

# Structural Analysis of Over-Consumption in the U.S.

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*Personal consumption expenditures in the U.S. have been criticized as being excessive relative to disposable personal income. Over-consumption, along with the large fiscal deficit, have fueled America's surging current account deficit, causing global imbalances. To reduce the current account deficit, spending in these sectors must be reined in. We analyze the structure of personal consumption to identify spending patterns and explain why consumption behavior has resulted in a negative saving rate.*

## 1. Introduction

The bulging current account deficit of the U.S. has been criticized for causing global imbalances that could potentially destabilize the global economy. In macroeconomic terms, the growing current account deficit stems from insufficient domestic saving, which can be traced to strong consumption spending and the large fiscal deficit. To reduce the current account deficit, spending in both government and household sectors clearly must be reduced. In this light, attention has focused on the problem of over-consumption.

One troubling sign is that in 2005 the saving rate turned negative for the first time in 72 years. We analyze the structure of consumption to see why consumption behavior has led to a negative saving rate, and what types of expenditures are expanding.

## 2. Background of Over-Consumption

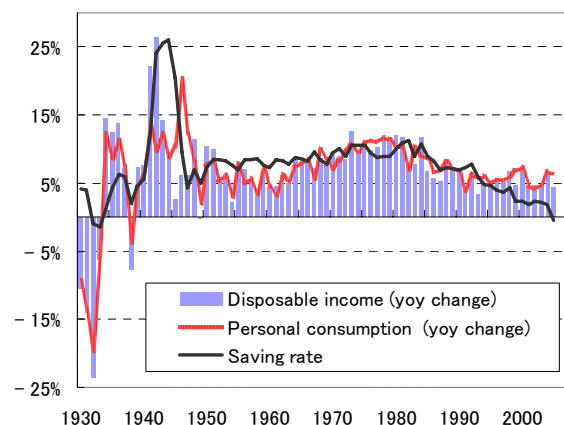
### (1) Saving Rate Dips to 72-Year Low

The last time that the personal saving rate turned negative on an annual basis was in the Great Depression year of 1933, 72 years ago. The personal saving rate is calculated as personal

disposable income less personal outlays, divided by personal disposable income. Consumption is regarded as excessive because it comprises 96% of personal outlays.

However, a negative saving rate does not necessarily imply that consumption is excessive. In the Great Depression, the saving rate turned negative not because of rising consumption, but because income plummeted so quickly that households could not curb spending fast enough. Today, the saving rate is negative because consumption is actually outpacing income growth—thus triggering concerns of excess.

**Exhibit 1 Lowest Saving Rate in 72 Years**

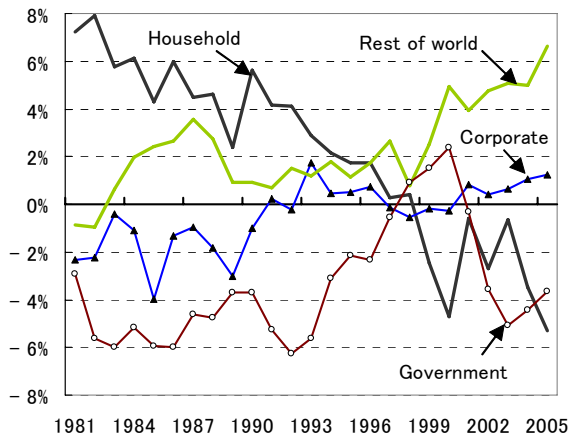


Source: U.S. Department of Commerce

## (2) Households Become the Largest Deficit Sector

By sector, financial balances changed dramatically in the late 1990s. The so-called “new economy” expanded at a heady 4% annual growth rate without triggering inflation. As unemployment rates fell and consumption strengthened, the traditional surplus posted by the household sector turned to deficit in 1999. Meanwhile the government sector achieved a surplus owing to revenue growth, but returned to deficit in 2001 under the Bush administration. Thus the household deficit has persisted longer than the government deficit. Both deficits have been financed by a surplus in the corporate and rest of the world sectors. In 2005, households surpassed the government to become the largest deficit sector. Thus the global imbalances caused by the U.S. current account deficit are being absorbed by household and government sectors.

