The Economic Impact of Aging Baby Boomers—Medium-term Economic Forecast (FY 2006～2016)

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Japan, the U.S. and Europe share a common challenge in the next decade—accommodating the aging of postwar baby boomers, which will slow or reverse labor force growth and compel basic social security reforms. Japan's economy is finally shedding remnants of the bubble economy and heading toward normalcy. With deflation defeated and the consumption tax rate set to rise, consumer price inflation will average 1.6% to fiscal 2016. GDP will expand 1.7% per year in real terms, and an impressive 2.6% in nominal terms. To accommodate the effects of aging, the common prescription for all economies is to tap unused resources more effectively. For Japan, this means mobilizing the labor force of women and elderly workers, improving the low return (relative to the U.S.) of foreign asset holdings, and enhancing the efficiency of existing capital stock.

1. Aging of Baby Boomers—the Common Challenge

(1) Japan's Post-Bubble Progress

Ever since the late 1980s bubble economy collapsed, Japan has struggled with the persistent aftereffects. However, the present recovery that has continued since early 2002, financial institutions have made progress in the disposal of nonperforming loans, while business companies have significantly improved their financial condition. Although the bubble's aftereffects have not completely disappeared, the economy has escaped from the crisis. Symbolic of the economy's improvement is the defeat of the persistent post-bubble deflation. Spurred partly by high oil prices, consumer price inflation has persisted albeit modestly in 2006. The business outlook is also improving, and the economic expansion appears set to exceed the longest postwar expansion from late 1965 to the summer of 1970, known as the *Izanagi* expansion.

Since its inception in 2001, the Junichi Koizumi administration pursued a structural reform agenda, while being compelled to address post-bubble economic management issues such as the disposal of bad loans. When Shinzo Abe ascended to power in September 2006, the lingering post-bubble problems had largely abated, allowing the new prime minister to focus on nation-building issues for the mid 21st century.

(2) Retirement of Baby Boomers

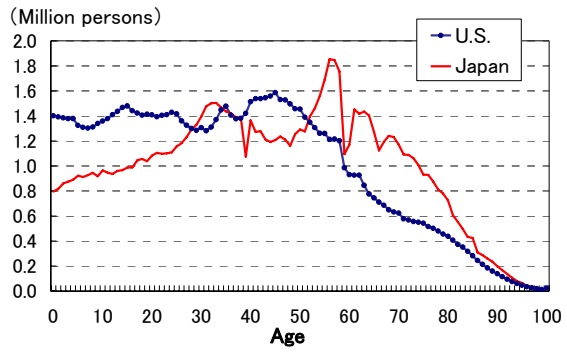
In the 10-year forecast period, Japan, the U.S. and Europe will all encounter issues associated with aging of the postwar baby boom generation. These countries all experienced postwar baby booms, with some variations in timing and size. As of 2005, Japan's baby boomers are concentrated in their late 50s due to the short duration of the baby boom, while those in other countries are more broadly spread out.

In the U.S., the baby boom lasted from 1946 to 1965. Since the post-boom fertility rate dip was small, the boom is less pronounced than in Japan and Europe, but still visible in the large age cohort in their 40s to 50s. In Europe, timing differences also stretched out the baby boom from

1946 to 1965. In Germany and Italy, the baby boom populations are relatively large due to the sharp drop in post-boom fertility rate.

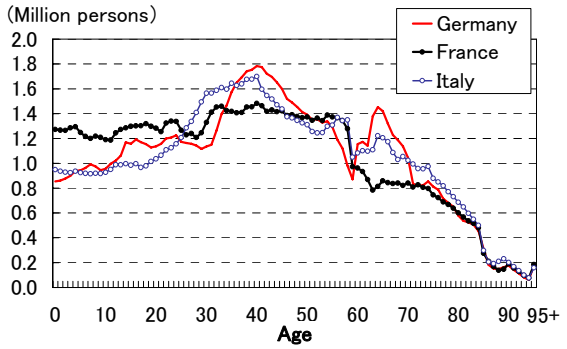
By comparison, Japan's period of high birthrates ended rather abruptly. It began in 1947 when the number of births surged above the prewar level. But due to the wave of repatriations and severe food shortages, population controls were quickly enacted to restrict the number of births. As a result, in 2005, the 59–60 age cohort (born near the end of war) is quite small compared to the 56–58 cohort. The latter group are Japan's baby boomers, known as the *dankai sedai* ("cluster generation"). The aging of baby boomers is expected to have far greater economic and social ramifications in Japan than in the West.

Exhibit 1 Population Structure of Japan and U.S. (2005)



Sources: MIC, *2005 Population Census--Results of the One Percent Sample Tabulation (June 2006);* U.S. Department of Commerce.

