



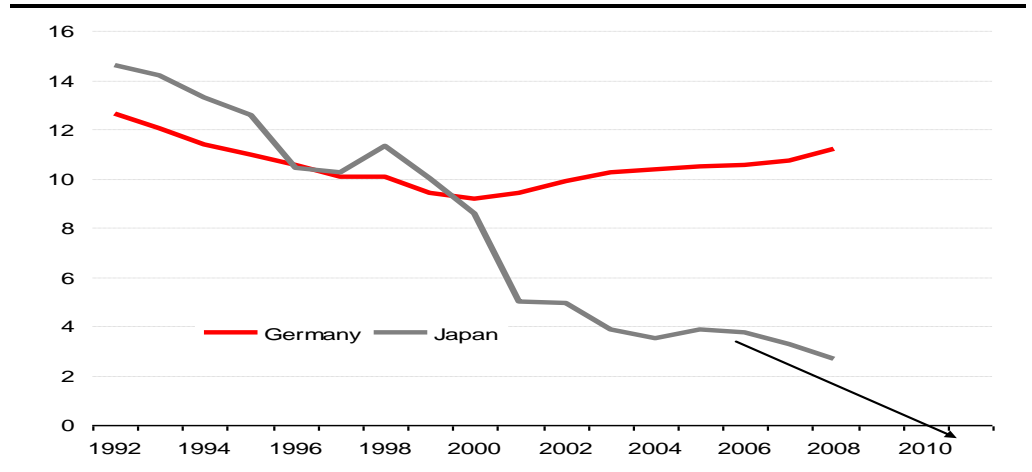
Japan

A global fiasco is brewing in Japan (12/01/2010)

Japan's government borrows from Japanese households and has done for decades. But Japanese households are retiring, and traditionally retirees run down their savings. So who will fund Japan's future deficits, which are already within the range identified by inflation historian Peter Bernholz as hyperinflation 'red flags'? Twenty years ago, who could predict long-term JGB yields below 1%? Who sees uncontrolled inflation as the primary risk facing Japan today?

- Don't listen to fiscal scare stories - Japan proves that governments can borrow for as long as they like! Or does it? In the past, the Japanese government had a captive domestic market in which to place its debt. A large pool of domestic savers, made cautious by prior painful experience with risk assets and an increasingly fragile economy, was happy to own as much government debt as possible. After all, the JGB market was the one consistently good performer. But those savers are now retiring, and running down their assets (see chart below). Who will finance Japan's government deficit in their place?
- It's been so long since there was an inflation scare, let alone one caused by a government unable to fund itself, that it is difficult to imagine such a scenario today. Developed market governments can always fund themselves, can't they? Behaviourally, we know investors overweight the scenario that is easy for them to imagine and ignore that which isn't. But the 'unimaginable' happens all the time.
- Japan is the fourth largest exporter in the world. It is the second largest consumer of US Treasuries. But its more profound influence might be psychological. Its recent experience is the most powerful argument underpinning current bond valuations as the fiscal outlook deteriorates. In the future our 'lessons from Japan' might not be so bullish for bonds.

Japanese household savers to become dis-savers? (household savings as % of disposable inc)



Source: OECD

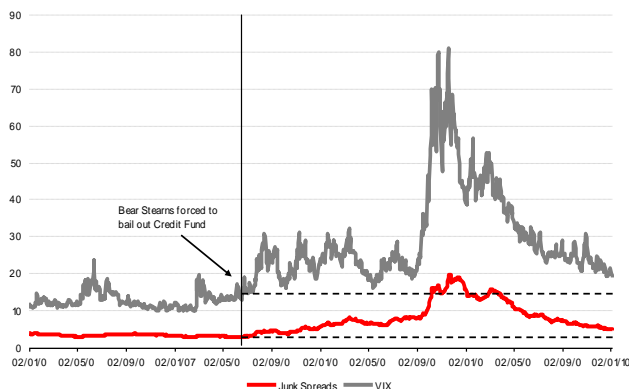
Reality doesn't exist, only perception. In one of my favourite novels, 'Ask the Dust' by John Fante, the novel's hero Arturo Bandini – the penniless aspiring writer and Fante's alter ego – describes venturing out into 1930s Los Angeles immediately after an earthquake. He describes an 'aftershock' of emotions:

"The city was the same, but I was afraid. The streets lurked with danger. The tall buildings forming black canyons were traps to kill you when the earth shook. The pavement might open. The street cars might topple."

Though it is hard to believe Bandini was unaware LA was highly exposed to earthquake risk, we can understand his sudden panic. In a similar vein, an academic study on the perception of lava-flow risk among Hawaiian residents (where three volcanoes are active) was recently [highlighted](#) by Paul Kedrosky, and found that appreciation of lava flow hazards was "proportional to the time lapsed since the most recent eruption" rather than to any quantitative assessment of risk.

With memories of the banking crisis still vivid in investors' memories, we can see why various measures show that the market pricing risk is still considerably higher than before the summer of 2007 (albeit nowhere near high enough for my liking), and why so many people consequently seem to view the market as cheap (again, I don't think it is). But one measure of risk which is still priced right where it was before the crisis broke is that of inflation.

Real economy risk premiums above pre-crisis levels



Source: SG Cross Asset Research

Inflation risk is back where it started, i.e. close to non-existent!



Source: SG Cross Asset Research

Perhaps this is because there is no longer any meaningful inflation risk in a world with a largely de-unionised labour force and independent central banks. Perhaps it is because the deflationary risk from China, or from a de-leveraging post-bubble global economy, trumps everything else. But I can't help wondering if, like the above victims of a catastrophe, the Japanese are simply unable to perceive the risk of inflation because they cannot imagine it, and the pricing reflects that.

In their majestic history of financial calamity³⁰, Reinhart and Rogoff write that,

"Many observers ... have concluded that "this time is different" and that inflation will never return. We certainly agree that there have been important advances in our understanding of central bank design and monetary policy, particularly in the importance of having independent central banks that place a heavy weight on inflation stabilisation. But, as in

³⁰ "This Time is Different: Eight Centuries of Financial Folly" by Carmen M. Reinhart and Kenneth Rogoff

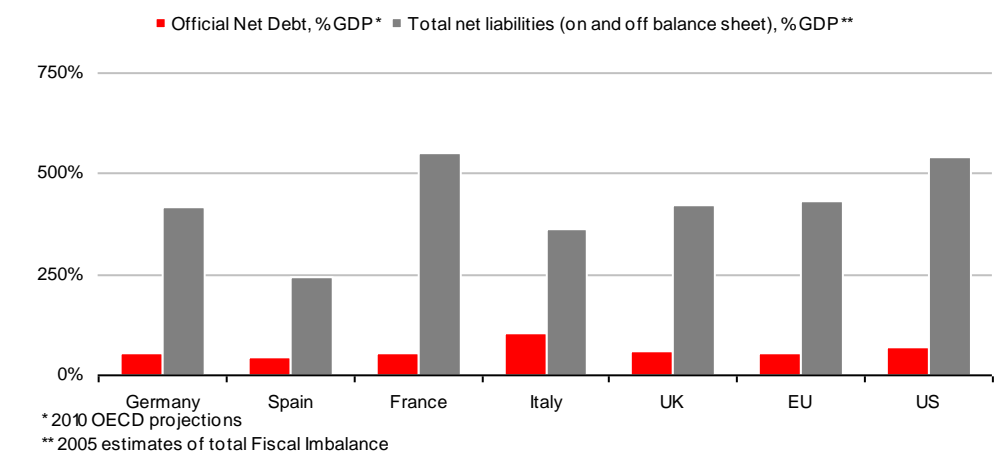
the case of debt default, experience suggests that quiet periods do not extend indefinitely.

Of course, the cousin of inflation is sovereign default. The fiscal pressure forcing default creates pressure to print money. Reinhart and Rogoff again:

*“ ... the lull in defaults after 2002 stands out even more against the preceding century. Only the two decades before World War 1 – the halcyon days of the gold standard – exhibited tranquility anywhere close to that of 2003-2008. **Looking forward, one cannot fail to note that whereas one and two decade lulls in defaults are not at all uncommon, each lull has invariably been followed by a new wave of defaults.**”*

The insolvency of developed economy governments when account is taken of their unfunded social promises is something Albert and I have noted for some time, but here is the chart again anyway. It suggests that government liabilities are actually around 400% of GDP (Greece, not shown on the chart, 875%).

Our governments are insolvent



Source: Gokhale, SG Cross Asset Research

But as the Detroit car companies demonstrated, insolvent organizations can stay alive for as long as they can remain liquid – but illiquidity will inevitably force insolvency into the open. And there haven't been any developed market government funding crises since the days of Bretton Woods, even though we came close following the collapse of Lehmans in 2008. So such risk is not taken particularly seriously. But a fiasco is surely brewing.

Although it is difficult to predict exactly how much debt is too much, it is clear that governments are near the mark. On the left of the following frame is a chart taken from Peter Bernholz's classic study of inflationary episodes over the centuries³¹ showing budget deficits (as a % of government expenditures) prior to five hyperinflations. The range in the run-up to such episodes is 33% to 91%. The right chart shows the current ratios for Japan and the US to be well within that range.

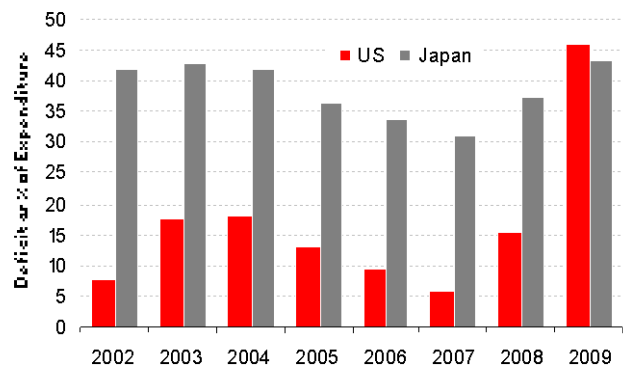
³¹ See "Monetary Regimes and Inflation" by Peter Bernholz. The numbers are taken from a section entitled *Budget deficits cause inflation*.

Budget deficits before five hyperinflations



Source: Bernholz, SG Cross Asset Research

US and Japanese budget deficits today



Source: SG Cross Asset Research

It would be nice to think that these deficits are just emergency measures which will be neatly removed as soon as the recovery is safely established, which seems to be the policy making consensus today. In last week's *Financial Times*, John Podesta and Michael Ettlinger concluded their op-ed with the following thought:

"... we should not jeopardise recovery by exercising fiscal retrenchment in the near term. Instead, policymakers must build a pathway that will facilitate the hard decisions required in the coming years to bring the federal budget back into balance."

