Analysis by Sector Reveals Changes in U.S. Flow of Funds After September 11, 2001

by Susumu Doihara
Economic Research Group
doihara@nli-research.co.jp

Introduction

In 2001, the U.S. economy was experiencing its first recession in a decade when the September 11 terrorist attack occurred. The combination of these two left a big impression not only on the business cycle but the flow of funds. While abnormalities in foreign fund flows were noted after the attack, large changes also occurred in domestic fund flows in the personal sector and government sector.

Two years later, the trends we are seeing now appear to be an extension of changes resulting from the terrorist attack. This paper examines these recent trends in the flow of funds in the U.S., focusing on the period before and after the terrorist attack.

The National Bureau of Economic Research (NBER) has officially dated the recession as lasting from March 2001 to November 2001. The flow of funds data reveals large changes from the third quarter to fourth quarter of 2001, confirming that the terrorist attack in September exacerbated the recession. However, if we take this as a turning point and allow for an adjustment period of approximately one year, the flow of funds appears to have largely stabilized entering 2003. The fact that equity investment by households grew for the first time in a decade may be an anomaly, but the household savings rate, which at one point threatened to turn negative, regained stability at nearly 4%. Amid a persistent funds deficit, the household sector briefly posted a surplus in the fourth quarter of 2002.

In the business sector (nonfarm, nonfinancial corporate business), amid sluggish capital investment, internal reserves have grown yearly and can now largely finance capital investment. Meanwhile, with the federal government's fiscal balance turning to deficit after the terrorist attack, and state and local governments following suite, the government sector's funds deficit has been widening.

The rest of the world has assumed the role of financing the funds deficit of the U.S. The foreign sector's net investment (capital inflow to the U.S.), which plunged below the current account deficit following the terrorist attack, has exceeded it in the last three quarters, and appears to have stabilized. However, the rapidly deteriorating net international investment position of the U.S. warrants caution because of its destabilizing effect in the long term.

Figure 1　U.S. Flow of Funds Table (2002)

(Unit: $ billion)

Households and NPOs		Nonfarm Nonfinancial Corporate Business	
Gross saving & capital transfers	1,306	Total internal funds + Inventory valuation adjustment	800
Personal saving (Disposable income − outlays)	291	Profits (after tax & dividends)	− 89
Consumption of fixed capital	801	Capital consumption allowance	818
Other	215	Other	71
Gross investment	1,294	Gross investment	779
Capital expenditures	1,334	Capital expenditures	803
Net financial investment	− 40	Net financial investment	− 24
Net acquisition of financial assets	687	Net acquisition of financial assets	165
Net increase in liabilities	727	Net increase in liabilities	189
Discrepancy (Gross saving − Gross investment)	12	Discrepancy (Gross saving − Gross investment)	21
Government		**Rest of the world**	
Gross saving & capital transfers	12	Gross saving & capital transfers	488
Current deficit	− 252	Foreign income from U.S.	1,782
Consumption of fixed capital	230	Foreign outlays to U.S.	1,294
Other	34	Other	0
Gross investment	9	Gross investment	475
Fixed investment	352		
Net financial investment	− 343	Net financial investment	475
Net acquisition of financial assets	127	Net acquisition of financial assets	603
Net increase in liabilities	470	Net increase in liabilities	129
Discrepancy (Gross saving − Gross investment)	4	Discrepancy (Gross saving − Gross investment)	13

Note: The U.S. flow of funds table shows trends in the saving and investment balance and net financial investment (increase in financial assets minus increase in liabilities, corresponding to fund surplus or deficit). For 2002, the table shows a deficit in the household sector and surplus in the rest of the world sector, which is markedly different from Japan's situation. Although the saving and investment balance should by definition equal zero for each period, differences in the timing and recognition of data cause discrepancies. The data format is designed with an emphasis on time series analysis by sector and market.
Source: FRB, *Flow of Funds Accounts of the United States: Flows and Outstandings Second Quarter 2003*, June 5, 2003.

1.　Trends in Flow of Funds by Sector

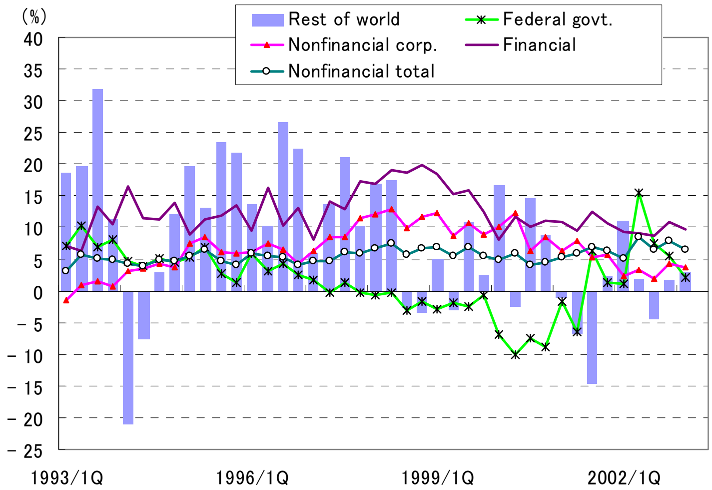
1.　Financing by Sector

(1) Debt Growth by Sector

Debt growth by sector reflects net financing. Over the past decade, debt growth in nonfinancial sectors (including government, and excluding the financial sector) has been relatively stable, hovering around 5%. However, the debt growth rate has surged after the recession.