**Exhibit 2 Household Deficit Surpasses Government Deficit**



Note: Shows financial balance by sector as share of nominal GDP  
Source: FRB

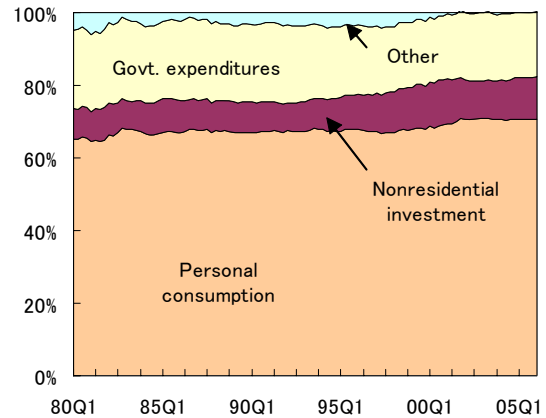
## 3. Status of Consumption

### (1) Consumption Comprises 70% of GDP

In recent decades, the share of consumption expenditures in real GDP has steadily grown from 65.4% in 1980 to 70.6% in 2005. While this growing share by itself does not constitute over-consumption, fluctuations in consumption

clearly have a growing impact on the economy. As for other demand categories, nonresidential investment is growing, while government expenditures are decreasing.

**Exhibit 3 Composition of Real GDP**



Source: U.S. Department of Commerce

### (2) Characteristics of Consumption

#### 1. 2004 consumer expenditure data

According to the Department of Labor’s *Consumer Expenditures Annual Report (2004)*, consumption expenditures of the average household were led by shelter (18.4%), followed by transportation (18.0%), food (14.4%), and other housing expenditures (13.6%). The large transportation expenditure relative to Japan’s is explained by vehicle related expenses (Exhibit 4).

For all quintiles of income before taxes, either housing or transportation ranks first, with food or other housing expenditures filling out the top four. Thus consumption patterns appear not to differ significantly by income. On the other hand, while food and housing rank high in lower quintiles, personal insurance and pensions grow in importance as income rises. In the highest quintile, insurance and pensions rank third, comprising as much as 15.1% of consumption. Moreover, the highest quintile accounts for 52.4% of total insurance and pension expenditures by all households.

## Exhibit 4 Consumption Expenditure by Quintile of Income (2004)

	All consumer units	Composition in each quintile of income (before taxes; column = 100%)					Distribution across quintiles of income (row = 100%)				
		Lowest 20%	Second 20%	Third 20%	Fourth 20%	Highest 20%	Lowest 20%	Second 20%	Third 20%	Fourth 20%	Highest 20%
Average annual expenditures	\$43,395	\$17,837	\$27,410	\$36,980	\$50,974	\$83,710	8.2%	12.6%	17.0%	23.5%	38.6%
Food	14.4%	17.7%	16.1%	15.6%	14.4%	12.6%	10.3%	14.3%	18.6%	23.4%	33.4%
Housing—shelter	18.4%	22.1%	20.0%	18.7%	17.7%	17.5%	9.7%	13.7%	17.4%	22.6%	36.6%
Housing—other (*1)	13.6%	15.8%	14.7%	14.2%	13.2%	12.9%	9.7%	13.7%	17.5%	22.6%	36.6%
Apparel and services	4.2%	4.7%	3.9%	4.0%	4.0%	4.4%	9.2%	11.7%	16.3%	22.6%	40.3%
Transportation (*2)	18.0%	14.7%	18.3%	18.5%	19.5%	17.4%	6.7%	12.8%	17.5%	25.5%	37.4%
Healthcare	5.9%	8.0%	7.8%	6.8%	5.8%	4.6%	11.0%	16.6%	19.6%	23.1%	29.6%
Entertainment	5.1%	4.3%	5.0%	4.7%	5.4%	5.4%	6.9%	12.4%	15.6%	24.7%	40.5%
Education	2.1%	3.6%	1.1%	1.1%	1.6%	2.8%	14.2%	6.9%	8.8%	17.9%	52.2%
Cash contributions	3.2%	1.9%	2.9%	3.0%	2.8%	4.0%	4.9%	11.2%	15.7%	20.2%	48.0%
Personal insur. & pensions	11.1%	2.4%	5.7%	9.1%	12.0%	15.1%	1.8%	6.5%	14.0%	25.3%	52.4%
Other	3.9%	4.8%	4.6%	4.3%	3.7%	3.4%	—	—	—	—	—
Annual income before taxes	\$54,453	\$9,168	\$24,102	\$41,614	\$65,100	\$132,158	3.4%	8.9%	15.3%	23.9%	48.6%
Wages	\$43,192	\$3,459	\$14,647	\$31,877	\$55,014	\$110,857	1.6%	6.8%	14.8%	25.5%	51.4%
Social security, pension	\$5,848	\$4,353	\$7,093	\$6,629	\$5,343	\$5,821	14.9%	24.3%	22.7%	18.3%	19.9%
Interest & dividend	\$1,261	\$135	\$499	\$832	\$1,018	\$3,817	2.1%	7.9%	13.2%	16.2%	60.6%
Other	\$4,152	\$1,221	\$1,863	\$2,276	\$3,725	\$11,663	—	—	—	—	—
Taxes	\$2,166	-\$53	\$351	\$812	\$2,253	\$7,460	-0.5%	3.2%	7.5%	20.8%	68.9%
Annual income after taxes (a)	\$52,287	\$9,220	\$23,751	\$40,802	\$62,847	\$124,698	3.5%	9.1%	15.6%	24.0%	47.7%
Annual consumption (b)	\$43,395	\$17,837	\$27,410	\$36,980	\$50,974	\$83,710					
<b>Saving rate (= 1 - b/a, %)</b>	<b>17.0%</b>	<b>-93.5%</b>	<b>-15.4%</b>	<b>9.4%</b>	<b>18.9%</b>	<b>32.9%</b>					
Persons in consumer unit	2.5	1.7	2.2	2.6	2.9	3.2					
Earners in consumer unit	1.3	0.5	0.9	1.4	1.7	2.1					
Percent homeowner (%)	68.0%	41.0%	57.0%	68.0%	80.0%	91.0%					
Vehicle ownership ratio (%)	88.0%	65.0%	87.0%	94.0%	97.0%	98.0%					
Vehicles	1.9	0.9	1.5	2.0	2.4	2.8					

