



17 October 2011

Global Equity Strategy

Is the US following Japan? A debate

Is the US following Japan with a lag of around 11 years? Our Asian strategist Ajay Kapur thinks so, while our US strategist Binky Chadha and European strategist Michael Biggs disagree. We present their viewpoints in this report.

For the motion

Ajay Kapur

Market/economic indicators in the US following Japan with an 11-year lag

We suggest that the longer-term demographics, property bubbles/busts, trajectory of stock and bond markets, relative performance of financial stocks, stock-bond ratio, leading indicators of inflation, credit multiplier, path of real GDP growth, evolution of corporate balance sheets and government finances in the US are simply following those of Japan, with a lag. The risk to our view is a credible change in the policy-making environment that could help unlock the underlying strength in the balance sheets of corporates, plutonomists and emerging market consumers.

Against the motion

Binky Chadha

The parallels are overdone

The key fundamental concern is a prolonged period of low nominal growth (in the case of Japan zero). Four sets of reasons why we believe the parallels are overdone: (i) nominal GDP growth in the US is running much higher (4%) than in Japan (0%); private ex-housing GDP growth has been much stronger (6%); and monthly indicators of private consumption (retail sales) and private capex (core durable goods) in recovery channels with 6% and 17% annual growth rates respectively, well above nominal stagnation rates; (ii) strong typical V-shaped recovery in US corporate profits while profitability in Japan remains anemic; we see top-line growth remaining well above headline GDP growth rates and margins, which, while high, remain well supported; (iii) A "Japanization" of the S&P 500 multiple would be positive as Japanese equities have traded at a significant premium to US equities reflecting lower bond yields; (iv) deleveraging in the US has been swift and is already further ahead today than in Japan after 20 years.

Michael Biggs

Superficially similar, fundamentally different

The "Japan Redux" view argues the US is currently over-indebted, and the need to de-lever will weigh on demand growth just as it did in Japan in the 1990s. We argue that what is important for demand growth is not the level of credit growth, but rather whether credit growth is rising or falling. From this perspective Japan and the US are opposites – whereas credit growth was positive but falling in Japan, it is negative but rising in the US. The US is in the rare position that it can achieve strong credit-driven spending growth even as private sector balance sheets are repaired.

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Is the US following Japan? A debate

For the motion

Ajay Kapur, Asia Strategist

US and Europe following Japan? "Say it ain't so"

It is not often that one feels somewhat ill while writing research – we have lost enough money in numerous emerging market crises to have consequently developed a strong stomach. But these were small countries, systemically unthreatening – nothing that a devaluation and IMF-suggested recession (or, "re-structuring") could not handle, with the odd change in government thrown in, conveniently blaming the previous one for its recklessness. In our view, the key threat to the financial markets in Asia is that the US and Europe morph into a Japan-like situation in the coming years. The US and European economies are USD30tr, or 44% of the US70tr of global GDP. They are too big to become Japan. This concern is the source of our physical discomfort. Of course, we hope this is purely a risk case and that we will one day be able to look back and laugh at our foolishness for even suggesting the parallels. Also, we recognize that the countries are different in many respects, that the US and Europe have had the advantage of observing the plight of Japan in the past two decades and that the sources of the bubbles/busts were different.

We suggest that the longer-term demographics, property bubbles/busts, trajectory of stock and bond markets, relative performance of financial stocks, stock-bond ratio, leading indicators of inflation, credit multiplier, path of real GDP growth, evolution of corporate balance sheets and government finances in the US are simply following Japan, with a lag. While the cultures differ, as does the nature of free market capitalism across the spectrum of these countries, human nature and the political economy of affluent democracies have a lot more in common. The relative similarity of market and balance-sheet behavior in the US to Japan with a lag suggests that these similarities are a lot more potent. Political correctness: an undue focus on the considerable cultural and other differences between the US and Japan is just not working through in the markets.

The risk to our view is a credible change in the policy-making environment that could help unlock the underlying strength in the balance sheets of corporates, plutonomists and emerging market consumers.

Mr. Bernanke gives advice to Japan in 1999, gets some in return in 2011

Mr. Bernanke in 1999 wrote powerfully that the Bank of Japan should show "Rooseveltian resolve" to undertake heterodox policy¹. This was followed by a famous speech, "Some thoughts on Monetary Policy in Japan," to the Japan Society of Monetary Economics in May 2003. Recently, it has been the other way around, with BoJ Deputy Governor Kiyohiko Nishimura articulating the lagged similarities between Japan and the US (and Europe) when looking at population ageing, balance-sheet adjustments and the implications for lower growth, bigger budget deficits, excessive risk aversion and a lending famine.² While our former professor has shown "Rooseveltian resolve" in conducting US monetary policy (with

¹ "Japanese Monetary Policy: A Case of Self-induced policy paralysis", December 1999, paper presented at the ASSA meetings, Boston, January 2000.

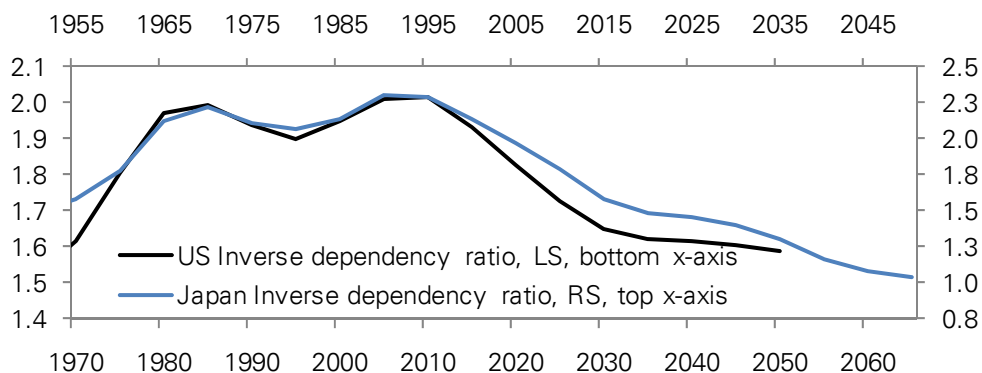
² See "This time may truly be different – balance sheet adjustment under population ageing", 2011 AEA annual meeting, Colorado.

rising dissent), the same cannot be said of fiscal policymakers in the US and Europe, in our view. The electorate just has not given them the mandate, it seems, to react with this sort of resolve in today's heterodox situation. A debt deflation or balance-sheet adjustment is not a physics problem; it occurs infrequently and up-ends standard economic models/thinking. It is tough enough for most economists to grasp. For most elected politicians and concerned voters, the notion that the government balance sheet needs to be used vigorously as the private sector, finding itself in a post-bubble paroxysm of risk aversion, shrinks its own balance sheets is utterly inexplicable. Thus, in our view, that bothersome political economy issue that Mr. Bernanke talked about in his 2003 Japan speech, has manifest this time around in Europe and the US.