Sharp fluctuations are seen in each sector. In the business sector, debt growth exceeded 10% (sequential change at annual rate) in the late 1990s against the backdrop of the strong economy, plunging when the recession started. After the recession, debt growth shifted to the federal, state and local government sectors because of their deteriorating fiscal balances. Meanwhile, debt growth in the rest of the world, which remained high in the late 1990s, turned negative in 2001.

Figure 2 Debt Growth by Sector

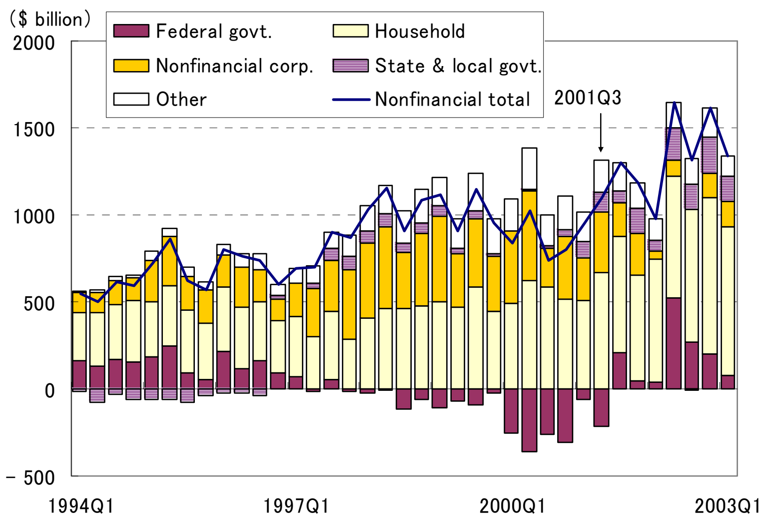


Note: Expressed as sequential change at an annualized rate.

(2) Financing in domestic nonfinancial sectors

Data on financing clearly shows that financing in nonfinancial sectors surged after the recession. In particular, financing increased in the household sector both during and after the recession, doubling in five years from $330 billion in 1997 to $770 billion in 2002, and comprising over half of the financing of domestic nonfinancial sectors. Debt growth of the federal government is a concern. In addition, with the deteriorating condition of state and local government finances, the government sector has recently overtaken the business sector as the third largest debtor.

Figure 3 Borrowing in Domestic Nonfinancial Sectors



Note: Excludes equities. Quarterly data is expressed as seasonally adjusted annual rate.

(3) Outstanding debt by sector

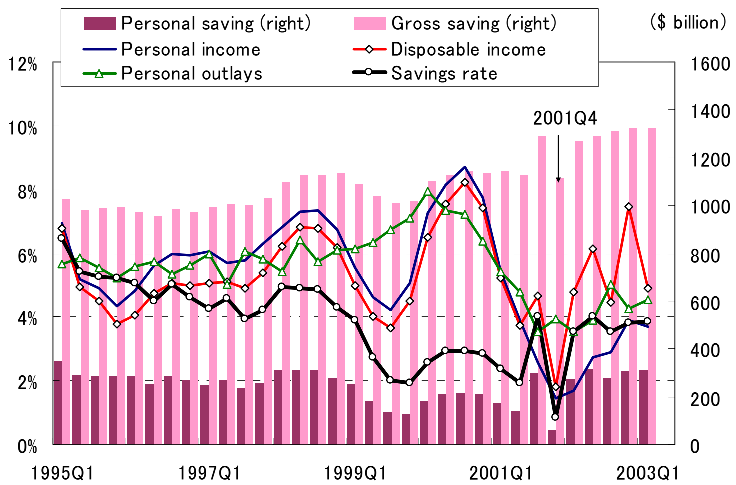
As a result of the financing described above, the total outstanding debt of domestic nonfinancial sectors has increased 1.8-fold in the last decade. The household sector leads with a 41% share of the total in the first quarter of 2003, up 7% from 34% a decade ago. The business sector's share rose from 21% to 24% in the same period. Meanwhile, the federal government, whose balance at one point turned to surplus, decreased its share from 27% to 18%. However, this share is predicted to resume growing due to the expanding fiscal deficit.

2. Trends in the Household Sector

(1) Gross saving

The terrorist attack made a large impact on the household sector. Due to the recession, personal income decreased sharply in 2001, but bottomed out in the fourth quarter and rebounded. Household saving, which spiked in the third quarter of 2001 due to tax rebates, dipped in the fourth quarter but then recovered quickly, and has stabilized.

Figure 4 Gross Saving of the Household Sector



(2) Financial investment of households

In the financial investment of households, both assets and liabilities fell sharply at the time of the terrorist attack, but subsequently recovered. While a negative net financial investment generally implies excessive financing by the household sector, it can also occur because liabilities tend to be more stable than financial assets, which are affected by market fluctuations. Also, in many cases, a negative net financial investment occurs when financial assets decrease due to the sale of equities.

