



## Japan's economy in valley of tears with record debt

August 19, 2009

**The global recession and manufacturing industry's reliance on exports have led to the most severe recession since the Second World War.**

**Although net exports in recent years have contributed just a third of Japan's economic growth, their current waterfall collapse is hitting the entire economy.** Having benefited exceptionally from booming world trade, the electronics and automotive industries are now feeling the pinch of global recession all the harder. Many of Japan's important trade partners, especially in Asia, have themselves suffered particularly sharp economic downturns. China has gained steadily in importance for Japanese industry as a sales market and supplier, while trade with the industrialised West has posted only moderate rates of increase.

**A comparison of business cycles underscores the severity of the current slump.** An important leading indicator, the current order book in mechanical engineering, has plummeted twice as sharply as in the two previous cycles.

**Expansive fiscal policy has helped check the downswing.** But borrowing to pay for the fiscal stimulus packages has sent government gross debt – which, at 170% of GDP, was way above the OECD average of 44% even before the crisis – spiralling yet higher.

**Debt-financed economic stimulus programmes, mounting government gross debt and deflationary tendencies are placing the solidity of public finances increasingly at the centre of Japan's fiscal and economic policy.** Various simulations depict potential developments in public debt and the interest burden arising from this for general government. Simulation results show upside debt ratio stabilising at 100%, baseline debt ratio soaring above 300% of GDP by 2020.

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**Introduction**

At the beginning of 2008 Japan's economy, as in most other industrialised countries, was still expanding. And initially, thanks to the Japanese banks' fairly conservative business policy, it was not directly sucked into the maelstrom of the financial crisis. So far, Japanese banks have posted only 3% of global writedowns totalling USD 1,500 bn. But then Japan, being heavily skewed to exports, was especially hard hit by crumbling world trade as the global recession took hold. Exports in Q4 2008 tumbled by 14.7% qoq and in Q1 2009 by 26% qoq.<sup>1</sup> The slump was even sharper than in other industrial countries (Germany Q4: -8.1%, Q1: -9.7%, USA -6.5%, -8.7%). Although the export sector's contribution to aggregate economic output, excluding deductions of imports, is only around 15% (against Germany's 45%), business activity in Japan is still heavily reliant on foreign trade. In industrialised countries most tradeable goods are produced by manufacturing industry, so that a severe decline in exports squeezes industrial outturn. As in other export-oriented economies, export and investment trends run almost parallel. Although the industrial sector is becoming less prominent in developed industries, it is far more volatile than the services sector, which is why this correlation has such a strong impact on aggregate economic development.

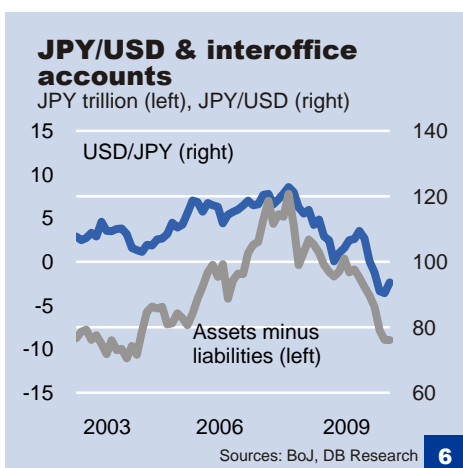
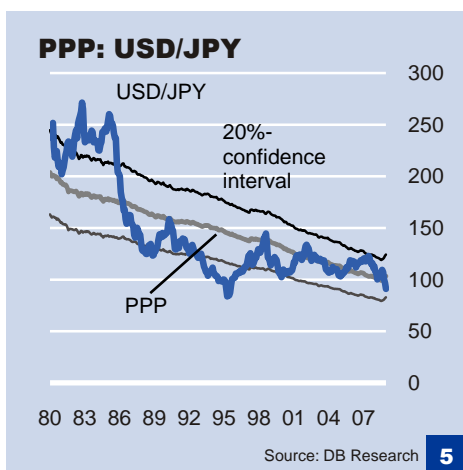
This paper begins by outlining the importance of external trade and its determinants, with special emphasis on analysis of the changes in the structure of external trade and the importance of exchange rates. The major export and import countries and recent developments in trade relations are also discussed. This is followed by a brief examination of the sectors most affected by the development in exports. To assess the depth of the current recession, we compare the present downswing with the two previous economic slowdowns in 1998/1999 and 2002. Given the already extremely high level of public debt, the fiscal impact of the recession and potential scope for an anticyclical policy are analysed with the aid of simple simulations.

**Development and determinants of foreign trade**

Between 2002 and 2007 Japan experienced one of its strongest economic upswings, generating the highest export surpluses of the post-war period. The surge in global demand – propelled by the US growth engine and the rise of Asia, most importantly China, to the status of an economic power – was the major driving force behind the upswing in Japanese foreign trade. Up to the beginning of 2008 exports expanded by 10.7% p.a., compared with growth in the 1980s and 1990s of a mere 2.6% p.a. Similar growth rates were also registered on the import side. The precipitous descent that we are now seeing in Japan's external trade can therefore be interpreted partly as a corrective process. Had exports continued to advance by 2.6% p.a. since 2001, they would have been worth JPY 13.8 bn in Q1 2009. At JPY 12.6 bn, the actual value of shipments in Q1 thus dipped below the long-range trend line for the first time, whereas export volumes in some of the preceding quarters had been more than 50% above the trend line.

The present collapse in foreign trade caused Japan's trade balance to slip into the red in August 2008 for the first time in 28 years. The appreciation of the yen is often cited as another reason for this

<sup>1</sup> This is equivalent to annualised values of -47.1% in Q4 2008 and -70.0% in Q1 2009.



