4.2 |
| Previous | 2.1 | 3.5 | 3.9 |
| PCE | 2.8 | 3.3 | 3.7 |
| Previous | 2.2 | 2.8 | 3.2 |
| Residential investment | -.2 | 2.4 | 5.8 |
| Previous | -1.1 | 2.9 | 5.1 |
| BFI | 5.9 | 10.0 | 12.1 |
| Previous | 5.0 | 9.2 | 11.1 |
| Government purchases | 2.8 | 2.6 | 2.7 |
| Previous | 2.5 | 2.8 | 2.8 |
| Exports | 4.9 | 8.3 | 7.7 |
| Previous | 5.6 | 8.5 | 7.9 |
| Imports | 6.6 | 7.2 | 8.4 |
| Previous | 6.9 | 6.6 | 7.8 |
|  | Contribution to growth, |  |  |
| Inventory change | percentage points |  |  |
| Previous | -.1 | .3 | .1 |
| Net exports | .3 | .1 | .0 |
| Previous | -.4 | -.2 | -.4 |
|  | -.4 | -.1 | -.3 |

the second half of this year. Spending growth should pick up to 3-1/4 percent in the second half of 2003 and to $3-3 / 4$ percent in 2004. Several factors feed this projected acceleration: The diminishing drag from previous declines in wealth, the projected increases in stock prices, and improving labor market conditions that are expected to bolster personal income. In 2004, household income should receive a further boost when the next phase of the previously enacted reduction in income tax rates and the additional $\$ 25$ billion of tax cuts we have assumed in this forecast take effect.

The demand for housing will be supported by these same forces as well as by low mortgage interest rates. We project that the number of single-family housing starts will gradually rise from its third-quarter average of 1.34 million units to 1.47 million units by the end of the projection period. In the multifamily sector, where rents and property values have been stagnant and vacancy rates high, starts are expected to be fairly flat over the next two years at roughly their 2002 average level.

Business fixed investment. The outlook for business fixed investment is expected to brighten over the next two years. We project that real E\&S outlays will increase at an annual rate of 10-3/4 percent in 2003 and a bit faster in 2004. Rising business output should boost desired capital stocks, and stronger cash flow and the partial-expensing tax incentives will also encourage investment. ${ }^{4}$ Although these positive influences have been at work to some degree for a while, we expect them increasingly to translate into material gains in capital outlays as some of the uncertainties facing businesses dissipate and as confidence improves. Among the categories of investment, real purchases of communications equipment will likely be weak at least through next year, but real outlays for computers and software are expected to remain on an uptrend that steepens somewhat over the forecast period. Outside the high-tech area, we generally are looking for a gradual strengthening of spending.

For nonresidential structures, we project a further small drop in real spending in 2003, reflecting the low rates of industrial capacity utilization and the high vacancy rates for office and industrial buildings. In 2004, we expect the strengthening of aggregate activity and attractive financing rates to boost nonresidential investment 4-1/2 percent over the year.

Inventory investment. Firms are projected to continue building their inventories next year as the expansion gains traction. However, stocks are likely to increase more slowly than sales, putting inventory-sales ratios on a downward trend. In our projection, inventory investment makes only a small positive contribution to the growth of real GDP during 2003 and 2004.

Government spending. With the step-up in security-related spending largely completed by the end of 2002 and the Administration and the Congress facing an outlook of sizable federal budget deficits, we anticipate only moderate increases in federal expenditures over the projection period. Under our baseline assumption of no war with Iraq, real defense spending is projected to rise

[^3]3 percent in 2003 and 1-1/2 percent in 2004, down from an anticipated $6-1 / 2$ percent advance in 2002. Growth in nondefense spending is also expected to slow-albeit less dramatically-from a projected pace of 3-1/2 percent in 2002 to around $2-1 / 2$ percent in 2003 and 2004. In contrast, state and local spending will increase just 1.7 percent over the four quarters of 2002 and should accelerate gradually over the next couple of years as the expanding economy reduces strains on these governments' budgets.

Net exports. We expect that net exports will make arithmetic deductions from real GDP growth of roughly $1 / 3$ percentage point in both 2003 and 2004. This damping effect is slightly larger than we had projected in the October Greenbook owing primarily to the smaller assumed rate of depreciation of the dollar and the upward-revised growth rate of U.S. real GDP. We expect that real exports will expand at an average annual rate of $7-1 / 4$ percent over the next two years, slightly faster than in 2002; exports should be supported by the pickup in economic activity abroad and the depreciation of the dollar. Real import growth is forecast to average 7-3/4 percent in 2003 and 2004-well below this year's pace of $9-1 / 2$ percent. (The International Developments section provides more detail on the outlook for the external sector.)

## Aggregate Supply, the Labor Market, and Prospects for Inflation

We project that actual growth of real GDP will grow more slowly than our estimate of potential GDP through the middle of next year, causing the current

## Decomposition of Structural Labor Productivity

(Percent change, Q4 to Q4, except as noted)

| Measure | $1973-$ <br> 95 | $1996-$ <br> 99 | 2000 | 2001 | 2002 | 2003 | 2004 |
| :--- | ---: | ---: | :---: | :---: | :---: | :---: | :---: |
| Structural labor productivity | 1.4 | 2.5 | 2.6 | 1.9 | 1.9 | 2.0 | 2.3 |
| $\quad$ Previous | 1.4 | 2.5 | 2.6 | 1.9 | 1.7 | 2.0 | 2.3 |
| Contributions $^{1}$ |  |  |  |  |  |  |  |
| Capital deepening | .6 | 1.3 | 1.2 | .4 | .2 | .4 | .6 |
| $\quad$ Previous | .6 | 1.3 | 1.2 | .4 | .2 | .4 | .6 |
| Multifactor productivity | .6 | 1.0 | 1.2 | 1.3 | 1.4 | 1.4 | 1.4 |
| $\quad$ Previous | .6 | 1.0 | 1.2 | 1.3 | 1.2 | 1.4 | 1.4 |
| Labor composition | .3 | .3 | .3 | .3 | .3 | .3 | .3 |
| MEMO |  |  |  |  |  |  |  |
| Potential GDP | 2.9 | 3.5 | 3.6 | 2.9 | 2.9 | 3.0 | 3.3 |
| $\quad$ Previous | 2.9 | 3.5 | 3.6 | 2.9 | 2.7 | 3.0 | 3.3 |

Note. Components may not sum to totals because of rounding.

1. Percentage points.
slack in resource utilization to increase a little more. The pickup in output growth that we forecast for the second half of next year and for 2004 is sufficient to significantly narrow, but not eliminate, the output gap by the end of that period. As a result, the degree of slack in our forecast generates a small deceleration in core consumer price inflation over the next couple of years.

Productivity and the labor market. We estimate that output per hour in the nonfarm business sector rose 5.7 percent over the four quarters ending in 2002:Q3. In our view, this extraordinary performance reflects mainly the cautious response of businesses to the growth in aggregate demand over the past year in light of the heightened economic uncertainties. Rather than boosting their hiring, firms have opted to employ their labor and capital more intensively. Some of the resulting efficiency gains are likely to dissipate as business confidence returns and hiring increases. However, given the further upside surprise in productivity last quarter, we now project that a greater portion of the productivity enhancements over the past year were permanent and, accordingly, have boosted the level of structural productivity about $1 / 4$ percent by the end of 2002. Structural productivity then is projected to rise 2 percent in 2003 and 2.3 percent in 2004, unchanged from the October Greenbook.

As the recovery takes hold, we anticipate that private payroll employment will increase roughly 100,000 per month in the first half of next year and gradually rise further to 250,000 per month in 2004. The unemployment rate is projected

The Outlook for the Labor Market
(Percent change, Q4 to Q4, except as noted)

| Measure | 2001 | 2002 | 2003 | 2004 |
| :--- | ---: | ---: | ---: | ---: |
| Output per hour, nonfarm business | 1.9 | 3.9 | 1.2 | 1.7 |
| $\quad$ Previous | 1.9 | 3.3 | 1.5 | 1.7 |
| Nonfarm private payroll employment | -1.4 | -.4 | 1.7 | 2.7 |
| $\quad$ Previous | -1.4 | -.4 | 1.5 | 2.2 |
| Household employment survey $^{\text {Previous }}$ | -1.0 | .5 | 1.2 | 1.9 |
| Labor force participation rate $^{1}$ | -1.0 | .4 | 1.0 | 1.6 |
| Previous | 66.9 | 66.7 | 66.9 | 67.0 |
| Civilian unemployment rate $^{1}$ | 66.9 | 66.7 | 66.8 | 66.9 |
| Previous | 5.6 | 5.8 | 5.9 | 5.4 |

1. Percent, average for the fourth quarter.

## Inflation Projections

(Percent change, Q4 to Q4, except as noted)

| Measure | 2001 | 2002 | 2003 | 2004 |
| :--- | ---: | ---: | ---: | ---: |
| PCE chain-weighted price index | 1.5 | 1.9 | 1.3 | 1.3 |
| $\quad$ Previous | 1.5 | 1.9 | 1.2 | 1.3 |
| Food and beverages | 3.1 | 1.4 | 2.0 | 1.9 |
| Previous | 3.1 | 1.5 | 2.0 | 1.8 |
| Energy | -10.3 | 6.9 | -3.4 | -.2 |
| $\quad$ Previous | -10.3 | 8.2 | -4.9 | -.0 |
| Excluding food and energy | 1.9 | 1.7 | 1.4 | 1.3 |
| $\quad$ Previous | 1.9 | 1.6 | 1.3 | 1.2 |
| Consumer price index | 1.9 | 2.2 | 1.7 | 1.8 |
| $\quad$ Previous | 1.9 | 2.3 | 1.6 | 1.7 |
| Excluding food and energy | 2.7 | 2.1 | 2.0 | 1.9 |
| $\quad$ Previous | 2.7 | 2.1 | 2.0 | 1.8 |
| GDP chain-weighted price index | 2.0 | 1.4 | 1.4 | 1.4 |
| $\quad$ Previous | 2.0 | 1.4 | 1.3 | 1.3 |
| ECI for compensation of private |  |  |  |  |
| $\quad$ industry workers ${ }^{1}$ | 4.2 | 3.5 | 3.4 | 3.5 |
| Previous | 4.2 | 3.8 | 3.4 | 3.3 |
| NFB compensation per hour | 1.4 | 3.9 | 3.4 | 3.3 |
| Previous | 1.4 | 3.8 | 3.2 | 3.1 |
| Prices of core non-oil |  |  |  |  |
| merchandise imports | -2.9 | .6 | 2.4 | 1.8 |
| Previous | -2.9 | 1.2 | 2.3 | 1.9 |

1. December to December.
to average 6 percent next year and then to slip below 5-1/2 percent by the end of 2004. ${ }^{5}$ This path for the unemployment rate is about $1 / 4$ percentage point below that in the October Greenbook.

Prices and wages. We anticipate that inflation as measured by the core PCE price index will be 1.7 percent in 2002 , decline to 1.4 percent in 2003 , and then edge down further to 1.3 percent in 2004. The deceleration stems mainly from
5. Once again, we assume that the availability of extended unemployment benefits boosts the projected unemployment rate 0.2 percentage point throughout the forecast period by encouraging unemployed individuals to be more selective about taking a job offer and by drawing some individuals into the labor force to become eligible for these benefits.
the persistence of slack in labor and product markets. In addition, the anticipated pickup in structural productivity growth next year and in 2004 should help trim firms' costs over the forecast period.

Total PCE inflation has been boosted this year by rising energy prices. However, we expect gasoline prices to reverse about half of this year's run-up in 2003 and a little more in 2004, bringing down overall consumer energy prices. As a result, we are projecting a larger deceleration in total PCE prices than in core prices over the projection period.

The easing in price inflation-coupled with the continued slack in labor markets-should be reflected in slower growth in wages and salaries. In contrast, benefit costs are expected to accelerate over the forecast period owing to more-rapid increases in the cost of employer-provided health insurance and some firming of bonuses. All told, we project that compensation per hour in the nonfarm business sector will rise 3.9 percent in 2002 and then slow to a rise of 3.4 percent in 2003 and 3.3 percent in 2004.