Exhibit 2 Population Structure of Germany, France and Italy (2005)



Source: Eurostat

(3) Inevitability of Aging in the West

With over one million immigrants entering the country each year, the U.S. population is estimated to have topped 300 million in 2006, and should continue growing 1% per year in the near future. Nonetheless, the population is aging, and the effect of the shift in population structure will grow prominent when baby boomers start to retire in 2012. The elderly population ratio (percentage of the population aged 65 and over) is projected to climb from 12.4% in 2000 to 14.5% in 2015, and 18.2% in 2025. The shifting population structure threatens to overwhelm health care and pension programs unless major social security reforms are carried out.

Moreover, as baby boomers retire from 2010, the growth of the working-age population (persons aged 16–64) will decline from 1.1% in 2004 to 0.3% in the early 2010s. This will in turn reduce the economy's potential growth rate. According to estimates by the Congressional Budget Office, the potential growth rate, which stood at 3.2% in the past decade, will drop to 3.0% in the 5-year period from 2007 to 2011, and 2.6% in the next 5-year period from 2012 to 2016.

In Europe, the aging baby boomers and shift in population structure will start to cause repercussions in 2011. Due to immigration, which will partially offset the declining birthrate (as in the U.S.), the population structure will shift more rapidly than in the U.S., but slower than in Japan. During the period from 2011 to 203, when baby boomers reach retirement age, the elderly dependency ratio (ratio of persons aged 65 and over to working-age persons) is projected to rise 2-percentage points per year.

In the European Commission's baseline scenario for the long-term population forecast, the working-age population in the euro area will keep growing to 2011 as immigration offsets the natural population decrease. But in the second half of our forecast period, the population will start to shrink. The EC predicts that the demographic shift will decrease the EU's potential economic growth rate from the present

level of 2～2.25% to 1.5% in 2015, and 1.25% in 2040.

2. Impact of Aging Baby Boomers

(1) Retirement and the Saving Rate

In 2005, the proportion of elderly persons (persons aged 65 and over) in Japan's population surpassed that of Italy, making Japan the world's fastest aging industrialized economy. The pace of aging will accelerate further in 2012, when baby boomers reach age 65 and join the ranks of the elderly.

In the 1980s, Japan's household saving rate stood head and shoulders above other industrialized economies. The high saving rate was blamed for causing many imbalances including Japan's large current account surplus. But due in part to aging, the saving rate subsequently fell to 2.7% in fiscal 2004, putting Japan at the low end alongside the U.S.

Japan's household saving rate is predicted to drop even further when baby boomers start leaving the labor force and relying on public pensions and personal savings. This decline in the saving rate is expected to occur gradually until 2015. However, in the near term from 2007 to 2009, baby boomers will reach age 60, the mandatory retirement age at most companies. The lump-sum retirement allowance they receive is expected to generate a large flow of funds to households, boosting the saving rate temporarily.

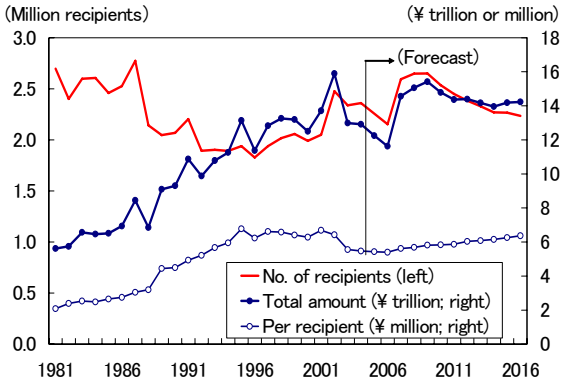
In the national tax statistics, the total lump-sum retirement allowance spiked in 2002 and then plummeted. This can be attributed to several factors. First, the allowance per recipient has decreased. In the early 1980s, the total lump-sum allowance was small because of the low amount per recipient, even though the number of recipients exceeded 2 million persons. At the time, voluntary retirement was common, particularly among young women leaving the labor force for marriage.

The retirement allowance per recipient then rose as the population aged and old-age retirement became more common. Meanwhile, however, the total lump-sum retirement allowance fell as more companies replaced lump-sum allowances with pensions. To contain labor costs, companies also trimmed allowances while offering extended employment to workers above age 60.

Demographically, the population reaching age 60 fell sharply from 1.80 million in 2002 to under 1.50 million in 2005 and 2006. But in the next four-year period from 2007 to 2010, over 2.00 million persons will reach age 60 each year.

In 2002, the total lump-sum retirement allowance surged due to company-induced retirement and to early retirement and other measures intended to spread out the retirement of baby boomers over time. As a result, when baby boomers start to retire in 2007, the lump-sum retirement allowance will not bulge in proportion to the population spike. We predict that the total lump-sum retirement allowance will drop to around ¥11.5 trillion in 2005 and 2006, rise sharply from 2007, and then peak out gently. The boost to the household saving rate will also be limited.