Notes: (\*1) Includes utilities, fuels, public services, household operations, supplies, furnishings and equipment. (\*2) Includes vehicle purchases, gasoline and motor oil, other vehicle expenses, and public transportation. (\*3) Includes life and other personal insurance, pensions and social security.  
Source: U.S. Department of Labor, *Consumer Expenditures in 2004*.

However, the saving rate is negative for the lowest two quintiles. This is because many low-income households are retired households who live on savings (the lowest quintile has an average of 1.7 persons per household but only 0.5 income earners). Nonetheless, high saving rates among the other quintiles boost the overall saving rate into positive territory. Thus a condition of over-consumption is not evident from household survey data.

### 2. NIPA tables

The negative personal saving rate comes from the NIPA tables (National Income and Product Accounts) compiled by the Department of Commerce as the basis for GDP data. In 2004, the largest expenditure category was health care at 20.4% (Exhibit 5). This share has roughly doubled from 11.9% in 1980, when the saving rate exceeded 10% and health care ranked fifth. In that year, food ranked first (21.4%), followed

by housing (14.6%), transportation (13.6%), and household operation (13.3%). A breakdown of health care, including long-term care and health insurance premiums, appears in Exhibit 6.

In 2004, health care was followed by housing and food and tobacco (both at 14.9%). Compared to 1980, housing has not changed much from its 14.6% share, while food and tobacco has plummeted from 21.4%. Thus the growth in health care spending appears to derive mainly from cutbacks in food spending.

In nominal terms, health care spending overtook food as the top category in 1992 and has outpaced other categories, growing by 8.0 times since 1980, 2.6 times since 1990, and 1.4 times since 2000.

In real terms (2000 prices), health care again ranked first (19.4%), followed by food and tobacco

## Exhibit 5 Personal Consumption Expenditures by Type of Expenditure (nominal and real composition)

	(percent)						(multiple)			(percent)				(multiple)	
	Nominal composition						Growth since:			Real composition				Growth since:	
	1980	1985	1990	1995	2000	2004	1980	1990	2000	1990	1995	2000	2004	1990	2000
Total	100.0	100.0	100.0	100.0	100.0	100.0	4.7	2.1	1.22	100.0	100.0	100.0	100.0	1.6	1.13
Food and tobacco	21.4	18.3	17.7	15.9	14.9	14.9	3.2	1.8	1.22	18.2	16.7	14.9	14.5	1.3	1.10
Clothing, accessories, jewelry	7.5	6.9	6.8	6.3	5.9	5.4	3.4	1.7	1.12	5.2	5.5	5.9	6.2	1.9	1.18
Personal care	1.5	1.4	1.5	1.5	1.4	1.3	4.0	1.8	1.10	1.4	1.5	1.4	1.3	1.4	1.06
Housing	14.6	15.2	15.6	15.4	14.9	14.9	4.8	2	1.21	16.8	16.3	14.9	14.2	1.3	1.07
Household operation (*1)	13.3	12.6	11.3	11.1	10.7	10.0	3.5	1.9	1.14	10.2	10.5	10.7	10.5	1.6	1.11
Medical care	11.9	13.8	16.5	18.2	18.1	20.4	8.0	2.6	1.38	19.0	18.9	18.1	19.4	1.6	1.21
Personal business (*2)	5.4	6.5	6.5	7.0	8.0	7.5	6.4	2.4	1.14	6.9	7.1	8.0	7.3	1.7	1.03
Transportation (*3)	13.6	13.9	12.3	11.9	12.7	11.9	4.1	2.1	1.15	12.4	12.0	12.7	12.2	1.6	1.08
Recreation	6.7	7.0	7.6	8.4	8.7	8.6	6.0	2.4	1.20	5.8	7.1	8.7	9.7	2.7	1.26
Education and research	1.9	2.0	2.2	2.3	2.4	2.6	6.3	2.5	1.29	2.6	2.5	2.4	2.3	1.4	1.06
Religious & welfare activities	2.0	2.0	2.3	2.4	2.6	2.7	6.3	2.5	1.27	2.5	2.6	2.6	2.6	1.6	1.13