## Financial Flows and Conditions

Growth of total domestic nonfinancial debt has run well above that of nominal GDP for the past two years, but that gap is projected to narrow substantially next year and to be eliminated by 2004. The economic recovery is expected to boost business demands for credit, but borrowing by all other sectors is seen as falling off appreciably in coming quarters. On net, total debt growth is expected to average a shade above 5-1/2 percent for the next two years.

Federal debt is expected to grow more slowly over the next two calendar years in line with our projection of an improving budget balance. Borrowing by state and local governments is projected to be lower over the forecast period than in the past two years, as the economic recovery shows through to an improvement in budget positions. In addition, the heavy volume of advance refundings observed in recent years is expected to subside as the spread between coupon rates on existing debt and market interest rates narrows.

In recent weeks, corporate borrowing-although still sluggish-appears to have picked up somewhat on stronger net bond issuance coupled with only modest paydowns of short-term debt. Over the forecast period, we expect business borrowing to strengthen further as the projected upturn in investment spending outstrips the rise in internal funds. Long-term interest rates are projected to remain quite favorable for borrowers over the next two years, and firms are seen as relying primarily on longer-term debt to meet their financing needs. But as the economy improves and businesses' concerns about potential liquidity risks recede, firms are expected to tap short-term funding markets as well to a limited extent.

The forecast calls for household debt growth to slow gradually over the next few quarters. The mortgage component of household debt accounts entirely for this slowdown. In particular, the forces that have contributed to the heavy volume of "cash out" refinancing in recent quarters-sharp declines in mortgage rates and rapid increases in home prices-are expected to ebb in coming quarters. Still, with short-term interest rates and mortgage rates projected to remain low over the next two years, conditions in household credit markets should remain quite supportive of borrowing and spending overall.

M2 is projected to decelerate over the next two years. In part, that pattern reflects a diminishing of the influence of special factors-the mortgage refinancing boom and downdraft in equity markets-that have boosted M2 this year. In addition, the boost to M2 growth provided by narrower opportunity costs in recent quarters is expected to wane next year. In 2004, a widening in opportunity costs accompanying the assumed policy tightening creates a modest drag on money growth.

## Alternative Simulations

In this section, we explore several risks to the forecast using simulations of the FRB/US model. The first pair of simulations focuses on the state of aggregate demand. One scenario assumes that fiscal policy will be more stimulative than assumed in the Greenbook, and the other examines a weaker outcome for private demand that leads to a recession. The third simulation considers the possibility that structural productivity will grow more rapidly than projected in the Greenbook. Conditions that would lead to a much lower outcome for inflation than the staff projects are presented in the next simulation. In these four scenarios, we assume that the federal funds rate follows the baseline path. The last scenario considers the implications of a market-based assessment of the future path of the funds rate.

Fiscal stimulus. Our baseline forecast now builds in a more expansive fiscal outlook for 2004 than it did in the October Greenbook. In this scenario, we consider the possibility that legislation will be enacted early next year that adds even more fiscal stimulus, especially in 2003. Of the proposals that have received attention, we assume that two are passed. The first is a one-time payroll tax "holiday;" specifically, we assume that roughly the first $\$ 8,000$ of each worker's income is exempt from both employee and employer social security taxes in 2003. The direct revenue cost of this provision is $\$ 100$ billion in 2003, with the tax reduction concentrated early in the year, when the earnings of a large proportion of workers have yet to exceed the ceiling. The second component of the stimulus package is an acceleration to January 2003 of the marginal tax rate reductions now scheduled for 2004 and 2006. This acceleration will directly reduce personal income tax payments $\$ 20$ billion at an annual rate over the remaining three quarters of fiscal 2003 and $\$ 27$ billion over

| Alternative Scenarios (Percent change, annual rate, from end of preceding |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Measure | 2002 |  | 2003 |  | 2004 |
|  | H1 | H2 | H1 | H2 |  |
| Real GDP |  |  |  |  |  |
| Greenbook Baseline | 3.1 | 2.5 | 2.6 | 4.1 | 4.3 |
| Fiscal stimulus | 3.1 | 2.5 | 4.0 | 4.1 | 4.3 |
| Recession | 3.1 | 1.9 | . 2 | 3.3 | 3.9 |
| Faster productivity growth | 3.1 | 2.5 | 3.2 | 4.9 | 5.1 |
| Deflation | 3.1 | 2.2 | 1.2 | 3.4 | 4.2 |
| Market-based funds rate | 3.1 | 2.5 | 2.6 | 4.0 | 3.4 |
| Civilian unemployment rate ${ }^{1}$ |  |  |  |  |  |
| Greenbook Baseline | 5.9 | 5.8 | 6.0 | 5.9 | 5.4 |
| Fiscal stimulus | 5.9 | 5.8 | 5.8 | 5.5 | 5.0 |
| Recession | 5.9 | 5.9 | 6.6 | 6.8 | 6.5 |
| Faster productivity growth | 5.9 | 5.8 | 6.1 | 5.9 | 5.3 |
| Deflation | 5.9 | 5.8 | 6.3 | 6.5 | 6.1 |
| Market-based funds rate | 5.9 | 5.8 | 6.0 | 5.9 | 5.8 |
| PCE prices excluding food and energy |  |  |  |  |  |
| Greenbook Baseline | 1.7 | 1.8 | 1.5 | 1.4 | 1.3 |
| Fiscal stimulus | 1.7 | 1.8 | 1.4 | 1.3 | 1.4 |
| Recession | 1.7 | 1.8 | 1.5 | 1.2 | . 9 |
| Faster productivity growth | 1.7 | 1.8 | 1.4 | 1.2 | . 9 |
| Deflation | 1.7 | 1.7 | 1.2 | . 9 | . 4 |
| Market-based funds rate | 1.7 | 1.8 | 1.5 | 1.4 | 1.1 |

1. Average for the final quarter of the period.
fiscal 2004. Under these circumstances, real GDP grows 4 percent next year. The unemployment rate soon begins to turn down and falls to 5 percent by the end of 2004. Because competition spurs firms to pass a bit of their lower payroll costs through to prices, the rate of inflation in 2003 is $1 / 10$ percentage point lower than baseline. In 2004, however, the higher level of resource utilization pushes inflation $1 / 10$ percentage point above baseline.

Recession. Consumer and business confidence about economic prospects seems to be fragile at present and might be significantly deflated by only a modest amount of bad news. This scenario explores the possibility that the economy is on the cusp of a more substantial weakening than projected in the baseline. In particular, the current weakness in consumer durables spreads to consumer outlays more broadly, with the result that real PCE edges down this quarter and next. Firms are also more cautious: E\&S investment levels off through the
middle of next year and inventory stocks are drawn down a bit on balance. As a result, real GDP falls slightly this quarter and next. Although the recession is brief, the subsequent rebound is lackluster in part because of the assumed absence of any further monetary easing. In 2004, real GDP growth edges only modestly above potential, unemployment remains well in excess of 6 percent, and core inflation falls below 1 percent.

Faster structural productivity growth. We may have been too cautious in translating the recent large gains in output per hour into estimates of future structural productivity. In this scenario, we assume that the growth rate of structural multifactor productivity will be $1 / 2$ percentage point higher than in the baseline in 2003 and 2004 and, further, that this is part of a wave of technical and organizational efficiencies that will result in more rapid growth of productivity well past 2004. Such a development would cause us to revise up our forecast of income and earnings substantially and, thus, the growth of household and business spending relative to the baseline. However, we assume that this more optimistic assessment is already the view of investors, and thus equity prices and long-term interest rates are little changed from the Greenbook baseline. Under these conditions, real GDP is revised up roughly in tandem with the revision to potential output, and the unemployment rate is little changed from baseline. Inflation falls more rapidly than in the baseline to just less than 1 percent in 2004.

Deflation. Some of the risk that inflation will slow more abruptly than in the baseline is associated with unexpected shortfalls in real activity or improvements in structural productivity, as illustrated in the previous two scenarios. Direct negative shocks to prices and wages provide an additional source of downside risk. In this scenario, such shocks to prices and wages-coupled with surprising weakness in aggregate demand-produce a deflationary outcome that may intensify further after the end of the projection period. In particular, prices and wages evolve in a manner that if sustained beyond 2004 would be consistent with a drop in the NAIRU to about $4-1 / 4$ percent. In addition, private demand grows more slowly than in the baseline, though not to the extent assumed in the recession scenario. Under these assumptions, core PCE inflation falls below $1 / 2$ percent in 2004 , an outcome that arguably could be labeled as deflation, given the $1 / 2$ percentage point upward bias that we estimate is associated with this measure of inflation. The unemployment rate, although declining during 2004, ends the year at 6 percent, suggesting that inflation would be lower in 2005 than in 2004, even if priced and wages were to revert to behavior consistent with the staff's NAIRU estimate of 5 percent.

Market-based funds rate. Futures quotes are consistent with a funds rate that remains close to 1-1/4 percent through the first part of next year and then rises
to almost 2 percent by late 2003 and nearly $3-1 / 2$ percent by late 2004 . When the market expectation is taken as an alternative to the policy assumption in the Greenbook, real GDP grows 1 percentage point less than in the baseline in 2004, and the unemployment rate barely edges below 6 percent.

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STAFF PROJECTIONS OF CHANGES IN GDP, PRICES, AND UNEMPLOYMENT (Percent, annual rate)