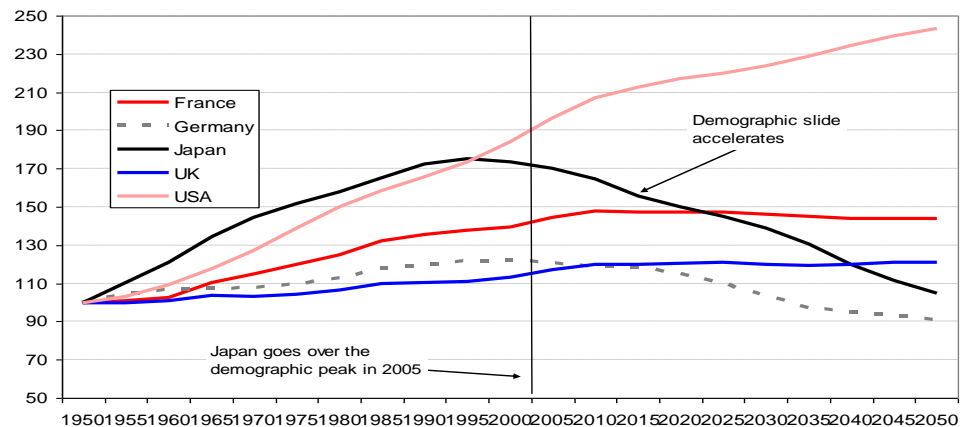
... or as St Augustine wrote in the Fourth Century, "Lord, make me chaste, but not yet!" Milton Friedman once quipped that there was nothing as permanent as a temporary government program. I think James Montier would call it *overconfidence about future self-control*.

Whatever, removing the stimulus will involve pain; lower growth, higher unemployment and political unpopularity. But policy makers don't like lower growth, higher unemployment and political unpopularity. They enacted the stimulus in the first place to avoid it! At what point will they decide that they *do* want lower growth, higher unemployment and political unpopularity? Given the choice they won't, ever. So it will be imposed on them (and therefore us) by a suddenly less generous bond market via a government funding crisis.

What might such a funding crisis look like? I'm going to focus here on Japan because many believe that its experience proves debt burdens at current levels are completely irrelevant as far as government funding and bond yields are concerned. Japan has run deficits for years and has seen its debt burden explode, yet it has also seen its long-term borrowing costs collapse. Indeed, if you study the Bernholz deficit chart above, it is obvious that Japan has been running 'hyperinflationary deficits' for several years, yet it remains mired in deflation.

Maybe this time it will be different, but I don't think so. On a point of logic, Japan's ability to avoid a funding crunch to date despite its rising indebtedness does not prove that it will not at some point see a funding crunch. It does prove that this can be delayed. How has Japan been able to achieve this delay? Primarily because it has enjoyed a captive market - not only were domestic savings abundant, but risk-averse Japanese investors were happy to purchase 'risk-free' government bonds. Indeed, Japan's economy collapsed into deflation just as its demographics 'rolled over' in the mid-1990s (see chart), and as a result it accidentally landed in the best possible asset class. So everyone was a winner. Except that the game might now be up as the investors who funded the government's serial attempts to revive the economy are now retiring.

Japan's demographic decline started in the early 2000s (rebased working-age population)

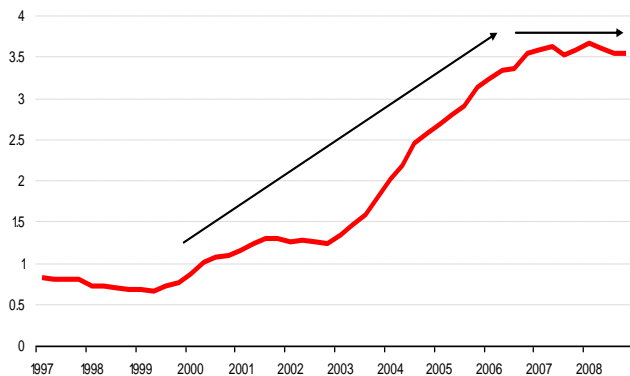


Source: UN

Retirees run down their assets. Our front-page chart shows Japan's savings ratio is set to fall below zero. The chart below left shows Japanese household purchases of JGBs. These purchases really took off after the collapse of world stock markets following the tech bust in 2000. For the past three years, however, JGB purchasing has levelled off. Of course, household direct purchases of JGBs are a small share of total ownership, as buyers, banks and insurance companies are far more significant. But these corporate buyers are only really recycling the same diminishing pool of Japanese savings (see chart, below right).

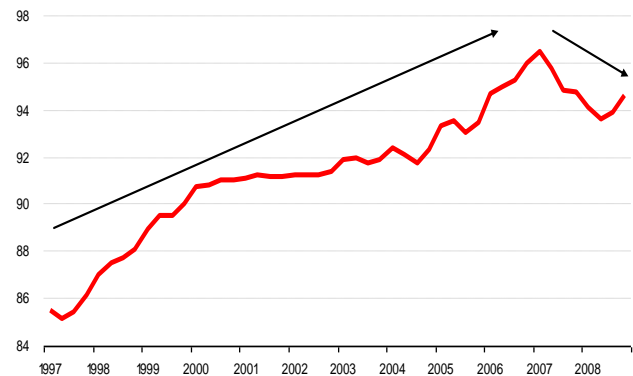
Hence the current trend implies that Japan's savers will grow less able to continue funding a deficit that is currently running at more than 40% of government expenditure.

Japanese household holdings of JGBs is plateauing (Ytr)



Source: SG Cross Asset Research

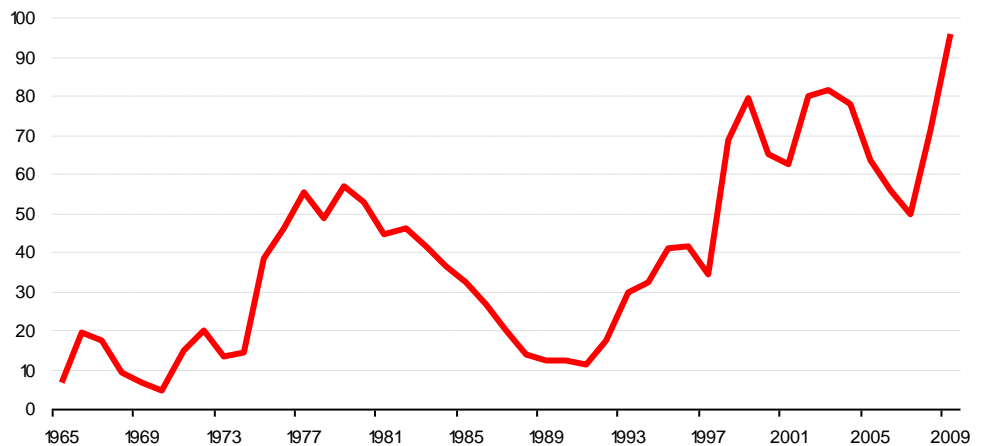
Japanese household wealth being run down (Ytr)



So who will fund the Japanese government's deficit in the future? It is not likely to be the international capital markets, especially if its bonds are offering only a 1.5% yield. But if international investors were to demand triple that, pricing JGBs in line with international bond market peers (all priced too generously in my opinion) the game would soon be up because Japan's current debt service *already* amounts to 35% of pre-bond issuance revenues.

The following chart shows the ratio of revenues generated from bond issuance to that generated by tax collection. Next year, the MoF expects that ratio to rise above 100% i.e. **tax revenues will be less important than borrowing as a source of income**. So I doubt there is any yield international capital markets can find acceptable that will not bankrupt the Japanese government.

Japanese bond issuance as a share of tax revenue (%)



Source: SG Cross Asset Research

This is far from just a JGB market problem. As Japan's retirees age and run down their wealth, Japan's policymakers will be forced to sell assets, including US Treasuries currently worth \$750bn, or ¥70 trillion – eight months' worth of domestic financing. At nearly 10% of the outstanding US Treasury stock, this might well precipitate other government funding crises (bearing in mind that the Japanese model is *the* argument buttressing confidence in Western government bonds in the face of deteriorating fiscal conditions). At the very least I'd expect it to trigger an international bond market rout scary enough to spook all other asset classes.

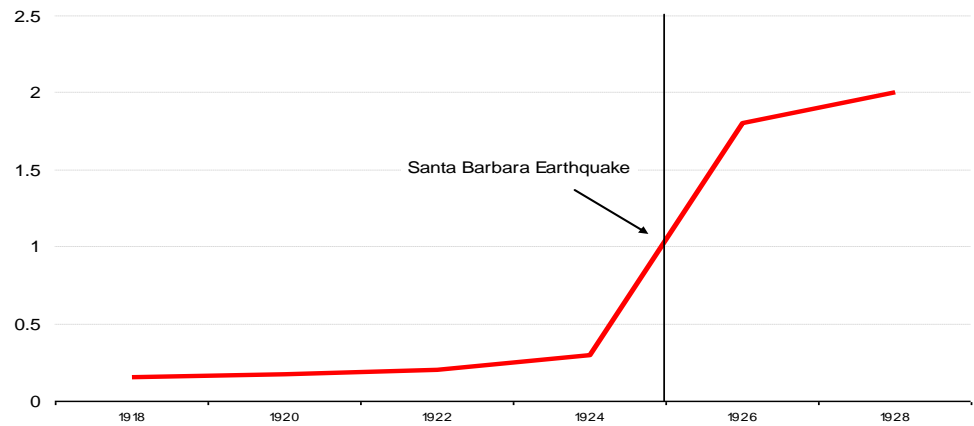
But after they've sold all their foreign assets, yet still have no access to capital markets, how then do they continue to fund their schools, their courts, and their health system or their bureaucracy? Japan could simply cut its spending to fit its cloth. But bond issuance is currently around 10% of annual GDP and such a cut would cause a sharp and painful depression. If history is any guide, and I sincerely hope it isn't, the BoJ will step in and let their printing presses roll. Of course, this will ultimately cause a depression, but it will be a depression tomorrow whereas draconian spending cuts would be a depression today.

And although foreigners aren't large investors relatively in Japanese markets, capital flight will probably be enough to collapse the yen. Since Japan is the fourth largest exporter in the world, this could have profound ramifications for the rest of Asia, including China. Again, at a minimum this will spook other asset classes in other countries.

So maybe we should all be more concerned that Japan's deficit is in the hyperinflationary range. And if so, maybe we should think a little more carefully about how Western governments consider their debt burdens, both those on-balance sheet (bonds outstanding) and off-balance sheet (unfounded social promises). Maybe Japan's will be the crisis that wakes up the rest of the world and triggers some tough decisions on world-wide debt loads. Or maybe not - maybe the Greeks will beat them to it...or the Irish ... or the UK, or the US? Like banks in 2007, developed market governments today rely on sustained capital markets more than any time in their history. What if they shut? ...