Notes: (\*1) Includes furnishings, utilities and services. (\*2) Includes life insurance and pension plans. (\*3) Includes auto purchases. Real basis = 2000 prices. Source: U.S. Department of Commerce, *National Income and Product Accounts*.

(14.5%), housing (14.2%), transportation (12.2%), and household operation (10.5%). However, in contrast to the nominal composition, the real composition has not changed significantly since 1990, when health care comprised a 19.0% share, food and tobacco 18.2%, and housing 16.8%. Thus changes in the nominal composition can be attributed to relative changes in the deflator for health care.

While recreation expenditures have grown fastest in real terms, the nominal share growth since 1990 has been average, increasing only 1.0-percentage point compared to 3.9-percentage points for health care. Thus consumption growth in recent years has been led by health care spending.

Since health care expenditures have outpaced disposable income growth and already comprise 20% of personal consumption expenditures, it could be regarded as a source of over-consumption. On the other hand, the nondiscretionary nature of health care spending makes it difficult to characterize as profligate.

### 3. Reconciling the disparity in saving rates

The apparent disparity between the saving rates

### (Reference) Composition of Household Consumption by Purpose in Japan (2004)

	(percent)	
	nominal	real
1. Food and nonalcoholic beverages	15.0	14.7
2. Alcoholic beverages and tobacco	3.3	3.0
3. Clothing and footwear	3.7	3.7
4. Housing, electricity, gas & water (Imputed rent)	24.4 (16.3)	23.9 (16.0)
5. Furnishings, equipment & services	3.8	4.5
6. Health	4.2	4.1
7. Transport	10.5	9.9
8. Communication	3.3	3.4
9. Recreation and culture	11.3	13.5
10. Education	2.2	2.0
11. Restaurants and hotels	7.5	7.2
12. Miscellaneous goods & services	10.7	10.1
	100.0	100.0

Source: Cabinet Office of Japan, *Annual Report on National Accounts*.

derived from consumer expenditure data and NIPA tables warrants an explanation. In the NIPA tables, personal consumption expenditures are imputed from private sector consumption. As a result, the NIPA tables include medical care expenditures of companies (including employees' health insurance premiums). On the other hand, the consumer expenditure data is derived from household surveys. The difference between the two is accentuated by the fact that corporate health insurance programs comprise the bulk of health care expenditures.

Because companies shoulder part of health care expenditures, households do not feel the full impact of rising health care costs. This has raised concerns of a vicious cycle in which health care expenditures could spiral out of control.

While international comparisons are difficult, the contrast with Japan's situation is worth noting. According to GDP data for Japan (*Annual Report on National Accounts*), the share of medical care in household consumption is only 4.2%. Under the national health insurance program, the bulk of health care expenditures are included in government consumption, and amount to 36% of government final consumption expenditure (fiscal 2003). But even if we add this full amount (including outlays for health care administration) to household consumption, medical care still comprises only 14% of household consumption—far less than in the U.S.

## 4. Health Care Issues

### (1) Spiraling Expenditures

The U.S. government predicts that health care expenditures, which have grown from 6% as a ratio to GDP in 1965 to 16% in 2004, will continue rising to 19% in 2014 and 22% in 2025.

Government spending on health care has grown due to the expanded scope of Medicare (federal health insurance program for the aged and disabled) and Medicaid (federal and state healthcare program for low-income persons). In addition, private health insurance premiums reached \$11,000 per household in 2005, most of which was shouldered by companies. Per capita health care expenditures have also risen, from approximately \$4,500 one decade ago to \$6,500 (2005 prices), or roughly twice the level of other OECD countries.

### (2) Expenditure Breakdown

In the NIPA data for medical care expenditure by expenditure type, hospitals comprised the largest share in 2004 at 32.9%, followed by physician services and drug preparations and sundries. In the most recent five-year period from 2000 to 2004, growth was led by drug preparations and sundries, which grew by 1.5 times, while most other expenditure types including physician services, hospital services, and health insurance grew by 1.4 times. Thus while the respective shares have shifted, growth rates are relatively similar.

