

JAPAN

Rating Analysis - 3/14/11

Debt: JPY1,097,119.8B, Cash: JPY84.5B

EJR Sen Rating(Curr/Prj) BB+/ N/A

EJR CP Rating: A3

EJR's 1 yr. Default Probability: 2.7%

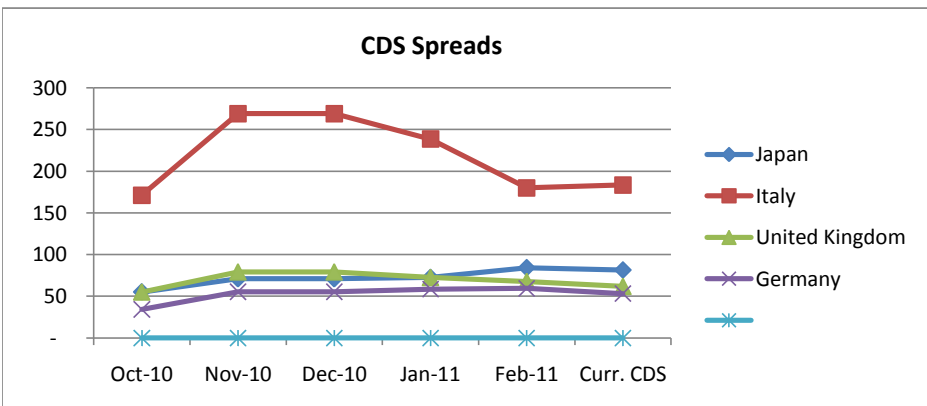
Japan has been devastated by the recent earthquake and tsunami. However, a second tsunami lurks in the country's severely weakened credit quality as can be seen in the ratios below. Many observers believe the clean-up and subsequent rebuilding of infrastructure will boost the nation's GDP. To the contrary, a major portion of costs will be born by the federal government (if not covered by insurers/re-insurers) which will place additional pressure on the country's budget deficit and further increase national debt.

In Q4 2010, Japan's economy contracted by 1.3%YoY (-0.3% QoQ) with private consumption and exports down 0.8%. The country's budget deficit is currently 7.32% of GDP and debt-to-GDP is approaching 240%. In its most recent monetary policy meeting on Monday, March 14th, the Bank of Japan (BOJ) increased the size of its asset-purchase program by ¥5T (¥1.5T in government debt and ¥3.5T in riskier financial assets) to ¥10T and poured ¥15T into money markets in an effort to ease liquidity concerns. CDS spreads have also risen as a result of the recent natural disasters and nuclear emergencies. Watch 1) the accounting adjustments for underfunded pension funds, 2) funding costs, and 3) CDS spreads.

INDICATIVE CREDIT RATIOS	Annual Ratios					
	Dec-07	Dec-08	Dec-09	Dec-10	Dec-11	Dec-12
Debt/ GDP (%)	262.6	265.1	265.4	265.7	265.9	266.2
Govt. Sur/Def to GDP (%)	-7.1	-7.7	-3.8	-3.4	-3.3	-3.3
Adjusted Debt/GDP (%)	268.3	270.6	270.9	271.2	271.5	271.8
Interest Expense/ Taxes (%)	13.6	14.6	15.5	16.4	17.2	17.9
GDP Growth (%)	-1.5	2.2	-0.1	-0.1	-0.1	-0.1
Foreign Reserves/Debt (%)	7.8	7.4	7.3	7.3	7.3	7.3
Implied Sen. Rating	BB+	B+	B	B+	B+	B+

INDICATIVE CREDIT RATIOS	AA	A	BBB	BB	B	CCC
Debt/ GDP (%)	40.0	50.0	60.0	80.0	120.0	150.0
Govt. Sur/Def to GDP (%)	5.0	3.0	0.5	-2.0	-5.0	-9.0
Adjusted Debt/GDP (%)	45.0	55.0	65.0	85.0	125.0	155.0
Interest Expense/ Taxes (%)	7.0	9.0	12.0	15.0	22.0	26.0
GDP Growth (%)	5.0	4.0	2.0	1.0	-1.0	-5.0
Foreign Reserves/Debt (%)	25.0	20.0	15.0	12.0	9.0	7.0