## Determinants of exports

Regression:

$D \log_4(\text{exports}) =$

$-0,03 - 0,47 D \log_4(\text{yen})$

$+0,42 D \log_4(\text{ChinaGDP})$

$+0,26 D \log_4(\text{USGDP})$

P-values:

Yen 1.8%, ChinaGDP 9.8%, USGDP 6.3%

$R^2 = 0.75$ , DW = 2.73

Period: 2003 Q1-2008 Q4, N=24

**Interpretation:** Japan's exports are heavily determined by economic development in China and the USA, but in recent years movement in the yen-dollar rate has also had a powerful influence on exports. **Notes on econometrics:** Regressors are standardised, so that the coefficients are comparable in size. LM tests indicate negative autocorrelation in higher order lags. Cointegration methods are not used owing to the small number of observations.

development, but on a one-year horizon the yen climbed by just 10% from 104.8 per USD in Q1 2008 to 93.9 in Q1 2009. Over a two-year period, however, it gained 21%. The deterioration in price competitiveness undoubtedly has the effect of damping demand, but the scale depends on demand elasticity.

To quantify the importance of the determinants, we regress the development in exports on the standardised trade-weighted yen and standardised Chinese and US GDP. Because of the massive increase in globalisation and world trade, only the last six years are considered.<sup>2</sup> The regression results document the significance of a higher yen for the contraction in exports. But the model goes only part of the way to explaining the severe collapse in exports during the crisis. The 10 percent appreciation of the yen explains roughly 20% of the drop in exports in this model, while the contractions in foreign GDP explain even less of the downturn.

## Fluctuations in yen exchange rate

The yen appreciation has often been associated with the unwinding of yen carry trades. However, carry trade volumes can only be approximated, not measured directly. An interesting indication is the net asset position in the interoffice accounts of foreign banks, especially from America.<sup>3</sup> The higher the liabilities of foreign banks at their respective Japanese subsidiaries, the larger the carry trade volume will presumably be.<sup>4</sup> Owing to the interest differential between Japan and the rest of the world the carry trades were attractive mainly as a source of funding, but they are also an interesting speculative instrument. Investors in carry trades can benefit from an increasing volume of such deals if the devaluation pressure they exert on the yen really is reflected in a more favourable exchange rate, reducing the amount of borrowing as well as the interest burden, which is low in foreign currency anyway. Successful carry trade investors can therefore quickly attract emulators, creating a self-reinforcing effect.

But there are two sides to this. The unwinding of carry trades in the present crisis, i.e. the reduction in foreign investors' liabilities, pushed up demand for the yen and consequently also its exchange rate. The liquidation of carry trades and investors' global flight into safe investments and hence also safe currencies possibly stimulated each other by inducing expectations of appreciation. At the peak of the financial market crisis every investor was afraid of being the last to exit the rapidly depreciating emerging market currencies and paying dearly for safe asset classes and currencies. In this turbulent phase the yen rose sharply, costing well below USD/JPY 90. The currency turmoil was also reflected in heightened exchange rate volatility as measured by the CVIX<sup>5</sup>.

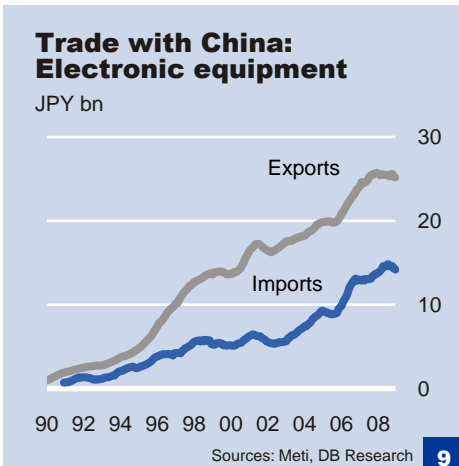
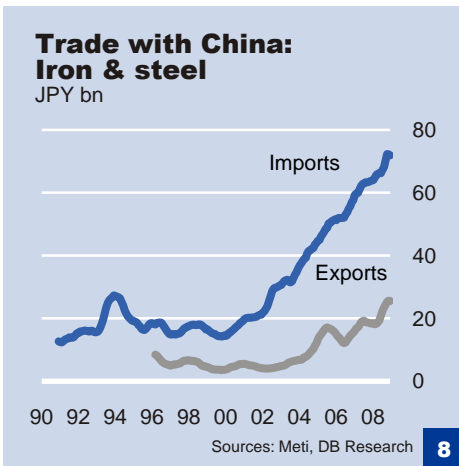
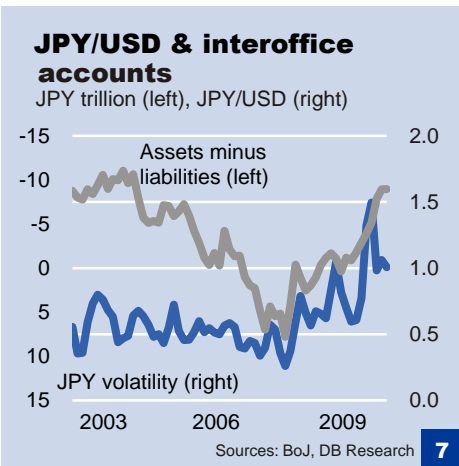
Its appreciation in recent months has taken the yen slightly below the PPP level expected in the long run, and it could therefore be slightly overvalued against the USD. With both the Fed and the Bank of Japan pursuing a zero interest rate policy at present, there

<sup>2</sup> The inclusion of gross domestic products means it is only possible to use quarterly data.

<sup>3</sup> The interoffice accounts record the change in assets and liabilities. The net asset position of the interoffice accounts is defined as assets minus liabilities between foreign banks and their Japanese subsidiaries. The Bank of Japan collects these statistics monthly.

<sup>4</sup> See Hattori and Shin (2008).

<sup>5</sup> The CVIX is an index that tracks currency volatility. The higher the CVIX the stronger the fluctuation in the currency analysed.