In 1925 there was an earthquake in Santa Barbara which 'only' registered 6.3 on the Richter scale, but caused enormous damage because the community was unprepared. The following chart shows what happened to demand for earthquake insurance before and after.

Earthquake insurance premiums sold in California before and after the 1925 quake



Source: California Earthquake Insurance Program

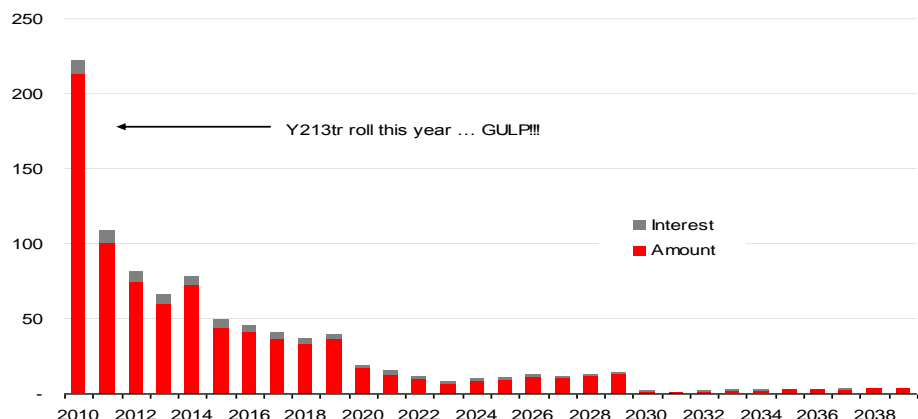
There's no way you could have predicted when that earthquake would strike. But it was reasonable to assume that there would be one at some point given its location on the San Andreas Fault. When would be the better time to write insurance – before the earthquake or after? Being so close to the fault line, with both risk and 'risk-free' assets in overvaluation territory, feels much like taking on earthquake risk before the quake.

More on Japan's brewing fiasco, and some musings on recent pushback (08/03/2010)

A few months ago I wrote about an impending government funding crisis in Japan. The pushback was so interesting I thought it worth writing up. None of you really disputed the long-term problems facing Japan but, for various reasons – which I'll look at below – very few of you thought it was worth worrying about just now. Meanwhile, the biggest JGB holder on the planet – the Government Pension Investment Fund (GPIF) – which has already admitted it's no longer able to roll maturing bonds, has announced that it will open credit lines so it doesn't have to sell them to fund its obligations. With ¥213 trillion of JGBs to roll this year, or around 45% of GDP (see chart below), maybe I'm not the only one scared stiff after all!

- One of the great things about doing this job is the feedback you get from pieces you write. I have to admit, I'm poor at predicting the reaction a report will generate. In a warning to anyone following the few predictions I do make, my own favourite pieces have so far tended to be the ones eliciting the least reaction, while those that have made the biggest splash have often been the ones which seemed the most obvious. Anyway, philosophically I believe in reaction more than prediction, judging the response is always more interesting.
- Broadly there are two types of 'pushback' which make you think you're on to something. One is outright hostility, sometimes verging on hate mail you receive when you know you've touched a nerve (recently I've been called "dishonest" and "immoral" for holding certain views!). The other is complete apathy suggesting a broad disinterest in the topic.
- The stuff I've written on Japan's fiscal problems recently has fallen into that latter category. I should stress, it's not an apathy born of a lack of understanding of the issues – everyone acknowledges the long-term seriousness of Japan's fiscal position. But people seem almost fatigued with the idea that a country which has defied bond market logic for so long now is ever going to change. This is what I wanted to talk about this week.

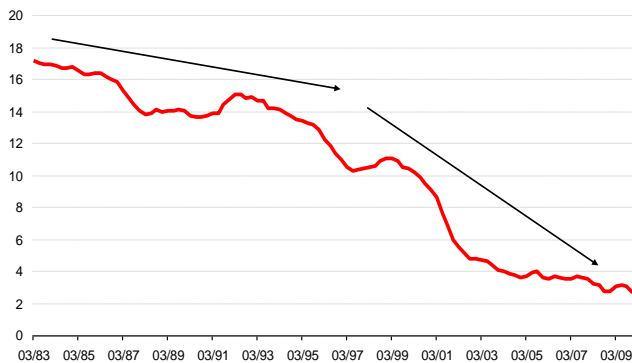
JGB maturity distribution; ¥213 trillion to roll over this year (about 45% of GDP)



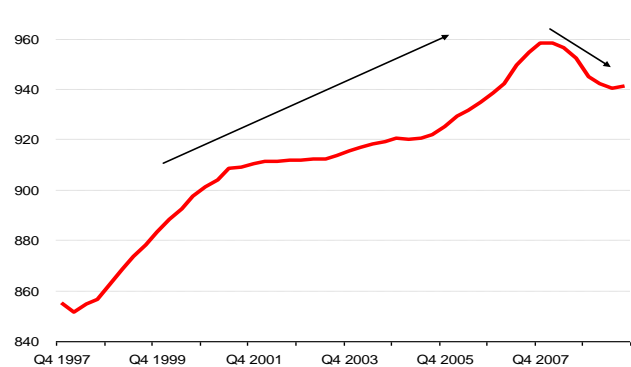
Source: Bloomberg

To recap, the thesis I outlined back in January³² was that since Japanese households – the biggest effective drivers of JGB demand – are set to dis-save in coming years as they retire (left-hand chart below) there will soon be no one left to finance the government's nosebleed deficits at current yields. Indeed, the chart below suggests households are already running down assets. And because the interest rates which *might* attract international investors will inevitably blow up the budget (debt service is *already* 35% of government revenues at *existing* yields) there is a very clear and present danger that the government reverts to the well-established historical precedent for cash-strapped governments of currency debasement.

Japanese households are set to dis-save (savings as % disposable income)



Japanese households are *already* running down wealth (non-equity, non life assurance household assets)



Source: SG Cross Asset Research

The most common argument I received on why I was wrong to worry was along the lines that Japan has had rising debt ratios and huge deficits for many years now. Not only have yields fallen, but the economy has struggled with deflation, not inflation.

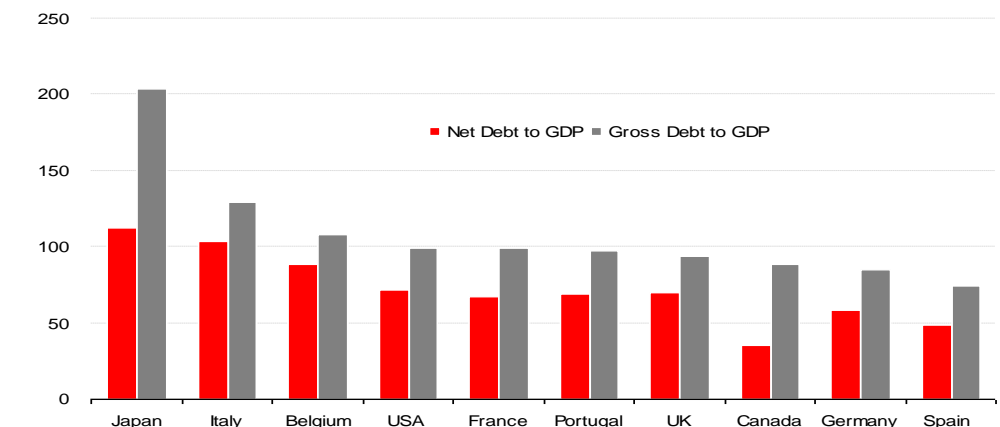
To me this feels like 'recency' bias at work, which is a type of 'availability' bias by which we overweight events we find easy to imagine relative to those we don't. Japanese debt markets have been stable for such a long time it's difficult to imagine anything different, so we don't imagine anything different and predict that the future will look like the past. Now, Japan's debt markets may well remain very stable in the future and I'm very open to the strong possibility that I'm barking up the wrong tree. But 'logic' like that outlined above is lazy indeed. It echoes Bernanke's now [infamous](#) 2005 conclusion that nationwide housing collapse in the US wouldn't happen because it hadn't happened before.

More thoughtful critics argued that I was ignoring the Japanese government's significant financial assets. Taking this into account shows a net debt position of closer to 100% of GDP (chart below), considerably more manageable than the 200% gross debt-to-GDP ratio and more in line with other OECD economies such as Italy and Belgium (great!).

But I'm not so convinced by this argument, or to be more accurate, I'm not so convinced the *numbers underlying this argument are correct*. For a start, around 40% of the assets recorded on the asset side of the Japanese government's balance sheet don't actually belong to the Japanese government. They belong to Social Security and therefore to the Japanese public. That the vehicle which owns the assets happens to be publicly owned doesn't change the fact that it is a *very real* liability owed to individuals who must be either paid or defaulted on. It doesn't just cancel out.

³² See "A global fiasco is brewing in Japan" Popular Delusions 11/01/10

On a net basis Japan isn't such an outlier: OECD gross and net debt ratios (% GDP)



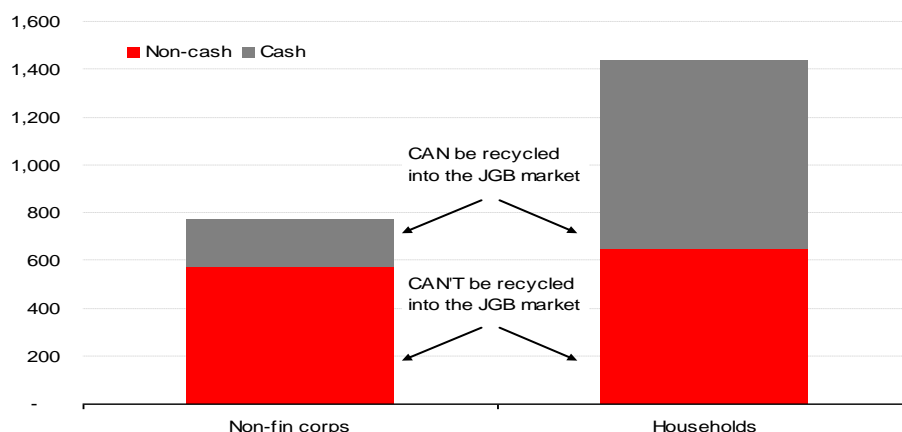
Source: OECD

And who on earth knows what the other assets are worth anyway? The central government, for example, has funded projects deemed “socially useful” and which private markets wouldn’t finance. These loans, made via direct ‘investments’ in public sector organisations (called Fiscal Investment and Loan Program [FILP] agencies), are recorded as assets on the government balance sheet worth around 10% of GDP. Yet we know from decades of banking problems and bank recapitalisations that even the loans that markets *did* finance soured pretty spectacularly, so one wouldn’t imagine the FILP agency loans to be of particularly high quality. Indeed, a few years ago [two economists](#) at the NBER reckoned that nearly half of the FILP agencies were insolvent. Maybe those assets are being provisioned for correctly on the government’s books, but – and call me a cynic if you like – I really doubt it.