| Interval |  | Nominal GDP |  | Real GDP |  | GDP chain-weighted price index |  | Consumer price index ${ }^{1}$ |  | Unemployment rate |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 10/30/02 | 12/4/02 | 10/30/02 | 12/4/02 | 10/30/02 | 12/4/02 | 10/30/02 | 12/4/02 | 10/30/02 | 12/4/02 |
| ANNUAL |  |  |  |  |  |  |  |  |  |  |  |
| 2000 |  | 5.9 | 5.9 | 3.8 | 3.8 | 2.1 | 2.1 | 3.4 | 3.4 | 4.0 | 4.0 |
| 2001 |  | 2.6 | 2.6 | 0.3 | 0.3 | 2.4 | 2.4 | 2.8 | 2.8 | 4.8 | 4.8 |
| 2002 |  | 3.5 | 3.6 | 2.3 | 2.4 | 1.1 | 1.1 | 1.6 | 1.6 | 5.8 | 5.8 |
| 2003 |  | 3.8 | 4.2 | 2.4 | 2.6 | 1.4 | 1.5 | 1.9 | 1.9 | 6.2 | 6.0 |
| 2004 |  | 5.2 | 5.6 | 3.8 | 4.2 | 1.3 | 1.4 | 1.7 | 1.7 | 5.9 | 5.6 |
| QUARTERLY |  |  |  |  |  |  |  |  |  |  |  |
| 2001 | Q1 | 3.0 | 3.0 | -0.6 | -0.6 | 3.7 | 3.7 | 4.0 | 4.0 | 4.2 | 4.2 |
|  | Q2 | 0.9 | 0.9 | -1.6 | -1.6 | 2.5 | 2.5 | 3.2 | 3.2 | 4.5 | 4.5 |
|  | Q3 | 1.9 | 1.9 | -0.3 | -0.3 | 2.2 | 2.2 | 0.7 | 0.7 | 4.8 | 4.8 |
|  | Q4 | 2.2 | 2.2 | 2.7 | 2.7 | -0.5 | -0.5 | -0.2 | -0.2 | 5.6 | 5.6 |
| 2002 | Q1 | 6.5 | 6.5 | 5.0 | 5.0 | 1.3 | 1.3 | 1.4 | 1.4 | 5.6 | 5.6 |
|  | Q2 | 2.5 | 2.5 | 1.3 | 1.3 | 1.2 | 1.2 | 3.4 | 3.4 | 5.9 | 5.9 |
|  | Q3 | 4.2 | 5.1 | 3.1 | 4.0 | 1.0 | 1.0 | 1.8 | 1.8 | 5.7 | 5.7 |
|  | Q4 | 2.9 | 3.1 | 1.0 | 1.0 | 1.8 | 2.1 | 2.7 | 2.3 | 5.9 | 5.8 |
| 2003 | Q1 | 3.9 | 4.0 | 2.2 | 2.3 | 1.6 | 1.7 | 1.4 | 1.7 | 6.2 | 6.0 |
|  | Q2 | 3.9 | 4.2 | 2.6 | 2.9 | 1.2 | 1.2 | 1.5 | 1.7 | 6.2 | 6.0 |
|  | Q3 | 4.6 | 5.2 | 3.3 | 3.9 | 1.3 | 1.3 | 1.6 | 1.6 | 6.1 | 6.0 |
|  | Q4 | 5.2 | 5.6 | 3.8 | 4.2 | 1.3 | 1.3 | 1.7 | 1.7 | 6.1 | 5.9 |
| 2004 | Q1 | 5.7 | 6.1 | 3.9 | 4.4 | 1.7 | 1.6 | 1.7 | 1.8 | 6.0 | 5.8 |
|  | Q2 | 5.3 | 5.6 | 4.0 | 4.3 | 1.2 | 1.3 | 1.7 | 1.8 | 5.9 | 5.7 |
|  | Q3 | 5.3 | 5.6 | 4.0 | 4.3 | 1.2 | 1.3 | 1.7 | 1.8 | 5.9 | 5.6 |
|  | Q4 | 4.9 | 5.4 | 3.6 | 4.1 | 1.2 | 1.3 | 1.8 | 1.8 | 5.8 | 5.4 |
| TWO-QUARTER ${ }^{3}$ |  |  |  |  |  |  |  |  |  |  |  |
| 2001 | Q2 | 1.9 | 1.9 | -1.1 | -1.1 | 3.1 | 3.1 | 3.5 | 3.5 | 0.5 | 0.5 |
|  | Q4 | 2.1 | 2.1 | 1.2 | 1.2 | 0.8 | 0.8 | 0.2 | 0.2 | 1.1 | 1.1 |
| 2002 | Q2 | 4.5 | 4.5 | 3.1 | 3.1 | 1.3 | 1.3 | 2.4 | 2.4 | 0.3 | 0.3 |
|  | 24 | 3.5 | 4.1 | 2.1 | 2.5 | 1.4 | 1.5 | 2.3 | 2.1 | 0.0 | -0.1 |
| 2003 | Q2 | 3.9 | $4.1$ |  | 2.6 | 1.4 | 1.5 | 1.5 | 1.7 | 0.3 | 0.2 |
|  | Q4 | 4.9 | 5.4 | 3.6 | 4.1 | 1.3 | 1.3 | 1.7 | 1.7 | -0.1 | -0.1 |
| 2004 | Q2 | 5.5 | 5.9 | 4.0 | 4.4 | 1.4 | 1.5 | 1.7 | 1.8 | -0.2 | -0.2 |
|  | Q4 | 5.1 | 5.5 | 3.8 | 4.2 | 1.2 | 1.3 | 1.7 | 1.8 | -0.1 | -0.3 |
| FOUR-QUARTER ${ }^{4}$ |  |  |  |  |  |  |  |  |  |  |  |
| 2000 Q4 |  | 4.6 | 4.6 | 2.3 | 2.3 | 2.3 | 2.3 | 3.4 | 3.4 | -0.1 | -0.1 |
| 2001 Q4 |  | 2.0 | 2.0 | 0.1 | 0.1 | 2.0 | 2.0 | 1.9 | 1.9 | 1.6 | 1.6 |
| 2002 Q4 |  | 4.0 | 4.3 | 2.6 | 2.8 | 1.4 | 1.4 | 2.3 | 2.2 | 0.3 | 0.2 |
| 2003 Q4 |  | 4.4 | 4.7 | 3.0 | 3.3 | 1.3 | 1.4 | 1.6 | 1.7 | 0.2 | 0.1 |
| 2004 Q4 |  | 5.3 | 5.7 | 3.9 | 4.3 | 1.3 | 1.4 | 1.7 | 1.8 | -0.4 | -0.6 |

[^4]

1. Changes are from fourth quarter to fourth quarter.
2. Private-industry workers.

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[^5]| Item | Units |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\begin{gathered} 2002 \\ \text { Q3 } \end{gathered}$ | $\begin{gathered} 2002 \\ \mathrm{Q4} \end{gathered}$ | $\begin{aligned} & 2003 \\ & \mathrm{Q} 1 \end{aligned}$ | $\begin{gathered} 2003 \\ \mathrm{Q} 2 \end{gathered}$ | $\begin{aligned} & 2003 \\ & \text { Q3 } \end{aligned}$ | $\begin{gathered} 2003 \\ \text { Q4 } \end{gathered}$ | $\begin{gathered} 2004 \\ \text { Q1 } \end{gathered}$ | $\begin{gathered} 2004 \\ \mathrm{Q} 2 \end{gathered}$ | $\begin{gathered} 2004 \\ \text { Q3 } \end{gathered}$ | $\begin{gathered} 2004 \\ \text { Q4 } \end{gathered}$ |
| EXPENDITURES |  |  |  |  |  |  |  |  |  |  |  |
| Nominal GDP | Bill. \$ | 10506.8 | 10587.1 | 10691.3 | 10800.7 | 10939.0 | 11087.7 | 11253.7 | 11409.3 | 11567.1 | 11720.8 |
| Real GDP | Bill. Ch. \$ | 9485.3 | 9508.4 | 9561.8 | 9630.2 | 9723.0 | 9823.3 | 9929.8 | 10035.3 | 10142.1 | 10245.0 |
| Real GDP | \% change | 4.0 | 1.0 | 2.3 | 2.9 | 3.9 | 4.2 | 4.4 | 4.3 | 4.3 | 4.1 |
| Gross domestic purchases |  | 3.8 | 1.1 | 2.5 | 3.3 | 4.2 | 4.0 | 4.8 | 4.7 | 4.6 | 4.0 |
| Final sales |  | 3.4 | 0.4 | 2.7 | 2.7 | 3.3 | 4.2 | 4.3 | 4.2 | 4.2 | 4.2 |
| Priv. dom. final purchases |  | 3.4 | 0.2 | 2.8 | 3.3 | 3.9 | 4.3 | 5.1 | 5.0 | 4.9 | 4.4 |
| Personal cons. expenditures |  | 4.1 | 0.0 | 2.6 | 3.0 | 3.4 | 3.3 | 3.8 | 3.7 | 3.5 | 3.6 |
| Durables |  | 23.1 | -13.7 | 4.1 | 4.9 | 7.5 | 5.9 | 7.3 | 7.4 | 5.6 | 6.8 |
| Nondurables |  | 0.9 | 2.0 | 2.3 | 2.7 | 2.8 | 2.9 | 3.3 | 3.2 | 3.3 | 3.2 |
| Services |  | 2.2 | 2.0 | 2.5 | 2.9 | 2.9 | 3.0 | 3.4 | 3.3 | 3.2 | 3.2 |
| Business fixed investment |  | -0.6 | -0.7 | 5.5 | 6.3 | 8.4 | 11.7 | 13.4 | 13.0 | 13.3 | 8.8 |
| Equipment \& Software |  | 6.6 | 1.7 | 8.7 | 9.3 | 11.0 | 14.5 | 16.2 | 15.7 | 15.7 | 9.5 |
| Nonres. structures |  | -20.3 | -8.3 | -4.8 | -3.5 | -0.4 | 2.4 | 3.9 | 3.3 | 5.0 | 6.4 |
| Residential structures |  | 1.3 | 6.1 | -1.0 | 0.6 | 1.2 | 3.5 | 5.8 | 6.3 | 6.7 | 4.5 |
| Exports |  | 3.3 | 5.9 | 3.2 | 6.7 | 7.2 | 9.5 | 5.6 | 7.8 | 7.8 | 9.6 |
| Imports |  | 2.3 | 5.6 | 4.6 | 8.7 | 8.2 | 6.3 | 8.2 | 9.7 | 8.9 | 6.8 |
| Gov't. cons. \& investment |  | 2.9 | 2.2 | 3.3 | 2.3 | 2.5 | 2.6 | 2.8 | 2.6 | 2.7 | 2.6 |
| Federal |  | 4.3 | 2.7 | 5.2 | 1.7 | 2.0 | 2.1 | 2.2 | 1.7 | 1.8 | 1.5 |
| Defense |  | 7.1 | -0.2 | 6.2 | 1.6 | 1.9 | 1.9 | 2.2 | 1.2 | 1.8 | 1.1 |
| State \& local |  | 2.1 | 1.9 | 2.3 | 2.6 | 2.7 | 2.9 | 3.1 | 3.1 | 3.2 | 3.2 |
| Change in bus. inventories | Bill. Ch. \$ | 17.9 | 32.6 | 22.8 | 28.3 | 43.5 | 42.9 | 46.5 | 51.4 | 54.5 | 52.8 |
| Nonfarm |  | 19.9 | 33.2 | 22.1 | 27.2 | 42.6 | 41.7 | 45.3 | 50.2 | 53.4 | 51.4 |
| Net exports |  | -487.3 | -493.2 | -502.5 | -518.5 | -531.4 | -531.1 | -548.7 | -566.9 | -582.0 | -583.4 |
| Nominal GDP | \% change | 5.1 | 3.1 | 4.0 | 4.2 | 5.2 | 5.6 | 6.1 | 5.6 | 5.6 | 5.4 |
| EmPLOYMENT AND PRODUCTION |  |  |  |  |  |  |  |  |  |  |  |
| Nonfarm payroll employment | Millions | 130.9 | 130.9 | 131.2 | 131.7 | 132.3 | 133.1 | 133.8 | 134.6 | 135.4 | 136.3 |
| Unemployment rate | \% | 5.7 | 5.8 | 6.0 | 6.0 | 6.0 | 5.9 | 5.8 | 5.7 | 5.6 | 5.4 |
| Industrial prod. index | \% change | 3.5 | -3.9 | -0.3 | 4.8 | 4.7 | 5.3 | 5.7 | 5.3 | 5.2 | 5.3 |
| Capacity util. rate - mfg. |  | 74.4 | 73.4 | 73.1 | 73.9 | 74.6 | 75.4 | 76.2 | 77.0 | 77.8 | 78.6 |
| Housing starts | Millions | 1.70 | 1.66 | 1.70 | 1.70 | 1.71 | 1.73 | 1.76 | 1.78 | 1.81 | 1.81 |
| Light motor vehicle sales |  | 17.63 | 15.86 | 16.40 | 16.60 | 16.89 | 17.14 | 17.27 | 17.42 | 17.42 | 17.47 |
| North Amer. produced |  | 14.27 | 12.66 | 13.10 | 13.30 | 13.55 | 13.80 | 13.85 | 14.00 | 14.00 | 14.05 |
| Other |  | 3.35 | 3.20 | 3.30 | 3.30 | 3.34 | 3.34 | 3.42 | 3.42 | 3.42 | 3.42 |
| INCOME AND SAVING |  |  |  |  |  |  |  |  |  |  |  |
| Nominal GNP | Bill. \$ | 10489.1 | 10579.2 | 10687.2 | 10799.1 | 10937.1 | 11084.8 | 11249.7 | 11404.5 | 11558.2 | 11705.9 |
| Nominal GNP | \% change | 5.2 | 3.5 | 4.2 | 4.3 | 5.2 | 5.5 | 6.1 | 5.6 | 5.5 | 5.2 |
| Nominal personal income |  | 3.7 | 3.5 | 5.3 | 4.1 | 4.2 | 4.7 | 5.8 | 4.9 | 5.0 | 4.9 |
| Real disposable income |  | 2.9 | 2.3 | 1.3 | 2.2 | 2.4 | 2.8 | 6.6 | 3.2 | 3.4 | 3.2 |
| Personal saving rate | \% | 3.8 | 4.3 | 4.0 | 3.8 | 3.6 | 3.5 | 4.1 | 4.1 | 4.0 | 4.0 |
| Corp. profits, IVA \& CCAdj. | \% change |  |  |  |  |  |  |  |  |  | 7.8 |
| Profit share of GNP | \% | 7.4 | 7.4 | 7.2 | 7.1 | 7.2 | 7.3 | 7.3 | 7.3 | 7.4 | 7.4 |
| Excluding FR Banks |  | 7.2 | 7.1 | 6.9 | 6.9 | 7.0 | 7.1 | 7.1 | 7.1 | 7.2 | 7.2 |
| Federal surpl./deficit | Bill. \$ | -187.6 | -237.6 | -191.9 | -175.8 | -148.1 | -143.4 | -190.2 | -173.1 | -154.5 | -121.1 |
| State \& local surpl./def. |  | -52.1 | -53.0 | -52.5 | -49.4 | -42.4 | -32.7 | -25.0 | -18.1 | -14.8 | -8.0 |
| Ex. social ins. funds |  | -52.0 | -52.9 | -52.4 | -49.3 | -42.3 | -32.6 | -24.9 | -18.0 | -14.7 | -7.9 |
| Gross natl. saving rate | \% | 15.1 | 15.2 | 15.3 | 15.4 | 15.6 | 15.7 | 15.8 | 16.0 | 16.2 | 16.3 |
| Net natl. saving rate |  | 2.0 | 2.0 | 2.1 | 2.2 | 2.3 | 2.5 | 2.7 | 2.9 | 3.1 | 3.3 |
| PRICES AND COSTS |  |  |  |  |  |  |  |  |  |  |  |
| GDP chn.-wt. price index Gross Domestic Purchases chn.-wt. price index | \% change | 1.0 | 2.1 | 1.7 | 1.2 | 1.3 | 1.3 | 1.6 | 1.3 | 1.3 | 1.3 |
|  |  | 1.2 | 2.0 | 1.7 | 1.2 | 1.2 | 1.3 | 1.6 | 1.3 | 1.3 | 1.2 |
| PCE chn.-wt. price index |  | 1.7 | 2.0 | 1.4 | 1.3 | 1.2 | 1.3 | 1.3 | 1.4 | 1.3 | 1.3 |
| Ex. food and energy |  | 1.8 | 1.8 | 1.6 | 1.5 | 1.4 | 1.4 | 1.4 | 1.3 | 1.3 | 1.3 |
| CPI |  | 1.8 | 2.3 | 1.7 | 1.7 | 1.6 | 1.7 | 1.8 | 1.8 | 1.8 | 1.8 |
| Ex. food and energy |  | 2.1 | 2.0 | 2.1 | 2.0 | 2.0 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 |
| ECI, hourly compensation ${ }^{1}$ |  | 2.5 | 3.5 | 3.4 | 3.4 | 3.4 | 3.4 | 3.5 | 3.5 | 3.5 | 3.5 |
| Nonfarm business sector Output per hour Compensation per hour Unit labor cost |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 5.1 | 0.3 | 0.1 | 0.7 | 2.1 | 1.9 | 1.8 | 1.7 | 1.6 | 1.6 |
|  |  | 4.9 | 3.9 | 3.5 | 3.4 | 3.3 | 3.3 | 3.4 | 3.3 | 3.2 | 3.2 |
|  |  | -0.2 | 3.6 | 3.4 | 2.6 | 1.3 | 1.4 | 1.6 | 1.5 | 1.6 | 1.7 |