### Top ten sales markets

USD bn/month

Ranking	Country	2008	1993	% p.a.
1	USA	11.8	8.9	1.9
2	China	10.6	1.4	14.2
3	South Korea	5.1	1.6	8.0
4	Hong Kong	3.4	1.9	4.0
5	Thailand	2.5	1.0	6.0
6	Singapore	2.2	1.4	3.2
7	Germany	2.0	1.5	2.0
8	Malaysia	1.4	0.8	3.8
9	UK	1.4	1.0	2.3
10	Russia	1.4	0.1	17.4

Source: DB Research **10**

is no interest differential of note between the two countries. Consequently, on a short-term horizon a fairly stable exchange rate is a likely scenario. The turbulence surrounding the yen has made Japanese exports more expensive and depressed corporate profits, temporarily causing a current account deficit. The transmission mechanism described above through industrial output and the investment cycle then further exacerbates the whole economic effect. Given Japan's dependence on exports and with a view to assessing Japanese industry's chances of recovery, we take a look in the next section at the country structure of its foreign sales and supply markets.

### Country analysis of foreign trade

Even before the spurt in growth resulting from the acceleration of world trade since 2002, Japan's export industry expanded rapidly between 1993 and 2008 relative to domestic demand. Shipments to its neighbours South Korea (1993 – 2008: 8.0% p.a.), China (14.2%) and Russia (17.4%) multiplied during that period, whereas deliveries to the industrialised countries USA, Germany and the UK registered only moderate growth averaging roughly 2% p.a. In the early 1990s trade with China accounted for a scant 6-7% of Japan's total foreign trade. Today, about 20% of total imports and exports stem from trade with the People's Republic. Taken together, shipments to mainland China and Hong Kong now exceed aggregate deliveries to the United States.

Low transport costs and the consumer demand potential as purchasing power rises in China are making the Middle Kingdom an increasingly important sales market for Japanese products. But China will also use its low wages, growing working population and abundance of raw materials<sup>6</sup> to deliver more goods to Japan in future. Imports from China are already posting similarly dynamic rates of growth to exports. China has now taken over from America as Japan's major supplier. Imports from China such as iron and steel, for example, tend not to feature such a vertical range of manufacture or such quality<sup>7</sup> as exports to China, like electronic systems.

In many cases the automotive and electronics industries import primary products from China and still carry out most of the finishing in Japan. The technological head start that Japan has on China will certainly decrease in the coming decades.

Purchases from other Asian countries have also notched up impressive rates of increase. The escalation in imports from the United Arab Emirates, Saudi Arabia and Kuwait is striking. It is due to higher crude oil import volumes in conjunction with higher oil prices. Another reason for the increase in imports from Kuwait is certainly the good relations between the two countries since the 1991 Iraq war, which was bankrolled mainly by Germany and Japan.

The preceding sections illustrated the significance of foreign trade for Japan's macroeconomic development. Some of the present economic downturn is therefore likely to be made good as world trade picks up again. Recent positive news from China in particular points to potentially higher export volumes in the coming quarters. Industrial output has climbed month for month since January, and if the recent monthly growth rates remain constant it will have returned

<sup>6</sup> See Wettig and Kemfert (2006).

<sup>7</sup> See also Kiyota (2008).

### Top ten suppliers

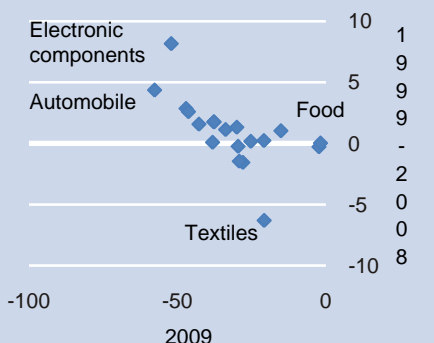
USD bn/month

Ranking	Country	2008	1993	% p.a.
1	China	11.9	1.7	13.8
2	USA	6.6	4.7	2.3
3	Saudi Arabia	4.4	0.7	12.6
4	UAE	4.1	0.7	12.5
5	Indonesia	2.7	1.0	6.6
6	South Korea	2.5	1.0	6.4
7	Malaysia	1.9	0.6	7.3
8	Germany	1.7	0.8	5.1
9	Thailand	1.7	0.5	8.0
10	Kuwait	1.3	0.1	16.0

Source: DB Research **11**

### Industrial production

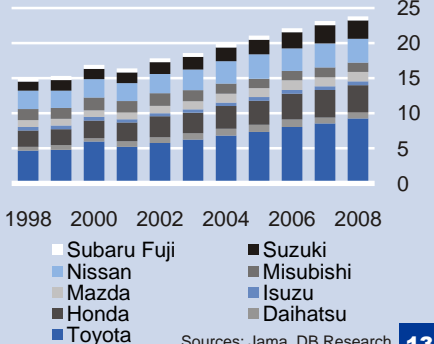
Growth rates in %



Sources: METI, DB Research **12**

### Motor vehicles: Global production

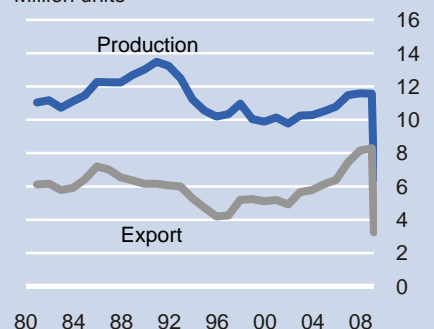
Million



Sources: Jama, DB Research **13**

### Japan: Automobile production

Million units



Sources: Jama, DB Research **14**

to its 2005 level by the end of 2009. Of course reliance on foreign trade varies considerably in individual branches of industry. In the following section we pinpoint latter-year developments in the most important sectors of manufacturing.