Looking at the composition of financial assets, whereas term deposits/MMFs and mutual funds/pensions tend to be relatively stable, asset fluctuations are amplified by changes in holdings of marketable securities such as stocks and bonds. In particular, households have consistently been net sellers of equity, and the increase in equity sales in 2000 when the stock market peaked caused net financial investment to turn negative in the fourth quarter of 2000. Equity sales temporarily increased after the terrorist attack, but declined after the stock market bottomed out. In the latest available data for the first quarter of 2003, net equity investment increased for the first time since the second quarter of 1993, one decade ago (see Figure 18 for the composition of equity sales by sector).

Figure 5　Balance of Funds of Households

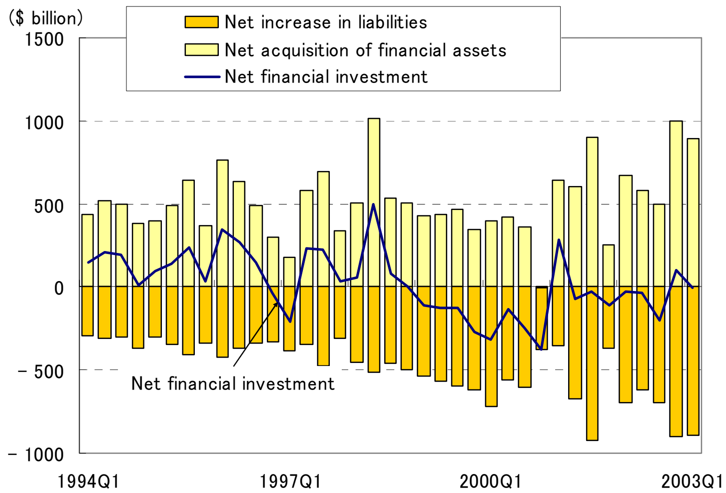
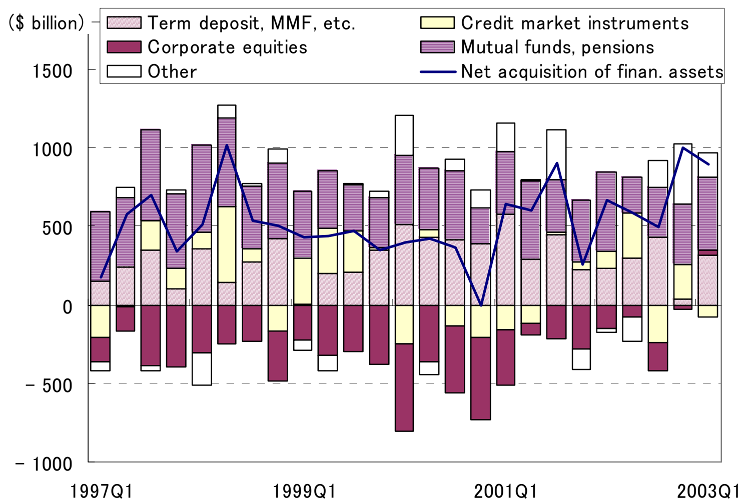
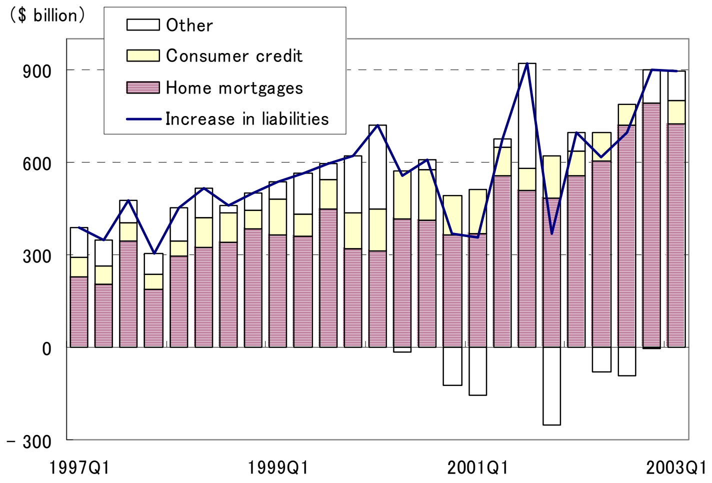


Figure 6　Financial Assets of Households



With regard to liabilities, home mortgages have been predominant. Due to the recent housing boom triggered by lower interest rates, home mortgages have increased sharply. Consumer credit comprises a small part of the net increase due to the considerable size of repayments.