1. Private-industry workers.
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Note. Components may not sum to totals because of rounding.
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Class II FOMC

Note. Components may not sum to totals because of rounding.
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| Item | Fiscal year ${ }^{1}$ |  |  |  | 2002 |  |  |  | 2003 |  |  |  | 2004 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2001 ${ }^{\text {a }}$ | $2002{ }^{\text {a }}$ | 2003 | 2004 | Q1 ${ }^{\text {a }}$ | Q2 ${ }^{\text {a }}$ | Q3 ${ }^{\text {a }}$ | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| Unified budget |  |  |  |  | Not seasonally adjusted |  |  |  |  |  |  |  |  |  |  |  |
| Receipts ${ }^{2}$ | 1991 | 1853 | 1932 | 2020 | 413 | 523 | 452 | 426 | 435 | 597 | 473 | 461 | 449 | 621 | 490 | 487 |
| Outlays ${ }^{2}$ | 1863 | 2012 | 2108 | 2179 | 509 | 507 | 494 | 533 | 535 | 526 | 513 | 550 | 553 | 545 | 532 | 569 |
| Surplus/deficit ${ }^{2}$ | 127 | -159 | -176 | -159 | -97 | 16 | -42 | -107 | -101 | 71 | -40 | -89 | -104 | 76 | -42 | -82 |
| On-budget | -33 | -318 | -342 | -344 | -127 | -58 | -53 | -145 | -139 | -3 | -55 | -133 | -146 | -5 | -60 | -128 |
| Off-budget | 161 | 160 | 165 | 185 | 30 | 73 | 11 | 38 | 38 | 74 | 15 | 44 | 42 | 82 | 18 | 46 |
| Surplus excluding deposit insurance | 126 | -160 | -177 | -159 | -96 | 15 | -43 | -107 | -101 | 70 | -40 | -89 | -104 | 76 | -42 | -82 |
| Means of financing |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Borrowing | -90 | 221 | 176 | 176 | 51 | 21 | 89 | 94 | 107 | -75 | 51 | 84 | 99 | -42 | 35 | 77 |
| Cash decrease | 8 | -17 | 16 | 0 | 38 | -26 | -21 | 23 | -10 | 13 | -10 | 15 | 0 | -30 | 15 | 15 |
| Other ${ }^{3}$ | -46 | -46 | -16 | -17 | 8 | -11 | -26 | -10 | 3 | -9 | -1 | -10 | 5 | -4 | -8 | -10 |
| Cash operating balance, end of period | 44 | 61 | 45 | 45 | 14 | 40 | 61 | 38 | 48 | 35 | 45 | 30 | 30 | 60 | 45 | 30 |
| NIPA federal sector - Seasonally adjusted annual rates |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Receipts | 2024 | 1913 | 1946 | 2060 | 1885 | 1889 | 1885 | 1872 | 1937 | 1966 | 2007 | 2044 | 2033 | 2064 | 2099 | 2150 |
| Expenditures | 1909 | 2039 | 2134 | 2225 | 2031 | 2079 | 2075 | 2110 | 2129 | 2142 | 2155 | 2187 | 2223 | 2238 | 2254 | 2271 |
| Consumption expenditures | 517 | 570 | 610 | 636 | 566 | 581 | 590 | 594 | 612 | 615 | 619 | 623 | 637 | 640 | 644 | 647 |
| Defense | 337 | 375 | 401 | 418 | 372 | 383 | 389 | 390 | 402 | 404 | 407 | 410 | 418 | 420 | 423 | 425 |
| Nondefense | 180 | 195 | 209 | 218 | 194 | 199 | 201 | 204 | 210 | 211 | 212 | 214 | 219 | 220 | 221 | 222 |
| Other spending | 1392 | 1469 | 1524 | 1589 | 1464 | 1498 | 1485 | 1516 | 1517 | 1527 | 1536 | 1564 | 1586 | 1597 | 1610 | 1623 |
| Current account surplus | 115 | -126 | -188 | -165 | -146 | -190 | -190 | -238 | -192 | -176 | -148 | -143 | -190 | -173 | -155 | -121 |
| Gross investment | 98 | 106 | 113 | 118 | 106 | 107 | 108 | 110 | 112 | 113 | 115 | 116 | 117 | 118 | 119 | 120 |
| Current and capital account surplus | 17 | -232 | -301 | -283 | -252 | -297 | -298 | -348 | -304 | -289 | -263 | -259 | -307 | -291 | -274 | -241 |
| Fiscal indicators ${ }^{4}$ <br> High-employment (HEB) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| surplus/deficit | -39 | -235 | -296 | -305 | -258 | -295 | -306 | -346 | -298 | -281 | -259 | -264 | -325 | -319 | -311 | -288 |
| Change in HEB, percent of potential GDP | 0 | 2 | . 5 | -0 | 2 | . 3 | . 1 | . 3 | -. 5 | -. 2 | -. 2 | 0 | . 5 | -. 1 | -. 1 | -. 2 |
| Fiscal impetus (FI) percent, calendar year | 11 | 20 | 9 | 10 | 10 | 6 | . 2 | 2 | 4 | 1 | 2 | 2 | 6 | 1 | 1 | -. 1 |

[^6]Staff Projections of Federal Sector Accounts and Related Items (Billions of dollars except as noted)


[^7]Strictly Confidential (FR)
Class II FOMC

| Strictly Confidential (FR) Class II FOMC |  |  |  | Flow of Funds Projections: Highlights (Billions of dollars except as noted) |  |  |  |  |  |  |  |  | December 4, 2002 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Category | Calendar year |  |  |  |  |  |  |  | nally ad | sted annu | rates |  |  |  |
|  |  |  |  |  | 2002 |  |  |  | 2003 |  |  |  | 2004 |  |
|  | 2001 | 2002 | 2003 | 2004 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | H1 | H2 |
| Net funds raised by domestic nonfinancial sectors |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1 Total | 1056.2 | 1249.0 | 1066.6 | 1188.7 | 918.6 | 1632.2 | 1190.4 | 1254.6 | 1205.8 | 1034.9 | 1002.4 | 1023.3 | 1233.1 | 1144.3 |
| 2 Net equity issuance | -61.8 | -48.8 | -80.3 | -56.5 | -8.7 | 18.5 | -139.0 | -66.0 | -68.0 | -77.0 | -87.0 | -89.0 | -64.0 | -49.0 |
| 3 Net debt issuance | 1118.0 | 1297.8 | 1146.9 | 1245.2 | 927.3 | 1613.7 | 1329.4 | 1320.6 | 1273.8 | 1111.9 | 1089.4 | 1112.3 | 1297.1 | 1193.3 |
| Borrowing sectors |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Nonfinancial business |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 Financing gap ${ }^{1}$ | 141.4 | 83.4 | 128.0 | 187.9 | 68.9 | 68.7 | 80.7 | 115.1 | 108.2 | 117.6 | 136.0 | 150.2 | 163.6 | 212.3 |
| 5 Net equity issuance | -61.8 | -48.8 | -80.3 | -56.5 | -8.7 | 18.5 | -139.0 | -66.0 | -68.0 | -77.0 | -87.0 | -89.0 | -64.0 | -49.0 |
| 6 Credit market borrowing | 409.9 | 193.0 | 357.4 | 423.0 | 122.6 | 239.5 | 153.2 | 256.7 | 320.7 | 343.7 | 380.7 | 384.5 | 409.5 | 436.5 |
| Households |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7 Net borrowing ${ }^{2}$ | 610.4 | 711.3 | 550.2 | 575.7 | 702.6 | 679.8 | 770.7 | 692.4 | 582.9 | 545.5 | 552.9 | 519.5 | 557.3 | 594.2 |
| 8 Home mortgages | 477.9 | 619.7 | 465.0 | 459.0 | 553.4 | 604.3 | 724.1 | 597.2 | 526.2 | 462.2 | 445.2 | 426.2 | 446.2 | 471.7 |
| 9 Consumer credit | 110.2 | 71.9 | 72.2 | 92.8 | 81.7 | 76.4 | 60.1 | 69.3 | 69.6 | 70.3 | 71.7 | 77.3 | 87.1 | 98.5 |
| 10 Debt/DPI (percent) ${ }^{3}$ | 99.8 | 102.7 | 106.7 | 108.0 | 101.3 | 102.0 | 103.1 | 104.3 | 105.6 | 106.4 | 107.2 | 107.7 | 107.5 | 108.4 |
| State and local governments |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 11 Net borrowing | 103.2 | 138.5 | 72.5 | 78.3 | 62.3 | 168.4 | 139.9 | 183.3 | 105.8 | 80.8 | 45.8 | 57.8 | 78.8 | 77.8 |
| 12 Current surplus ${ }^{4}$ | 140.6 | 129.8 | 142.3 | 179.5 | 128.2 | 133.8 | 128.7 | 128.5 | 131.0 | 136.1 | 145.3 | 156.9 | 171.9 | 187.0 |
| Federal government |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 13 Net borrowing | -5.6 | 254.9 | 166.7 | 168.2 | 39.8 | 526.0 | 265.7 | 188.2 | 264.4 | 142.0 | 110.0 | 150.6 | 251.5 | 84.8 |
| 14 Net borrowing (quarterly, n.s.a.) | -5.6 | 254.9 | 166.7 | 168.2 | 50.8 | 21.1 | 89.4 | 93.6 | 106.9 | -74.9 | 50.5 | 84.2 | 56.2 | 112.0 |
| 15 Unified deficit (quarterly, n.s.a.) | -94.3 | 230.0 | 158.7 | 151.2 | 96.6 | -15.6 | 42.2 | 106.8 | 100.5 | -70.6 | 39.6 | 89.2 | 27.6 | 123.5 |
| Depository institutions |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 16 Funds supplied | 289.4 | 450.8 | 345.1 | 363.8 | 259.6 | 401.9 | 744.1 | 397.9 | 244.5 | 389.4 | 416.2 | 330.3 | 358.8 | 368.8 |
| Memo (percentage of GDP) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 17 Domestic nonfinancial debt ${ }^{5}$ | 186.6 | 191.6 | 195.2 | 195.3 | 188.9 | 190.8 | 192.0 | 193.7 | 194.8 | 195.6 | 195.6 | 195.5 | 195.4 | 195.5 |
| 18 Domestic nonfinancial borrowing | 11.1 | 12.4 | 10.5 | 10.8 | 9.0 | 15.6 | 12.7 | 12.5 | 11.9 | 10.3 | 10.0 | 10.0 | 11.4 | 10.2 |
| 19 Federal government ${ }^{6}$ | -0.1 | 2.4 | 1.5 | 1.5 | 0.4 | 5.1 | 2.5 | 1.8 | 2.5 | 1.3 | 1.0 | 1.4 | 2.2 | 0.7 |
| 20 Nonfederal | 11.1 | 10.0 | 9.0 | 9.4 | 8.6 | 10.5 | 10.1 | 10.7 | 9.4 | 9.0 | 9.0 | 8.7 | 9.2 | 9.5 |