PEER RATIOS	S&P Sen.	Debt	Govt. Surp.	Adjusted	Interest	GDP	Ratio-
		as a % GDP	Def to GDP (%)	Debt/ GDP	Expense/ Taxes %	Growth (%)	Implied Rating*
United Kingdom	AAA	79.6	-11.4	100.2	7.0	-4.9	B+
Federal Republic Of Germany	AAA	74.0	-3.0	80.5	10.7	4.0	BBB-
Government Of Canada	AAA	33.9	-4.9	33.9	14.3	3.2	A-
Japan	AA-	262.6	-7.1	268.3	14.6	-1.5	CC
Italian Republic	A+	116.8	-5.3	122.6	15.9	1.5	BB-



Country (EJR Rtg*)	Current CDS	Targeted CDS
Japan(BB+)	81	333
Italy(BBB+)	183	158
United Kingdom(AA)	62	30
Germany(AA)	53	30

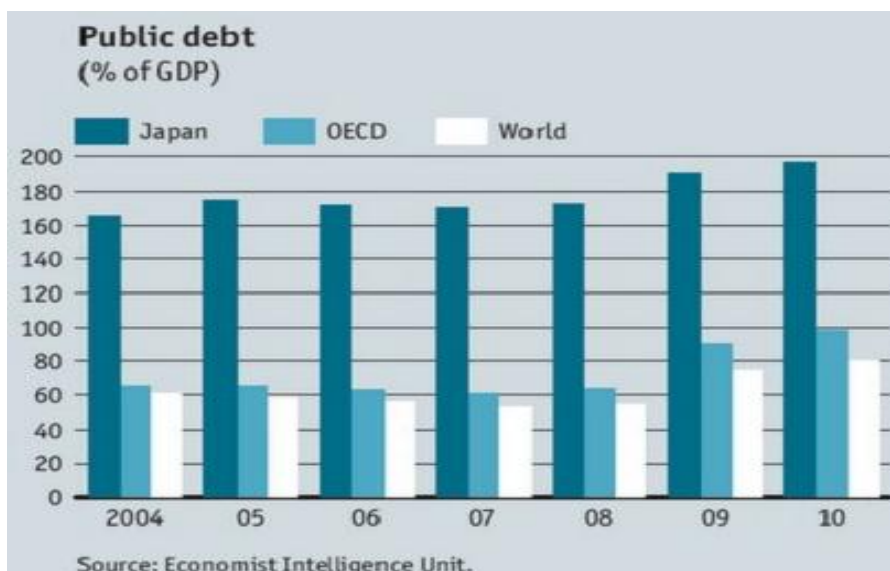
* Projected Rating

Japan: Land of the Setting Sun

For nearly three decades, real economic growth in the world's second largest economy was spectacular. Japan's GDP grew at an average of 10% in the 1960's, followed by an average of 5% in the 1970's and 4% in the 1980's. However, following the asset price bubble of the late 1980's, the unprecedented growth of the prior three decades slowed significantly, averaging just 1.7% by the end of the 1990's.

Ten years later, Japan is in no better shape. The country has been one of the hardest hit by the recent global financial crisis. While the financial services sector largely avoided the initial effects of the crisis as a result of little exposure to sub-prime mortgages and their derivative instruments, a strong downturn in business investment and global demand for Japanese exports in late 2008 forced the economy to experience negative growth for the first time in nearly ten years. GDP growth rates fell to negative 1.2% in 2008 and negative 5.2% in 2009. While the recession hit bottom in Q1 2009, the economy managed to show positive signs of recovery by the second quarter with the help of strengthened exports and capital investment. Three subsequent quarters of economic growth, including the Q1 2010 GDP growth rate of 1.2%, have helped to alleviate fears of a "double-dip" recession while also averting a collapse of confidence in its ¥882.9 trillion (\$9.6 trillion) debt. However, the IMF has forecast that Japan's GDP will grow by approximately 2% in both 2010 and 2011, a rate only slightly faster than those seen during the country's "lost decade".