Japan's demographics precede the US by 15 years, so does its property bubble

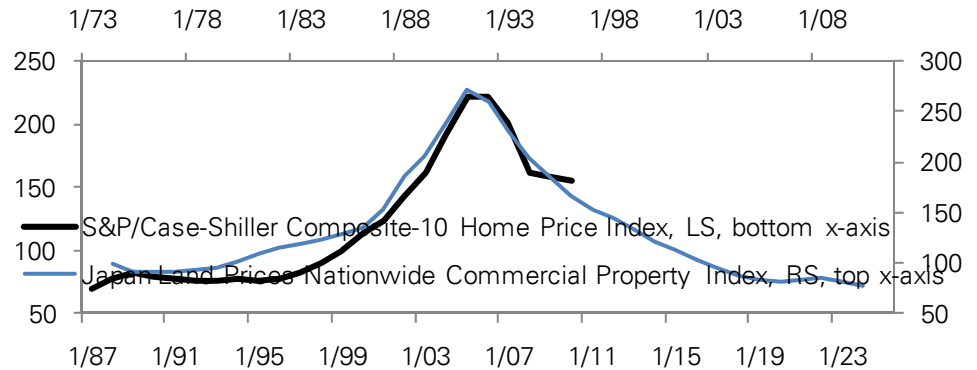
Let's take a quick tour. Figure 1, inspired by Mr. Nishimura of the BoJ, simply looks at the "inverse dependency ratio" for the US and Japan. This ratio is defined as the ratio of the population aged between 15 and 64 divided by everybody else. This is simply the working-age population ratio. The Japanese ratio peaked in 1990, the US about 15 years later. Both are projected to decline for years to come. Mr. Nishimura goes on to demonstrate the correlation between the "inverse dependency ratio" and property prices in Japan (commercial) and the US (residential). In Figure 2, we show a similar idea – Japan's commercial property boom and bust leads the US residential property boom and bust by about 14 years (Japan in 1991, and the US in 2006), in line with the about 15-year lead-lag in their "inverse dependency ratios."

Figure 1: Japan's demographics – the "inverse dependency ratio" precedes the US by 15 years ... linked with their respective property bubbles



Source: Deutsche Bank, UN Population database. Concept courtesy: Kiyohiko G Nishimura, from "This time may truly be different - balance sheet adjustment under population ageing". Inverse dependency ratio is ratio is defined as the ratio of the population between 15-64 divided by everybody else.

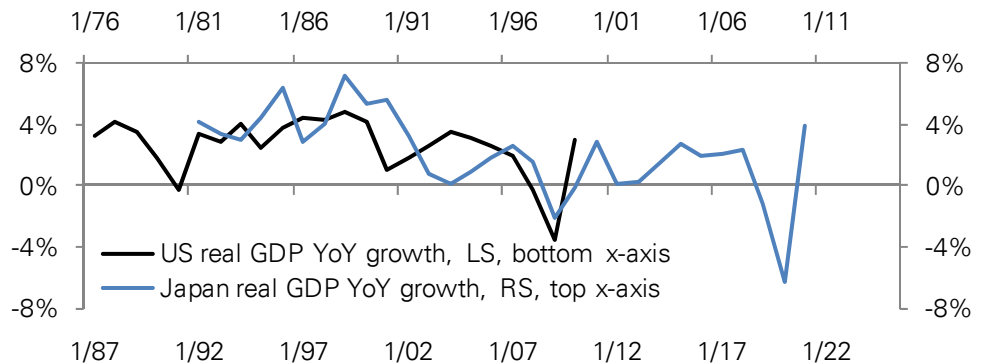
Figure 2: Japan’s commercial property bubble precedes the US residential property bubble by 15 years



Source: Deutsche Bank, Bloomberg Finance LP, CEIC

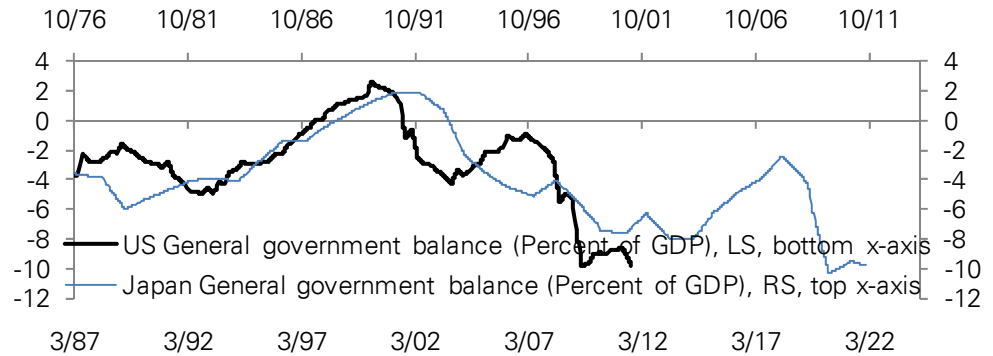
The boom in Japan’s property market was associated with strong real GDP growth and a budget surplus (Figures 3 and 4) in the late 1980s. In the US, we observe the same pattern with an 11-year lag, by 2000. At that time, the CBO optimistically projected budget surpluses. We now believe that the US growth rates and budget deficits are following the Japanese experience with an 11-year lag. The US echo boom from 2002-07, exacerbated by residential housing and a finance bubble, eventually burst, requiring the government balance sheet to be called into service. As we show in Figure 5, while Japan and the US were experiencing their bubbles, 11 years apart, their corporate sectors appeared happy to run weak free cash flows – after all, investments were a good thing, growth was excellent and would seemingly continue “forever.” After the respective bubbles popped, (from 1990 in Japan and 2000 in the US), the corporate sectors in both countries increased free cash-flow ratios dramatically by cutting back on capex. We observe a continuance of private-sector reticence to this day in Japan, as cash flows and cash piles rise. The US corporate sector is simply following suit. Real GDP growth is following a similar trajectory.

Figure 3: Is the US economy simply following Japan with an 11-year lag?