Exhibit 3 Lump-sum Retirement Allowance



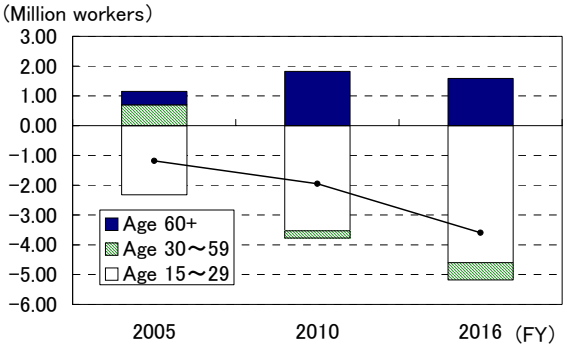
Source: *National Tax Agency Annual Statistics Report*; forecast is by NLI Research Institute

(2) Aging and Wages

Even after factoring in the growth of women and elderly workers, we predict that the labor force in fiscal 2016 will still shrink by 3.59 million workers compared to fiscal 2000. By age, new workers under age 30 will decrease by 4.60 million, and workers age 30–59 by 580,000. On the other hand, workers aged 60 and over will increase by 1.59 million persons.

Given the projected 5% contraction of the overall labor force, the challenge is how to sustain Japan's economic vitality by employing the growing segment of workers aged 60 and over. Their successful participation will reduce the age-related decline in saving rate during the forecast period, thereby averting a possible shock to the economy.

Exhibit 4 Change in Labor Force by Age



Note: Shows change in labor force from fiscal 2000. Values for 2010 onward are forecasts
Source: MIC Statistics Bureau, *Labour Force Survey*.

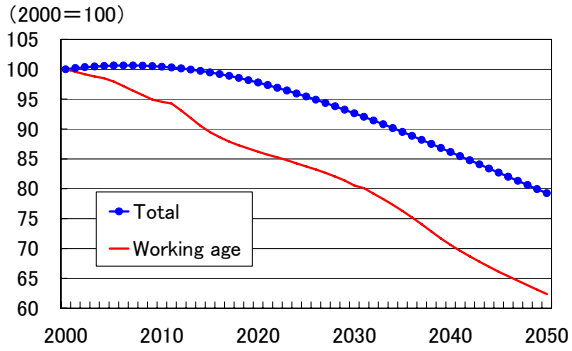
The 1990s ushered in a prolonged period of excess labor supply, pushing the unemployment rate up to the mid 5% range, and causing wages to stagnate and then fall in the late 1990s. Since 2002, the sustained economic recovery has prompted companies to aggressively hire new graduates. Today, while the informal job-offer rate for new graduates has risen, starting wages have risen only modestly. But as aging continues to reduce the younger labor force, starting wages should start to pick up rapidly.

The wage curve has grown less steep, reflecting the diminishing effect of the seniority-based wage structure. Although starting wages will not grow enough to cause a parallel shift in the wage curve, average wages will rise to maintain the wage balance between starting and existing workers.

(3) Aging of Mainstream Consumers

Although the projected population decrease is expected to slow down economic growth, this will not necessarily result in price stability or deflation due to stagnant or insufficient demand. Because of their sheer size, baby boomers have significantly impacted the postwar economy and society. In the future, their influence will continue to be felt in consumption activity, something traditionally driven by younger generations. As the proportion of households aged 60 and over grows from 36% in 2004 to 43.9% in 2015, the elderly will become mainstream consumers. This will have repercussions for corporate management, particularly with regard to marketing and product development strategies.

Exhibit 5 Total and Working-Age Population



Source: National Institute of Population and Social Security Research, *Population Projections for Japan:2001-2050,* January 2002.

By 2016, while the total population will change little from 2000, the working-age population will shrink by at least 10%. Since the population decrease will have a limited impact on demand, the economy could face a serious supply shortage unless productivity grows. Thus the prevailing

issue will no longer be insufficient demand, but whether the supply side can keep pace.

3. Key Issues—Fiscal Policy in U.S., Structural Reform in EU

(1) U.S.—Lower Growth in Medium Term

Since June 2004, a series of interest rate hikes at FOMC meetings has raised the federal funds rate target from 1% to 5.25%. As a result, the housing market, which had thrived under low interest rates, has chilled. Households, who have been expanding consumption by taking on home equity loans and turning the saving rate negative, must alter course to avoid ruin.

While oil prices are stable for the time being, the inflation risk they pose is expected to recur in the medium to long term as demand grows from economic development in China and India. Higher oil prices not only impact consumers directly at the gasoline stand, but complicate attempts at monetary easing because of the inherent risk of inflation.

In the next decade, the U.S. economy is likely to sustain slower growth than in the past decade due to tightening policies in the short term, and to slower labor force growth as baby boomers age in the medium to long term.

(2) Fiscal Policy and the 2008 Election

Despite large outlays for the Iraq war and hurricane reconstruction, the U.S. fiscal deficit is shrinking as the economic recovery boosts tax revenues. In the medium term, the fate of the 2001 and 2003 tax cuts, which expire in 2010, will depend on the presidential election in 2008. In the event of a Democratic victory, the tax cuts are expected to end. A complete end to tax cuts would generate enough revenues to erase the fiscal deficit. But since this is not politically feasible, tax increases will likely be limited to the rich.