Several other key economic indicators have raised concern over the fixture of a plausible economic recovery. The seasonally adjusted unemployment rate in June 2010 was 5.3% which, although lower than the 8.6% OECD average, remains 1.4% higher than the country's unemployment rate prior to the global financial crisis. Overall, job losses in Japan as a result of the recession have been relatively small by comparison to those in most other OECD countries, in part due to short-time work programs offered during the economic contraction which encouraged employers to adjust to lower demand by reducing workers hours ("work sharing"), rather than through layoffs. Meanwhile, Japan's consumer prices have fallen for 15 consecutive months while the core CPI has dropped 1.2% YoY, proving that deflation remains a deep-rooted problem in the economy. The BOJ predicted in its latest estimate that consumer prices would continue to fall until March 2012. As consumer prices fall, nominal GDP will decrease causing Japan's already massive debt-to-GDP ratio to continue to rise.



Can Japan Continue to Roll-over its Debt?

Japan's national debt of US\$9.3 trillion is nearing 200% of GDP. It is the highest debt-to-GDP ratio in the industrialized world. The country is under increased pressure to strengthen its finances as investors fear another Greece-style debt crisis. Japan's debt-to-GDP ratio of 212.4% far surpasses that of Greece's 66.4%. Moreover, the country has a current excess debt level of nearly US\$7 trillion, more than 35 times that of Greece's US\$207.4 billion. That is, debt levels currently exceed the manageable threshold of 65% of GDP by \$6,877.5 billion. Japan risks losing the confidence of the bond markets and becoming the next global debt crisis if it fails to correct its increasing fiscal deficit and balance its currently unsustainable budget.

Sovereign Credit Underfunding					
Country	Debt (US\$ Bil)*	GDP (US\$ Bil)	Budget Deficit (% of GDP)*	65% of GDP (US\$ Bil)	Debt in Excess of 65% of GDP
<i>EU Member States</i>					
Italy	2,005.8	2,112.9	5.3	1,373.4	632.5
Greece	421.8	329.9	13.6	214.4	207.4
Belgium	417.6	468.8	6.0	304.7	112.8
Hungary	112.6	129.0	4.0	83.9	28.7
France	1,693.9	2,665.3	7.5	1,732.4	-38.5
Portugal	174.6	227.7	9.4	148.0	26.6
Germany	1,418.0	3,344.2	3.3	2,173.7	-755.7
United Kingdom	1,540.8	2,176.6	11.5	1,414.8	126.0
Austria	272.6	384.7	3.4	250.1	22.6
Spain	751.7	1,460.3	11.2	949.2	-197.5
EU-Total					<u>164.8</u>
<i>Non-EU States</i>					
Japan	10,176.6	5,075.5	7.4	3,299.1	6,877.5
Iceland	16.4	12.1	15.7	7.9	8.6
United States	8,469.7	14,256.3	9.1	9,266.6	-796.9
Canada	560.6	1,338.5	4.8	870.0	-309.5
Israel	167.1	194.8	3.5	126.6	40.5
Argentina	146.4	300.0	(+) 0.05	195.0	-48.6
China Mainland	908.2	4,910.0	0.4	3,191.5	-2,283.3
Non-EU Total					<u>3,488.3</u>
EU and Non-EU Total					<u>3,653.1</u>
*Bloomberg, September 2010					
Source: IMD (unless otherwise noted)					

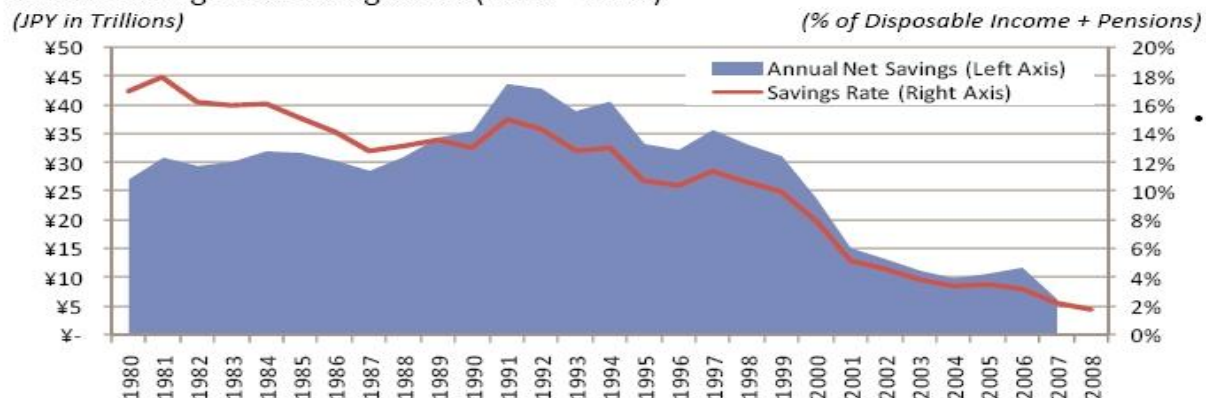
Who holds JGB's?