But even if we assume those numbers are a fair reflection of asset value there is also the implicit assumption that the Japanese government can monetise them. But I don’t think they can. Shares and equity stakes are marked at around 20% of GDP, mainly reflecting Japan Post Bank - the “jewel in the crown” - with \$2.5 trillion in deposits. But last year, plans for its long-awaited privatisation were shelved, apparently for fear that on a purely private sector calculus, many small and medium-sized companies wouldn’t qualify for the funding they need to stay afloat. Keeping it in public sector hands was the only way to ensure their life-support credit lines weren’t cut. Of course, I may just be being cynical again, but I note that Post Bank is also a huge buyer of JGBs and doubt it was just the SMEs life support the government was worried about...

This leads nicely to the other argument worth thinking about, which runs like this: the household sector may well be retiring and less able to absorb new JGB issuance, but the corporate sector is expanding thanks to a vibrant export sector. Since corporate sector savings are as large as households’ isn’t it reasonable to expect them to take over as the primary source for government funding? The honest truth is that I don’t know. Maybe, I guess. But my gut feeling is pretty definitively no. For one, the corporate sector *doesn’t* actually have as large a pool of savings as the household sector.

Japanese household and corporate assets compared (¥ trillion)

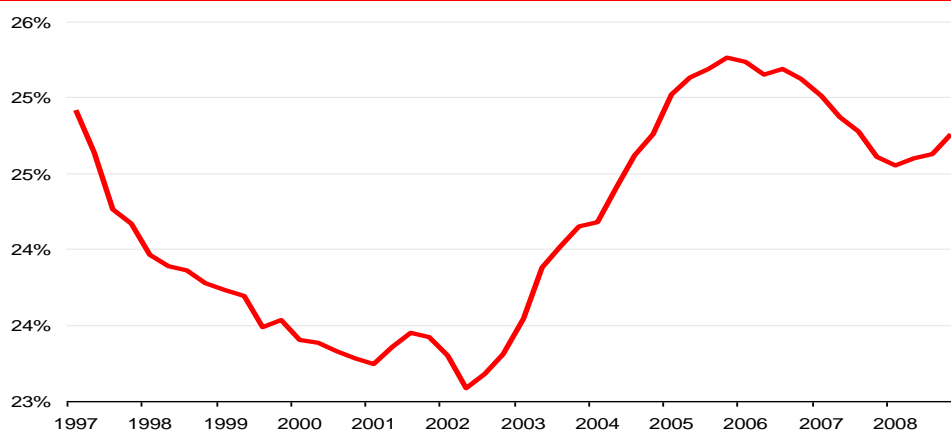


Source: SG Cross Asset Research

For another, the corporate sector – even in Japan – doesn’t have anywhere near the same propensity to hoard cash (see chart above). Open the papers today, for example, and you read about Astellas Pharma going hostile on OSI, where it thinks it can buy its way out of Japanese stagnation. When companies have money, they need to spend – sorry ‘invest’ – it (occasionally they even need to return it to shareholders). Anyway, it looks unlikely to me that companies are going to take over from households in financing the government’s deficit.

In passing, I think this is why the idea that Japan can’t have a funding crisis because it runs a current account surplus might not actually stack up. I readily admit to having forgotten most of the economics I’ve ever done and I will happily stand corrected if any of you think I’m wrong on this, but I *think* that if a current account surplus is increasingly dominated by a sector (e.g. non-financial corporates) with a *lower* propensity to fund another sector (e.g. the domestic government), then that other sector must face problems funding its deficit. So is Japan’s current account surplus even relevant for assessing the risk of a government funding crisis? Clever economists out there, let me know.

Corporate cash balances as a share of household cash balances (4q mav)



Source: SG Cross Asset Research

Anyway, if the corporate sector was about to suddenly increase its cash holdings, we’d expect to see the ratio of corporate sector cash relative to household sector cash begin to rise. In fact over the last five years it’s been falling (chart above).

So I still worry. Households are retiring and running down their wealth; non-financial corporates don't hold as much cash. So the non-financial sector (i.e. households plus non-financial corporates) just isn't going to be in a position to provide the financial sector with the deposits it needs to recycle into JGBs.

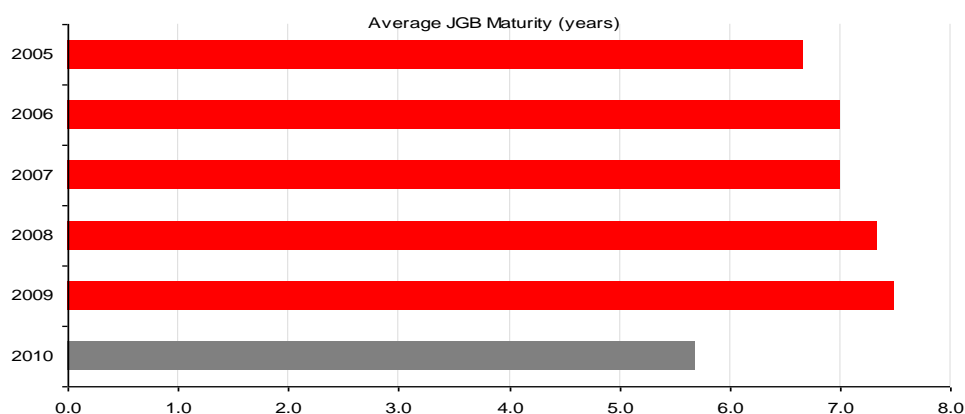
That leaves the foreign sector as the only candidate to fund the government's ever increasing structural deficits and explains the increased frequency of JGB [roadshows](#) we're seeing around the globe. But is it realistic to expect foreign investors to fund a likely insolvent government at 1.5% (if this week's Greek financings are a fair gauge, investors want closer to 6% to fund insolvent governments)? Anyway, debt service *already* accounts for 35% of the Japanese budget! Any reasonable interest rate will expose Japan's budget for the mess it is.

But why take my word for it? Why listen to the rantings of some supposed "perma-bear"; a deranged strategist working on a cold rainy island on the other side of the Eurasian continent from Tokyo, and with no great insight into the workings the JGB market or much else for that matter? Well, you shouldn't. But you might want to take Takahiro Kawase, head of Japan's \$1.2tr Government Pension Investment Fund (GPIF) and the largest owner of JGBs on the planet, more seriously. [He said](#) last summer, "*The big change this year for us is that there is zero new money to invest, so we may need to be a seller in the market to meet the pension benefits ... our bond allocations are overweight, so we may need to reduce those a bit to raise cash.*" Not to worry, though, because he doesn't think it will have much effect on the market. "*... the sales are not expected to be big, as we can cover the shortfall from maturing bonds.*"

How significant a problem is this? In last week's FT, Gillian Tett [pointed to](#) the importance of debt maturity in assessing fiscal breathing space. UK debt maturity, at 14 years, is one of the longest, while the US, at 5 years, is one of the shortest. In Japan, based on the Bloomberg data on the front page chart, the number is around 6, and ¥213 trillion matures in 2010.

To spell that out: we are going into a year in which the government has ¥213 trillion of bonds to roll over (chart below), and the biggest holder of JGBs is openly admitting he has no new inflows of money. I suspect he's not as confident as he's making out that this won't be a problem, and I suspect the Japanese authorities aren't either. Otherwise, they wouldn't be scrambling to arrange a [new borrowing facility](#) for the GPIF so that it doesn't have to sell JGBs to fund its pension obligations ...

Average duration of Japanese government debt



Source: MoF, SG Cross Asset Research

Fooled by anecdotes: Japan's coming inflation, JGB toxicity and what to do (09/09/2010)

I keep being told that if a government solvency crisis is about to befall Japan you wouldn't know it by spending time there: its cities feel prosperous; its streets are clean; and its population is calm. All this is true. But is it relevant? Anecdotes may make for fine entertainment but anecdotal "evidence" is a dangerous thing. The numbers say Japan's government is bust. And the real problem – population decline – is only beginning to be felt.

- Anecdotal evidence can be a dangerous thing. In 1919 in the aftermath of the First World War, for example, the situation in Germany was about as dire as it's possible to imagine. Humiliated by the Allies, embittered by the realisation that their leaders had betrayed them, and stunned by the toppling of their Kaiser during the November 1918 Revolution, the streets were seething with violence and anger.

- There was no government to speak of as the political anarchy unleashed by the Revolution remained out of control and unchecked. The economy's productive capacity was shattered too. Since it had been entirely mobilised for war by Hindenburg in 1916, the War's abrupt end caused sudden and painful unemployment. And that was before the demobilisation of six million traumatised troops from the trenches. Having gambled decades of accumulated national wealth on war, and lost, there was simply no money to pay for the reconstruction of the economy and of peoples' lives, other than from the printing presses ...

- With the benefit of today's hindsight we know that the Weimar Republic the Revolution bore was stillborn. The economic policies aimed at buying peace with increasingly intimidating political factions succeeded only in causing hyperinflation. The pact with a group of demobilized nationalist troops aimed at preventing communists from hijacking the Revolution (as the Bolsheviks had recently done in Russia) would inadvertently seed the military might which would one day propel Hitler to power and the world back to war.

- But in February of 1919 such a bleak future was merely one scenario, and a distant one at that. The true condition of Revolutionary Germany was unknown so the British government sent two officers to Berlin find out. At the Adlon Hotel where they were staying they saw "no sign of want of anything" and noted the hotel's restaurant was putting on meals "which would have done justice to the Ritz." A plump lady feeding her dog expensive biscuits at the table made an impression on the two agents. But the explanation as to why there were so few cats and dogs in Berlin (they'd been eaten and their skins used for leather) did not. Indeed any claims by locals of shortages, hunger or starvation was treated as "hearsay" since "there was no evidence, whatsoever, of scarcity or want in the outward impressions we got." On the contrary, the "mania for dancing" was observed as was the "huge crowd of middle class men and women" in the local bars "... waltzing and foxtrotting and drinking expensive wines." ³³

³³ See "The Great Disorder" by Gerald Feldman, Ch 3

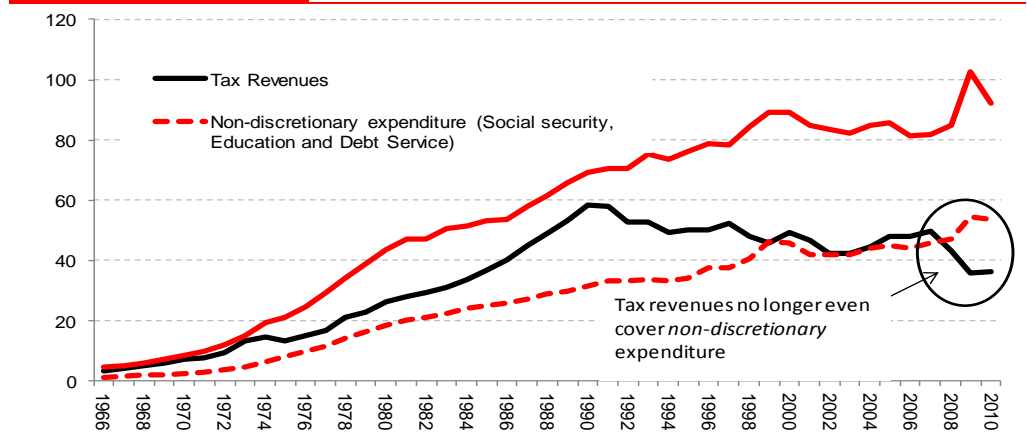
The officers came to the calamitously incorrect conclusion that fears over the stability of Germany were exaggerated and partly due to this anecdotal 'evidence' Britain would soon back French demands for reparations which were so burdensome, historians now consider them the "*continuation of war by other means*."³⁴ Less than twenty years later the world would be at war again. So much for anecdotes ...