[^8](This page intentionally blank.)

## International Developments

The information received from the foreign economies since our October forecast has not materially changed our outlook for activity abroad. Third-quarter GDP releases and other economic indicators that have come in since the October Greenbook have been stronger than we had expected for Japan and Latin America, but this development was partially offset by softer-than-expected data from the euro area and some countries in emerging Asia. On net, we now estimate that average foreign growth in the third quarter was about 3 percent at an annual rate, somewhat higher than projected in the October Greenbook. Looking forward, we project average foreign growth over the forecast period to be about the same as in the previous Greenbook, with small downward revisions to the euro area offset by small upward revisions to Mexico and emerging Asia resulting from an improved U.S. outlook.

Summary of Staff Projections
(Percent change from end of previous period, s.a.a.r.)

| Indicator | 2002 |  | Projection |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | H1 | Q3 | $2002:$ | 2003 |  |  |  |
|  |  |  | Q41 | Q2 | H2 |  |  |
| Foreign output | 3.3 | 2.9 | 2.0 | 2.5 | 2.8 | 3.1 | 3.4 |
| $\quad$ October GB | 3.2 | 2.4 | 2.2 | 2.7 | 2.9 | 3.1 | 3.4 |
| Foreign CPI | 2.6 | 2.7 | 1.7 | 1.7 | 1.9 | 2.0 | 2.0 |
| October GB | 2.6 | 2.7 | 1.5 | 1.9 | 2.0 | 2.0 | 1.9 |

Note. Changes for years are measured as Q4/Q4; for half-years, Q2/Q4 or Q4/Q2.

In the euro area, further deterioration in business confidence and labor market conditions, along with a greater likelihood of fiscal tightening in Germany, has led us to mark down the outlook for growth. However, we are still expecting a recovery over the forecast period, albeit a slower one, aided by a projected cut in ECB interest rates and falling oil prices. In Japan, declining real incomes and consumer confidence are likely to restrain domestic demand, and the bank reform measures announced so far do not appear to be substantial enough to have any significant impact on the outlook.

In emerging Asia, growth has slowed to a moderate pace. However, we project it to pick up next year and more in 2004, largely driven by the outlook for U.S. demand and the expected recovery in the global high-tech sector. Mexico exhibited fairly strong growth in 2002:Q3 for the second consecutive quarter. Activity appears to be decelerating in the current quarter, in line with developments in the U.S. economy. Over the next two years, the robust growth we project for the United States should translate into a strong recovery for Mexico. In South America, however, conditions remain unsettled despite some
improvement in Brazilian financial markets and generally stronger-than-expected activity data in the region.

With the revisions to the outlook for growth more favorable for the United States than for Europe, we now expect a stronger path of the exchange value of the dollar against the euro. This change contributes to a reduction in the projected rate of depreciation of the broad real dollar index over the forecast period from about $11 / 4$ percent per year to about $3 / 4$ percent per year, leaving the real value of the dollar $3 / 4$ percent higher in 2004:Q4 than in our last forecast.

The arithmetic contribution from net exports to real U.S. GDP growth is projected to be about zero in the second half of this year and to be about minus $1 / 3$ percentage point in each of the next two years. These projections are close to those in the October Greenbook. The U.S. current account deficit is projected to be around 5 percent of GDP in the second half of this year and all of next year, rising to $5 \frac{1}{4}$ percent of GDP in 2004. The deficit projection is slightly smaller than in our previous forecast because lower interest rates reduce payments on our net debt.

## Oil Prices

The current spot price of West Texas intermediate (WTI) crude oil is about \$27 per barrel. After decreasing more than $\$ 2$ per barrel in the second half of October, the spot price hovered around $\$ 26$ during most of November before rising to its current level. The recent rise reflects reports from OPEC countries of production decreases relative to October's high levels. Tight oil inventories in the United States, the possibility of military action in Iraq, and political turmoil in Venezuela continue to be sources of some upward pressure on oil prices in the near term. In line with recent quotes from futures markets, we project that the spot price of WTI will decrease to about $\$ 23$ per barrel by the end of 2004. Compared with the October Greenbook, the current projection is about unchanged in the current quarter and about $\$ 0.70$ per barrel higher on average during 2003 and 2004.

## International Financial Markets

The foreign exchange value of the dollar, as measured by the staff's major currencies index, is about $1 / 2$ percent higher than at the time of the November FOMC meeting, led by a $2 \frac{1}{2}$ percent gain against the yen. Much of the gain against the yen occurred late in the intermeeting period. With little net change against the currencies of our other important trading partners, the broad nominal index has edged up $1 / 4$ percent.

We continue to believe that it is unlikely that investors will be willing, at current exchange rates, to add indefinitely to their already large holdings of U.S.
external liabilities. We therefore maintain a downward tilt to our outlook for the dollar. However, compared with our previous forecast, we have reduced the projected rates of depreciation of the dollar against the European currencies, from about 4 percent to 2 percent per year over the forecast period. This change reflects our expectation that U.S. economic growth over the forecast period will be more robust and European growth less strong than we had previously projected. The new paths of exchange rates imply that the rate of depreciation of the broad real dollar index over the forecast period will be somewhat less than previously forecast, leaving the path of the dollar generally higher on balance over the period.

Along with U.S. share prices, European equity indexes generally declined in the days immediately following the November FOMC meeting, as market participants became more concerned about the global outlook. Subsequently, encouraging data releases in the United States contributed to some rebound in share prices. On balance, over the intermeeting period, European share price movements were mixed. Yields on long-term European government bonds fluctuated over the period, ending about 15 basis points lower.

In Japan, broad share price indexes fell about 1 percent over the intermeeting period. Japanese banking sector shares were down as much as 18 percent at one point during the intermeeting period on rumors that some of the country's ailing banks would be nationalized shortly, but they partially recovered as this speculation subsided. The Bank of Japan raised the amount of liquidity supplied to the domestic money markets to the upper end of its intended target range, but Japanese long-term interest rates were little changed over the intermeeting period.

In Brazil, market-friendly comments by President-elect Lula and several of his closest economic advisers contributed to some improvement of financial markets over the intermeeting period; the Brazilian EMBI+ spread declined roughly 130 basis points, albeit to a still-high 1,600 basis points, and the Bovespa stock index rose 7 percent.
. The
Desk did not intervene during the period for the accounts of the System or the Treasury.

## Foreign Industrial Countries

Accumulating evidence of weakness in the euro area has caused us to mark down our growth forecast, most notably in Germany and Italy. In contrast, domestic demand in Japan in the third quarter came in unexpectedly strong. We do not expect that this strength will continue much beyond the current year,
though, as indicators suggest a slowing in the rates of growth of both consumption and investment next year. Overall, we have marked up a bit our forecast for current-quarter growth in foreign industrial economies (largely reflecting slightly higher projected growth in Japan), but marked down slightly growth next year and the year after. We now look for growth in foreign industrial economies to pick up from $13 / 4$ percent in the fourth quarter to about $2 \frac{1}{4}$ percent in 2003 and about $21 / 2$ percent in 2004. As in past Greenbooks, the pick up is predicated on stimulative monetary policy abroad, strengthening of the U.S. recovery, and dissipation of the effects of previous financial volatility.

Headline inflation rates in most foreign industrial countries have ticked up since earlier in the year, most noticeably in the United Kingdom and Canada. By early next year, however, twelve-month inflation rates should generally begin to decline, as price pressures are attenuated by declining oil prices, continuing excess capacity in most countries, and the projected appreciation of many major foreign currencies against the dollar. In the United Kingdom, however, rising housing prices are expected to keep consumer price inflation above the $21 / 2$ percent target through 2003. Japanese deflation is expected to continue.

The Japanese economy grew 3 percent in the third quarter, supported by robust private consumption and a slowing in the pace of inventory liquidation.
Nonetheless, we project growth to slow to under 1 percent next year, as ongoing declines in real incomes, falling consumer confidence, and uncertainty regarding employment opportunities weigh on consumer spending and as the current cycle of inventory adjustment ends. The recently announced supplemental budget contained only a modest amount of "real-water" spending, and the overall fiscal stance is expected to remain slightly contractionary next year and in 2004. Bank reform proposals announced thus far do not appear likely to have a significant effect on the prospects for the economy, but a lack of concrete details in this regard adds to the uncertainty of our forecast.

Euro-area indicators suggest that growth will remain anemic in the near-term, but we project a modest pickup to rates of just over 2 percent in the second half of next year and $21 / 2$ percent in 2004. Weakness is most evident in Germany, where business confidence has fallen for the past six months and planned tax increases, designed to bring the fiscal deficit back into line with the limits in the Stability and Growth Pact, have exacerbated business pessimism. Fiscal policy in other countries in the euro area is also likely to provide restraint. Euro-area consumption spending has bounced back in the past two quarters, but going forward, it is likely to be restrained by sluggish labor market conditions. Faced with a weak economy and anticipating a decline in inflation to below the 2 percent target ceiling, the ECB is assumed to cut its key refinancing rate this
month and then keep monetary policy on hold through mid-2004. This policy action, along with declining oil prices, should support the projected modest recovery.

After expanding briskly in the first half of the year, Canadian real GDP decelerated in the third quarter. Growth should slacken further in the fourth quarter as domestic demand (which has recently been fueled by a booming housing sector) moderates and growth of auto-sector exports to the United States declines. We project growth to turn up again next year, in line with the global recovery, and return to 3 percent by 2004. We expect the Bank of Canada to leave its policy rate unchanged at $23 / 4$ percent over the course of 2003 and then to start tightening in the second half of 2004.