Overall, Japan's current government debt is held mainly by domestic institutional buyers. Approximately 93% of JGB's are owned by domestic investors who tend to hold them for long periods of time despite low yields. Public institutions such as Japan's Government Pension Investment Fund (GPIF) and Japan Post (the single largest holder of JGBs) continue to invest in Japanese sovereign debt. As of 2008, financial institutions held 62.6% of JGBs while the government and central bank held 13.2% and 8.7%, respectively. Households have held increasingly high percentages of JGBs throughout the past decade as well. Currently, households hold 5.2% of JGB's. Officials have warned that diversifying the bondholder base is key to creating a healthier government bond market.

Saving Rates As Attributed To Aging Population and Income Stagnation

Traditionally, Japan has coped with its massive debt thanks to large household savings. However, over the last two decades, Japan's household savings ratio has fallen consistently from a rate of 15% in 1991 to a current rate of 2.6% (2009). Two leading reasons for this declining rate include years of income stagnation and a rapidly aging population.

Annual Savings and Savings Rate (1980 - 2008)



Source: Japan Ministry of Finance. ESRI. BOJ.

Rapidly Aging Population: The Life Cycle Hypothesis

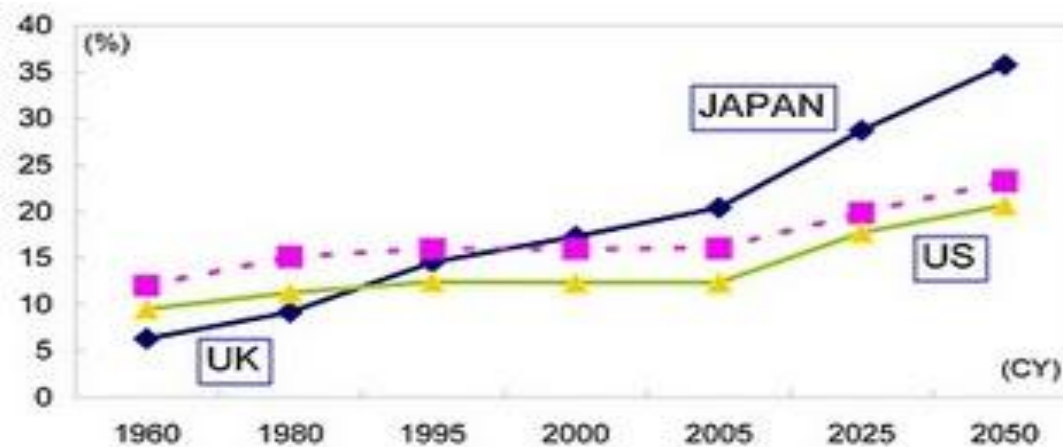
Japan's population was one of the youngest in the industrialized countries until recently. In 1975, individuals aged 65 and older made up 7.9% of the total population, the lowest among OECD member countries. As the life cycle hypothesis suggests, this young age structure contributed directly to higher savings.

However, Japan's population has since aged and continues to do so at unprecedented rates. By year's end, Japan's 2009 dependency ratio[1] was the eighth highest in the world at 56.44%. Currently, those aged 65-99 years have risen from 7.9% (2009) to 22.6% of the total population. Such figures indicate that any increase in taxes to the population will not be sufficient to curb the massive debt levels as the majority of the population is retired and dependent on the younger working population. Costs to repay debt will therefore ultimately fall on the corporations.