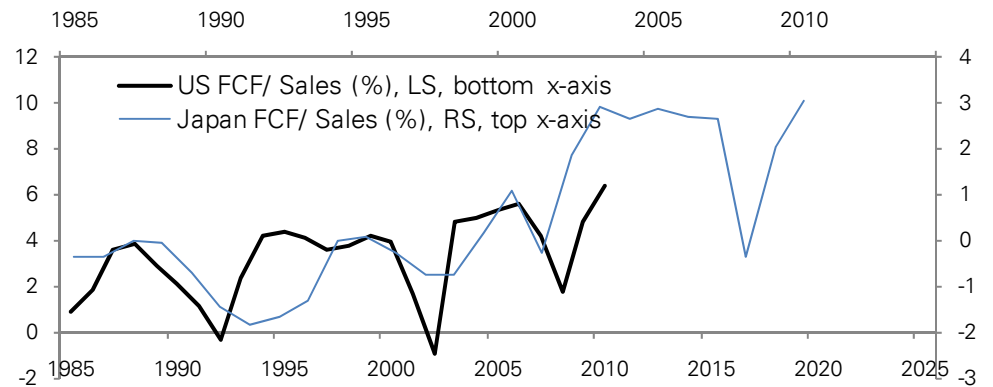
Source: Deutsche Bank, IMF

Figure 4: Bubble-flattered budget surpluses in Japan (1990) give way to perpetual deficits ... is the US following suit with an 11-year lag?



Source: Deutsche Bank, IMF

Figure 5: The post-bubble Japan corporate sector builds free cash flow by deleveraging/under-investing. US corporates doing the same since 2000

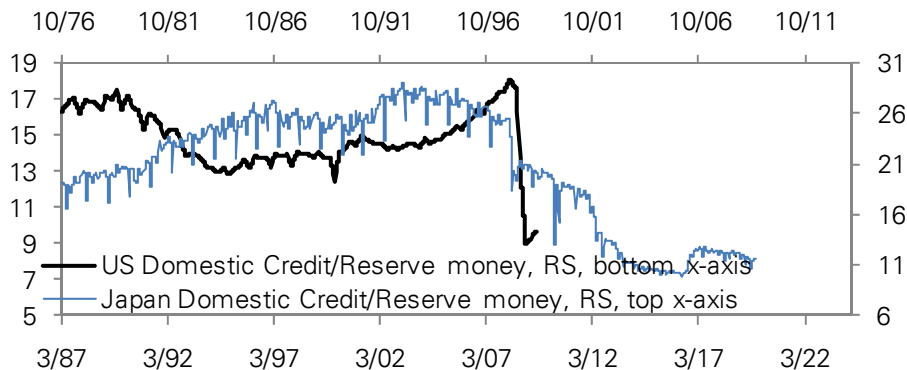


Source: Deutsche Bank. Note: Free cash flow to sales ratios are calculated based on a universe of 1200 US and 600 Japanese non-financial companies.

Rising corporate free cash flow, government deficits, a valuation trap

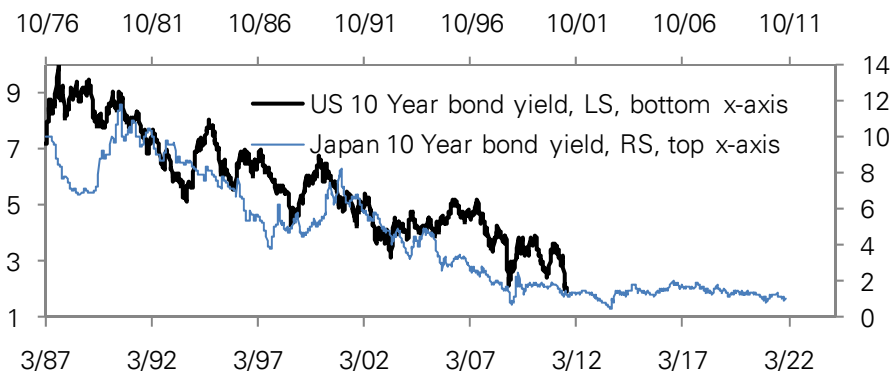
As this deleveraging in the Japanese corporate sectors progressed, the credit multiplier (loans divided by the monetary base) fell and never recovered – the dreaded liquidity trap (Figure 6). The US credit multiplier is following suit 11 years later, driven by corporate and middle-class deleveraging and default. From a financial market perspective, bond yields in Japan and the US are tracing each other with that 11-year lag (Figure 7). Shorting Japanese bonds was a popular contrarian trade for as long as we can remember at the macro off-sites we used to attend – in our view it never really worked, and was a financial widow-maker in the real world. Enough US bond commentators have made similar suggestions, calling for higher US interest rates, citing big budget deficits and a lack of potential buyers. But this has proven to be wrong thus far. From an equity perspective, the risk is to compare high corporate free cash-flow yields with low interest rates and claim that this massive excess is “undervalued” in public markets. Japan shows that this large gap between free cash-flow returns and the low cost of debt can persist for a long period, without mean-reverting (Figure 8). The US free cash-flow yield towers over the ten-year bond yield, seducing valuation enthusiasts – but we believe this is simply a repeat of the valuation trap that the Japanese equity market sprung a decade ago. In a balance-sheet recession, the equity market does not care about this large gap between corporate free cash flow and the cost of money; it cares about the lack of nominal growth, in our view.

Figure 6: The credit multipliers – fallen and can't get up. US following Japan with 11-year lag



Source: Deutsche Bank, IMF

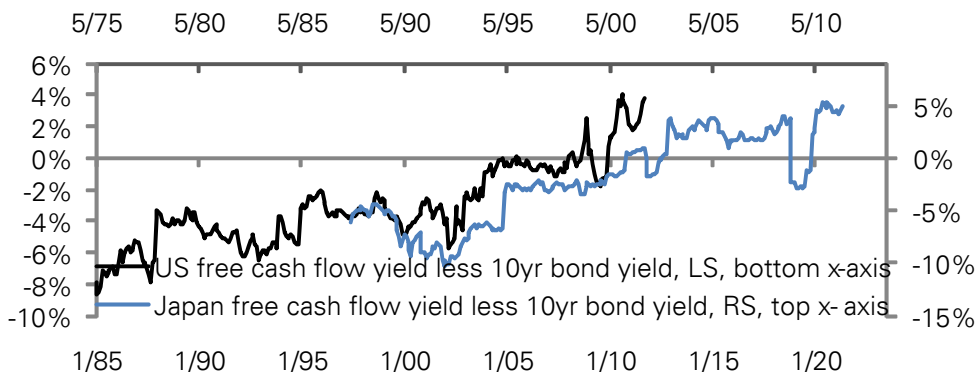
Figure 7: Anyone for shorting JGBs? Anyone for shorting USTs? "No-brainer" widow-makers



Source: Deutsche Bank, Bloomberg Finance LP

At this point in our discussion, a cynic might suggest that there is no real M&A market in Japan, and that de-equitization – the issuance of low-cost debt to buyback cheap free cash flow returns – is not a Japanese story, but is definitely a US and European proclivity. Financial engineering would close this gap, goes the thinking. If so, we have not seen it have any market impact so far.