**Exhibit 6 Composition of Medical Care Expenditure**

	(percent)				(multiple)		
	Composition (nominal)				Growth to 2004 since:		
	1980	1990	2000	2004	1980	1990	2000
Medical care	100.0	100.0	100.0	100.0	8.0	2.6	1.4
Drug preparations & sundries	10.4	10.3	13.9	15.1	11.6	3.9	1.5
Ophthalmic prod. & orthoped. appl.	1.6	2.2	1.8	1.4	6.7	1.7	1.0
Physicians	20.7	21.8	19.4	19.3	7.4	2.3	1.4
Dentists	6.5	5.1	5.1	4.8	5.8	2.5	1.3
Other professional services	7.0	11.1	13.3	13.1	15.0	3.1	1.4
Hospitals	39.3	35.4	32.5	32.9	6.7	2.5	1.4
Nursing homes	7.9	7.2	7.1	6.3	6.4	2.3	1.2
Health insurance	6.5	6.8	6.9	7.2	8.9	2.8	1.4

Notes: Health insurance includes income loss insurance  
Source: U.S. Department of Commerce

### (3) Contributing Factors

A major contributor to health care costs has been the consolidation of hospitals (900 cases from 1994 to 2000), which has increased the pricing power of surviving hospitals. But in addition to this, price indexes tend to overestimate price growth because improvements in care quality are not adequately reflected.

For example, compared to other OECD countries, physicians' wages in the U.S. are 77% higher,

while waiting times for medical examinations and surgery are shorter. In other words, health care services are higher in quality, but considerably more expensive.

The government has been concerned about rising health care expenditures. The *2006 Economic Report of the President*, from which our data is obtained, analyzes health care expenditures in detail. The report identifies personnel costs and goods costs as key cost drivers.

*Personnel cost*—The quantity of health care demanded has changed little, with physician visits per capita lower than in other OECD countries, and hospital nights per capita declining. On the other hand, hospital staffing levels are twice as high.

*Technological progress*—A major source of spending growth is the adoption of new technologies. Meanwhile, the way that technological advances are adopted makes it difficult for consumers to demand cost reductions. However, it is worth noting that new technologies also contribute to longer life expectancy.

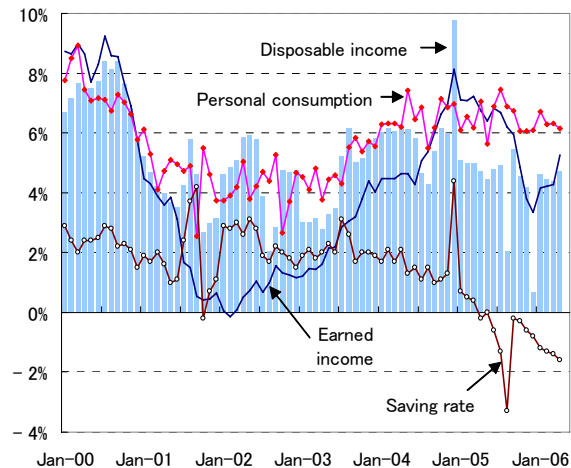
*Health insurance*—Tax incentives have strongly promoted the growth of employer-provided low-deductible health insurance. This type of insurance lacks incentives to contain health care costs on the part of both consumers and health care providers, and encourages the use of expensive procedures and new drugs. In addition, the growing burden of damage awards and legal costs associated with malpractice lawsuits is ultimately passed on to patients through higher premiums and out-of-pocket payments, resulting in substantial cost increases.

## 5. Causes of the Negative Saving Rate

According to monthly data from the Department of Commerce, year-on-year growth of consumption has outpaced disposable income

since early 2005. As a result of the diverging growth rates, the saving rate has been negative since then (Exhibit 7).

**Exhibit 7 Consumption Growth Outpaces Disposable Income**



Note: Shows monthly change from year ago.  
Source: U.S. Department of Commerce

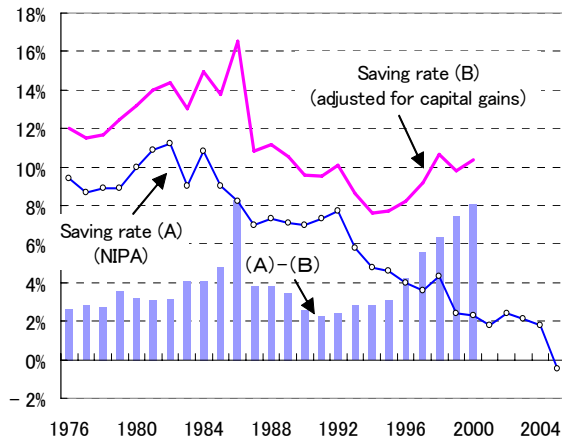
### (1) Capital Gains

A notable feature of the NIPA tables is the absence of data on capital gains. But when households consume out of capital gains, the consumption is recorded and the capital gains tax is deducted from income. Thus capital gains tend to reduce the saving rate. However, complete data on capital gains is not readily available because gains can arise from the sale of financial as well as other assets. To adjust the saving rate for capital gains, below we add the CBO (Congressional Budget Office) estimate of capital gains to disposable income (Exhibit 8).