Country	Age Structure of Population by Country (%)					
	2005			2030 (projections)		
	0-14 yrs	15-64 yrs	65 yrs +	0-14 yrs	15-64 yrs	65 yrs +
Japan	13.7	65.8	20.1	9.7	58.5	31.8
Germany	14.4	66.9	18.8	13.2	59.5	27.3
Italy	14.0	66.3	19.7	12.2	60.8	27.0
Switzerland	16.7	67.9	15.4	15.4	60.7	23.9
South Korea	18.6	71.9	9.4	11.8	64.7	23.4
France	18.4	65.3	16.3	16.4	60.4	23.2
Canada	17.6	69.2	13.1	15.3	61.4	23.2
Sweden	17.4	65.4	17.2	17.1	60.2	22.8
U.K.	18.0	66.0	16.1	16.9	61.5	21.6
Australia	19.5	67.4	13.1	17.3	61.4	21.3
U.S.A.	20.8	66.9	12.3	18.2	62.4	19.4
China	21.6	70.7	7.7	17.3	66.5	16.2
Brazil	27.8	66.0	6.1	20.9	66.6	12.5
India	33.0	62.0	5.0	22.9	68.3	8.8

Source: Statistics Bureau, MIC; United Nations; Ministry of Health, Labour and Welfare.

Along with smaller tax revenues, household savings (which continue to trend downward) will likely turn negative as a result of the aging population. The country's healthy surplus could in effect become a deficit, making government increasingly reliant on foreign investors to finance its massive debt. Rising social security payments are likely to put more pressure on public financing as well.



Source: "White book of aging"(Japanese Government)

FIGURE2 Movement of Old-Age Index (Japan, UK and US)

Three Factors to Drive Wealth: Population, Education, Urbanization

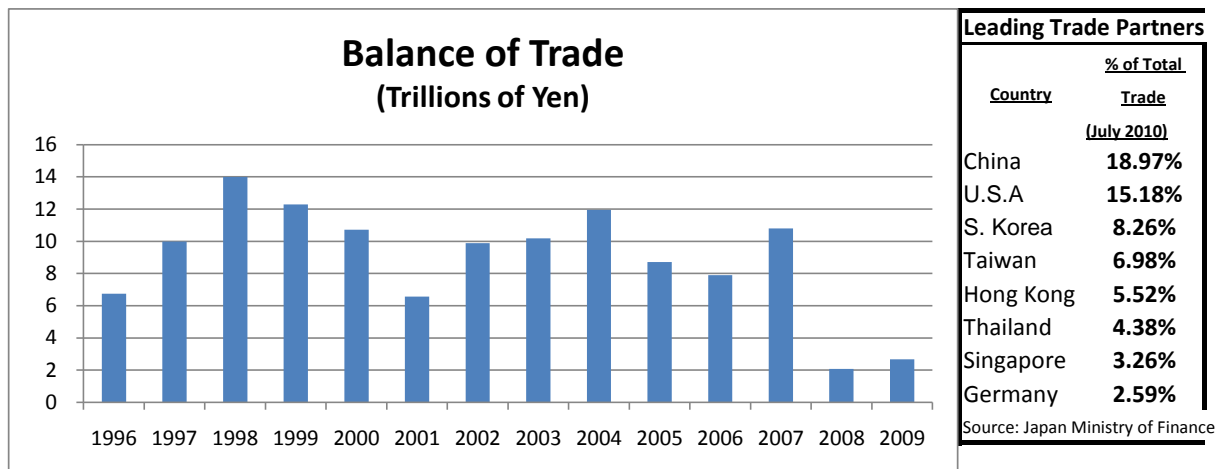
Japan is currently the tenth most populated nation in the world. However, a steady surplus of deaths over births in recent years has caused the overall population to decrease. In the most recent year, the country experienced 7.64 births per 1,000 population, versus 9.54 deaths per 1,000 population. The overall growth rate was 0.191% (2009).

On a positive note, Japan possesses very high levels of education due in large part to the strict education system instituted in postwar Japan. Mandatory education lasts nine years. Interestingly, the overall school life expectancy (primary to tertiary education) is 15 years for both males and females. More than 95% of students continue on to high school thereafter and nearly 50% then go on to college. These high levels of education underpin the country's high productivity. As a result, the government invests heavily in the educational sector. Government expenditure on education per capita totals US\$1,342 (2008). Total government expenditure on education as a percentage of GDP totals 3.9% (2008). Japan's literacy rate[2] of 99% ranks among the highest in the world.

Of the total population, 66% is urbanized, the seventh highest percentage denomination in the world. However, the overall rate of urbanization from 2005-2010, which has averaged 0.2%, is one of the lowest rates in the world.