### Manufacturing industry sector analysis

Sectors that reflected the winter half-year's 35.7% decline in industrial output most starkly are, by and large, the boom industries of the previous years. The sectors most severely affected by the current crisis, electronics and automotive, also make up large shares of the total export volume, at 19% and 16% respectively. Their development is therefore especially relevant to an assessment of the situation.

From 1999 to 2008 electronic components posted the strongest average growth, 8.2% p.a., of all sectors, (see Chart 12), (industrial output as a whole 1.8%). But between February 2008 and February 2009 production there tumbled 52.1%. The entire electronics industry<sup>8</sup> also saw output contract massively by 38.2%. The value of exports by the electronics industry likewise plummeted 46.3%, from JPY 4.1 trillion in Q1 2008 to JPY 2.3 tr in Q1 2009.

The automobile industry fared even worse as outturn slipped 57.7%. It, too, had turned in above-average production growth of 4.4% p.a. from 1998 to 2008. Both production figures and the share of domestic outturn exported were stepped up sharply before the crisis. In 2008 Japanese motor manufacturers produced 23.8 million vehicles worldwide, 11.3 million of them in Japan. Ten years previously global output had totalled just 15.1 million vehicles, with around 10 million units produced domestically. The share of domestic production shipped abroad climbed from 50% in 1998 to more than 70% in 2008. This dependence on foreign trade and the global economy is now having major repercussions for the Japanese automotive industry in the global recession. In the first quarter of 2009 production shrank quarter-on-quarter annualised by almost 50% to 6.4 million units and exports by fully 60% to just 3.2 million vehicles.

On the other hand there are industries that grew very little before the economic crisis and focus very little on exports, such as the food industry and textiles. From 2008 to 2009 they suffered only a slight drop in production (-1.8% and -20.8%).<sup>9</sup> This reliance on exports by Japan, most notably its automotive and electronics sectors, can thus be considered one of the main reasons why its industry has taken the severest hit of the industrial countries. Japan's increased international dependence can, in the context of the virtual collapse of world trade in the winter half-year and the sharp rise in the value of the yen, explain the severity of its economic downswing. A comparison of the current collapse with earlier business cycles makes it quite clear that Japan is looking at something far different from a "normal" cyclical dip.

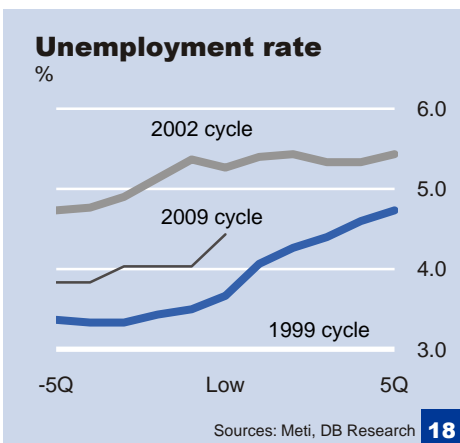
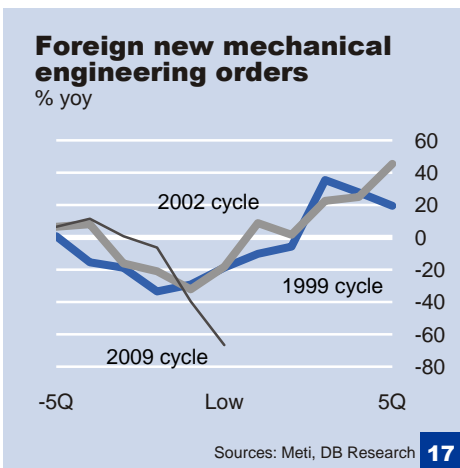
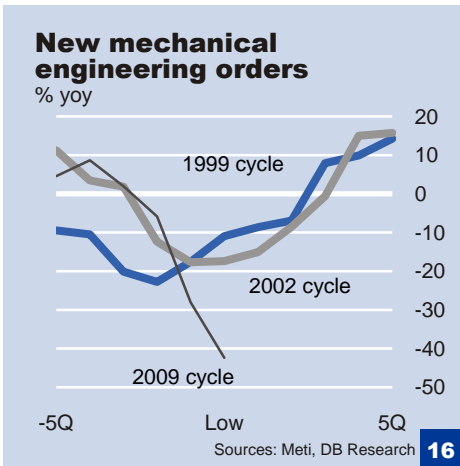
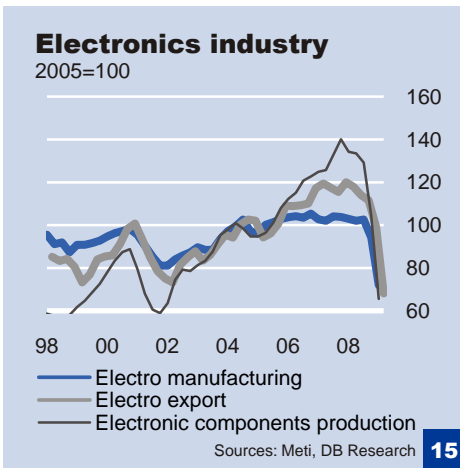
### Comparison of cyclical downswings

Here we contrast the present recession with the two previous downswings. Japan's official statistics<sup>10</sup> place the troughs in the last

<sup>8</sup> The electronics industry consists of the three sections electronic machinery, information and communications equipment and electronic components.

<sup>9</sup> As such, this is of course a big drop, but in comparison to other sectors it is fairly small.

<sup>10</sup> <http://www.esri.cao.go.jp/en/stat/di/090129dates.html>



two business cycles in Q1 1999 and Q1 2002. To determine the trough in the current downswing we assume that the forecasts made in the following are correct. Initially the downswing in 2008 progressed very much along the lines of earlier business cycles, but then in Q4 2008 the world economy spiralled into recession and with it the Japanese economy. Following the severe collapse in Q1 2009 by 4.0% qoq, economic output for the year as a whole can be expected to contract by 7.0%. If this forecast materialises it will set Japan back almost to its 2002 income level.