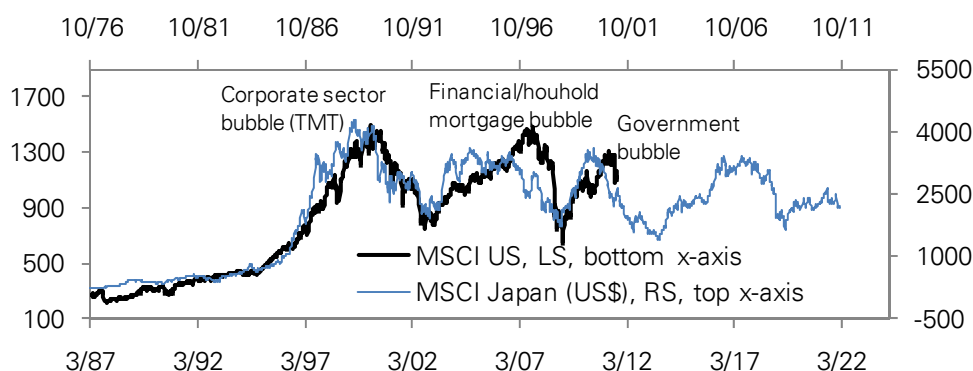
Figure 8: The valuation trap – Japanese free cash flow yields less JGB yields lead the US by 11 years



Source: Deutsche Bank, Factset. Based on MSCI universe.

In Figure 9, we show that the US equity market is following the path of the Japanese equity market with an 11-year lag. We find this chart to be of great concern. We have seen it before and never quite believed it. Now, we are not so sure. Figure 10 shows the valuation bubble in Japan by 1989, and in the US by 2000, both leading to talk of new paradigms. Many of our children are learning Mandarin now; if they were growing up in the 1980s, they would have been learning Japanese. (Unhelpfully for our kids, Mr. Nishimura of the BoJ points out that China's "inverse dependency ratio" peaks by 2010-2015, at which point, putatively, a balance-sheet adjustment, coupled with ageing, would create challenges for China, too. See Brad Jones's report on China³, using the framework of Hyman Minsky which elaborates on the potential for instability that brews quietly during stable times). Figure 11 shows that the stock-bond ratio in the US is simply following its Japanese cousin with that 11-year lag, as is the relative performance of US financials (there was a divergence in the 2002-07 echo boom in the US, with a financial bubble) (Figure 12). Some assert that the key difference is that Japan fell into deflation, and that has not happened in the US. However, Japan only fell into deflation by 1998, a full nine years after the bubble burst.

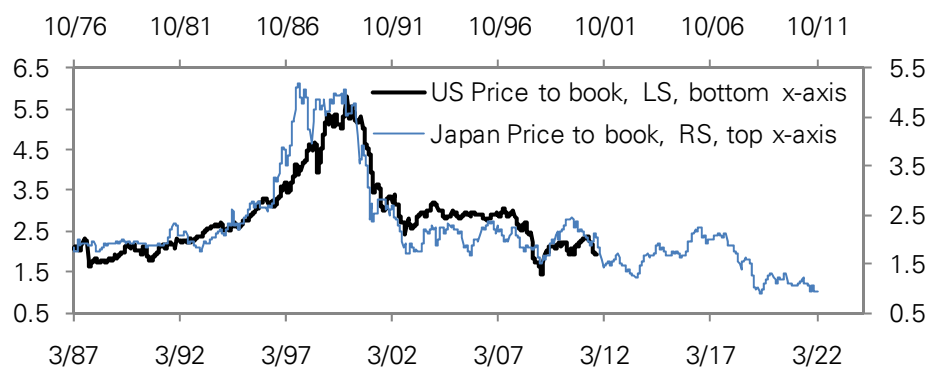
Figure 9: US equities following Japanese equities with an 11-year lag



Source: Deutsche Bank, MSCI, Bloomberg Finance LP

We could have made almost all of these charts comparing Europe (ex-Germany) and Japan, and the fit would be reasonably good, especially for the peripheral countries. We could also show many charts where the two – the US and Japan – are different. Our point is not to extrapolate Japan's experience for the US or Europe, but to highlight the risk that this is one possible nasty trajectory, and we should be open to and plan for that outcome.

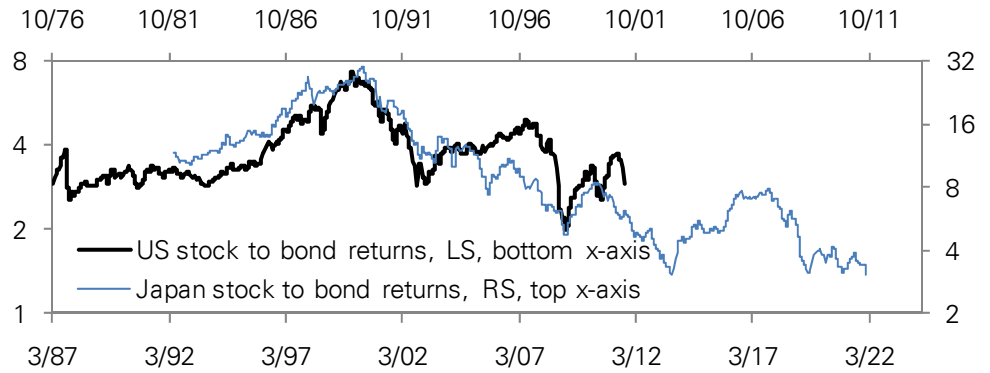
Figure 10: Japanese value bubble and the US value bubble – separated by 11 years



Source: Deutsche Bank, MSCI, Bloomberg Finance LP

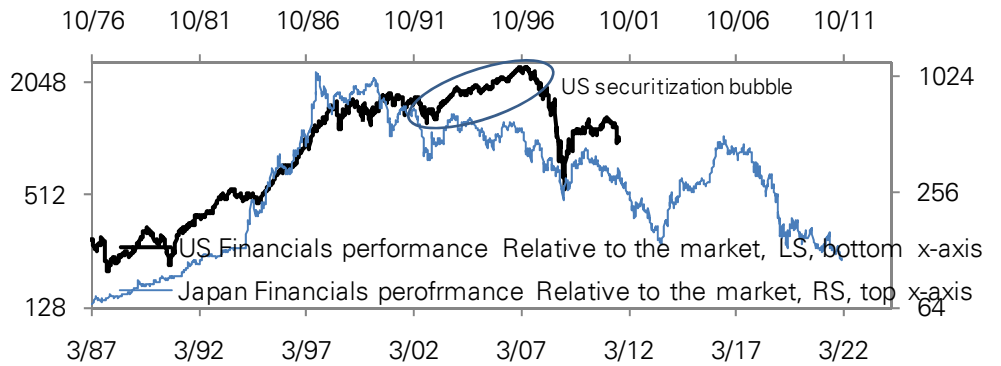
³ Brad Jones, The Asia Investor Letter, *Tail-Hedging China's (In)Stability Paradox*, 18 July 2011

Figure 11: Japan stock-bond ratio and the US – leads by 11 years



Source: Deutsche Bank, Bloomberg Finance LP

Figure 12: Japanese financial relative performance leads US financials relative performance by 11 years



Source: Deutsche Bank, Bloomberg Finance LP

Against the motion

Binky Chadha, US Strategist

Turning Japanese? Why we don't think so

The parallels with Japan ...