In the NIPA data, the saving rate peaks in the early 1980s, then begins a decline that accelerates in the 1990s, and finally turns negative in 2005. However, when adjusted for capital gains, the saving rate bottoms out in 1994 and actually starts to rise. By 2000, the difference between the two saving rates expands to 8% (Exhibit 8).



## Exhibit 8 Personal Saving Rate and the Wealth Effect



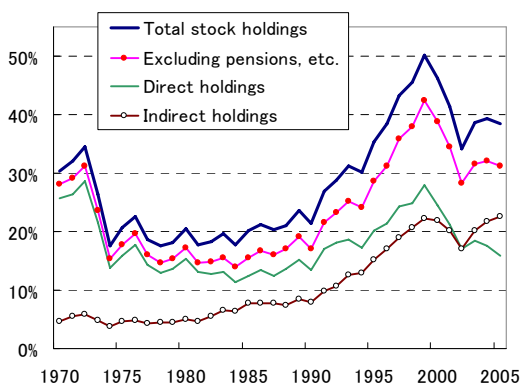
Sources: U.S. Dept. of Commerce; Congressional Budget Office

### (2) Household Stock Holdings and the Wealth Effect

Much of the realized capital gains in the late 1990s resulted from rising stock prices. Stock holdings comprise a large weight in household financial assets. In 1999, when stock prices were about to peak, stock holdings (including indirect holdings) accounted for over half of the financial assets held by households.

Indirect stock holdings (stocks owned through mutual funds, pension funds, etc.) have grown over the years, exceeding direct stock holdings since 2003. Although stocks held in qualified pensions such as 401(k) plans are generally held for the long term, they are also subject to the

## Exhibit 9 Stock Holding-to-Wealth Ratio of Households



Source: FRB, *Flow of Funds Accounts of the United States*.

wealth effect.

The CEA has estimated the effect of wealth gains on the NIPA personal saving rate as follows. The ratio of household net worth to disposable income rose from 440% in 1980 to 550% in the third quarter of 2005. Holding this ratio constant at the 1980 level (so that wealth grows at the same rate as disposable income), and assuming that an additional dollar of wealth causes a \$0.035 permanent increase in consumption, the personal saving rate declines to only 3% in 2005, or about half the actual decline.

The wealth effect varies significantly by income. The ratio of stock holdings in household wealth increases with the income percentile—the ratio for the highest 10% of households is 55%, compared to only 5% for the lowest 20%.

The same pattern appears for mutual funds. For pension accounts, the ratio already exceeds 30% at the 20-39% income percentile and continues upward. In fact, compared to stock holdings, the ratio is at least twice as high except in the highest 10% income percentile.

In view of stock market volatility, the wealth effect may need to be discounted to some extent. But the point is that since realized capital gains are not included in disposable income, the negative saving rate does not necessarily imply that consumption is excessive.

## 6. Growth of Household Liabilities

### (1) Rise in House Prices

In addition to the wealth effect of capital gains, another source of consumption has been the low interest rates in recent years, encouraging households to increase debt.

Debt has increased against the backdrop of rising house prices. Because of the lackluster recovery from the 2001 recession, additional tax cuts were

## Exhibit 10 Asset Holdings by Percentile of Income

(1) Percentage of families holding asset by percentile of income

	Trans- action accounts	Certi- ficates of deposit	Savings bonds	Bonds	Stocks	Pooled invest- ment funds	Retire- ment accounts	Cash value life insurance	Other	
All families (2001)	91.4	15.7	16.7	3.0	21.3	17.7	52.2	28.0	–	
All families (2004)	91.3	12.7	17.6	1.8	20.7	15.0	49.7	24.2	–	
Percentile of income	Less than 20	75.5	5.0	6.2	–	5.1	3.6	10.1	14.0	–
	20–39.9	87.3	12.7	8.8	–	8.2	7.6	30.0	19.2	–
	40–59.9	95.9	11.8	15.4	–	16.3	12.7	53.4	24.2	–
	60–79.9	98.4	14.9	26.6	2.2	28.2	18.6	69.7	29.8	–
	80–89.9	99.1	16.3	32.3	2.8	35.8	26.2	81.9	29.5	–
	90–100	100.0	21.5	29.9	8.8	55.0	39.1	88.5	38.1	–