Potential Shift in Balance of Trade

Japan has long been an export-dependent economy. Historically, Japanese exports have exceeded imports in exchange volumes with the country's main trading partners. However, the country now risks a shift in its balance of trade. As the yen continues to rise to record highs and trading partners worldwide suffer continued economic slowdowns, Japan's trade surplus is likely to weaken.



Source: Bloomberg, Japan Ministry of Finance

Moving Forward: Japan’s Debt Financing Program

The Democratic Party of Japan plans to take a number of measures to decrease the country’s heavy dependency on debt which Japan has been growing through substantial borrowing for over two decades. Japan’s debt-to-GDP ratio of 240.8%, as seen on page 1, indicates that the government cannot afford to increase spending without raising taxes. However, plans cannot be too aggressive because the economy is still in a very fragile state. An increase in taxes could cause the economy to fall back into a recession. Nonetheless, Prime Minister Naoto Kan has suggested raising the consumption tax rate by as much as five percent over the next five years to take advantage of the cyclical recovery. The rate is already relatively high at 5% and any potential increase may take two or more years to implement. The plan is unpopular with voters.

In an effort to increase growth, investments, and employment, the government has also proposed cutting corporate tax rates by 10-15% as well. A strong economy is a must in order for Japan to avoid a debt crisis of Greek proportions. This means making it easier for companies to invest and grow. The current corporate tax rate of 40%, the highest in the developed world, makes it difficult to do so. Cutting the corporate tax rate may change this dynamic. The proposed tax cut could start as early as next year.

Most recently, the Japanese government unveiled a 915 billion yen (\$10.92 billion) stimulus package aimed at boosting employment, consumer spending and corporate investment in the domestic economy. While the package accounts for about 0.2% of the country’s GDP, the government expects it to lift GDP by about 0.3%.

Regardless of the plans set forth, Japan’s proposals fail to suggest that its fiscal state is sustainable. The country’s economy will inevitably rely more on foreigners as debt continues to grow. Even with the help of much needed macroeconomic and structural reforms, which Japan’s central bank and finance ministry largely underestimate, Japan’s nearly 200% debt-to-GDP ratio is unsustainable in the long term. While the order of events to unfold are still at large, one thing is for certain: If current debt levels sustain relative to GDP, default on Japanese government debt is hard to avoid.

[1] Population under 15 and over 64 years old, divided by active population (15 to 64 years).

[2] Age 15 and older can read and write.

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Assumptions for Projections

Income Statement	Peer	Issuer	Base Case	
	Median	Average	Yr 1&2	Yr 3,4,5
Taxes Growth%	(4.8)	(8.4)	(1.0)	0.5
Social Contributions Growth %	(0.4)	0.7	0.7	0.7
Grant Revenue Growth %	0.0	3,500.0	2.0	2.0
Other Revenue Growth %	0.1	42.3	2.0	2.0
Other Operating Income Growth%	0.0	0.0		
Total Revenue Growth%	(3.9)	0.6	(0)	(0.1)
Compensation of Employees Growth%	3.5	(2.3)	(2.3)	(2.3)
Use of Goods & Services Growth%	5.4	(0.1)	(0.1)	(0.1)
Social Benefits Growth%	5.5	1.8	1.8	1.8
Subsidies Growth%	4.4	(1.8)		
Other Expenses Growth%	9.5	9.5	9.5	9.5
Special Items (billion JPY)	0.0	0.0		
Balance Sheet				
Currency and Deposits Growth%	0.4	(17.4)	3.0	3.0
Securities other than Shares LT Growth%	7.8	10.0	1.0	1.0
Loans Growth%	1.7	(6.8)	2.0	2.0
Shares and Other Equity Growth%	18.8	(13.9)	2.0	2.0
Insurance Technical Reserves Growth%	0.0	0.0	2.0	2.0
Financial Derivatives Growth%	0.0	0.0	1.0	1.0
Other Accounts Receivable LT Growth%	4.4	(12.2)	0.1	0.1
Monetary Gold and SDR's Growth %	0.0	0.0	5.0	5.0
Other Accounts Payable Growth%	6.4	NMF		
Currency & Deposits Growth%	2.1	0.0		
Securities Other than Shares Growth%	8.8	4.1	2.9	2.9
Growth%	0.0	0.0		
Loans Growth%	1.7	(4.7)	0.5	0.5
Insurance Technical Reserves Growth%	0.0	0.0		
Financial Derivatives Growth%	0.0	0.0	1.0	1.0
Addl debt. (1st Year) billion JPY	0.0	0.0		