I only bring this up because in various conversations with clients over the last few months one theme that has surfaced a few times now is how rich Japan feels, how busy the restaurants and thoroughfares are and how well dressed and polite the begadged locals are. Surely the pleasant day to day rhythm of Japanese life is incompatible with the suggestion that Japan's government's balance sheet is bust and its government bonds toxic? And how can any government be insolvent when it can borrow in the market at 1%?!

Well for starters, it's very dangerous to use what the market is saying as any sort of definitive truth. A few years ago the market was saying Greece sovereign credit was basically as sound as Germany's, and that lending 125% of a home's value to sub-prime borrowers was perfectly sensible.

But anyway, a visit to the glitzy districts of Tokyo won't show that the so-called *precariat* – the "precarious proletariat" without job security or social security entitlement – has [mushroomed](#) to 20 million or 34% of the labour force; that [suicide is now the leading cause of death](#)³⁵ among young men aged 20-44; or that 56% of 15-34 year olds [need outside supplements](#)³⁶ to their salaries to cover mere living expenses. Neither will it show that young men aren't the only ones who need help to pay for the basics: the Japanese government itself no longer manages to cover its bare necessities with revenues and must borrow just to cover debt service, social security and education (see chart below).

Japan's tax revenues don't even cover the basics



Tax revenues (black line) have been in decline since deflation set-in in the 1990s and most observers seem to have concluded that the problem is therefore a lack of growth. If economic growth can be revived, tax revenues will pick up and the fiscal hole will be plugged. The best way to revive growth is one of the favourite topics of economists everywhere: "almighty fiscal stimulus" says Richard Koo; "raise inflation expectations" says Paul Krugman; "who cares?" say the rest of them, "just break this entrenched deflationary psychology which discourages private sector spending, and encourages excess saving." Fix that macroeconomic malfunction and you'll fix everything else, they say ...

³⁴ See Sally Marks "Central European History" page 338

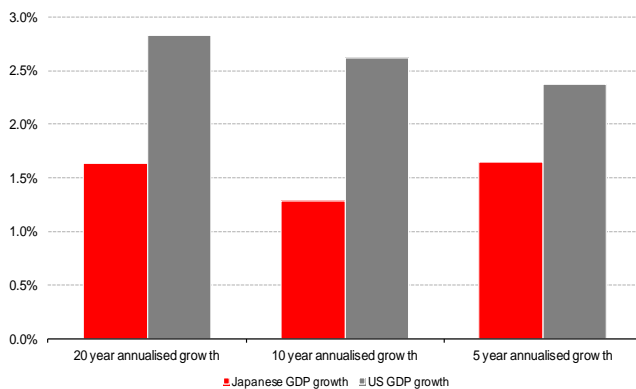
³⁵ Japan: ending the culture of the 'honourable' suicide – guardian.co.uk 3 August 2010

³⁶ Most Young Japanese Workers Need Help From Their Parents to Pay The Bills – bloomberg.com 3 September 2010

The malfunction is clear for all to see. The following chart (left panel) shows how sluggish Japanese GDP growth has been since the bubble burst ... but how confident are we that our economists have diagnosed the cause of the malfunction correctly? **The chart on the right shows that the growth in Japanese real GDP *per worker* has outpaced that of the US over the last five and ten years. If things are so bad in Japan, how come each worker has grown output more than his/her American counterpart?**

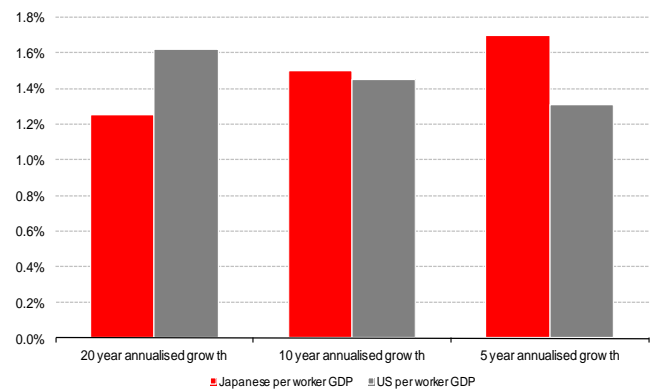
Maybe Japan's macroeconomic malfunction has actually been a *demographic* compression, and maybe no particular policy – fiscal or monetary, conventional or unconventional – will 'normalise' Japan because Japan is actually already behaving perfectly normally. Maybe Japan is what economies which demographically peak look like.

Japan's real GDP growth has lagged that of the US ...



Source: SG Cross Asset Research

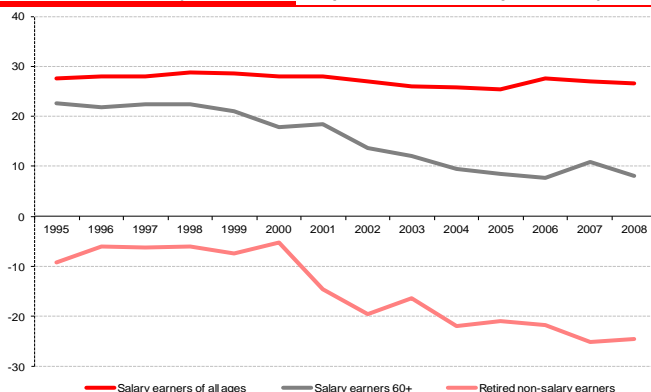
... but *per worker* real GDP growth has grown faster



Source: SG Cross Asset Research

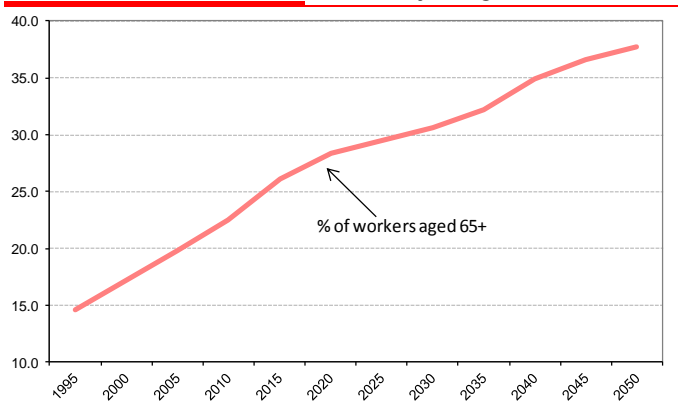
For all I know, Keynesians might be even right in thinking policy makers can fiscally jolt economies back to life, allowing them to recover back to their 'default mode.' But their assumption is that 'default mode' is positive growth. But what if it isn't? What if the 'default mode' is falling output because the population is declining? Japan might just have spent the best part of twenty years trying to fiscally stimulate its way out of a demographic compression. If this is correct, and population decline has blown the hole in Japan's government balance sheet there's still plenty of damage in store because the demographic compression isn't over yet.

Retirees *dissave* (household surplus as % of disp income) ...



Source: Charles Horioka

... and the share of retirees is inexorably rising

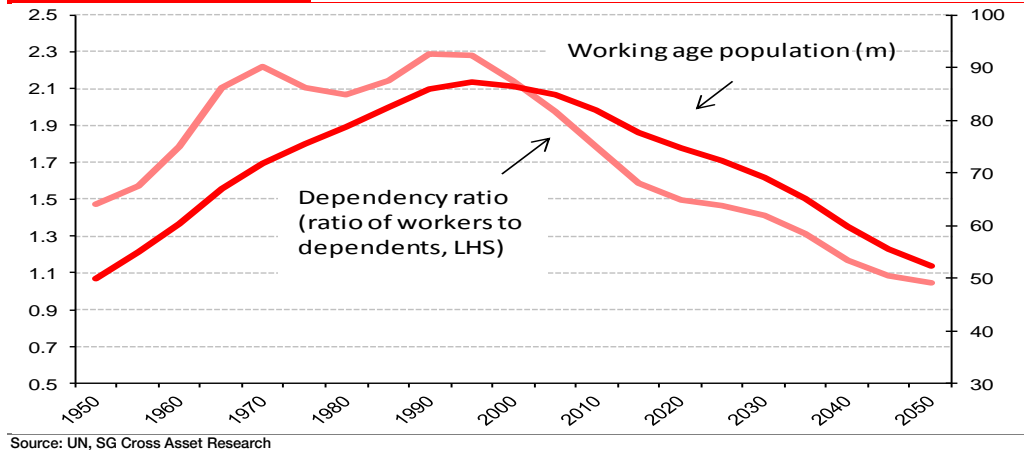


Source: UN, SG Cross Asset Research

But it isn't just government revenues which are hit by demographic decline. The government's ability to fund itself will also be effected since government deficits are funded by Japanese household savings and as households retire they spend their savings. The above chart (left panel) shows savings ratios (actually, "surplus" ratios) as a share of disposable income for various age cohorts and shows that old workers save a lower share of their disposable income

than average, while retirees have negative savings ratios. As the population continues to age (right panel) the savings ratio will be increasingly pulled down, leaving less available capital to lend to the government.