(2) Median value of holdings for families holding asset (thousands of 2004 dollars)

	Trans- action accounts	Certi- ficates of deposit	Savings bonds	Bonds	Stocks	Pooled invest- ment funds	Retire- ment accounts	Cash value life insurance	Other	
All families (2001)	4.2	16.0	1.1	46.3	21.3	37.3	30.9	10.7	108.7	
All families (2004)	3.8	15.0	1.0	65.0	15.0	40.4	35.2	6.0	72.0	
Percentile of income	Less than 20	0.6	10.0	0.4	–	6.0	15.3	5.0	2.8	11.2
	20–39.9	1.5	14.0	0.6	–	8.0	25.0	10.0	3.9	40.8
	40–59.9	3.0	10.0	0.8	–	12.0	23.0	17.2	5.0	86.6
	60–79.9	6.6	18.0	1.0	80.0	10.0	25.5	32.0	7.0	87.5
	80–89.9	11.0	20.0	0.8	26.7	15.0	33.5	70.0	10.0	163.2
	90–100	28.0	33.0	2.0	160.0	57.0	125.0	182.7	20.0	485.1

Source: FRB

made in 2003, and monetary policy eased to fend off deflation. As a result, interest rates fell to historical lows—the federal funds rate dropped to 1%, and the long-term interest rate dipped below 4%. The low interest rates heated up the housing market, causing house prices to rise.

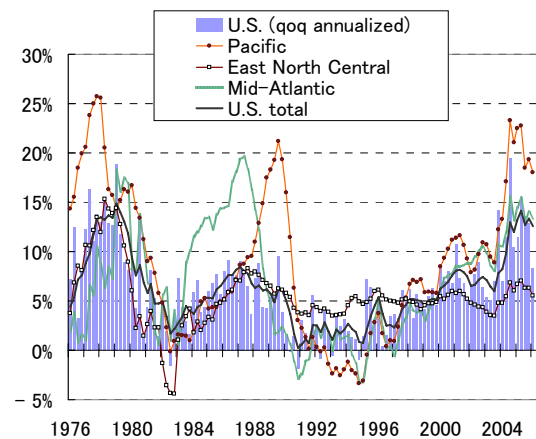
According to the nationwide house price index compiled by the Office of Federal Housing Enterprise Oversight, the annualized quarter-on-quarter growth rate of house prices exceeded 10% from Q2 2004 onward, dipping below that level for the first time in two years to 8.4% in 1Q 2006.

### (2) Growth of Household Debt

Lower mortgage rates, by stimulating demand for home purchases and mortgage refinancing,

have reduced debt service by a wide margin. In addition, when many households took advantage of rising home equity values to refinance

### Exhibit 11 House Price Index



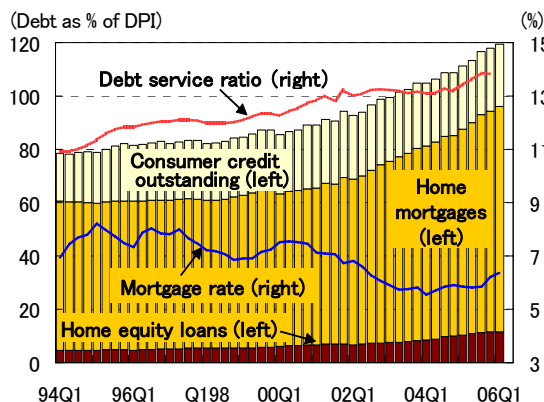
Note: Year-on-year change unless otherwise indicated.  
Source: OFHEO



mortgages or obtain home equity loans, they obtained large amounts of cash. This surge of liquidity helped to sustain strong consumption growth following the recession despite the decline of employment and sluggish growth of disposable personal income.

As household debt grew, the debt-to-disposable income ratio expanded by 28-percentage points, from 91-percentage points in 3Q 2001 to 119-percentage points in 1Q 2006. Meanwhile, lower interest rates and increased refinancing activity held down the debt service ratio despite rising debt levels. But when mortgage rates bottomed out in 1Q 2004 and began to rise, the debt service ratio followed suite and reached 13.9% in Q4 2005.