The parallels with Japan at the current juncture for the US and Europe are very well known. Indeed in our reading this is a near consensus if not already a completely consensus view. There are many facets of the parallels with Japan entailing the outlook for economic growth, economic policies, politics, post-bubble deleveraging, asset returns and asset prices. See the series of pieces by our Japan economists Mikihiro Matsuoka and Seiji Adachi and by our US economist Joseph Lavorgna⁴. In our view the key fundamental concern is a prolonged period of low, or in the case of Japan zero, nominal growth. A prolonged period of low nominal growth has a number of potential implications for the economy, asset returns and prices. For equities, low nominal GDP growth may imply low earnings growth, while expectations of persistently low growth may lower the equity multiple. Of concern also is the potential negative feedback loop from slow nominal growth which makes more difficult the necessary post-bubble deleveraging process that in turn keeps growth slow.

...are overdone

In our view there are at least four sets of reasons as to why the concerns about the parallels between the US at this juncture with Japan are overdone:

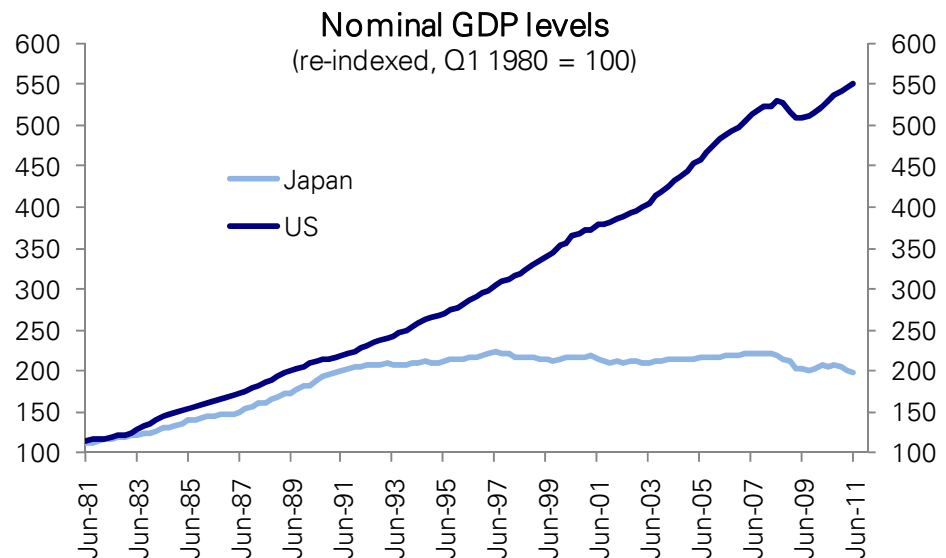
- **Nominal GDP growth is running much higher in the US than in Japan.** Japanese nominal GDP growth has been zero since the early 1990s while it has averaged a relatively steady 4% growth since the great recession. Private ex-housing US GDP, which represents two-thirds of the total, has averaged a much stronger 6% growth. And monthly indicators of US private demand have been stronger still. Private consumption (as measured by retail sales) and private investment (as measured by core durable goods new orders) have been in solid recovery channels since December 2008, with implied annual growth rates of 6% and 17% respectively. These are a very long way away from indicating nominal stagnation. We expect private ex-housing GDP in the US to remain solid driven by corporate spending. Corporate operating cash flows remain strong and having already accumulated record cash levels on balance sheets, our thesis has been and remains that corporates would and will continue to spend and payout.
- **Strong typical V-shaped recovery in US corporate profits while profitability remains anemic in Japan.** If there is one element of this US recovery that has closely followed the historical norm, it is the clear and sharp V-shaped recovery in corporate profits. Our view remains that top line growth should remain well above headline nominal GDP growth as it typically does in economic recoveries. And that US margins, while high, will continue to be well supported. Japanese profit margins in contrast remain at anemic levels. There is no sign that the 80-year trend rate of 6.4% S&P 500 EPS growth is changing.
- **A "Japanization" of the S&P 500 multiple would be positive?** Japanese equities began the period of nominal stagnation with a necessary derating from the late 1980s-early 1990s bubble when they traded around 45x. It is striking that while Japanese equities derated significantly and even after they stopped doing so they traded persistently at a significant premium (10-15%) over US equities. In our reading, this premium has reflected the impact of the pricing in of lower Japanese bond yields on the multiple.

⁴See amongst others by Mikihiro Matsuoka & Seiji Adachi: Japan Syndrome and Economic Policy Failure, 9/22/11; Sovereign risk and the Japan trap, 9/9/2011; Long-term implication of the sovereign risk problem, 8/5/11; Lessons to fend off prolonged stagnation and deflation, 10/11/10; by Joseph Lavorgna: Turning Japanese, 10/7/11

- **Deleveraging is advanced in the US.** In our reading:
 - **For the financials, deleveraging looks to be complete, and credit has begun to grow.** The post bubble deleveraging of the financials that took 20 years in Japan seems to have been accomplished by US financials in three years. Moreover, the overall stock of loans extended looks to have bottomed earlier this year and begun to expand modestly. Several categories of loans such as C&I loans have been growing more notably.
 - **US non-financial corporate leverage is low while that in Japan has been declining but is still much higher.** In the US, outside the financial sector corporate leverage has not been an issue.
 - **Households deleveraging is a big distributional issue but not an aggregate problem.** A key channel by which household deleveraging slows growth is through an increase in the savings rate. We see the household (aggregate) savings rate in the US as being driven by wealth (correlation since the data began in the 1950s between the household savings rate and assets/GDP has been around -90%). The savings rate peaked with the trough in equity markets in early 2009 and has fluctuated relatively narrowly since, with no important implication for the trend in growth.
 - **Rise and eventual government debt reduction remains a risk for growth in the US.** While the US government debt/GDP ratio is still only a half of that in Japan, both a continued rise and an eventual fiscal tightening remains a key risk in the absence of a political agreement and framework on how and when to do so. However, we do see the probabilities favoring (60%) the super committee reaching a meaningful debt reduction and tax reform plan next month.