On the expenditure side, Democrats are likely to trim defense spending but increase social security spending. As a result, reducing the fiscal deficit will be difficult, and likely to proceed at a modest pace. If the fiscal deficit still exists when baby boomers start to retire—which is likely—there is concern that the bulge in social security expenditures in the early 2010s may aggravate the deficit.

Meanwhile, the current account deficit has surged due to the economic recovery, globalization, and high oil prices. It now amounts to 6% of GDP, making it over three times larger than the fiscal deficit. As long as the U.S. does not curb its appetite for oil, the current account deficit will remain high. However, it will grow more slowly, decreasing moderately as a ratio to GDP.

(3) EU—Structural Reform Will Slow the Decline of Working-Age Population

In 2006, economic growth in the euro area is expected to reach a six-year high. In 2007, the economy will pull back but avert a stall amid the slowing global economy, appreciation of the euro, effect of interest rate hikes since December 2005, and effect of the VAT rate hike in Germany.

In the second half of the forecast period, the working-age population in the euro area will start to decline. This heightens the need for continuing efforts to promote employment reform, improve the employment rate, and enhance labor productivity. To reap greater benefits from unification, member states will also need to undo institutional barriers that impede the internal flow of people, goods and money.

The Stability and Growth Pact (SGP) contains a fiscal policy rule limiting the government deficit of member states to 3% of nominal GDP. However, in 2003 and 2004, five out of twelve countries including Germany and France exceeded the threshold, while four countries did so in 2005. The direct cause of growing deficits has been the recession since 2001. If appropriate

measures had been taken during the expansion of 1999 and 2000, excessive multi-year deficits could probably have been avoided. However, with growth accelerating in 2006, the fiscal positions of many countries in the euro area will improve more than initially predicted.

We predict that the decline in potential growth rate will be a moderate one. Competitive pressures at home and abroad will spur structural reform, ensuring employment growth as the jobless rate drops and labor force participation rate rises. Annual GDP growth is predicted to average 1.9% in the decade to 2016, compared to 2.1% in the preceding decade.

ECB monetary policy and its emphasis on price stability have stabilized inflationary expectations. Structural changes—the result of greater fiscal discipline under the SGP, intensifying price competition at home and abroad, and easing of wage inflation due to employment reform—will make the economy more resistant to the secondary impact of higher oil prices and other natural resource inflation. As a result, inflation will remain within the ECB target range of 2%.

(4) Shaky Confidence in the Dollar

The U.S. became a debtor nation in 1986 when its net investment position turned negative. If the U.S. continues to post large current account deficits, the net investment position may at some point be deemed unsustainable, triggering a major currency adjustment. Meanwhile, the 12-nation euro area is slated to grow in stages, starting with Slovenia in early 2007. As the euro area economy and euro-denominated capital markets continue growing, so too will confidence in the euro.

Since the euro's introduction in 1999, countries have steadily increased the proportion of foreign reserves held in euro-denominated assets. If the FRB starts cutting interest rates in 2007, the U.S. interest rate spread with the euro area will shrink, confidence in the euro will grow, and the euro will gain a larger share of official reserves as well as private investment funds, both of which are now biased toward dollar-denominated assets. As a result, we predict that the euro will appreciate moderately against the dollar.

4. Normalization of Japan's Economy

(1) Japan's Potential Growth Rate

In the bubble economy from the late 1980s to early 1990s, Japan's potential economic growth rate climbed to the 4% range. When the bubble burst, the potential growth rate plummeted, and hovered around 1% from the late 1990s to early 2000s. In the recovery since 2002, the capital stock has expanded on the strength of business fixed investment growth, while technological progress has picked up, boosting the potential growth rate to the mid 1% range.

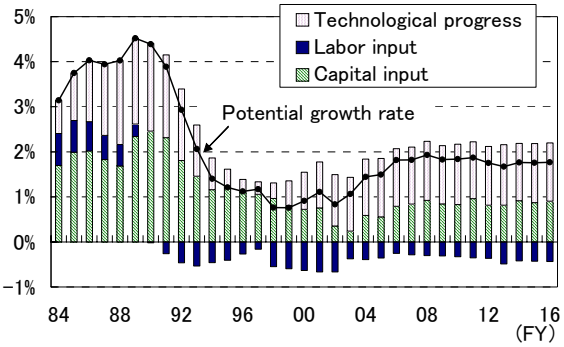
Meanwhile, the working-age population (aged 15 to 64) peaked out in 1995 while the total population began decreasing in 2005. Although the labor force grew in fiscal 2005 for the first time in eight years, it too has entered a secular decline. During the forecast period, the labor force is expected to decrease at an accelerating rate as the population decreases and ages more rapidly. Labor input (labor force multiplied by total work hours) is predicted to contract at an annual pace of -0.6%.

Capital stock growth has recently dropped to around 2%, but is predicted to reach the high 2% range in the forecast period based on a favorable outlook for overall business fixed investment. Despite the negative growth of labor input, the contribution of capital stock growth will edge up, and assuming that the rate of technological progress remains at the present level of 1.3%, the potential growth rate will hover in the high 1% range.