An important lead indicator, and therefore a good benchmark for comparing the present cycle with earlier ones, is the order intake in mechanical engineering. Both aggregate incoming orders and orders received from abroad reached their lowest level shortly before the 1999 and 2002 dents in the business cycle. Mechanical engineering orders highlight the severity of the current crash.

In the current cycle domestic demand nosedived 42.4% yoy in Q1 2009. In the 1999 economic dent the maximum backtrack in domestic demand in comparison to the previous year was -22.8% and in 2002 the worst downshift worked out at -17.4%. As in earlier business cycles, in the present crisis the order intake from abroad has also moved even more rapidly into reverse than new domestic orders, falling by 66.6% yoy in Q1 2009. In the two previous cycles the contraction was just over 30% (1999: -33.4%, 2002: -32.1%). This makes the percentage collapse in both new domestic orders and orders from abroad roughly twice as high as in the business slumps of 1999 and 2002.

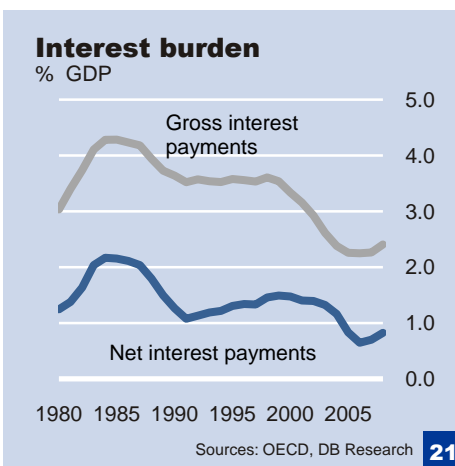
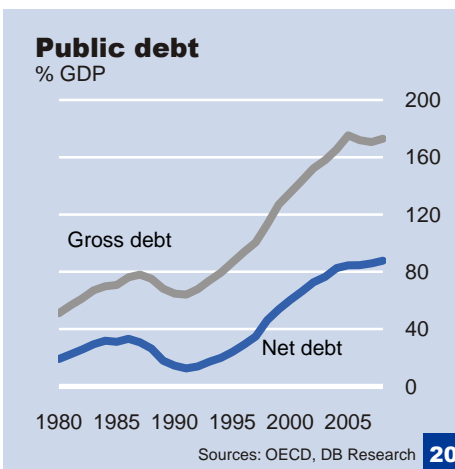
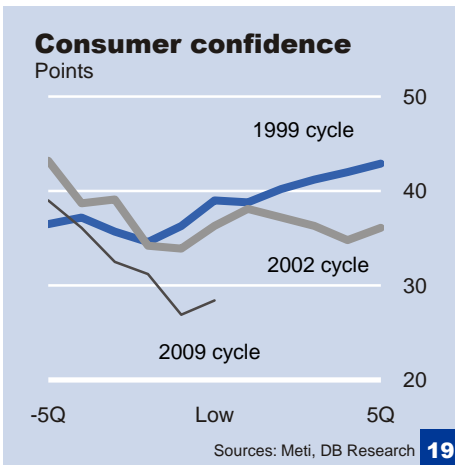
The meltdown in domestic demand and the order book has also jacked up unemployment. However, a comparison across cycles is complicated by the radical changes taking place on Japan's labour market. The cherished Japanese ideal of working a "life long" for one company offers very little of the flexibility necessary for the rapid and successful restructuring of unprofitable businesses. Even before the current crisis, roughly a third of all employees had dropped out of this system. The ongoing economic crisis is undoubtedly speeding up the move away from this traditional model to a much more flexible one. Seasonally adjusted unemployment had already risen in May to 5.2%, and jobless rates are expected to climb further, even beyond August 2002's old highs of 5.5%. The number of people out of work will probably climb towards the end of the year.

The grim employment outlook is also reflected in consumer surveys. In the two previous economic cycles consumer confidence sank to 34.6 and 33.9 points respectively. In Q4 2008 consumers' confidence hit an all-time low of 26.7 points. In Q1 2009 it recovered only marginally. Both the situation on the jobs market and low consumer confidence suggest that private consumer spending will remain obstinately slack. Implementation of the extensive fiscal packages may lift private consumer sentiment in the coming months.

#### Medium and long-range impact of fiscal policy

Through the erosion of economic power in the order of JPY 40 tr (given gross domestic product of JPY 550 tr this represents roughly 7% of GDP) and the debt-financed economic stimulus packages worth around JPY 25 tr (4 ½% of GDP)<sup>11</sup> the present severe

<sup>11</sup> The Cabinet Office (2009) quotes the fiscal packages at JPY 50 trillion, but going by experience in the 1990s they will also contain projects already in the pipeline. The IMF is therefore reckoning with fiscal packages of around JPY 25 trillion.



economic slump will seriously drive up gross government debt both in absolute terms and, most importantly, in relation to GDP. This puts Japan's high national debt even more squarely at the centre of future fiscal and economic policy decisions.

Since the bursting of the heisei bubble<sup>12</sup> and the "balance sheet recession" that this triggered, the Japanese government has passed a string of economic stimulus packages. Before the present crisis gross government debt in Japan stood at 172% of GDP, but net government debt was considerably lower, at 87.8%, owing to the financial assets held by the public pension system.<sup>13</sup> However, since these assets are automatically counterbalanced by spending commitments, we consider the gross amount here.<sup>14</sup>

Long before the current crisis and the bursting of the heisei bubble, governments in Japan had switched to a lax fiscal policy. The Tanaka Kakuei doctrine of 1972, conceived by a man subsequently to become prime minister, is often cited as the political rationale behind increasing government debt. Wright (2000) describes the Tanaka Kakuei doctrine as follows: "We should free ourselves from the idea of annually balanced budgets and place more importance on balanced public finance over the long run."<sup>15</sup>

This reasoning encouraged huge budget deficits in subsequent decades, but balancing the books was postponed indefinitely. Borrowing as a percentage of GDP averaged 9.7% in the 1980s, 8.6% in the 1990s and 4.2% from 2000 to 2009. Even in the boom years 2004 to 2007 debt of more than 3% was raised per annum on average. As a result of this debt policy Japan now has the highest gross government debt of any industrial country, at 172%. The comparable figure in the USA is 73%, in Germany 66%, and in Italy 113% in 2008.