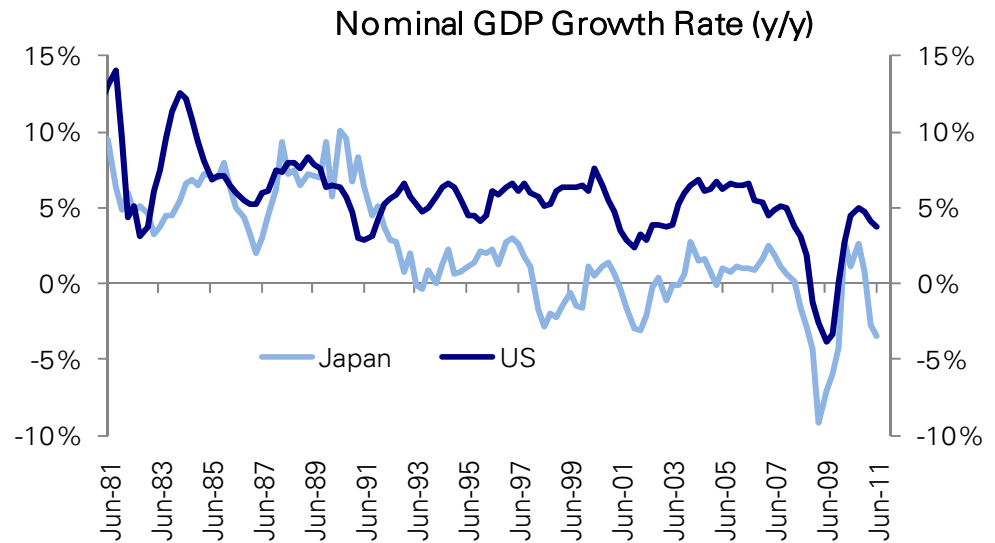
Nominal GDP growth running much higher than in Japan

Figure 13: US nominal GDP has grown while Japanese nominal GDP stagnated since the early 1990s



Source: US BEA, Japan Cabinet Office, Haver, Deutsche Bank

Figure 14: US nominal GDP growth is running well above that in Japan



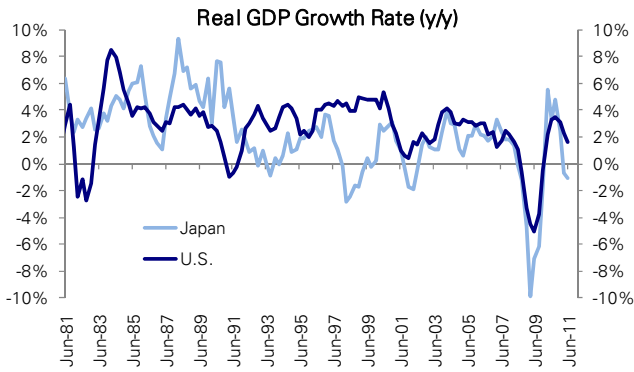
Source: US BEA, Japan Cabinet Office, Haver, Deutsche Bank

Figure 15: US nominal GDP running near a relatively stable 4%



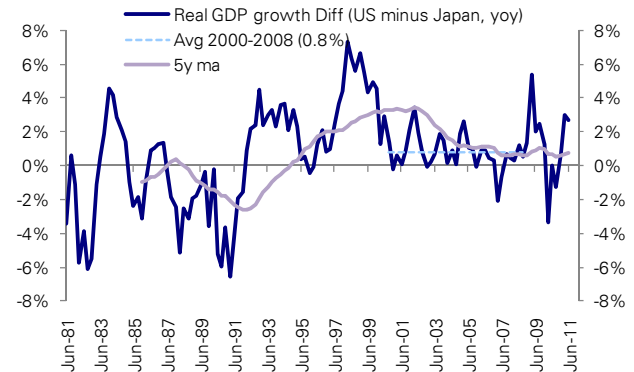
Source: US BEA, Haver, Deutsche Bank

Figure 16: Real GDP growth in Japan...



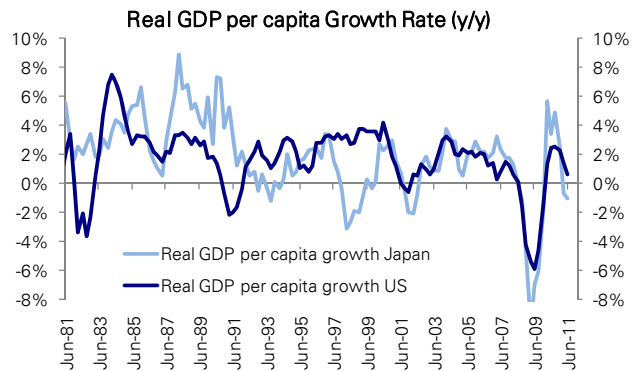
Source: US BEA, Japan Cabinet Office, Haver, Deutsche Bank

Figure 17: ...is only slightly lower than in the US



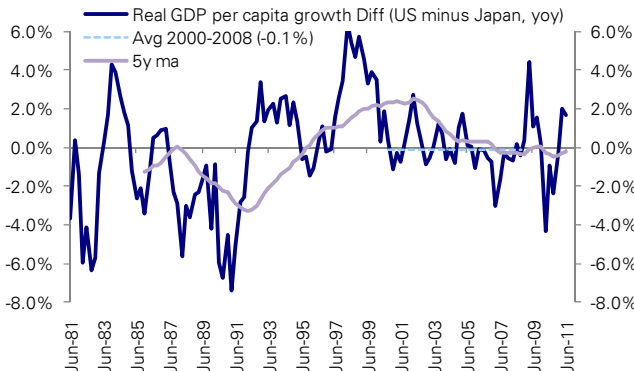
Source: US BEA, Japan Cabinet Office, Haver, Deutsche Bank

Figure 18: Adjusting for higher US population growth...