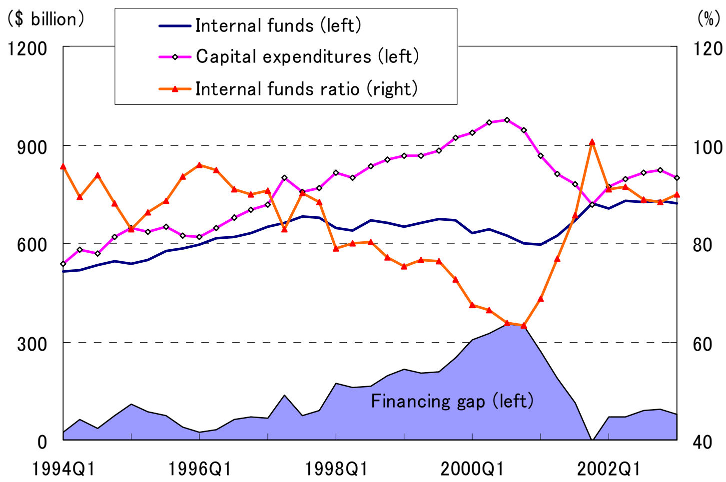
Figure 7　Financing by Households



3. Trends in the Nonfarm Nonfinancial Business Sector

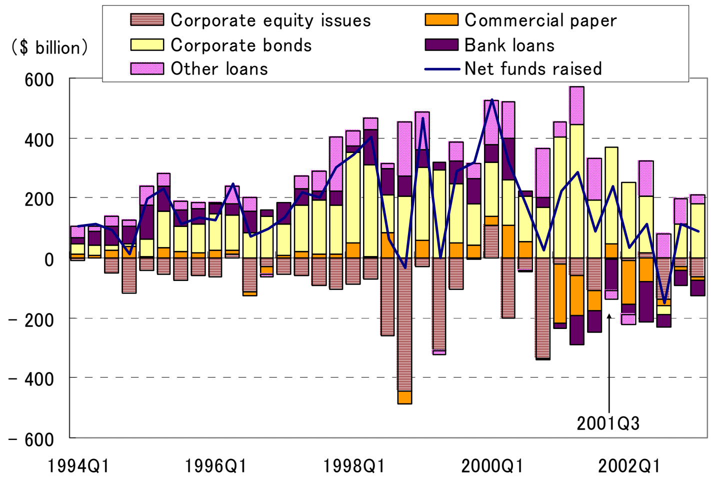
A key factor in business financing is the condition of internal funds (retained earnings + capital consumption allowance, excluding foreign earnings retained abroad). The financing gap, defined as capital expenditures (fixed investment + inventory investment) minus internal funds, began expanding as capital expenditures grew even as internal funds began to weaken in 1997. After the recession and terrorist attack, capital expenditures plunged, while internal funds improved, making the gap temporarily disappear in the fourth quarter of 2001. Internal funds have remained strong since then, and the internal funds ratio (ratio to capital expenditures) has stayed at around 90%.

Figure 8　Financing Gap



The financing gap of the business sector must be augmented by external financing. As seen in Figure 9, despite large quarterly fluctuations, net credit market financing coincides with fluctuations in the financing gap—financing peaked in the first quarter of 2000 and then trended downward.

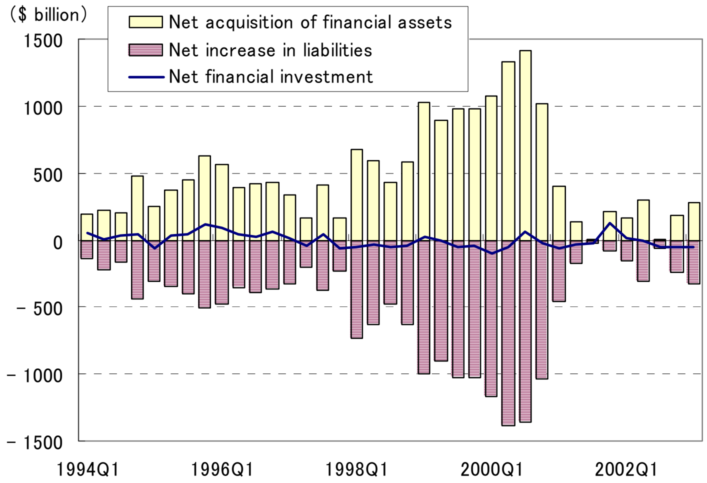
Figure 9 Net Funds Raised in Credit Markets by Nonfinancial Corporate Sector



By financing method, the long-term trend has been a decline in equity financing, and increase in bond financing. In addition, a characteristic pattern after the recession has been the slowing rate of decline in equity financing, and decline in short-term financing such as CP and bank loans. Bank loans, which had grown over the years, turned negative in the first quarter of 2001, and CP has followed the same pattern. Thus the recent net increase in financing has been limited to increases in bonds and non-bank loans.

In the net financial investment of the business sector, since net acquisition of financial assets is balanced with the net increase in liabilities, fluctuations in net financial investment are small. In addition, regarding outstanding liabilities (excluding equities), which consist mainly of corporate bonds and loans, the composition of corporate bonds has grown in the past decade from 47% to 55%, while that of loans has decreased from 44% to 39%. Due to the declining ratio of short-term bank loans, the ratio of long-term financing has risen from 60% to 69%.

Figure 10 Net Financial Investment of Nonfinancial Corporate Sector



(4) Government Sector Financing

The federal government's budget deficits are financed by borrowing in financial markets, mainly in the form of treasury bonds. The quarterly budget balance turned positive in 1998, but reverted to deficit in the third quarter of 2001 due to the recession and tax cuts. Following this, receipts growth has faltered due to the economy's delayed recovery, which combined with the large tax cuts in 2003, will cause the deficit to continue expanding in the near future. Receipts are also dropping significantly at the state and local government level.