The interest payable on the public debt can also be calculated on either a net or gross basis. In recent years both time series have posted a downward trend. Net interest payments are equivalent to around 1% of GDP and the gross figure roughly 2.5%. In the following we use net interest to measure the interest burden, offsetting interest received by government. Despite the strong escalation in debt, net interest payments – that is, the effective interest burden on the public budgets – as a ratio of GDP are currently noticeably lower, hovering above 1%, than before the heisei bubble burst and are also much smaller than in other industrialised countries (USA 2.2%, Germany 2.4%, Italy 4.6%<sup>16</sup>).

To estimate future development paths for government finances in Japan we simulate the development in debt levels, interest payments and the burden on the government budget as simply as possible. The simulations make it easier to assess whether, and if so when, Japan will manoeuvre itself into a difficult fiscal position, whereby defining such a situation is complex for various reasons.

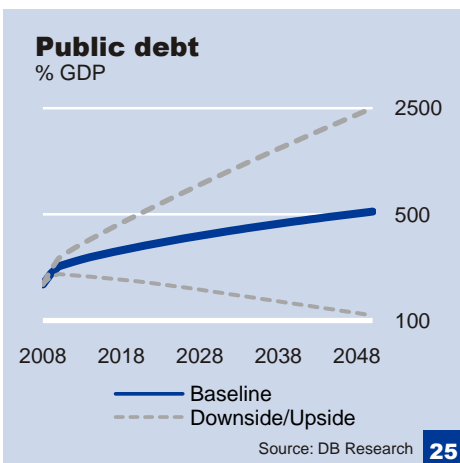
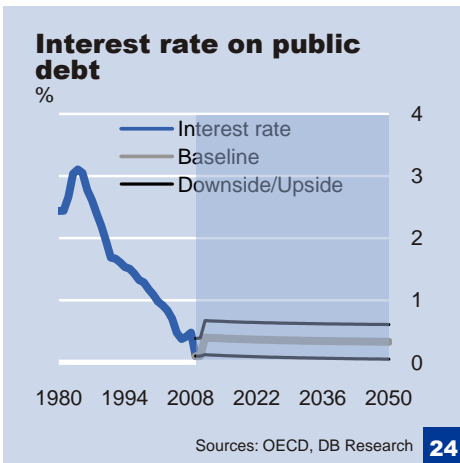
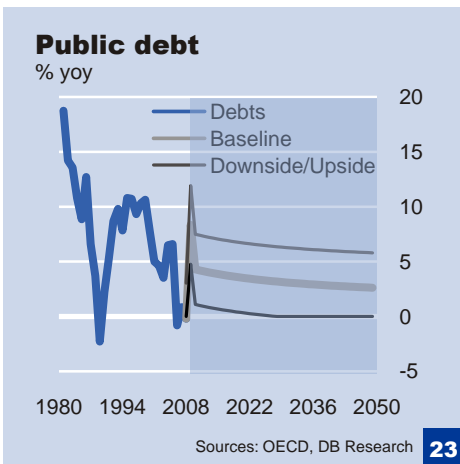
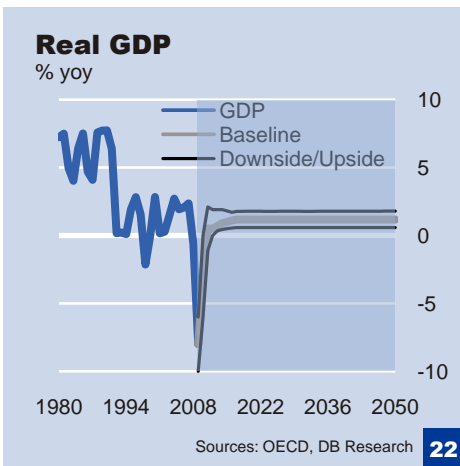
<sup>12</sup> The Japanese stock market and real estate bubble that burst in the early 1990s entered the country's economic annals as the heisei bubble.

<sup>13</sup> As a rule of thumb it is very easy to deduce the net amount from gross government debt because so far the ratio between the two debt measures has remained fairly constant over time at one to two.

<sup>14</sup> See Doi (2006), Broda and Weinstein (2005).

<sup>15</sup> Tanaka Kakuei. *Nihon Rettō Kaizōron* (A Plan for Remodelling the Japanese Archipelago). 1972.

<sup>16</sup> OECD statistics end-2008.



For one thing, we lack historical examples.<sup>17</sup> For another, a situation of this kind crucially hinges on subjective risk assessments by investors in Japanese government bonds.

The analysis proceeds from a baseline simulation broadly extrapolating developments in the past and not assuming any sweeping reforms. A successful reform policy would take us upside. Upside and downside simulation sketches extremes with very little probability of materialisation.

**Possible development paths for government debt and interest burden**

The upside simulation is based on trend growth of 1.8% p.a. and low average interest of 0.1% payable on the government debt (before the financial crisis it was 0.4%), with long-term stagnation in government debt. Because of the big difference between GDP growth and the nominal rate of interest, this version assumes an extremely favourable and rather unlikely trend. In this scenario the debt ratio would edge up a little in the coming years as a result of the present crisis but then fall back by 2050 to 100% of GDP.