Demographic crunch will intensify from here

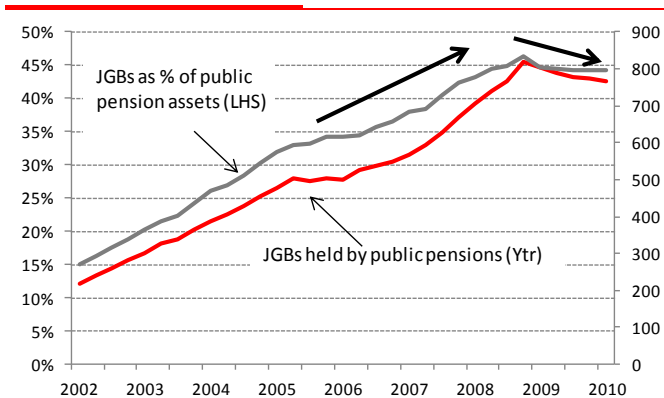


Source: UN, SG Cross Asset Research

At some point, there won't be enough household savings to recycle into the JGB market. The IMF [estimate](#) that by 2015, gross government debt will be larger than gross household financial assets. They can't know that, of course. All they've done is extrapolate current trends. But is that such a bad forecast? Is there any indication that those trends are set to change? When current PM Naoto Kan said he'd double consumption tax, his party were routed in July's upper-house elections. Since then, he's been challenged for the leadership by Ichiro Ozawa whose fiscal policy seems to be 'more of the same' (was it Einstein who defined insanity as repeating something over and over again, each time expecting a different result?!)

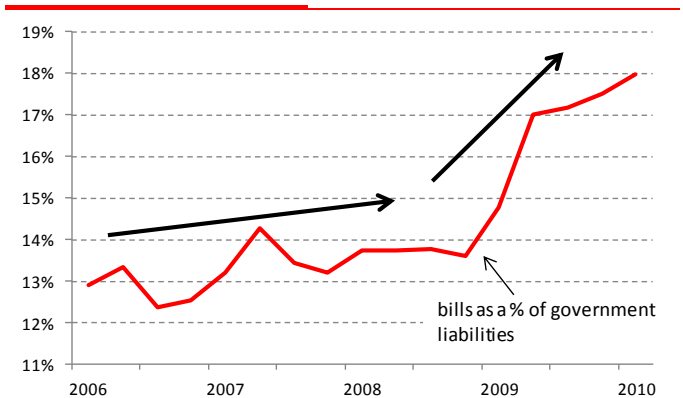
But when will that 'some point' be? When will the government no longer be able to fund itself at economic rates (even at 1% yields, debt service is expected to come in at around 43% of revenues by 2010!). I wish I knew, but I don't see how you can. Most investors I speak to think that even if there is a problem it won't blow up for some time but doesn't that imply they know *when* (i.e. a while from now) and how does anyone know that?

Public pension fund selling JGBs



Source: BoJ, SG Cross Asset Research

... while the govt increasingly relies on bills to fund itself



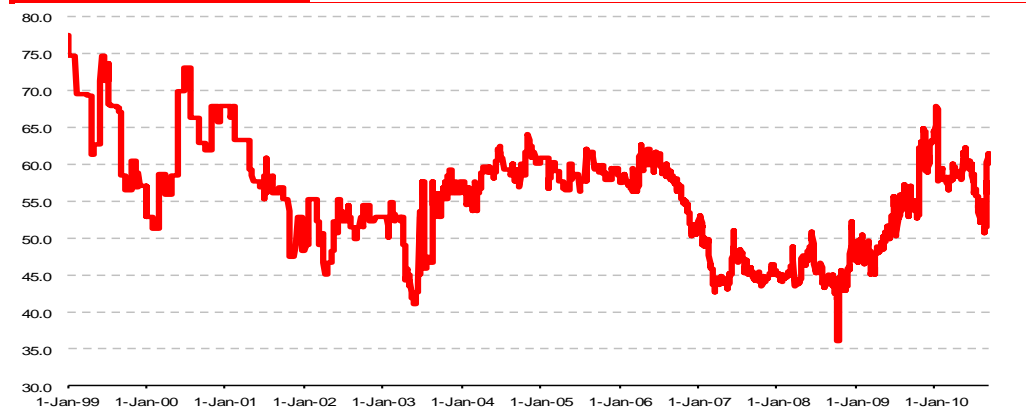
Source: BoJ, SG Cross Asset Research

We know the single biggest holder of JGBs, the GPIF is selling them. They've been [very open](#)³⁷ about it, but you can see it in the Flow of Funds data too (top chart left panel). The reason they're selling them is that they have to pay for the growing number retirees, a trend we know will continue from here. And we know from Reinhart and Rogoff that one of the early warning

³⁷ GPIF doesn't need investment professionals – ipe.com 24 June 2010 (free registration)

signals of government funding pressure is a narrowing of the debt maturity. The vehicle of choice for the Japanese government has been bills, not JGBs (top chart right panel).

What to do? Cheap insurance: ATM swaptions on 10y yields 10y forward (bps p.a.)

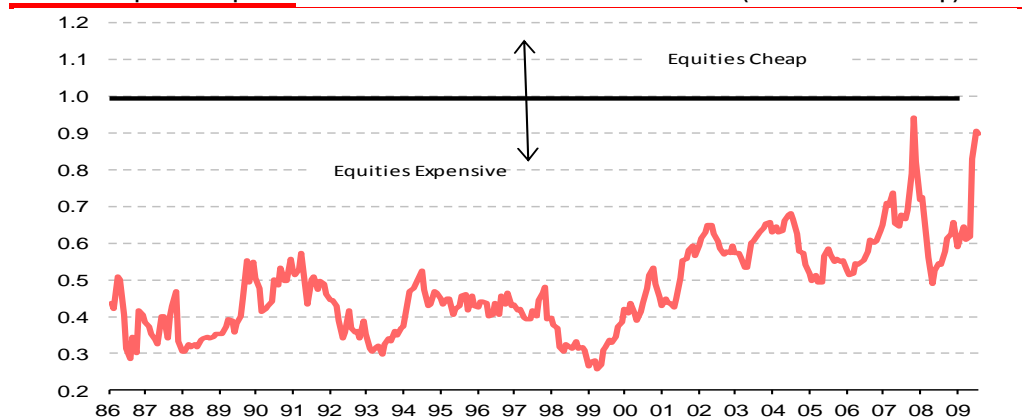


Source: SG Cross Asset Research

What should we do? A bankrupt government implies default via inflation, which isn't what people think when they think of Japan, but who expected such deflation 20 years ago? But the problems should first show up in the JGB market. A potential 'grey swan' with unforecastable timing argues for insurance, but there's no point buying insurance unless it's cheap. The chart above shows ATM swaptions on the 10y yield 10y forward. They've spiked recently because of Ozawa's manoeuvres but at 60bps still seem reasonable to me. Of course, you'd want to go well out of the money, but my assumption is that if the ATMs are reasonably priced, the OTMs will be too (I'm looking into this but haven't managed to get anything firm in time to publish).

Of course, hunting around the more exotic corners of the yen swaps market won't be everyone's cup of tea. But I'm wondering if we should be warming to the idea of Japanese stocks here. That might sound unintuitive given what I've written above but for the first time in decades they're beginning to look cheap (see chart below), they're *very* unloved, and if I'm right that the only realistic future buyer of JGBs will be the BoJ, there might even be a catalyst too ... but that's a topic for another note. Look out for it in a few weeks.

What to do part 2: Japan stock market ratio of Intrinsic Value to Price (IVP ratio > 1 = cheap)



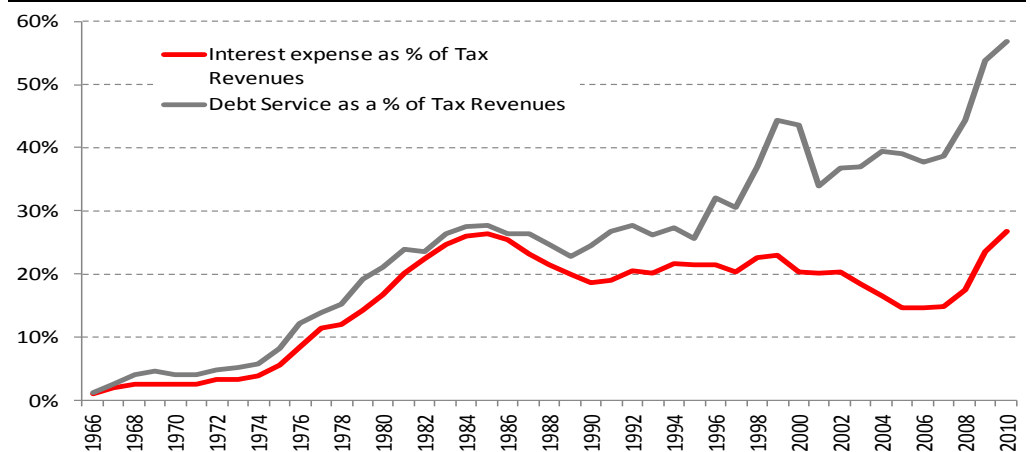
Source: SG Cross Asset Research

Nikkei 63,000,000? A cheap way to buy Japanese inflation risk (15/10/2010)

Japan is no Zimbabwe. Neither was Israel, yet from 1972 to 1987 its inflation averaged nearly 85%. As its CPI rose nearly 10,000 times, its stock market rose by a factor of 6,500 ... Regular readers know that I don't generally make forecasts, but that every now and then I do go out on a limb. This is one of those occasions. Mapping Israel's experience onto Japan would take the Nikkei from its current 9,600 to 63,000,000. This is our 15-year price target.

- Despite the Japanese government paying a mere 1.5% on its bonds, interest payments amount to a hair-raising 27% of tax revenues. Including rolled government bills (which Japan's MoF defines as debt service) takes the share to an eyebrow-singeing 57% (see chart below).
- Any meaningful repricing of Japanese sovereign risk would push yields to a level the government would be unable to pay. Moreover, since the domestic financial system is loaded up to the eyeballs with JGBs (first chart inside), a crisis of confidence there would soon transmit itself beyond the public sector.
- So the path of least political resistance will presumably be to keep yields at levels which the Japanese government can afford to pay, and to stabilise JGBs at levels which won't blow up the financial system. This will involve the BoJ buying any/all bonds the market can no longer absorb, probably under the intellectual camouflage of "a quantitative easing program" aimed at breaking Japan's deflationary psychology. Economists might applaud such a step as finally showing the BoJ was "getting serious about Japan's problems". In fact, it will be the opening chapter of a long period of inflation instability.³⁸

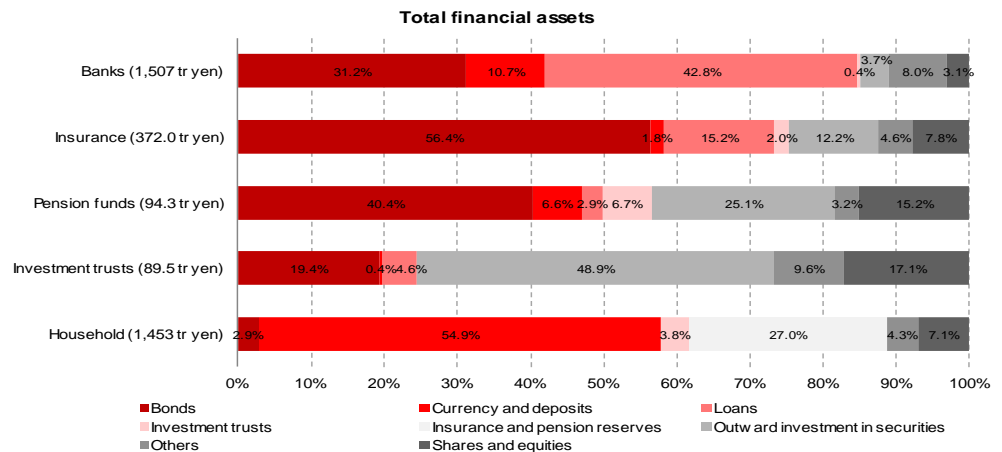
Yikes! Japan's debt payments are eating up a lot of tax revenues ...