## Other Countries

In Mexico, with real GDP rising at a 4 percent annual rate in the third quarter, the economy has now recorded two quarters of fairly solid growth following six quarters of declines. In line with incoming data and the projected deceleration of the U.S. economy, Mexican growth should slow somewhat in the current quarter. Thereafter growth should pick up, largely as a result of a strengthening U.S. economy, to over $31 / 2$ percent next year and over $41 / 2$ percent in 2004.

The situation in South America remains unsettled, and overall prospects remain dim. In Brazil, preliminary real GDP data (which are notorious for sizable revisions) indicate that the economy grew at a rate of over $31 / 2$ percent in the third quarter, stronger than we had expected. However, Brazilian sovereign spreads are still very high, reflecting concerns about possible debt-servicing problems, and we project only weak growth over the forecast period. More severe outcomes remain a distinct possibility. In Venezuela, output rebounded sharply in the third quarter, reversing the previous quarter's decline. Nonetheless, political conditions have worsened, including violent clashes between the government and opposition groups, and we have marked down a little further the outlook for next year, which was already very weak. Although economic activity appears to be bottoming out in Argentina, major impediments to a sustained recovery remain.

Data releases from emerging Asia indicate that growth moderated in the third quarter to just over $2 \frac{1}{2}$ percent, somewhat lower than projected in the October Greenbook. Most countries still exhibited fairly robust growth, but the overall growth rate was pulled down by Singapore (where GDP contracted 10 percent, following a very strong second quarter). Growth in Korea and China remained strong as exports soared. However, in Taiwan, output was stagnant for the second consecutive quarter, although domestic demand remained strong. Recent data suggest weakness in high-tech production in Taiwan and the

ASEAN countries. We expect that growth in developing Asia will pick up to over 5 percent next year and to $53 / 4$ percent in 2004. This projection is a little bit higher than the October Greenbook and continues to be driven largely by the outlook for U.S. demand and the expected strengthening in the global high-tech sector.

On average, we expect relatively low consumer price inflation of about 3 percent in the developing countries over the forecast period, reflecting our projection that excess capacity will persist in the vast majority of the countries. In Argentina and Venezuela, currency depreciations are expected to lead to high inflation rates over the forecast period. In China, Hong Kong, and Taiwan, deflation has persisted but is expected to abate.

## Prices of Internationally Traded Goods

The price index for U.S. imports of non-oil core goods is estimated to have risen about $1 \frac{1}{4}$ percent at an annual rate in the third quarter, the second quarterly increase after a year of declines. Product categories driving this increase include imported foods, feeds, and beverages and aircraft. In the fourth quarter, core import prices are expected to continue to increase at about the same rate, reflecting recent increases in commodity prices. In 2003 and 2004, the rate of core import price inflation is expected to average about 2 percent, consistent with inflation abroad and a modest dollar depreciation.

The price index for exports of U.S. core goods is estimated to have risen at an annual rate of about $41 / 2$ percent in the third quarter, somewhat faster than in the second quarter, mainly owing to higher prices of exported agricultural goods. Large price increases were registered in the third quarter for most major exported agricultural goods, including a 12 percent increase in the price of cotton (quarterly rate) and increases of over 17 percent in the prices of wheat, corn, soybeans, and rice. We project that export price inflation will slow to around 1 percent in each of the next two years, in line with projected U.S. producer price inflation.

## Selected Trade Prices

(Percent change from end of previous period except as noted; s.a.a.r.)

| Trade category | 2002 |  | Projection |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | H1 | Q3 | $\begin{gathered} 2002: \\ \text { Q4 } \end{gathered}$ | 2003 |  |  | 2004 |
|  |  |  |  | Q1 | Q2 | H2 |  |
| Exports |  |  |  |  |  |  |  |
| Core goods | 1.2 | 4.5 | 1.6 | . 8 | . 6 | . 9 | 1.2 |
| Imports |  |  |  |  |  |  |  |
| Non-oil core goods | -. 1 | 1.3 | 1.3 | 2.7 | 2.9 | 2.1 | 1.8 |
| Oil (dollars per barrel) | 24.04 | 25.50 | 25.22 | 24.53 | 23.60 | 21.90 | 20.77 |

Note. Prices for core exports and non-oil core imports, which exclude computers and semiconductors, are on a NIPA chain-weighted basis.

The price of imported oil for multiquarter periods is the price for the final quarter of the period.

## Trade in Goods and Services

Real exports of goods and services rose $31 / 4$ percent at an annual rate in the third quarter, down from a pace of 14 percent in the second quarter. The slowdown in export growth occurred in services, semiconductors, and core goods; exports of computers were little changed. Within core goods, exports decelerated in most major categories, with particularly large swings in automotive products, machinery, and industrial supplies. The only exception was exports of aircraft, which increased sharply in the third quarter. Despite this deceleration, exported core goods have advanced at a more rapid rate than would have been indicated solely by relative prices and foreign GDP over the past two quarters. We believe that much of the recent rise in exports of core goods--particularly during the second quarter--reflects the relatively high sensitivity of merchandise trade to fluctuations in overall economic activity. Just as exports fell more rapidly than foreign economic activity during last year's economic downturn, exports now appear to be recovering more rapidly than foreign economic activity. As it appears that the cyclical recovery in exports will continue, we project a modest acceleration in exports of core goods in the near term over and above what is implied by our projections for foreign economic activity and relative prices. As this cyclical boost wanes over the course of next year, growth in exports of core goods more closely tracks the movements in these fundamental determinants.

In 2003 and 2004, exports of core goods are projected to increase about 5 percent, on average. Exports of services are also expected to increase around 5 percent per year, boosted by stronger foreign economic growth and small declines in the real exchange value of the dollar. In addition, exports of
computers and semiconductors are expected to recover significantly over the forecast period from the high-tech downturn and to resume growth that is broadly in line with historical experience.

As with real exports, growth of real imports of goods and services slowed significantly in the third quarter following a surge in the second quarter. Imports of goods and services rose $21 / 4$ percent at an annual rate in the third quarter, as declines in imports of services, oil, computers, and semiconductors offset about half of the increase in imports of core goods. We believe that some cyclical recovery in imports, as in exports, is under way. Our near-term projection for imports, however, is complicated by the West Coast port closures and the associated preemptive shipping that may have occurred earlier in the year. ${ }^{1}$ Given that the backlog of ships has been cleared and that the shipping system generally operates below capacity in the late-autumn and winter months, we believe that the actual closure of the ports will not prove to have been a binding constraint on imports during the fourth quarter. ${ }^{2}$ Imports, however, may be depressed in the fourth quarter, reflecting some payback for accelerated shipments in the second and third quarters. Although the earlier pull-ahead effect is consistent with a few anecdotal reports, the quantitative effect is far from clear. We have assumed that payback from accelerated imports in the second and third quarters will hold down imports of core goods in the fourth quarter by $\$ 3$ billion at an annual rate, or about 0.1 percent of GDP.

In 2003 and 2004, we expect imports of core goods to grow more than 6 percent, on average, as the effects of continued expansion in the U.S. economy and the cyclical rebound from last year's sharp fall in the level of imports are only slightly offset by the effect of projected dollar depreciation. Real imports of computers and semiconductors should also contribute significantly to import growth over the next two years. Imports of services are expected to pick up as well, though more gradually.

[^9]
## Summary of Staff Projections for Trade in Goods and Services

(Percent change from end of previous period, s.a.a.r.)

| Measure | 2002 |  | Projection |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | H1 | Q3 | $\begin{gathered} \text { 2002: } \\ \text { Q4 } \end{gathered}$ | 2003 |  |  | 2004 |
|  |  |  |  | Q1 | Q2 | H2 |  |
| Real exports | 8.7 | 3.3 | 5.9 | 3.2 | 6.7 | 8.3 | 7.7 |
| October GB | 8.7 | 2.5 | 6.7 | 4.3 | 6.9 | 8.5 | 7.9 |
| Real imports | 15.2 | 2.3 | 5.6 | 4.6 | 8.7 | 7.2 | 8.4 |
| October GB | 15.2 | 2.5 | 5.3 | 5.5 | 8.4 | 6.6 | 7.8 |

Note. Changes for years are measured as Q4/Q4; for half-years, Q2/Q4 or Q4/Q2.

## Alternative Simulations

Although the dollar depreciated briefly after the FOMC decision to cut the federal funds target rate last month, it has since rebounded. With economic prospects in Germany and Japan continuing to disappoint financial markets, renewed dollar strength is a risk to our forecast. We used the FRB/Global model to consider a fall in the risk premium on dollar-denominated assets. The shock was phased in over four quarters beginning in 2003:Q1 and scaled so that the real value of the dollar would rise about 10 percent against most foreign currencies relative to baseline in the absence of endogenous adjustments in long-term interest rates. This appreciation of the dollar depresses net exports, lowering U.S. GDP growth about 0.2 percentage point in 2003 relative to baseline and 0.5 percentage point in 2004. Core PCE inflation falls about 0.3 percentage point below baseline in the second half of 2003 and about 0.4 percentage point in 2004, mainly because of declining import prices.

## Alternative Simulation:

Ten Percent Dollar Appreciation ${ }^{1}$
(Percent change from previous period, annual rate)

| Indicator and simulation | 2003 |  | 2004 |  |
| :--- | :---: | :---: | :---: | :---: |
|  | H 1 | H 2 | H 1 | H 2 |
| U.S. real GDP |  |  |  |  |
| Baseline | 2.6 | 4.1 | 4.4 | 4.2 |
| Dollar appreciation | 2.5 | 3.8 | 4.0 | 3.6 |
|  |  |  |  |  |
| U.S. PCE prices excl. food and energy |  |  |  |  |
| $\quad$ Baseline | 1.5 | 1.4 | 1.4 | 1.3 |
| Dollar appreciation | 1.5 | 1.1 | 0.9 | 1.0 |

Note. H1 is Q2/Q4; H2 is Q4/Q2.

1. In these simulations, the nominal federal funds rate remains unchanged from baseline, and the monetary authorities in major foreign economies adjust their policy rates according to a Taylor rule.
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Class II FOMC

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| $\bullet$. | $\bigcirc$ |  | NONロN®． | $\stackrel{\square}{\square}$ | $\because \sim \sim \infty$ | Oサm，¢\％ |
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| $\bigcirc$ | $\stackrel{\square}{\square}$ |  | mのォゥゥゥ N | $\stackrel{\square}{\sim}$ |  |  |
| $\square$ | m | romma |  | $\stackrel{-}{\square}$ | －iviri | $\dot{\varphi} \dot{\sim} \dot{\gamma} \dot{\sim}$ |
| $\checkmark$ | $\infty$. | ィフローか | N6サmNHm． | $\stackrel{\square}{\text { n }}$ | onvom | $\checkmark \infty \bigcirc \infty \infty$ |
| － | $\sim$ |  | $\dot{\text { ம்ம்ம் }}$ | $\stackrel{\text {－}}{ }$ | vomiri |  |