Base Case

ANNUAL REVENUE AND EXPENSE STATEMENT (BILLIONS JPY)

	<u>Dec-06</u>	<u>Dec-07</u>	<u>Dec-08</u>	<u>PDec-09</u>	<u>PDec-10</u>	<u>PDec-11</u>
Taxes	92,438	94,539	86,611	85,744	84,887	85,311
Social Contributions	55,315	56,696	57,069	57,443	57,821	58,200
Grant Revenue	0	0	4	4	4	4
Other Revenue	30,646	20,121	28,630	29,202	29,786	30,382
Other Operating Income	0	0	0	0	0	0
Total Revenue	178,400	171,357	172,312	172,394	172,497	173,897
Compensation of Employees	31,362	31,499	30,787	30,091	29,410	28,745
Use of Goods & Services	16,752	16,877	16,856	16,836	16,816	16,795
Social Benefits	90,644	93,627	95,284	96,971	98,687	100,434
Subsidies	3,222	2,978	2,924	2,924	2,924	2,925
Other Expenses	9,945	10,665	11,674	11,674	12,778	12,778
Grant Expense	430	431	381	417	457	500
Depreciation	<u>15,970</u>	<u>16,487</u>	<u>17,372</u>	<u>17,372</u>	<u>17,372</u>	<u>17,372</u>
Total Expenses	168,325	172,562	175,279	176,285	178,445	179,550
Operating Surplus/Shortfall	10,076	-1,205	-2,967	-3,891	-5,947	-5,652
Interest Expense	<u>12,592</u>	<u>12,846</u>	<u>12,644</u>	<u>13,276</u>	<u>13,940</u>	<u>14,637</u>
Net Operating Balance	-2,516	-14,051	-15,610	-17,167	-19,887	-20,289

ANNUAL BALANCE SHEETS (BILLIONS JPY)

ASSETS

	<u>Dec-06</u>	<u>Dec-07</u>	<u>Dec-08</u>	<u>PDec-09</u>	<u>PDec-10</u>	<u>PDec-11</u>
Currency and Deposits	118,912	102,292	84,473	87,007	89,617	92,305
Securities other than Shares LT	122,060	125,115	137,657	139,034	140,424	141,828
Loans	67,758	58,440	54,442	55,531	56,642	57,775
Shares and Other Equity	101,185	116,067	99,924	101,922	103,961	106,040
Insurance Technical Reserves				0	0	0
Financial Derivatives						
Other Accounts Receivable LT	132,998	145,388	127,719	127,847	127,975	128,103
Monetary Gold and SDR's						
Additional Assets	<u>1</u>	<u>(1)</u>	<u>(1)</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Financial Assets	<u>542,913</u>	<u>547,301</u>	<u>504,214</u>	<u>511,341</u>	<u>518,618</u>	<u>526,051</u>

LIABILITIES

Other Accounts Payable	29,002	27,381	21,914	21,914	21,914	21,914
Currency & Deposits				0	0	0
Securities Other than Shares	714,621	726,426	756,042	777,618	799,811	822,636
Loans	201,526	187,378	178,545	213,792	218,765	223,661
Insurance Technical Reserves						
Financial Derivatives						
Other Liabilities	<u>25,639</u>	<u>26,208</u>	<u>27,062</u>	<u>(5,468)</u>	<u>(5,468)</u>	<u>(5,468)</u>
Liabilities	<u>970,787</u>	<u>967,393</u>	<u>983,563</u>	<u>1,007,857</u>	<u>1,035,021</u>	<u>1,062,743</u>
Net Financial Worth	<u>(427,874)</u>	<u>(420,092)</u>	<u>(479,349)</u>	<u>(496,516)</u>	<u>(516,403)</u>	<u>(536,692)</u>
Total Liabilities & Equity	<u>542,913</u>	<u>547,301</u>	<u>504,214</u>	<u>511,341</u>	<u>518,618</u>	<u>526,051</u>