In the baseline version government debt climbs by an average of around 3% p.a., with the rate of increase gradually slowing in the coming decades. Trend economic growth is on 1.2% p.a. and the interest payable on government debt not quite ½%, as in recent years. On these assumptions the interest burden ticks up to just 2% of GDP and the interest burden on the government budget to 5.4% in 2050.<sup>18</sup> But at the same time the debt ratio spirals above 500% of GDP. With borrowing running at such a high level, risk premiums are likely to be upped or purchasers of government bonds less willing to invest. Japan will probably have a higher interest burden even before 2020 – the year in which the baseline scenario sees the 300% limit being surpassed.

On the downside Japan’s government debt grows steadily by more than 5% p.a., slightly above the average for the past ten years but well below that of the 1990s. At the same time we impute lower trend growth and a higher interest load than in the baseline. On average it should be around ¾%. In this case the 300% mark would be reached within the next five years. So the downside simulation points up the danger of the current crisis plunging Japan into a fiscal situation that is unsustainable in the long run, in which government debt and interest payments can no longer be serviced without massive economic cutbacks. Debt-financing the fiscal packages while economic output is contracting drives up the debt ratio at double-digit rates of increase.

**Japan’s “interest rate compact”**

The probabilities of the simulations materialising depend essentially on changes in the specific institutional features of Japan’s financing system. So far an implicit agreement on interest rates has existed between the Japanese government and domestic households. Indirectly, Japanese households have bankrolled government debt through their low-yield savings and pensions. Notwithstanding current moves for reform, there is no question that Japanese banks, pension systems and Japan Post, which are the main direct

<sup>17</sup> Among the developed industrial nations gross government debt on such a scale as in Japan has been experienced only by the United Kingdom, and that was as a result of financing the Second World War.

<sup>18</sup> In Japan the government share in the last ten years has fluctuated only slightly around 37% of GDP.

**Incentive structure for domestic investors**

Simultaneous game

Payoff matrix

		Investor A	
		RSQ	DHI
B	RSQ	2.2	3 with p 2. 0 with 1-p
	DHI	3 with p 0 with 1-p	.2 1.1

RSQ = Retain status quo

DHI = Demand higher interest rate

p = slight probability of being allocated government bonds despite higher interest rate demand

Notation: (Investor B, Investor A) strategy

The above payoff matrix outlines the incentives for investors on the assumption (RSQ, RSQ) that they opt to retain the status quo and do not demand higher interest rates. Although investors can increase their returns by demanding higher interest rates at auctions, there is only a slight probability p of their garnering higher earnings. If there is no allocation, there is a 1-p likelihood (situation DHI, RSQ or RSQ, DHI) that investors will be left empty-handed. Even if all investors were to demand higher interest rates at the same time (DHI, DHI), their situation would not improve owing to generally higher rates of interest in the Japanese economy.

**Conclusion:** 1. Even if p is high, domestic investors still do not have any incentive to depart from the status quo. 2. In the situation described the impetus for higher interest rate payments would have to come from outside, e.g. from foreign investors or rating agencies.

investors in Japanese government bonds, have little incentive to depart from the present financing arrangement. While higher interest rates on sovereign bonds are in the interests of individual investors, in macroeconomic terms they would, if anything, stifle growth as a result of crowding-out effects and what would presumably be higher interest rates economy-wide. Ultimately the risks to the Japanese economy would increase. If we follow this argument, domestic buyers of Japanese government bonds – mainly institutional investors closely linked to the government – could be prepared to continue financing government borrowing at the present low rates of interest.

An abrupt reaction, leading to calls for higher interest rates and a heavier interest burden for the government, could however be sparked by foreign investors. Further downgrades of Japan's credit rating could lead to a change of attitude by foreign providers of capital, with domestic investors following suit. The rating agencies do not give Japan triple-A status, unlike all other G7 countries with the exception of Italy. Expansion in sovereign debt in conformity with the baseline simulation will assuredly prompt further downgrading of Japan's country rating. What is more, the share of government stock held by non-residents has roughly doubled in the past five years to around 7%. If the recent reversal in the propensity to save persists, the share of foreign investors financing Japan's sovereign debt will presumably continue to rise. But they may only be prepared to step up their commitment with the inducement of higher yields.

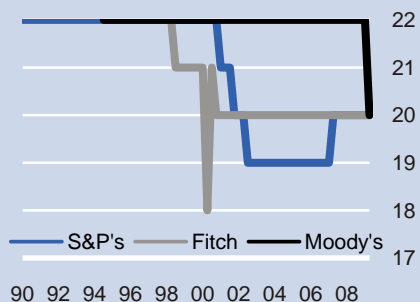
Another road potentially leading to a higher interest burden is increased privatisation of the present financing system, with greater independence arguably implying higher interest rates. Former Prime Minister Koizumi took the first step towards opening up competition on the capital market with his plan to privatise Japan Post.<sup>19</sup> By stimulating competition between borrowers, this break with the old institutions could encourage Japanese households to invest in higher-yield instruments rather than placing most of their savings in short-term investments at low rates of interest, as they have done so far. But the prospect of victory for the previous opposition party DPJ in the forthcoming general elections places a question mark over this reform since the party line is to put privatisation of the Post on ice for the time being.<sup>20</sup>

Both threads of argument cast doubt on whether the present state of balance at low interest rates can be held in the medium-term. We have considered what developments could result in equilibrium with a higher interest burden for the state. Higher interest commitments would increase the burden on the government budget, making it even more difficult to lower budget deficits and achieve budgetary balance.

Taking the baseline simulation as our starting point, in a further simulation we therefore assume that government has to pay interest at 2% on its sovereign bonds when these are rolled over. Given that roughly half of Japan's sovereign bonds will have to be refinanced within the next six years, this implies that the interest rate on government debt will climb to 1%. This higher interest rate would send the interest burden as a ratio of GDP soaring from 1.1% in the baseline simulation to 4% by 2020.