When recession hit in the late 1990s to early 2000s, weakness of demand created a recessionary gap of over 3%. But the economy's long-running recovery since 2002—including

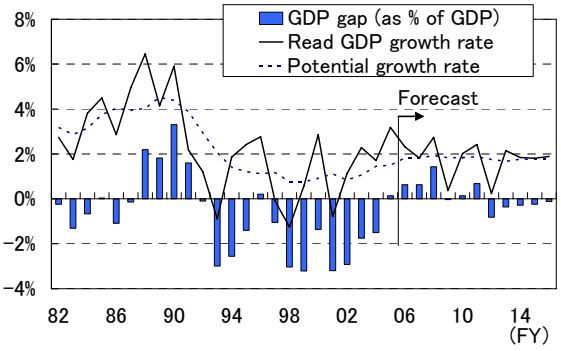
economic growth topping 3% in fiscal 2005—has made demand slightly excessive as of late. Although the economy will weaken in fiscal 2006 and 2007, demand will surge in fiscal 2008 ahead of the consumption tax rate hike, pushing the expansionary GDP gap above 1%. However, the gap will subsequently subside to near zero as demand is met by import growth, while the two consumption tax rate hikes slated for fiscal 2009 and 2012 will also cool down the economy.

Exhibit 6 Contribution to Potential Growth Rate



Note: Estimated from data to FY05, and based on forecast from FY06.
Sources: ESRI, *Annual Report on National Accounts*, and *Annual Report on Gross Capital Stock of Private Enterprises*; MIC, *Labour Force Survey*.

Exhibit 7 Potential Growth Rate and the GDP Gap



Source: ESRI, *Annual Report on National Accounts*.

The CPI inflation rate will rise gradually. Due partly to the inflationary impact of the consumption tax rate hikes, nominal GDP growth will average 2.6% per year in the next decade, significantly higher than the average 0.2% growth rate from fiscal 1997 to 2006.

(2) Consumption to Rely on Asset Income

In the next decade, real business fixed investment will grow 3.3% annually, compared to 1.7% growth for the economy. But since much of the investment is IT-related and prone to price declines, the nominal disparity will be smaller—nominal investment will grow 3.5% compared to nominal GDP growth of 2.6%. Since the population decrease will dampen demand for new residential construction, the share of residential investment in nominal GDP will drop from 3.6% in fiscal 2006 to 3.2% in fiscal 2016. Private final consumption expenditure as a share of nominal GDP is predicted to rise from 57.1% in fiscal 2006 to 60.1% in fiscal 2016, swelling the share of domestic private demand from 77.0% to 80.9%.

Household income growth, which drives consumption growth, will rely on asset income and on social security transfer payments as aging advances. For a long time after the bubble's collapse, high labor costs—a bubble era legacy resulting from excessive employment—squeezed corporate profits. But after companies slashed labor costs in the late 1990s, labor's share stopped growing and then reversed in the 2000s. Looking ahead, labor market conditions will improve as the labor force shrinks due to aging, driving the unemployment rate down to 3.3% in fiscal 2016. Wages per worker will grow as a result, but the wage growth will be offset by the declining number of employed workers, leaving the allocation to labor unchanged. We predict that nominal employee compensation, which declined -0.3% per year in the last decade, will turn around and grow 2.1% per year in the next decade. However, given the rising inflation rate, corporate profits will not be squeezed.

Household asset income, which had long been dismal following the collapse of the bubble economy, will recover. As monetary policy regains normalcy, interest rates will rise and generate more interest income, while growing corporate profits will flow back to households not through higher wages but higher dividend income. The share of net asset income in

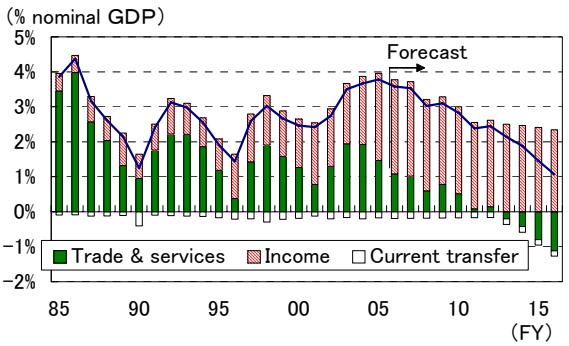
disposable personal income, which declined to 3.4% in fiscal 2006, will rise to 10.9% in fiscal 2016, supporting consumption growth in the medium term.

Despite payroll and other spending cuts, government consumption will be difficult to suppress due to growing health care and long-term care expenditures associated with aging. As a share of nominal GDP, government consumption will remain almost unchanged, edging down from 17.7% in fiscal 2006 to 17.4% in fiscal 2016. Meanwhile, public investment is expected to continue decreasing. We predict that public fixed capital formation as a share of nominal GDP will decrease from 4.3% in fiscal 2006 to 2.8% in fiscal 2016, and public demand as a share of nominal GDP will decrease from 22.0% to 20.3% in the same period. However, pension and other income transfers by the government will expand as aging advances, necessitating hikes in social security contributions and taxes. The national burden ratio (ratio of tax revenue and social security contributions to national income) will grow from 38.0% in fiscal 2006 to 43.7% in fiscal 2016.