Figure 11 Total Receipts & Expenditures of the Federal Government

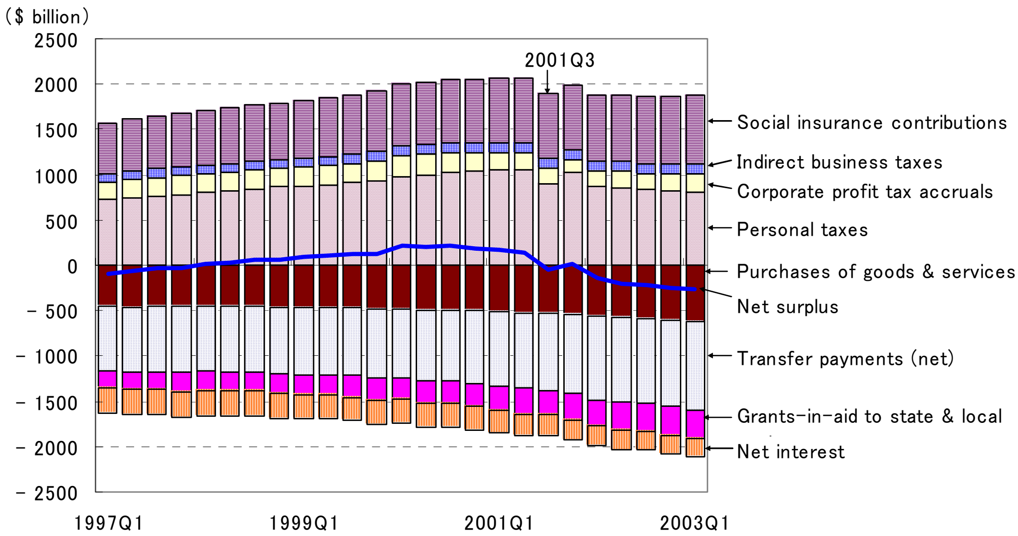
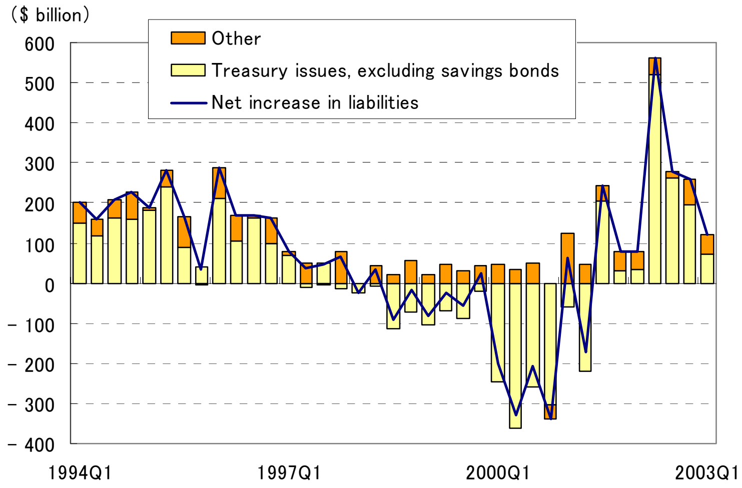


Figure 12 Financing by the Federal Government

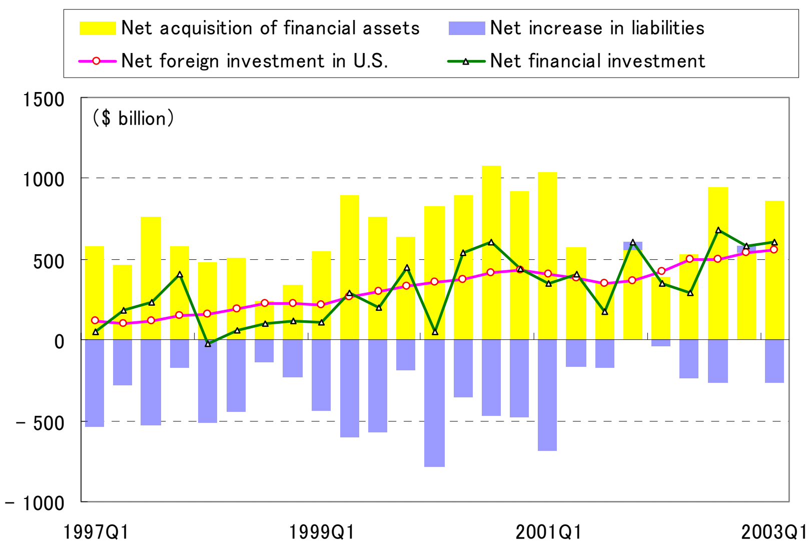


(5) Trends in the Foreign Sector

1. Flow of funds

In the flow of funds of the foreign (rest of the world) sector, the U.S. current account balance is expressed as gross saving, while the financial account balance of U.S. international transactions (roughly equivalent to the capital and financial accounts for Japan) is expressed as net financial investment. While these two categories should balance out, discrepancies can arise because, for instance, net financial investment fluctuates significantly due to market conditions while the current account deficit remains relatively stable. As Figure 13 shows, while fluctuations increased following the terrorist attack, net financial investment has stabilized at above the current account balance in the last three quarters.