1．Foreign GDP aggregates calculated using shares of U．S．exports．
3．Foreign CPI aggregates calculated using shares of U．S．non－oil imports．
Strictly Confidential (FR)
Class II FOMC

| Measure and country | 2002 |  |  |  | $\begin{aligned} & -\quad \text { Projected } \\ & 2003 \end{aligned}$ |  |  |  | 2004 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| REAL GDP (1) ------------------- Quarterly changes at an annual rate |  |  |  |  |  |  |  |  |  |  |  |  |
| Total foreign | 2.8 | 3.9 | 2.9 | 2.0 | 2.5 | 2.8 | 3.0 | 3.2 | 3.4 | 3.4 | 3.4 | 3.4 |
| Industrial Countries of which: | 3.3 | 3.2 | 2.5 | 1.7 | 1.9 | 2.2 | 2.3 | 2.5 | 2.6 | 2.6 | 2.6 | 2.6 |
| Canada | 5.7 | 4.4 | 3.1 | 1.6 | 2.3 | 2.8 | 2.9 | 3.0 | 3.1 | 3.1 | 3.1 | 3.0 |
| Japan | 0.8 | 4.2 | 3.0 | 2.3 | 1.0 | 0.8 | 0.8 | 0.9 | 0.9 | 0.9 | 1.0 | 1.0 |
| United Kingdom | 0.5 | 2.5 | 3.3 | 2.2 | 2.4 | 2.4 | 2.3 | 2.7 | 3.0 | 3.1 | 2.9 | 2.9 |
| Euro Area (2) | 1.6 | 1.6 | 1.3 | 1.0 | 1.2 | 1.7 | 2.0 | 2.2 | 2.4 | 2.5 | 2.6 | 2.6 |
| Germany | 1.1 | 0.6 | 1.1 | 0.5 | 0.5 | 0.9 | 1.3 | 1.6 | 1.9 | 2.2 | 2.4 | 2.4 |
| Developing Countries | 2.0 | 5.0 | 3.4 | 2.6 | 3.3 | 3.8 | 4.1 | 4.3 | 4.6 | 4.6 | 4.6 | 4.6 |
| Asia | 6.0 | 6.3 | 2.6 | 4.4 | 4.9 | 5.0 | 5.2 | 5.4 | 5.6 | 5.7 | 5.7 | 5.7 |
| Korea | 7.9 | 5.8 | 5.1 | 5.3 | 5.3 | 5.4 | 5.6 | 5.6 | 5.4 | 5.4 | 5.4 | 5.4 |
| China | 8.5 | 9.3 | 7.5 | 7.2 | 7.2 | 7.3 | 7.2 | 7.2 | 7.5 | 7.5 | 7.5 | 7.5 |
| Latin America | -1.3 | 4.0 | 4.3 | 1.0 | 2.0 | 2.8 | 3.4 | 3.6 | 3.9 | 3.9 | 3.9 | 3.9 |
| Mexico | -0.2 | 5.4 | 4.0 | 2.0 | 2.8 | 3.5 | 4.1 | 4.4 | 4.7 | 4.7 | 4.7 | 4.7 |
| Brazil | 3.4 | 3.5 | 3.8 | -2.0 | -1.0 | 1.0 | 1.0 | 1.0 | 1.2 | 1.5 | 1.5 | 1.5 |
| CONSUMER PRICES (3) |  |  |  |  |  |  |  |  |  |  |  |  |
| Industrial Countries of which: | 1.1 | 1.0 | 1.4 | 1.9 | 1.7 | 1.3 | 1.1 | 1.1 | 1.1 | 1.1 | 1.2 | 1.2 |
| Canada | 1.5 | 1.3 | 2.3 | 3.4 | 3.0 | 2.4 | 1.8 | 2.0 | 2.0 | 2.1 | 2.2 | 2.3 |
| Japan | -1.5 | -1.1 | -0.9 | -0.7 | -0.7 | -0.9 | -1.2 | -0.9 | -0.9 | -0.9 | -0.9 | -0.9 |
| United Kingdom (4) | 2.4 | 1.9 | 2.0 | 2.6 | 2.6 | 2.9 | 2.8 | 2.6 | 2.4 | 2.3 | 2.3 | 2.4 |
| Euro Area (2) | 2.6 | 2.1 | 2.0 | 2.2 | 1.9 | 1.7 | 1.8 | 1.4 | 1.4 | 1.4 | 1.4 | 1.5 |
| Germany | 2.0 | 1.1 | 1.0 | 1.4 | 0.7 | 0.9 | 1.1 | 0.8 | 0.7 | 0.7 | 0.8 | 0.8 |
| Developing Countries | 2.6 | 2.5 | 2.6 | 2.9 | 3.1 | 2.8 | 2.8 | 2.9 | 3.0 | 3.0 | 2.9 | 2.8 |
| Asia | 0.8 | 0.6 | 0.6 | 0.7 | 0.8 | 0.7 | 1.0 | 1.5 | 1.8 | 1.9 | 2.0 | 2.0 |
| Korea | 2.5 | 2.7 | 2.5 | 3.3 | 3.6 | 2.6 | 2.9 | 3.1 | 3.0 | 3.0 | 3.0 | 3.0 |
| China | -0.6 | $-1.0$ | -0.8 | -0.8 | -0.9 | -0.9 | -0.6 | 0.1 | 0.7 | 1.1 | 1.2 | 1.2 |
| Latin America | 5.1 | 5.4 | 6.0 | 6.4 | 7.3 | 6.7 | 5.9 | 5.5 | 5.3 | 5.0 | 4.8 | 4.6 |
| Mexico | 4.8 | 4.8 | 5.2 | 5.3 | 6.1 | 5.5 | 4.8 | 4.5 | 4.4 | 4.1 | 3.8 | 3.6 |
| Brazil | 7.7 | 7.9 | 7.7 | 9.2 | 10.9 | 12.0 | 11.9 | 10.5 | 9.4 | 8.8 | 8.7 | 8.7 |

[^10]OUTLOOK FOR U.S. INTERNATIONAL TRANSACTIONS

|  | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | ----- | $\begin{array}{r} \text { Projec } \\ 2003 \end{array}$ | 2004 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| NIPA REAL EXPORTS and IMPORTS Percentage point contribution to GDP growth, Q4/Q4 |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| Net Goods \& Services | -0.2 | -0.8 | -1.1 | -1.0 | -0.8 | -0.1 | -0.6 | -0.3 | -0.4 |
| Exports of G\&S | 1.1 | 1.0 | 0.3 | 0.5 | 0.8 | -1.3 | 0.6 | 0.7 | 0.8 |
| Imports of G\&S | $-1.3$ | -1.7 | -1.3 | -1.5 | -1.5 | 1.2 | -1.2 | $-1.0$ | -1.2 |
| Percentage change, Q4/Q4 |  |  |  |  |  |  |  |  |  |
| Exports of $G \& S$ | 9.8 | 8.5 | 2.3 | 4.9 | 7.3 | -11.4 | 6.6 | 6.6 | 7.7 |
| Services | 8.9 | 1.4 | 2.9 | 3.2 | 4.8 | -9.2 | 9.0 | 4.5 | 5.3 |
| Computers | 21.6 | 25.8 | 8.1 | 13.4 | 23.0 | -23.4 | 2.8 | 30.1 | 33.5 |
| Semiconductors | 44.6 | 21.3 | 9.1 | 34.6 | 26.9 | -34.9 | 25.3 | 29.1 | 36.0 |
| Other Goods 1/ | 7.3 | 9.8 | 1.3 | 3.2 | 5.7 | -9.3 | 4.7 | 4.7 | 5.0 |
| Imports of $G \& S$ | 11.2 | 14.3 | 10.8 | 11.9 | 11.1 | -8.0 | 9.4 | 6.9 | 8.4 |
| Services | 5.3 | 14.0 | 8.5 | 5.9 | 10.9 | -8.6 | 5.1 | 3.2 | 4.9 |
| Oil | 7.8 | 3.9 | 4.1 | -3.4 | 13.3 | 0.1 | 0.4 | 1.9 | 3.7 |
| Computers | 17.8 | 33.0 | 25.8 | 26.0 | 13.6 | -13.8 | 16.1 | 28.9 | 33.5 |
| Semiconductors | 56.7 | 32.9 | -8.7 | 34.2 | 22.5 | $-51.4$ | 24.3 | 30.4 | 36.0 |
| Other Goods 2/ | 10.4 | 12.7 | 11.5 | 12.7 | 10.4 | $-6.2$ | 10.5 | 6.2 | 6.9 |
| Billions of chained 1996 dollars |  |  |  |  |  |  |  |  |  |
| Net Goods \& Services | -89.0 | $-113.3$ | $-221.1$ | $-320.5$ | -398.8 | -415.9 | -478.6 | -520.9 | $-570.3$ |
| Exports of G\&S | 874.2 | 981.5 | 1002.4 | 1036.3 | 1137.2 | 1076.1 | 1065.0 | 1128.0 | 1212.8 |
| Imports of G\&S | 963.1 | 1094.8 | 1223.5 | 1356.8 | 1536.0 | 1492.0 | 1543.7 | 1648.8 | 1783.1 |


| Billions of dollars |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| US CURRENT ACCOUNT BALANCE | -117.8 | -128.4 | -203.8 | -292.9 | -410.3 | -393.4 | -503.9 | -541.8 | -605.1 |
| Current Acct as Percent of GDP | $-1.5$ | -1.5 | -2.3 | -3.2 | -4.2 | -3.9 | -4.8 | -5.0 | -5.3 |
| Net Goods \& Services (BOP) | $-101.8$ | -107.8 | -166.9 | -262.2 | -378.7 | $-358.3$ | -429.8 | -479.1 | -527.1 |
| Investment Income, Net | 28.6 | 25.1 | 12.7 | 23.9 | 27.6 | 20.5 | -9.5 | -0.9 | -6. 4 |
| Direct, Net | 69.4 | 72.4 | 65.5 | 75.0 | 88.9 | 102.6 | 78.8 | 84.6 | 85.8 |
| Portfolio, Net | -40.8 | -47.3 | -52.9 | -51.1 | $-61.2$ | -82.1 | -88.2 | -85.5 | -92.3 |
| Other Income \& Transfers, Net | $-44.6$ | $-45.7$ | -49.6 | -54.5 | -59.3 | $-55.6$ | -64.6 | -61.8 | $-71.5$ |