As aging reduces the household saving rate, and as the corporate sector's large financial surplus (which was accumulated after successfully reducing the debt overhang) shrinks, the domestic saving investment balance will diminish, reducing the current account surplus from 3.6% of nominal GDP in fiscal 2006 to 1.1% in fiscal 2016. The current account surplus will shift dramatically in composition as well—with the trade surplus turning to deficit in the early 2010s, the current account surplus will consist entirely of the income account surplus. Net exports of goods and services (external demand), which have long driven Japan's postwar economic growth, will contribute negatively on average in the coming decade.

In the next decade, real economic growth will average 1.7% annually, which will be roughly equivalent to the potential growth rate.

Exhibit 8 Current Account Balance



Sources: BOJ, *Flow of Funds Accounts Statistics*; Cabinet Office, *Annual Report on National Accounts.*

(3) Outlook for Fiscal Deficit Reduction

The government aims to achieve a primary surplus for the national and local governments by the early 2010s, and to steadily reduce the government debt to GDP ratio from the mid 2010s.

Due to the long expansion since early 2002, rising corporate profits have significantly boosted tax revenues and reduced the fiscal deficit. Looking ahead several years, as financial institutions complete the disposal of nonperforming loans and resume paying taxes, the additional tax revenue from this source alone is predicted to reach approximately 1.3 trillion yen. From fiscal 2003 to 2006, the primary deficit of national and local governments has been halved from 5.7% of nominal GDP to 2.8%. If the current expansion continues, by fiscal 2011 a primary balance will be within reach even without consumption tax rate hikes, meeting the government's goal of a primary surplus by the early 2010s.

However, problems arise if we factor in the growth of social security expenditures such as the 2.7 trillion yen outlay in fiscal 2009, when the state's funding burden of the basic pension is raised to 50%. Moreover, to meet the goal of decreasing the debt ratio, there is no alternative but to raise the consumption tax rate.

According to our macroeconomic model, a 1%

increase in the consumption tax rate will raise the consumer price index 0.72%. The resulting decrease in real disposable income and real financial assets of households will curb private consumption and domestic demand, reducing real GDP by -0.28% (increasing nominal GDP by 0.28%). In addition, personal consumption and residential investment will swell in the year preceding the tax hike, and drop in the year of the tax hike.

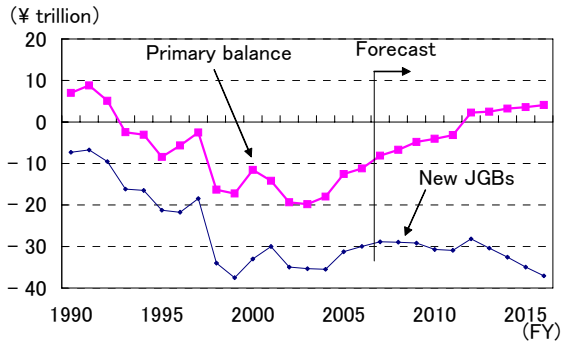
Our forecast assumes that the consumption tax rate will be raised from the present 5% to 7% in fiscal 2009 and 10% in fiscal 2012. The rate hikes will cause lumpy economic growth by shifting demand to preceding years (fiscal 2008 and 2011) and dampening demand when the hikes take effect. As a result, real GDP growth will dip to 0.4% in fiscal 2009 (from 2.7% in fiscal 2008) and to 0.2% in fiscal 2012 (from 2.4% in fiscal 2011).

(4) General Account and Outstanding JGBs

If the government carries out the 2% consumption tax rate hike in fiscal 2009 and meticulously cuts spending, the combined primary balance of national and local governments could turn to surplus in fiscal 2011. However, the primary balance of the central government's general account will not improve enough to curb the growth of outstanding JGBs. The Cabinet Office estimates that local governments will post a 2 trillion yen primary surplus in fiscal 2006. Unless tax revenue allocations to local governments are slashed, local governments will maintain a primary surplus over the forecast period. Their surplus is essential to achieving the combined primary surplus, since the general account is not likely to achieve a surplus by fiscal 2011. We predict the latter will occur only after the second consumption tax rate hike takes place in fiscal 2012.

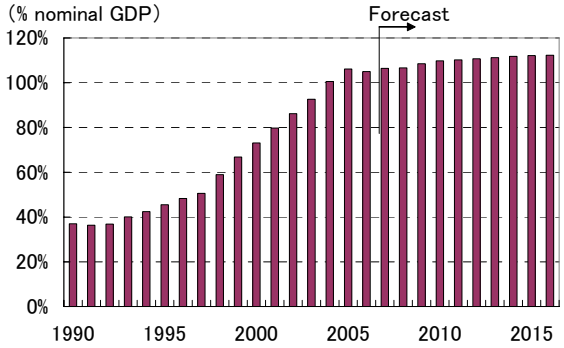
After fiscal 2011, the primary balance of the general account will continue to improve. However, the improvement will be outpaced by the growth of interest payments as interest rates rise. As a result, new bond issuance will actually increase.