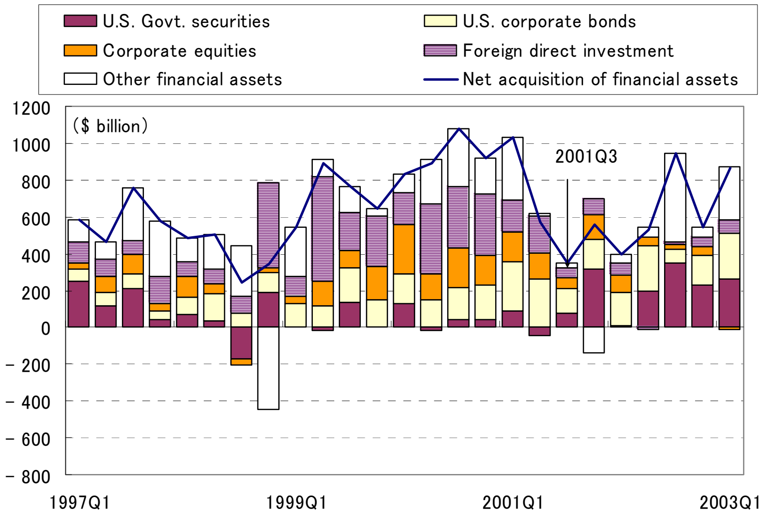
Figure 13 Flow of Funds in the Foreign Sector



2. Net financial investment

Growth of foreign investment into the U.S. rose in the late 1990s on the strength of the U.S. economy and equity market, but plunged after the terrorist attack. Although investment growth recovered as the current account deficit expanded, the composition of investment has shifted significantly from the previous emphasis on direct investment, equities and corporate bonds in 1999 and 2000, to government securities and corporate bonds after the terrorist attack, with equities and direct investment decreasing.

Figure 14 Net Acquisition of Financial Assets of the Foreign Sector

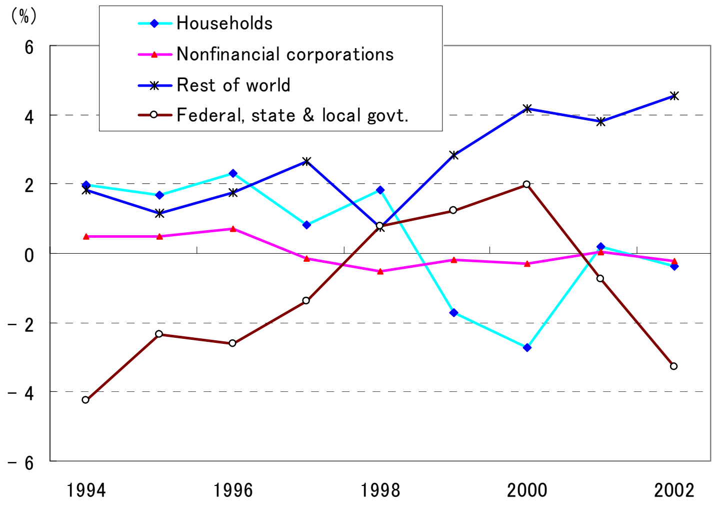


Liabilities of the foreign sector, which consist of financing in the U.S. by nonresidents and foreign investment by residents, dropped sharply for both categories when the economy entered recession. This was largely because a major component, foreign bank deposits, began contracting due in part to the dollar's decline. Meanwhile, direct foreign investment by the U.S. has remained relatively stable after the terrorist attack due to extensive diversification, including M&A activity in Europe, and low-wage manufacturing and mining development operations in Latin America and Asia.

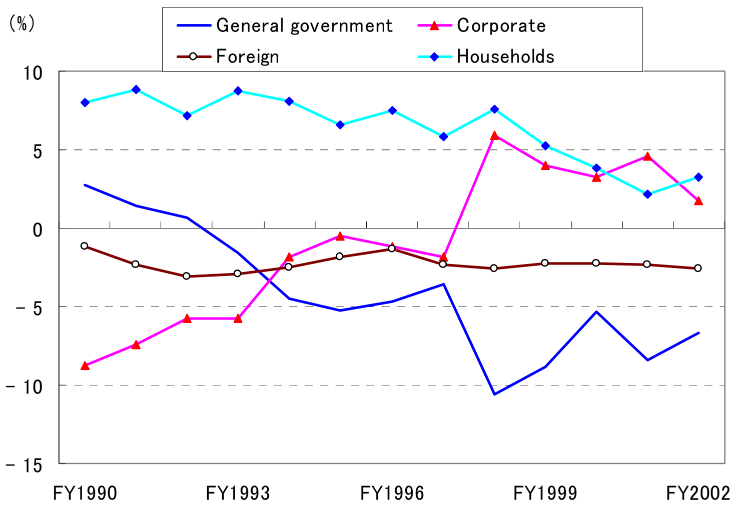
(6) Net Financial Investment Trends by Sector

With regard to net financial investment of nonfinancial sectors, the foreign sector has shown a consistent surplus in recent years, which contrasts sharply with the situation in Japan. The foreign sector's surplus offsets deficits in other sectors, particularly the government sector's growing fiscal deficit since 2001.