**Exhibit 12 Debt-to-Disposable Income Ratio and the Debt Service Ratio**



Source: OFHEO

## 7. Soundness of Household Assets

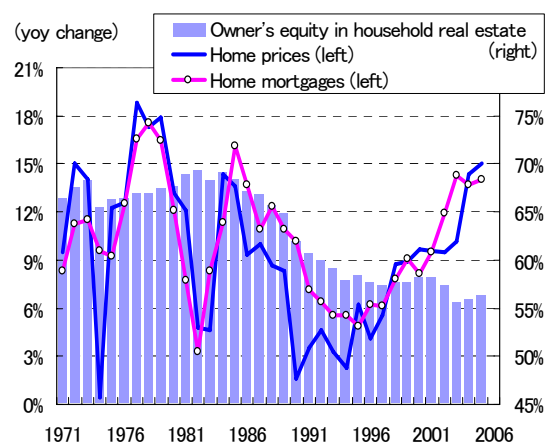
We described how the saving rate increases when adjusted for the wealth effect of capital gains. On the other hand, debt growth among mainstream homeowners tends to have a negative effect by increasing debt service, which impedes consumption in the future.

### (1) Decline of Owner's Equity as a Ratio to Household Real Estate

In addition to the growing debt service burden, another concern is the decline in owner's equity

as a ratio to the value of household real estate. Since peaking at near 70% in the early 1980s, it has undergone a secular decline. When a period of sluggish home prices ensued, outstanding mortgages outpaced growth of home prices, pushing the owner's equity ratio downward. While the decline abated in the 1990s, this time low interest rates stimulated demand for home mortgages, pushing the ratio down further to a record low of 55.7% in 2003.

**Exhibit 13 Owner's Equity in Household Real Estate**



Source: FRB, *Flow of Funds Accounts of the United States*.

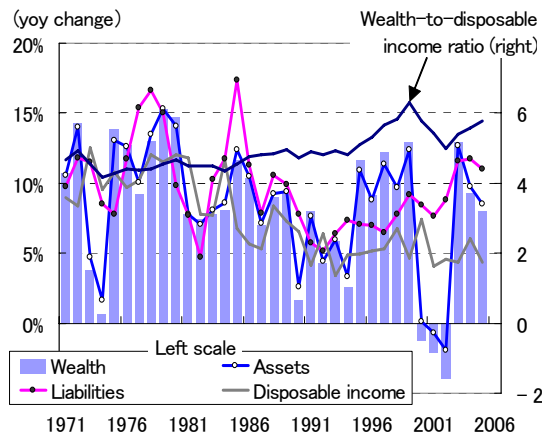
### (2) Household Wealth

The government maintains that the chief consideration regarding household wealth should be asset growth rather than liability growth. Growth of assets and wealth were negative from 2000 to 2002, but recovered solid growth on the strength of stocks and housing assets. As a result, the wealth-to-disposable income ratio also resumed an uptrend.

At the International Monetary Conference in June, Federal Reserve Chairman Ben Bernanke remarked that high debt levels are not expected to be a major concern: "I think under the current circumstances that the broad aggregate of U.S. consumers are in increasingly good financial condition....[D]ebt holdings have risen considerably, but so have assets, so wealth has actually risen to relatively high levels compared

to income in recent years.” He went on to note that higher interest rates should not significantly affect debt payments for several years because most debt holders have long-term fixed-rate or adjustable-rate debt.

### Exhibit 14 Growth of Household Assets, Liabilities and Wealth



Source: FRB

This view assumes that home prices will achieve the soft landing anticipated by the FRB. Of course, if home prices and equity prices should drop sharply in the future, household assets would deteriorate, jeopardizing the financial health of households.

Going forward, softening in the housing and equity markets poses a major risk factor for the economy. But the economy has proven to be resilient against destabilizing factors in the past. And although home prices are reportedly softening, the national average has kept rising 8% per year. Thus authorities may not need to emphasize the risks of destabilizing factors for the time being.

### Conclusion

The persistent U.S. current account deficit—long criticized for causing global imbalances—can be attributed to the large fiscal deficit and robust household consumption. Focusing on consumption, we can see what appear to be

symptoms of excess—consumption growth outpaces disposable income, household debt levels are rising, and the saving rate has turned negative.

But the view that these symptoms represent over-consumption needs to be revised. The primary source of consumption growth has been rising health care costs. Since health care spending is largely nondiscretionary, even if the U.S. could quell critics by restraining consumption, health care spending would be less affected than other spending, and could actually grow as a share of total consumption. Alternatively, if the government could somehow contain health care spending successfully, considerable sums of money could be diverted elsewhere or saved. Unfortunately, despite many attempts, no workable solutions have surfaced.

The negative saving rate, which is particularly suggestive of over-consumption, is partly offset by the wealth effect of capital gains. As for rising household debt levels, households are also seeing growth in tangible assets and wealth. Household debt growth is expected to cease when home prices peak out. Meanwhile, however, the decline of home or equity prices remains an inherent risk.

In any case, for the U.S. to alleviate the external imbalances, macroeconomic policymakers must not only address the fiscal deficit and shortage of savings, but find ways to contain health care spending.

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