Source: SG Cross Asset Research, Japanese MoF

³⁸ Albert and I have contributed with a group of other strategists and hedge fund managers to a book we hope will raise some much-needed money for charity. It's called "The Gathering Storm" and has a collection of essays with views on the recent crisis and thoughts about the next ones. It's an easy read and we hope an enlightening one too, and can be purchased at www.thegatheringstorm.info

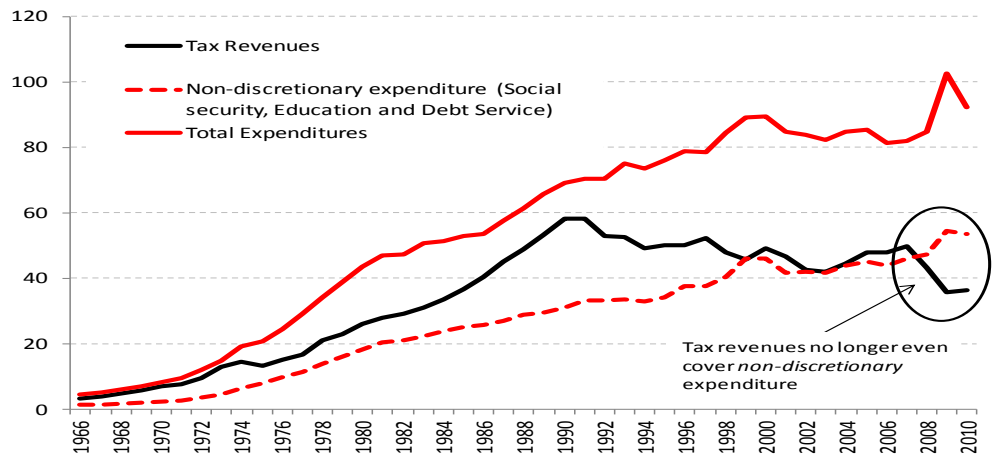
Japan's financial system depends on JGB stability (while Japanese equities are under-owned!)



Source: SG Cross Asset Research, BoJ

It is often pointed out that in Japan's aging population there is no constituency for inflation, which is why there is insufficient pressure on the BoJ to monetise. However, the same demographic dynamic ensures there is no political constituency for reductions in health expenditures. Yet Japan's tax revenues currently don't even cover debt service and social security, persistent and growing fiscal burdens. Therefore, once the BoJ is forced into monetisation of government deficits, even if only with the initial intention of stabilising government finances in the short term, it will prove difficult to stop. When it becomes the largest holder and most regular buyer of JGBs, Japan will be on its inflationary trajectory.

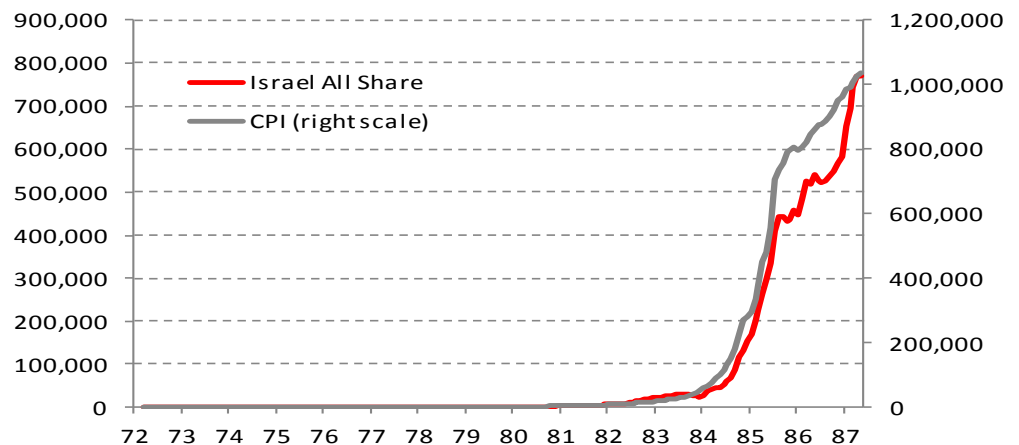
Japan's government tax revenues no longer cover its bare necessities



Source: Japanese MoF, SG Cross Asset Research

It is said that where democracies are developed and institutions robust, hyperinflations don't take hold. In the 1970s, for example, while developed economies exhibited a degree of the political breakdown that usually fosters high inflation, their experience was relatively mild in comparison to the more pathological inflations seen in politically malfunctioning economies such as Zimbabwe or Weimar Germany. Problematic 1970s inflation in the developed economies was controlled before it became too problematic ... except in Israel, which saw its problematic 1970s inflation explode into a hyperinflationary 500% by the mid 1980s.

Israeli shares exploded in nominal terms during its 1980s inflation crisis (1972=100)



Source: SG Cross Asset Research, GFD

Think about that for a moment. Japan is an advanced economy, a developed democracy and certainly no Zimbabwe. But Israel was all of those things too. It simply found itself politically committed to a level of expenditure – military and social – which it couldn't fund. Instead of taking the politically unpalatable course of cutting that expenditure, it resorted to the tried-and-tested tactic of buying time with printed money. Between 1972 and 1987 Israel's CPI rose by a factor of nearly 10,000. Inflation averaged around 84% and peaked at an annualised 500% in early 1985.

In real terms equity prices fell (chart above), failing to keep pace with the rise in the CPI. But in nominal terms they *exploded* rising by a factor of around 6,500 over the period, in keeping with experiences of nominal share indices in Argentina, Brazil or Weimar Germany during their inflationary crises. A couple of clients have told me they think the trigger for a forced BoJ monetisation of the government's balance sheet *can only occur* when Japan starts running current account deficits, pointing out that sovereign defaults have only occurred in current account deficit economies. So long as Japan maintains its current account surplus it will be safe. But I'm still not convinced why this *must necessarily* be the case just because it has been in the past. Current account deficits would be critical for government funding if the swing government bond investors were from overseas, which they nearly always are. But in Japan today they're not. The households effectively are. Why should the current account deficit even be relevant to what is effectively an internal issue?

Reinhart and Rogoff say that one of the tell-tale early signs that governments are struggling to maintain market confidence is when debt maturities decline. This is what is happening in Japan today. And the BoJ announced last week (to loud acclaim) that it was going to adopt a more Anglo-Saxon style of quantitative easing. The process is arguably underway. My concern is that once the door to QE has been passed through, it slams shut behind.

The truth is we can't know when this will happen. We suspect only that the writing is on the wall, and the further out we look, the bigger and bolder that writing becomes. But if Japan was to follow a similar trajectory to Israel's, the Nikkei would trade at around 63,000,000 (63 million) by 2025. How much do you think 15y 40,000 strike call options would cost? I'm not sure either (though I'm sure I could get interested parties a quote), but call options are generally cheap, and "melt-up" calls especially so, and I'd be surprised if you couldn't buy that risk for a few basis points a year. Is there a cheaper way to hedge Japan's coming inflation?

Buy Japan, and prepare to buy with both hands (17/03/2011)

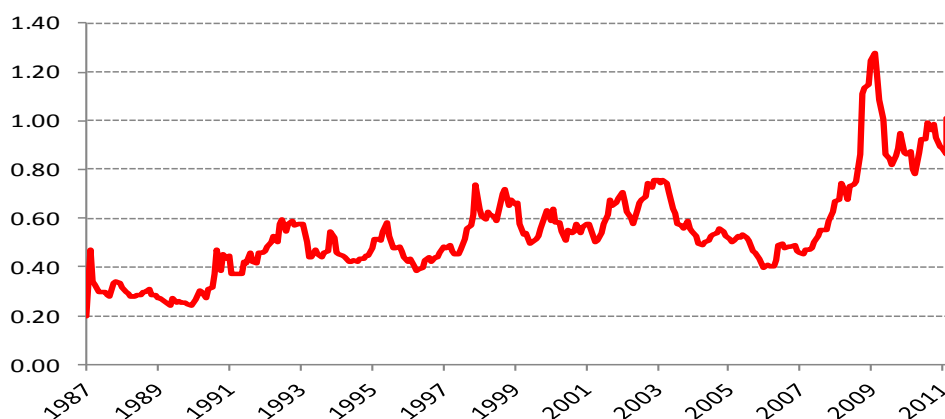
I've been mulling the valuation of Japanese equities for a while now and haven't been able to make up my mind. But as they have just dropped the best part of 20%, and with potentially more to come, it's becoming easier. Japan is beginning to look cheap.

■ I'm never quite sure what to do during situations like that now unfolding in Japan. Not just because it's so fast moving. But because we all know people in Japan and have friends there we're worried about. And while the media beam images of families with relatives missing after the tsunami, with no heating and no water, and now facing a nuclear meltdown, trying to interpret those flickering market prices with the cold detachment of a profit-seeking investor produces a very strange feeling indeed. But the fact is, there are those out there far smarter than me who thought the Japanese equity market was at bargain basement levels before the earthquake. And while I wasn't sure I was in their camp a few weeks ago, now that prices have fallen by the best part of 20%, the decision is now easier to make.

■ Just to be clear, the reason I haven't been so keen on Japanese equities has been on valuation grounds alone. It had nothing to do with any concerns I have over the government's solvency. Without going through those arguments again here, I simply point out that a government default (inflationary or otherwise) is merely one possible scenario of several (and frankly, I hope it doesn't happen). It's not inevitable that it will come to pass because there are lots of things the Japanese government can do to avoid it. But neither is it inevitable that the Japanese government will do them. What's important is that at current prices across a range of derivatives, the risk can be hedged at attractive prices. And if we can hedge that tail, we're free to focus on the more central part of the distribution. We can then consider boring old investment valuations with peace of mind.