Figure 15　Ratio of Net Financial Investment to Nominal GDP (U.S., by sector)



For reference: Ratio of Net Surplus to Nominal GDP (Japan)



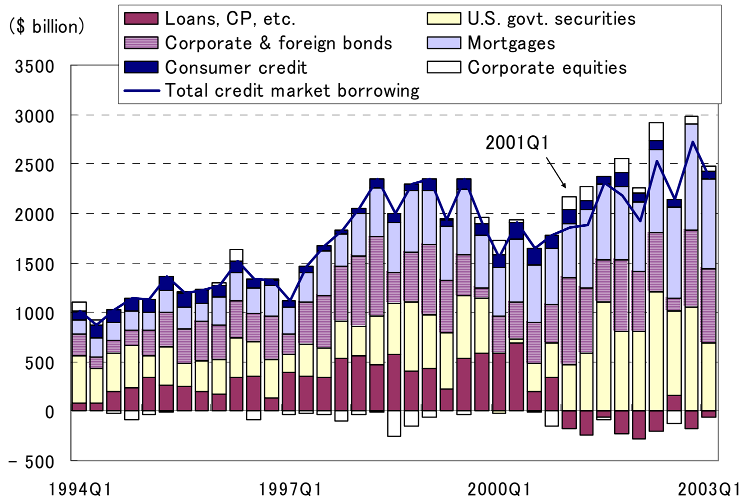
2.　Financial Market Trends

(1)　Credit Market

1. Financing

Total borrowing in the credit market peaked in the late 1990s, and bottomed out in 2000 before resuming growth. While mortgages, corporate and foreign bonds, and government securities still form the bulk of the market, growth in bank loans and commercial paper turned negative in 2001, while government securities surged as the federal government began running deficits.

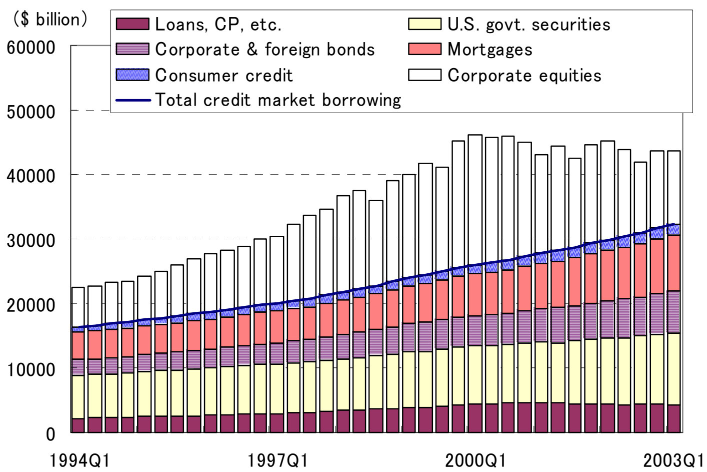
Figure 16 Credit Market Borrowing, by Instrument



2. Debt outstanding

As a result of growth in credit market borrowing, outstanding debt (excluding equities) has roughly doubled in the last decade. Government securities (including state and local governments)—the largest component of debt—declined from a 41% share ten years ago to 34% due to reduced bond issuance in the late 1990s. Mortgages, the next largest component, still comprise roughly the same share of 27% from a decade ago. Short-term instruments such as bank loans and commercial paper, and long-term instruments such as corporate bonds and foreign bonds converged in market share at 17% and 18% respectively in 2000, but as interest rates subsequently dropped, the gap widened to 13% and 20% respectively.

Figure 17 Credit Market Debt Outstanding, by Instrument



With regard to equity financing, despite contractions caused by takeovers and stock repurchases, the surging equity market had pushed up the value of outstanding shares until

2000. However, due to the equity market's subsequent decline, growth in the overall size of credit markets has been sluggish.

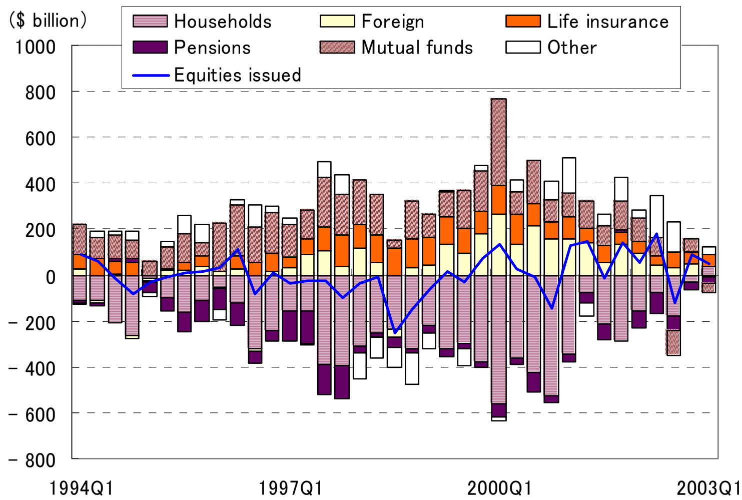
(2) Equity Market

In the late 1990s, the Dow Jones Industrial index reached 5,000 in 1995 and continued to climb to 10,000 in 1999 before peaked out in 2000.