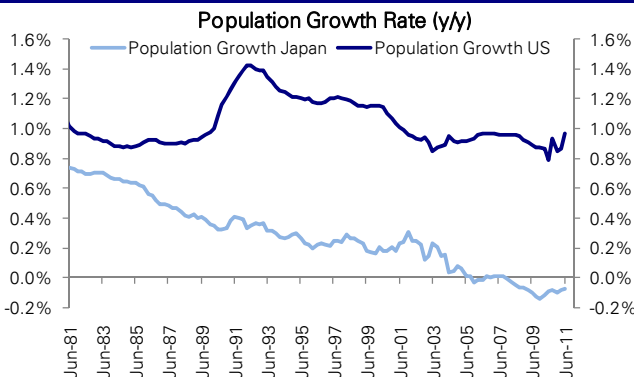
Source: US BEA, Japan Cabinet Office, Haver, Deutsche Bank

Figure 19: ...per capita GDP growth has been the same



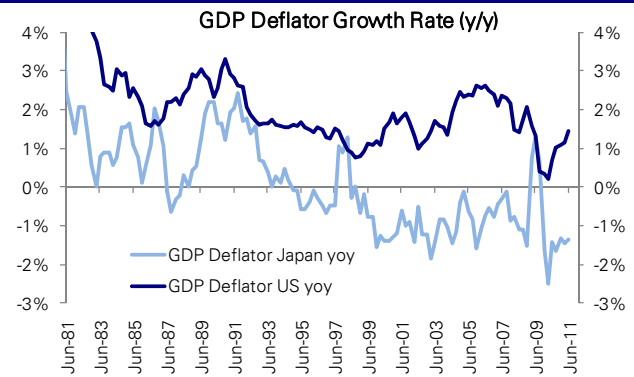
Source: US BEA, Japan Cabinet Office, Haver, Deutsche Bank

Figure 20: Population growth in the US higher than in Japan



Source: US BEA, Japan Cabinet Office, Haver, Deutsche Bank

Figure 21: Inflation in the US versus deflation in Japan



Source: US BEA, Japan Cabinet Office, Haver, Deutsche Bank

Figure 22: Private ex-housing GDP should grow solidly

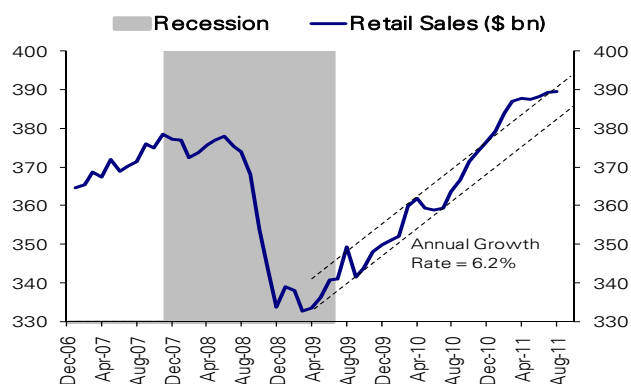
Nominal GDP Growth (% qoq, annualized) in this cycle

	Avg since Q3 2009
Nominal GDP	4.1
Nominal GDP Housing*	-0.7
Nominal GDP Govt Spending	2.1
Nominal GDP ex Housing*	5.1
Nominal GDP ex Govt Spending	4.6
Nominal Private ex Housing GDP	6.1

* Housing includes construction of residential & non-residential structures and PCE Housing

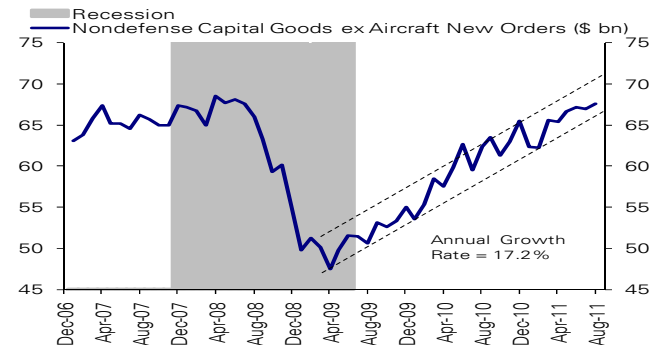
Source: US BEA, Deutsche Bank

Figure 23: Retail sales in a 6.2% ar recovery channel



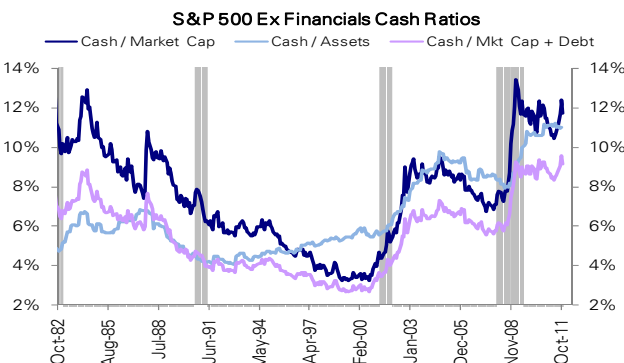
Source: US Census Bureau, Deutsche Bank

Figure 24: Capital goods in a 17.2% ar recovery channel



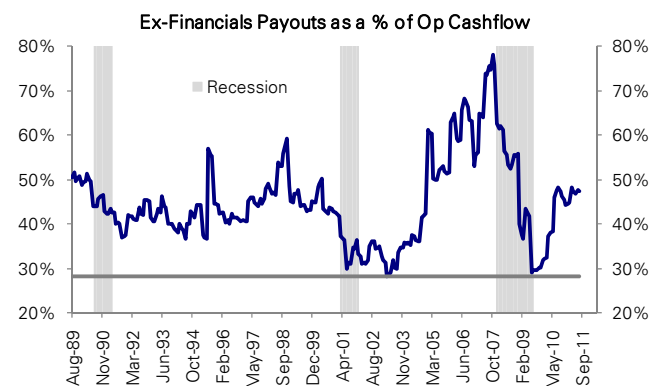
Source: US Census Bureau, Deutsche Bank

Figure 25: Strong US corporates, flush with cash...



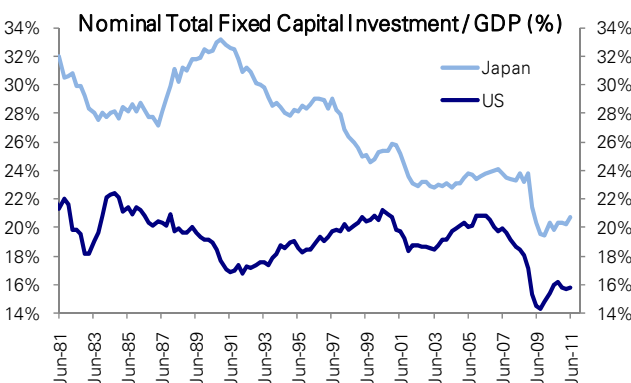
Source: Compustat, Deutsche Bank

Figure 26: are paying out cash flows to shareholders...