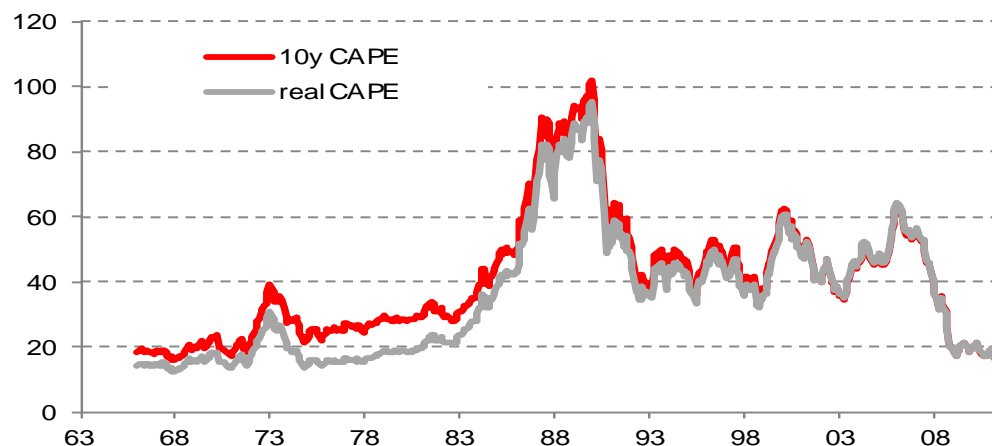
■ And valuations are beginning to look attractive. When you say to people that Japan is beginning to look cheap, a common reply is that it's been cheap for ages. I disagree. The following chart shows Japan's intrinsic value to price ratio (IVP). Only in the past year or so has the Japanese equity market traded at a price broadly consistent with intrinsic value.

Japanese equity market IVP ratio



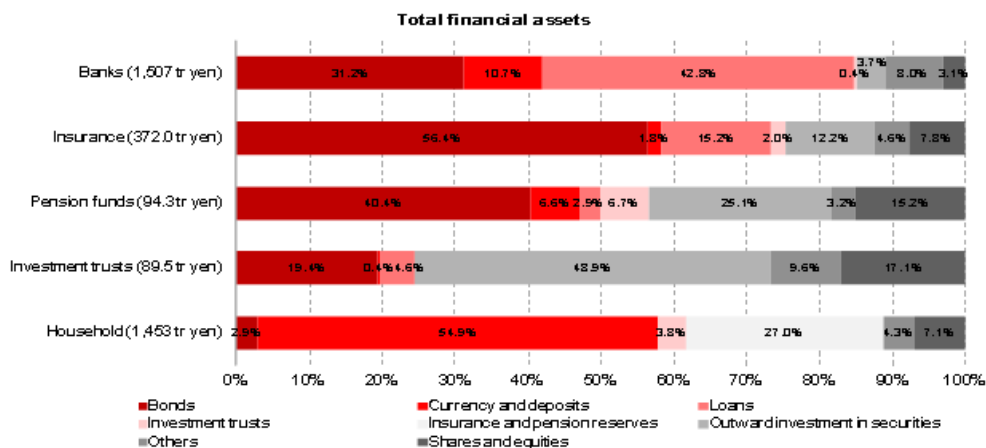
Source: SG Cross Asset Research

Shiller's cyclically adjusted PE ratio (CAPE) for Topix now 16x



Source: SG Cross Asset Research

Japanese equities are under-owned: assets held by financial institutions by asset class



Source: SG Cross Asset Research

A similar picture emerges using Shiller's cyclically adjusted PE ratio (top chart above), which with the Topix at around 800 now stands at roughly 16x. And while I worry that JGBs are over-owned within the financial system, the flipside is that Japanese equities are massively under-owned (second chart). Japanese stocks are starting to look attractive.

That's not to say they won't soon look more attractive. Who knows how the current situation will play out? Something I've found striking watching the endless interviews with nuclear experts on the various TV news shows has been their confidence that there won't, there *can't* be another Chernobyl. The reactors and safety mechanisms aren't even comparable, they say and I'm sure they're correct. I know even less about nuclear physics than I do about macro economics. But I do know that people mistake understanding the causes of a past event to understanding *all possible causes* of that event. So I've been watching these experts and wondering, are they telling us that another Chernobyl cannot happen because it absolutely cannot happen under *any circumstances*, or are they falling into the trap of thinking that there won't be a Chernobyl-like outcome because it's not a Chernobyl-type reactor? If so, doesn't the possibility that a Chernobyl type leak could happen in a completely new and hitherto unanticipated way remain open?

I have no idea. But as the story unfolds and the threat to the number four reactor intensifies, I'm beginning to fear that it's the latter. Let's hope and pray this doesn't happen. But if it does, we could see another 20% off the Topix in very short order. At that point we should be buying with both hands ... for now, here's a list of Japanese stocks trading at or below their estimated intrinsic value. (This is merely a screen output, and yes, we are aware of the first name on the list. For more fundamental analysis of the names included speak to Lisa Fox, the head of sales at Ji-Asia, our joint venture research partners in the region).

Japanese companies with estimated intrinsic value higher than current price (IVP>1); mkt cap >\$5bn

Company Name	Mkt Cap (\$bn)	Class	10y med RoE	BPS	Intinsic Value PS	Closing Price	IVP	Plotroski Score
Tokyo Electric Power Co. Inc.	42,381.8	Electric Utilities	8.4	1,828	2,108.1	798.0	2.64	7.0
Ricoh Co. Ltd.	9,544.6	Office Electronics	10.2	1,341	1,992.3	850.0	2.34	8.0
Mitsui O.S.K. Lines Ltd.	7,765.1	Marine	22.1	553	1,076.5	460.0	2.34	5.0
JFE Holdings Inc.	16,488.3	Steel	17.5	2,690	4,603.2	2,170.0	2.12	6.0
Toyota Tsusho Corp.	6,322.6	Trading Companies & Distributors	11.7	1,675	2,224.8	1,163.0	1.91	5.0
Sekisui House Ltd.	6,689.8	Homebuilding	4.8	1,060	1,374.9	756.0	1.82	4.0
Nippon Telegraph & Telephone Corp.	65,580.0	Integrated Telecommunication Services	7.2	5,886	6,216.5	3,610.0	1.72	7.0
Nippon Yusen K.K.	7,363.2	Marine	10.7	389	485.2	311.0	1.56	3.0
Sega Sammy Holdings Inc.	5,833.0	Leisure Products	25.1	943	2,209.4	1,447.0	1.53	8.0
Itochu Corp.	15,923.9	Trading Companies & Distributors	17.4	695	1,169.3	778.0	1.50	5.0
Sumitomo Corp.	18,283.3	Trading Companies & Distributors	10.4	1,267	1,578.2	1,065.0	1.48	6.0
Kyushu Electric Power Co. Inc.	11,076.1	Electric Utilities	7.5	2,266	2,507.9	1,709.0	1.47	7.0
Sumitomo Metal Industries Ltd.	11,444.5	Steel	9.9	179	227.3	162.0	1.40	3.0
Aeon Co. Ltd.	9,473.7	Hypermarkets & Super Centers	5.4	1,100	1,172.1	875.0	1.34	6.0
Sankyo Co. Ltd.	5,348.3	Leisure Products	11.1	4,238	5,643.8	4,230.0	1.33	8.0
Nippon Steel Corp.	21,960.7	Steel	6.7	293	322.9	243.0	1.33	3.0
Nissan Motor Co. Ltd.	41,634.7	Automobile Manufacturers	20.7	618	953.5	733.0	1.30	6.0
Secom Co. Ltd.	11,010.3	Security & Alarm Services	10.1	2,562	4,692.8	3,625.0	1.29	7.0
Kao Corp.	14,371.4	Personal Products	13.2	1,056	2,523.7	1,974.0	1.28	6.0
Mitsubishi Corp.	44,293.1	Trading Companies & Distributors	12.4	1,862	2,524.0	2,029.0	1.24	6.0
Tohoku Electric Power Co. Inc.	11,723.7	Electric Utilities	5.8	1,790	1,844.4	1,499.0	1.23	7.0
Toppan Printing Co. Ltd.	5,702.9	Commercial Printing	3.6	1,159	718.8	586.0	1.23	8.0
KDDI Corp.	29,272.9	Wireless Telecommunication Services	12.5	453,364	599,491.6	504,000.0	1.19	5.0
NEC Corp.	6,998.3	Computer Hardware	1.3	304	208.1	175.0	1.19	6.0
Ajinomoto Co. Inc.	7,987.2	Packaged Foods & Meats	6.3	864	987.6	840.0	1.18	8.0
Chubu Electric Power Co. Inc.	20,248.2	Electric Utilities	7.2	2,147	2,349.4	2,000.0	1.17	7.0
The Chugoku Electric Power Co. Inc.	7,831.6	Electric Utilities	6.0	1,855	1,925.2	1,670.0	1.15	7.0
Daikin Industries Ltd.	9,880.9	Building Products	12.3	1,705	2,516.7	2,205.0	1.14	6.0
Sony Corp.	35,112.8	Consumer Electronics	4.0	2,955	2,838.9	2,515.0	1.13	6.0
Toyota Motor Corp.	140,560.4	Automobile Manufacturers	13.2	3,303	3,676.3	3,270.0	1.12	7.0
Osaka Gas Co. Ltd.	7,950.8	Gas Utilities	8.1	310	330.7	298.0	1.11	8.0
Canon Inc.	58,206.7	Office Electronics	14.2	2,178	3,800.6	3,470.0	1.10	6.0
Shiseido Co. Ltd.	7,992.6	Personal Products	6.0	877	1,582.6	1,452.0	1.09	6.0
Yamada Denki Co. Ltd.	6,930.7	Computer & Electronics Retail	14.4	4,297	5,554.6	5,240.0	1.06	7.0
West Japan Railway Co.	7,871.2	Railroads	9.5	345,568	325,252.1	308,500.0	1.05	5.0
Sumitomo Metal Mining Co. Ltd.	10,014.1	Diversified Metals & Mining	9.1	1,044	1,321.5	1,254.0	1.05	7.0
Kansai Electric Power Co. Inc.	23,721.2	Electric Utilities	6.5	1,972	2,090.6	1,994.0	1.05	8.0
FUJIFILM Holdings Corp.	16,522.6	Electronic Equipment & Instruments	3.8	3,574	2,309.9	2,250.0	1.03	5.0
Dai Nippon Printing Co. Ltd.	8,465.5	Commercial Printing	4.0	1,422	901.3	880.0	1.02	7.0
East Japan Railway Co.	26,881.0	Railroads	10.8	4,501	4,496.7	4,405.0	1.02	5.0
Toyota Industries Corp.	10,329.9	Auto Parts & Equipment	3.5	3,396	2,373.8	2,366.0	1.00	5.0
Mitsubishi Heavy Industries Ltd.	14,981.5	Industrial Machinery	1.9	381	304.8	304.0	1.00	6.0

Source: SG Cross Asset Research, Factset