[^11]|  | 1999 |  |  |  | 2000 |  |  |  | 2001 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| NIPA REAL EXPORTS and IMPORTS |  |  |  |  |  |  |  |  |  |  |  |  |
| Percentage point contribution to GDP growth |  |  |  |  |  |  |  |  |  |  |  |  |
| Net Goods \& Services Exports of G\&S Imports of $\mathrm{G} \& \mathrm{~S}$ | -1. 8 | -1.4 | -0.7 | 0.1 | -1.1 | -1.0 | -0.7 | -0.2 | 0.5 | -0.4 | -0.2 | -0.3 |
|  | -0.8 | 0.4 | 1.1 | 1.3 | 0.8 | 1.5 | 1.2 | -0.5 | -0.7 | -1.4 | -2.0 | -1.0 |
|  | -1.0 | -1.9 | -1.8 | -1.2 | -1.9 | -2.5 | -1.9 | 0.3 | 1.2 | 1.0 | 1.7 | 0.7 |
| Percentage change from previous period, s.a.a.r. |  |  |  |  |  |  |  |  |  |  |  |  |
| Exports of G\&S Services | -6.9 | 4.3 | 10.6 | 12.6 | 7.7 | 14.6 | 11.6 | -4.0 | -6.0 | -12.4 | -17.3 | -9.6 |
|  | -1.5 | 3.4 | 4.7 | 6.4 | 10.2 | 11.2 | -5.9 | 4.4 | -6.0 | -2.5 | -13.9 | -13.8 |
| Computers | 0.8 | 24.7 | 20.6 | 9.2 | 33.5 | 45.9 | 28.8 | -8.8 | -7.3 | -41.7 | -22.8 | -17.6 |
| Semiconductors | 34.2 | 45.2 | 41.3 | 19.0 | 14.6 | 90.9 | 43.4 | -17.5 | -34.6 | -47.3 | -40.9 | -11.7 |
| Other Goods 1/ | -12.0 | 0.9 | 10.8 | 15.5 | 4.2 | 9.1 | 16.7 | -5.9 | -2.9 | -10.5 | -16.5 | -6.9 |
| Imports of G\&S | 8.4 | 15.4 | 14.5 | 9.4 | 14.7 | 18.6 | 13.8 | -1.6 | -7.9 | -6.8 | -11.8 | -5.3 |
| ServicesOil | 0.2 | 6.8 | 9.7 | 7.1 | 20.7 | 9.6 | 15.1 | -0.5 | 0.3 | 8.5 | -23.2 | -16.5 |
|  | 3.9 | 29.8 | -5.8 | -31.5 | 28.6 | 40.4 | -2.3 | -6.5 | 23.3 | 7.2 | -26.9 | 3.9 |
| Computers | 35.0 | 43.7 | 14.4 | 13.5 | 2.5 | 40.4 | 27.9 | -9.5 | -21.6 | -24.5 | -18.7 | 14.6 |
| Semiconductors | 23.0 | 67.9 | 16.3 | 35.0 | 23.5 | 50.0 | 69.8 | -28.5 | -43.9 | -68.8 | -55.9 | -27.5 |
| Other Goods 2/ | 7.8 | 12.2 | 17.4 | 13.4 | 13.1 | 15.5 | 12.3 | 1.3 | -9.4 | -6.2 | -4.6 | -4.5 |
| Billions of chained 1996 dollars, s.a.a.r. |  |  |  |  |  |  |  |  |  |  |  |  |
| Net Goods \& Services | -283.2 | -319.6 | -339.6 | -339.5 | -368.8 | -394.6 | -413.1 | -418.5 | -404.5 | -414.8 | -419.0 | -425.3 |
| Exports of $\mathrm{G} \& \mathrm{~S}$ | 1007.5 | 1018.1 | 1044.1 | 1075.6 | 1095.8 | 1133.9 | 1165.5 | 1153.7 | 1135.8 | 1098.8 | 1048.0 | 1021.8 |
| Imports of G\&S | 1290.7 | 1337.7 | 1383.7 | 1415.2 | 1464.6 | 1528.5 | 1578.6 | 1572.2 | 1540.3 | 1513.6 | 1467.0 | 1447.2 |
| Billions of dollars, s.a.a.r. |  |  |  |  |  |  |  |  |  |  |  |  |
| US CURRENT ACCOUNT BALANCE | -238.7 | -280.6 | -320.6 | -331.6 | -376.4 | -392.3 | -428.7 | -443.9 | -430.9 | -396.9 | -365.3 | -380.3 |
| Current Account as \% of GDP | -2.6 | -3.1 | -3.4 | -3.5 | -3.9 | -4.0 | -4.3 | -4.5 | -4.3 | -3.9 | -3.6 | -3.7 |
| Net Goods \& Services (BOP) | -209.5 | -253.4 | -286.5 | -299.6 | -348.7 | -367.7 | -393.3 | -405.0 | -388.6 | -373.3 | -319.1 | -352.1 |
| Investment Income, Net | 20.8 | 24.9 | 18.3 | 31.5 | 25.1 | 30.6 | 22.1 | 32.8 | 10.3 | 30.1 | 9.4 | 32.4 |
| Direct, Net | 72.3 | 71.4 | 71.3 | 85.0 | 79.0 | 86.9 | 89.2 | 100.3 | 89.0 | 111.3 | 95.6 | 114.4 |
| Portfolio, Net | -51.5 | -46.5 | -53.0 | -53.5 | -53.9 | -56.3 | -67.1 | -67.5 | -78.7 | -81.2 | -86.3 | -82.0 |
| Other Inc. \& Transfers, Net | -50.0 | -52.1 | -52.4 | -63.5 | -52.8 | -55.3 | -57.5 | -71.7 | -52.5 | -53.7 | -55.6 | -60.6 |

[^12]|  |  | 2002 |  |  |  | 2003 Projected |  |  |  | 2004 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| NIPA REAL EXPORTS and IMPORTS Percentage point contribution to GDP growth |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Net |  | -0.7 0.3 | -1.4 1.3 | 0.0 0.3 | -0.2 0.6 | -0.3 0.3 | -0.5 0.7 | $\begin{array}{r} -0.4 \\ 0.7 \end{array}$ | 0.0 0.9 | -0.6 0.6 | -0.6 0.8 | -0.5 0.8 | -0.0 1.0 |
|  | Imports of G\&S | -1.1 | -2.7 | -0.3 | -0.8 | -0.6 | -1.2 | -1.1 | -0.9 | -1.1 | -1.3 | -1.3 | -1.0 |
| Percentage change from previous period, s.a.a.r. |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Exports of G\&S |  | 3.5 | 14.3 | 3.3 | 5.9 | 3.2 | 6.7 | 7.2 | 9.5 | 5.6 | 7.8 | 7.8 | 9.6 |
|  | Services | -21.1 | -0.5 | 1.2 | 42.6 | 4.2 21. | 32.3 | 34.5 | 33.5 | 33.2 | 33.3 | 33.3 | 33.4 |
|  | Semiconductors | 13.7 | 65.8 | 21.0 | 7.9 | 12.6 | 33.5 | 36.0 | 36.0 | 36.0 | 36.0 | 36.0 | 36.0 |
|  | Other Goods 1/ | -3.1 | 14.2 | 3.4 | 4.9 | 1.0 | 4.7 | 5.0 | 8.5 | 1.9 | 5.1 | 5.1 | 7.9 |
| Imports of $G \& S$ |  | 8.5 | 22.2 | 2.3 | 5.6 | 4.6 | 8.7 | 8.2 | 6.3 | 8.2 | 9.7 | 8.9 | 6.8 |
| Services |  | 35.7 | -2.1 | -6.2 | -1.9 | 0.8 | 2.8 | 4.5 | 4.8 | 5.2 | 5.0 | 4.9 | 4.4 |
|  |  | -19.0 | 34.5 | -13.4 | 7.7 | -5.3 | 29.6 | 7.9 | -18.7 | 0.8 | 25.9 | 11.1 | -18.1 |
| Computers |  | 52.4 | 5.6 | -4.1 | 17.7 | 17.0 | 32.3 | 33.5 | 33.5 | 33.5 | 33.5 | 33.5 | 33.5 |
|  |  | 45.2 | 41.8 | -5.9 | 23.2 | 17.0 | 33.5 | 36.0 | 36.0 | 36.0 | 36.0 | 36.0 | 36.0 |
| SemiconductorsOther Goods 21 |  | 1.9 | 28.8 | 7.1 | 5.9 | 5.4 | 6.1 | 6.6 | 6.7 | 6.9 | 7.0 | 7.0 | 6.7 |
| Billions of chained 1996 dollars, s.a.a.r. |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Goods \& Services | -446.6 | -487.4 | -487.3 | -493. 2 | -502.5 | -518.5 | -531.4 | -531.1 | -548.7 | -566.9 | -582.0 | $-583.4$ |
|  | Exports of Imports of of G\&S | 1030.6 1477.1 | 1065.5 1552.9 | 1074.3 1561.6 | 1089.7 1583.0 | 1098.2 1600.8 | 1116.2 1634.6 | 1135.6 1667.0 | 1161.7 1692.8 | 1177.6 1726.3 | 1199.8 1766.7 | 1222.7 1804.7 | 1251.1 1834.5 |


| US CURRENT ACCOUNT BALANCE | -449.8 | -519.1 | -518.9 | -527.8 | -521.9 | -535.9 | -548.0 | -561.2 | -579.0 | -598.1 | -617.5 | -625.6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Current Account as \% of GDP | -4.4 | -5.0 | -4.9 | -5.0 | -4.9 | -5.0 | -5.0 | -5.1 | -5.1 | -5.2 | -5.3 | -5.3 |
| Net Goods \& Services (BOP) | -382.0 | -441.8 | -445.5 | -450.1 | -461.1 | -477.6 | -489.3 | -488.5 | -505.3 | -523.5 | -538.8 | -540.9 |
| Investment Income, Net | 2.7 | -18.5 | -15.9 | -6.2 | -2.4 | 0.2 | -0.2 | -1.2 | -2.2 | -3.1 | $-7.2$ | -13.2 |
| Direct, Net | 88.3 | 70.7 | 73.3 | 82.8 | 84.1 | 85.2 | 84.6 | 84.5 | 84.8 | 85.4 | 86.0 | 87.1 |
| Portfolio, Net | -85.5 | -89.2 | -89.2 | -89.0 | -86.5 | -85.0 | -84.8 | -85.7 | -87.0 | -88.6 | -93.2 | -100.3 |
| Other Inc. \& Transfers, Net | -70.6 | -58.9 | -57.5 | -71.5 | -58.5 | -58.5 | -58.5 | -71.5 | -71.5 | -71.5 | -71.5 | -71.5 |

[^13]
[^0]:    ${ }^{1}$ In some cases, original copies needed to be photocopied before being scanned into electronic format. All scanned images were deskewed (to remove the effects of printer- and scanner-introduced tilting) and lightly cleaned (to remove dark spots caused by staple holes, hole punches, and other blemishes caused after initial printing).
    ${ }^{2}$ A two-step process was used. An advanced optimal character recognition computer program (OCR) first created electronic text from the document image. Where the OCR results were inconclusive, staff checked and corrected the text as necessary. Please note that the numbers and text in charts and tables were not reliably recognized by the OCR process and were not checked or corrected by staff.

[^1]:    1. For the reasons noted in the October Greenbook, our forecast does not incorporate the economic implications of a military conflict with Iraq.
[^2]:    2. Examples of potential measures include pulling forward to 2004 increases in the child tax credit and marriage penalty relief that are scheduled for later in the decade. Our forecast has not taken an explicit position on the specifics of the policy actions other than to assume that they increase personal disposable income in January 2004.
[^3]:    4. The partial-expensing incentives, which are scheduled to expire in late 2004, will induce businesses to pull forward investments that would otherwise have been made later. This effect will boost investment spending through the third quarter of 2004 and then depress spending in the fourth quarter of that year and in 2005 as well.
[^4]:    1. For all urban consumers.
    2. Level, except as noted.
    3. Percent change from two quarters earlier; for unemployment rate, change in percentage points.
    4. Percent change from four quarters earlier; for unemployment rate, change in percentage points.
[^5]:    1. Private-industry workers
[^6]:     FY shown separately as off-budget, as classifid under cure corresponding social securty (OASDI) categories. The and shown separately as off-budget, as classified under current law.
     percent. Quarterly figures for change in HEB and FI are not at annual rates. The sign on Change in HEB, as a percent of nominal potential GDP, is reversed. FI is the weighted difference of discretionary changes in federal spending and taxes in chained (1996) dollars, scaled by real federal consumption plus investment. For FI and the change in HEB, negative values indicate aggregate demand restraint.

[^7]:    Note. Quarterly data are at seasonally adjusted annual rates.

    1. Data after 2002:Q3 are staff projections. Changes are measured from end of the preceding period to
    end of period indicated except for annual nominal GDP growth, which is calculated from Q4 to Q4.
    2.6.3 FOF
[^8]:    Note. Data after 2002:Q3 are staff projections. 6. Excludes government-insured mortgage pool securities.
    3. Average debt levels in the period (computed as the average of period-end debt positions)
    divided by disposable personal income. divided by disposable personal income.
    2.6.4 FOF

[^9]:    1. Exports are also affected by the port closures, but as exports that pass through West Coast ports are only about one-fifth the value of imports, the effects are much smaller.
    2. The port closures likely have had a significant effect on the monthly pattern of imports and exports during the fourth quarter. West Coast ports were closed for eight days in October. We have assumed that imports in October were depressed about $\$ 1.7$ billion at a monthly rate, about 10 percent of the total amount of imports that normally pass through the affected ports, and that these delayed imports were fully made up in November. A similar but much smaller adjustment was made for exports. The ports were also closed for the last three days of the third quarter, but no discernable effect was apparent in the trade data for September. Trade data for October will be released December 18.
[^10]:    1. Foreign GDP aggregates calculated using shares of U.S. exports. Harmonized data for euro area from Eurostat.
    2. Foreign CPI aggregates calculated using shares of U.S. non-oil imports.
[^11]:    1. Merchandise exports excluding computers, and semiconductors.
[^12]:    1. Merchandise exports excluding computers, and semiconductors.
    2. Merchandise exports excluding computers, and semiconductors.
    3. Merchandise imports excluding oil, computers, and semiconductors.
[^13]:    1. Merchandise exports excluding computers, and semiconductors.
    2. Merchandise imports excluding oil, computers, and semiconductors.