Exhibit 9 Primary Balance of the General Account, and New Issuance of JGBs



Note: Shows actual data to FY2005, and forecast from FY2006.
Sources: Compiled from MOF data.

Exhibit 10 Outstanding JGBs as a Ratio to Nominal GDP



Sources: Compiled from MOF data.

(5) Policy Rate and Long-term Interest Rate

The euro area's policy interest rate, which remained at a historical low of 2% since June 2003, entered an adjustment phase in December 2005. By October 2006, the policy rate was raised 125 basis points in total. After another 25-bp rate hike in December 2006, we expect the policy rate to remain unchanged at 3.5% for the time being. While the ECB has not stated so, the neutral interest rate level is thought to be in the 3.5% to 4% range, and is not expected to change significantly in the next decade.

In the U.S., the federal funds rate target was gradually raised from June 2004 to quell inflationary pressures, reaching 5.25% in June 2006. Inflationary concerns have abated as housing prices show signs of softening and the economy slows down. We predict an end to the round of interest rate hikes and the start of interest rate cuts beginning in mid 2007. Later, the federal funds rate target will level off at 4.5% amid strong inflationary pressures including from high oil prices.

With the U.S. expected to cut interest rates in 2007, we predict that Japan will begin full-fledged interest rate hikes in 2008. To reduce the fiscal deficit, fiscal policy must still be tightened by raising taxes and social security contributions. As a result, interest rates will be raised at a much more moderate pace than recommended by the Taylor rule. In addition, interest rate hikes must be suspended in fiscal 2009 and 2012 to keep the consumption tax rate hikes from derailing the economy. As a result, the return to a neutral level in the mid 2% range will happen in fiscal 2013.

In the second half of the forecast period, price increases will become conspicuous particularly in services. The policy rate will be raised in step with the rising CPI inflation rate to a level slightly above neutral.

During the forecast period, long-term interest rates in each economy will break away from historical lows caused by the global excess of liquidity. In the U.S., the long-term interest rate dipped to the mid 3% range in 2003, and then climbed to the 5% range in mid 2006 due to policy rate hikes. With interest rate cuts now in the offing, the long-term rate will continue to slide to 4.8% in 2007. As the economy later recovers, we predict that the long-term rate will trend in the mid 5% range during the forecast period.

In the euro area, the long-term interest rate will rise. But as aging generates a strong demand for long-term asset management, and as the GSP constrains the growth of government debt, the long-term interest rate will avert an increase significantly above the average level of the past decade.

In Japan, as the economy overcomes deflation and monetary policy returns to normal after a period of ultra-low interest rates, the long-term interest rate will steadily rise, narrowing the spread with the U.S. and Europe. Since the long-term rate anticipates shifts in monetary policy, it will move upward sooner than the short-term rate. As a result, we predict the spread between short-term and long-term rates will widen temporarily, but narrow as the policy rate is gradually raised.

5. Tapping Unused Resources

(1) Women and Elderly Workers

To maintain economic vitality as the population ages, it is necessary to tap the reservoir of unused human resources and existing stock.

In Europe, to accommodate the decrease in working-age population, policymakers are examining ways to increase the labor participation rate of women and elderly persons, and to revise the short work hour policy. Since the late 1990s, employment strategy has aimed to raise the labor participation rate and fertility rate of women, and to promote hiring of elderly workers. These include policies to balance work and family life of women, and providing work incentives for elderly workers instead of encouraging early retirement through social security programs. At present, labor participation rates vary widely among EU member states, as does the rate of improvement. Overall, however, progress is occurring as conditions improve at a moderate pace.

In Japan, as seen by the enforcement of the Revised Law Concerning. Stabilization of Employment. of Older Persons, the policy environment is moving toward support for employment of the elderly. However, under the

seniority-based structure of Japanese organizations, the problem was that the capabilities of elderly workers could not be fully utilized. Given the shrinking size of the younger labor force, employment of the elderly is important not simply in terms of rescuing the overburdened public pension system, but for the vitality of the economy itself.

(2) Asset Efficiency Becomes Critical

As aging reduces the household saving rate, the formation of new assets in the overall economy will slow, as will the growth rate of assets. Under these conditions, the efficiency of existing asset allocations both at home and abroad will grow in importance.

From the perspective of efficiency, the rate of return on foreign assets needs to improve. By comparison, the U.S., despite becoming a net debtor nation since the mid 1980s, has maintained a surplus in the income account. A major reason is the extraordinarily high return on direct investment abroad. In addition, the U.S. has a longer history of outward DFI than inward DFI, the latter of which has grown only recently. The dollar's depreciation against local currencies has also contributed.

Meanwhile, the massive foreign assets held by Japan are not necessarily earning high returns. As mentioned earlier, since Japan's trade surplus will eventually turn to deficit, sustaining the current account surplus will depend entirely on an income account surplus. This makes it all the more important to improve the return on foreign assets.