**Japan: Country rating**

Scale from 1-22

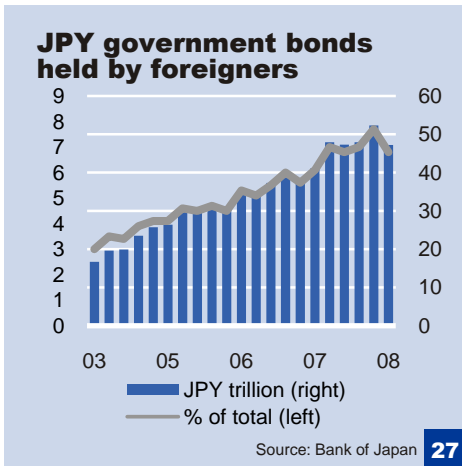


20: AA (S&P's, Fitch), Aa2 (Moody's)  
Highest rating 22, lowest non-speculative rating 13.

Sources: Rating agencies, DB Research **26**

<sup>19</sup> See Vollmer et al. (2009)

<sup>20</sup> DPJ manifesto (2009). Specific Measure: Enact a law (Act Concerning the Freezing of Sales of Japan Post Shares) as soon as possible to freeze the sales of shares of Japan Post, Japan Post Bank, and Japan Post Insurance.

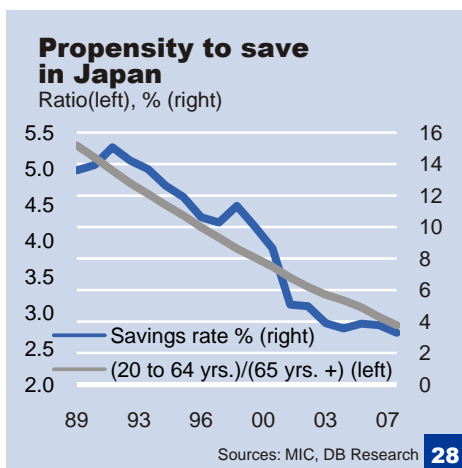


### Additional challenges in coping with government debt

Even if the plan to privatise Japan Post does expose government to the risk of having to pay higher interest, there is practically no alternative to unravelling institutions closely linked to government from market-oriented institutions. On the contrary, putting off these reforms may not only cause government debt to balloon further, it also calls Japan's reformability per se into question. In the light of this, responsible politicians should also perceive the present crisis as a threat to the Japanese government's fundamental scope for action and should implement intelligent reforms to prevent this.

Postponement, or indeed failure, of the privatisation plan would deal a serious blow to Japan's reform efforts. The ten-year privatisation plan launched in 2007 provides for the initial public offerings in 2010 of Japan Post Bank and Japan Post Insurance, two companies belonging to Japan Post Group. But the current recession could put this project on the line, irrespective of party politics. First, there is the economic issue of whether investors are able and willing to put up substantial private investment at a time when the economy is ailing. And then there is the question of whether postponement might not ultimately yield higher revenues for the government and taxpayer.

Reforms geared to a time frame lasting many years, like the privatisation plan for Japan Post, therefore harbour the risk of repeatedly deferring problems and their solutions. Yet there are many reasons why reforms should be implemented swiftly. Not only is Japan's national debt reaching alarming levels, the entire demographic environment for financing this debt is deteriorating almost by the year. Interest servicing rests with a shrinking labour force. At the same time, the burden on the young generations is increasing with the number of people drawing pensions. At the end of the 1990s four 20-64 year-olds financed the pension of one person aged 65 and over. If this ratio continues to shrink as in the last two decades, by 2020 the ratio of 20-64 year-olds to people of at least 65 will have fallen to two. And with birth rates heading steadily down, no relief for government finances is to be expected from younger generations in this respect either. Japan's current birth rate of only 1.2 children per woman remains one of the lowest in the world. Traditionally, burden sharing through immigration is not a solution for Japan.



### Summary

Over the past two decades Japan has suffered a series of crises, all of which it combated with debt-financed measures. As a result of this debt policy the world's formerly biggest saver could now go down as the king of debt – at least as far as its public budgets are concerned. The waterfall collapse in world trade, the most severe since World War II, in conjunction with appreciation of the yen, has now confronted the export nation Japan with the next crisis and the most rapid surge in government debt.

Although the multiplier effects may be small,<sup>21</sup> hardly anyone doubts the need to roll out a comprehensive debt-financed economic stimulus programme in such a deep crisis. But the course of Japan's economy beyond the immediate future is becoming an ever more urgent issue. Borrowing and the loss of economic power are increasingly calling its long-range economic success and the

<sup>21</sup> OECD and IWF estimate multiplier effects for 2009 and 2010 of around 0.5 to 0.7.

capacity of future generations into question. If we follow the results of the simulations described here, continuation of Japan's debt policy is unsustainable. The recent announcement by Finance Minister Yosano that his country would generate a budget surplus by 2019 falls short of the mark.<sup>22</sup>

Demographic trends and departure from the model of working for the same company a life long mean that the overall economic situation will remain difficult, especially for the younger generations, even in the event of a cyclical rebound. This will weigh on consumption in the coming years, too. Japan's heavy reliance on imports is also a result of sluggish domestic demand.

Considering the challenging economic environment and demographic development, Japan's attempts at reform so far are inadequate. Many reforms are geared more to short-term political consensus than to sustainable long-range solutions.

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<sup>22</sup> "In this context, Japan explained to its G8 partners its new goals to rein in the country's swelling debt over the next 10 years, such as realising by the end of fiscal 2019 a surplus in the primary balance - revenue matching spending, excluding debt payments, according to Japanese Finance Minister Kaoru Yosano." Source: nikkei.com, Article: G8 See Signs Of Recovery, Discuss Ways To End Stimulus Steps, June 13, 2009.

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