During this time, households have consistently been net sellers. Indeed, over the past decade, households and pension funds have been the principal sellers, while mutual funds, life insurers, and the foreign sector have been buyers. As a result, equity ownership by households has declined over the past decade from 50% to 37% of the total.

However, this decline is mitigated by the fact that households own 57% of equities including indirect holdings through pensions, mutual funds, and life insurance policies.

Figure 18 Net Issuance of Equities, and Transactions by Sector



(3) Bond Market

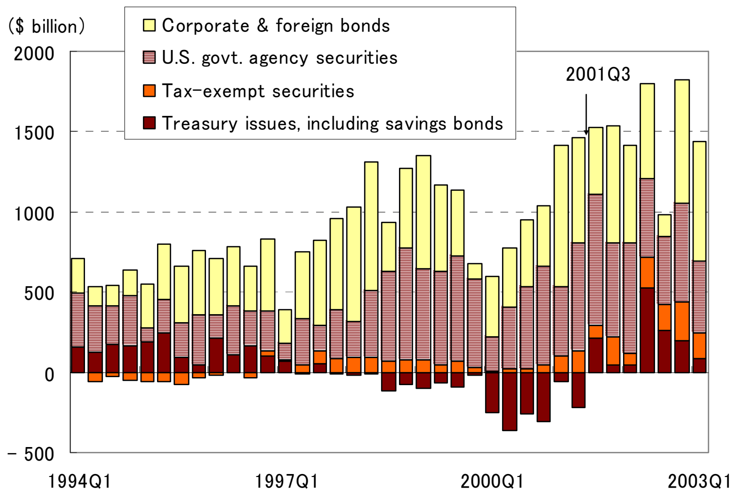
Bond issuance, which expanded in the late 1990s, has grown almost threefold on a net basis from a decade ago. The largest issuers have been government agencies and corporations. Government agency issues have grown against the backdrop of the expanding housing market, while corporate issues have compensated for the decrease in equity financing and bank loans.

However, with the emergence of fiscal deficits, treasury securities began to show a net increase from the third quarter of 2001, and have continued to grow. While not large in scale, bond issuance by state and local governments has been increasing amid their worsening fiscal condition since the recession.

Outstanding issues in the main categories of treasury securities, government agency securities, tax-exempt state and local securities, and corporate and foreign bonds have remained fairly constant over the past decade at $17.5 trillion. By category, corporate and foreign bonds comprise the largest share at 37%, followed by government agency securities at 32%. Treasury securities, which used to be predominant, have contracted to 21%.

Regarding ownership, the foreign sector has doubled its ownership ratio of treasury securities. This is attributed to the persistently expanding current account deficit, and the growing preference for treasury securities due to their unsurpassed market transparency. Government agency securities increased sharply as a substitute for treasury issues when the latter peaked, and are widely held by financial institutions. The foreign sector is increasing its ownership of corporate bond issues, which are a rapidly growing category.

Figure 19 Bond Issuance by Category



3. Future Problems Indicated by the Flow of Funds

(1) Twin Deficits

As seen above, major changes occurred in the flow of funds before and after the recession, particularly when examined by sector. The terrorist attack, which coincided with the recession, amplified the economy's cyclical fluctuations and altered the flow of funds. While the stock market peaked in mid 2000 and the recession lasted from the first to third quarter of 2001, changes in the flow of funds became particularly pronounced right after the terrorist attack in the third and fourth quarters of 2001. Some sectors such as households behaved normally, but others unmistakably encountered a turning point, such as the federal government when it experienced a sudden deficit.

In the late 1990s, the strong economy boosted tax revenue and improved fiscal balances. The present fiscal deficit is attributed to the weak economy and decline in tax revenue, combined with a large-scale tax cut. The only way to erase the deficit is to achieve a sustained recovery. Meanwhile, state and local government finances are deteriorating noticeably. But the concern now is that if the delayed recovery in capital investment occurs, the demand for funds will push interest rates upward. Given the expanding current account deficit, chances are growing that the twin deficit dilemma will be revisited.

(2) Negative Net International Investment Position

Having expanded through the 1990s, the U.S. current account deficit reached 4.8% of nominal GDP in 2002. Absent a massive exchange rate intervention, this trend should continue, causing the negative net international investment position to grow (increase in net liabilities as the current account deficit accumulates). The net position has reached approximately 25% of nominal GDP at market value, and if the present pace continues, will approach 50% in five years.

The dollar is the world's key currency. While no precedent exists, the U.S. cannot continue to grow net liabilities indefinitely. But with the U.S. maintaining a strong dollar, and its trading partners shunning currency readjustments, significant exchange rate adjustments will be postponed for the time being. However, we must keep in mind that the risk of exchange rate adjustments continues to grow every year.

Figure 20 Net International Investment Position of the U.S.