In the past, Japan enjoyed ample household savings to finance the growth of corporate investment and social capital. But in the future, much of household savings will be used simply to maintain existing capacity and social capital. Japan needs to adopt a scrap-and-build approach that replaces inefficient and outmoded assets with more efficient assets.

Medium-Term Forecast for Japan (FY 2006－2016)

(% yoy change, otherwise otherwise noted)

Fiscal year	2005 actual	2006 forecast	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Annual avg. 97～06	Annual avg. 07～16
Nominal GDP (expenditures)	1.8	2.1	2.0	3.2	1.8	2.4	3.1	2.4	2.7	2.7	2.8	3.2	0.2	2.6
(¥ trillion)	(505.4)	(515.9)	(526.2)	(542.8)	(552.8)	(566.0)	(583.3)	(597.6)	(613.5)	(630.0)	(647.6)	(668.1)		
Real GDP (expenditures)	3.2	2.3	1.8	2.7	0.4	2.0	2.4	0.2	2.1	1.8	1.8	1.9	1.2	1.7
Domestic demand	2.8	2.3	1.9	3.2	0.2	2.2	2.8	0.1	2.5	2.0	2.1	2.2	0.8	1.9
Private demand	3.3	3.3	2.4	3.9	0.1	2.6	3.3	−0.1	2.8	2.3	2.3	2.4	1.0	2.2
Consumption	2.3	1.8	1.8	2.6	0.7	2.4	2.7	0.4	2.4	2.1	2.3	2.3	1.0	2.0
Residential investment	−0.2	0.5	−0.6	3.0	−3.5	1.7	3.6	−1.4	−0.9	−0.9	0.0	0.2	−3.6	0.1
Nonresidential investment	7.5	9.0	4.7	8.3	−1.2	3.5	5.2	−1.5	4.5	3.2	2.9	3.2	2.6	3.3
Public demand	0.8	−1.3	0.3	0.5	0.6	0.8	0.7	1.1	1.3	1.0	1.1	1.2	0.2	0.9
Government consumption	1.5	0.7	1.3	1.2	1.4	1.5	1.5	1.8	1.8	1.5	1.6	1.7	2.3	1.5
Public investment	−1.4	−8.7	−3.6	−2.6	−3.4	−2.6	−2.9	−2.8	−1.3	−1.9	−2.0	−2.2	−5.6	−2.5
Net exports <contrib. to growth>	<0.5>	<0.1>	<−0.0>	<−0.3>	<0.2>	<−0.2>	<−0.3>	<0.1>	<−0.3>	<−0.1>	<−0.3>	<−0.3>	<0.4>	<−0.1>
Exports of goods & services	9.1	6.2	2.9	2.2	2.5	2.7	2.7	2.6	2.6	2.6	2.7	2.6	5.8	2.6
Imports of goods & services	6.5	6.7	4.0	5.6	1.5	4.7	5.5	2.1	5.2	4.1	4.9	4.7	3.3	4.2
Industrial production	1.6	3.8	2.4	4.0	−1.1	2.3	3.1	−0.7	2.0	2.2	2.1	2.2	0.7	1.8
Domes. corporate goods price index	2.1	2.6	−0.1	0.3	1.7	0.4	0.5	3.2	0.5	0.6	0.5	0.7	−0.1	0.8
Consumer price index	−0.1	0.4	0.5	0.9	2.3	1.0	1.2	3.4	1.2	1.6	1.8	2.0	−0.1	1.6
CPI (nonperishables)	0.1	0.3	0.6	0.9	2.3	1.0	1.3	3.3	1.2	1.6	1.8	2.0	−0.0	1.6
Unemployment rate (%)	4.3	3.9	3.7	3.5	3.6	3.6	3.4	3.3	3.4	3.4	3.4	3.3	4.6	3.4
Current account balance (¥ trillion)	19.1	18.5	18.6	16.4	17.1	16.0	13.9	14.6	13.1	11.9	9.5	7.2	15.2	13.8
(as % of GDP)	(3.8)	(3.6)	(3.5)	(3.0)	(3.1)	(2.8)	(2.4)	(2.4)	(2.1)	(1.9)	(1.5)	(1.1)	(3.0)	(2.4)
Exchange rate (average, ¥/$)	113	113	105	102	101	101	101	100	100	100	100	100	117	101
BOJ overnight call rate (average, %)	0.00	0.50	0.75	1.25	1.25	1.75	2.25	2.25	2.75	2.75	3.00	3.00	—	—
10-year JGB yield (average, %)	1.4	1.8	2.1	2.6	2.9	3.3	3.6	3.8	4.2	4.2	4.2	4.2	1.5	3.5
WTI oil price (average, $/barrel)	56	64	58	60	62	64	66	68	70	72	74	76	32	67

Note: Data is current as of October 2006.
Sources: ESRI, *Annual Report on National Accounts*; MIC Statistics Bureau, *Consumer Price Index*, and *Labour Force Survey*; BOJ, *Financial and Economic Statistics Monthly*.