Source: Compustat, Deutsche Bank

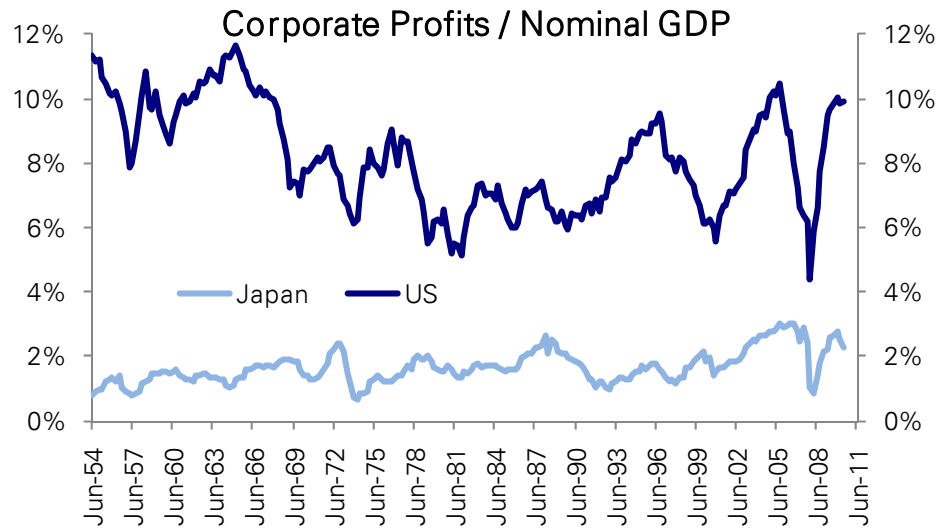
Figure 27: ...and investing



Source: US BEA, Japan Cabinet Office, Haver, Deutsche Bank

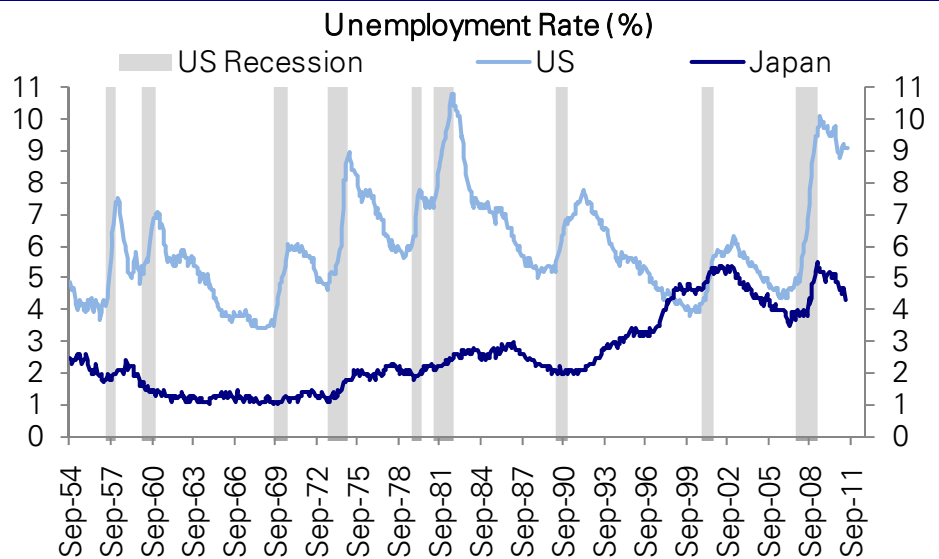
Strong US corporate margins should remain well supported; top-line to grow above GDP

Figure 28: Corporate profits in the US are very strong while margins in Japan are extremely low



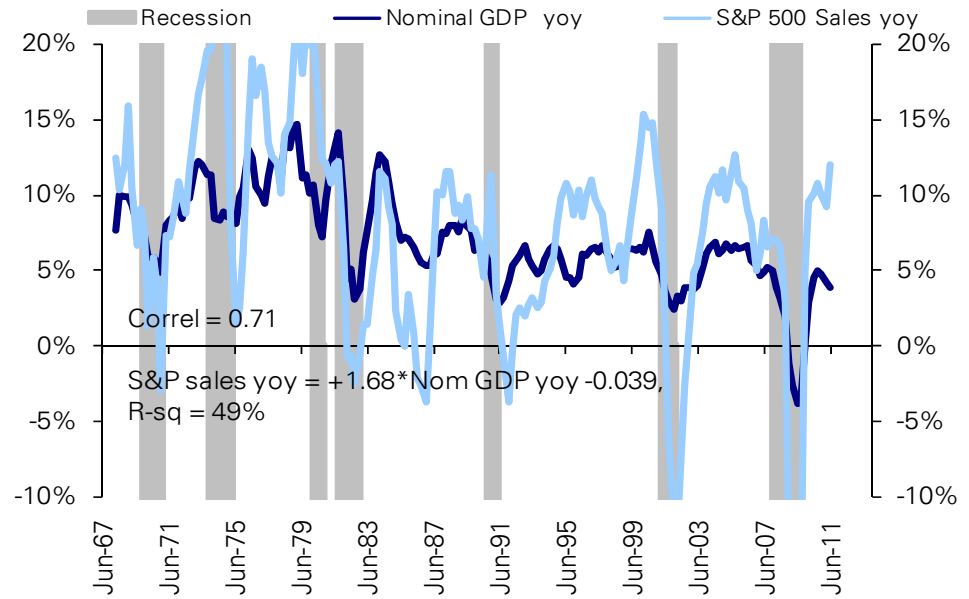
Source: US BEA, Japan Cabinet Office, Haver, Deutsche Bank

Figure 29: US profit margins should remain well-supported, particularly since high unemployment should constrain wage pressures



Source: US BLS; Japan Ministry of Labor, Health and Welfare; Haver; Deutsche Bank

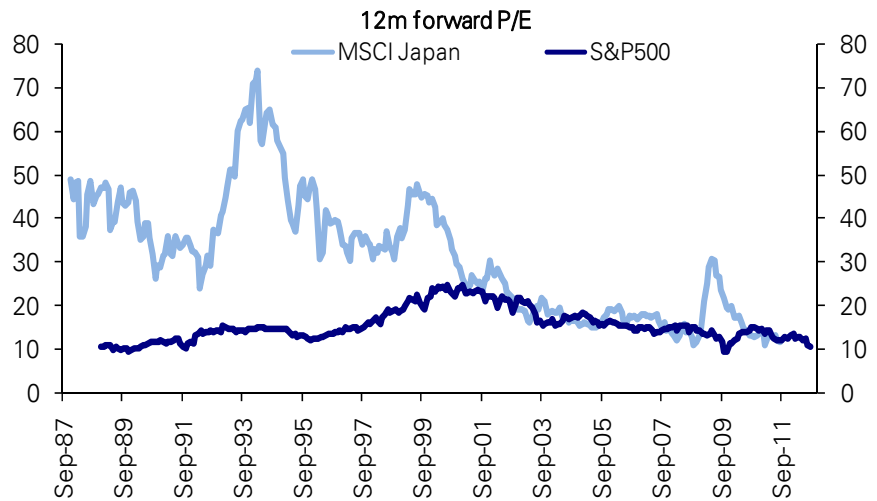
Figure 30: Sales growth for the S&P 500 runs well above GDP in recoveries



Source: US BEA, Compustat, Deutsche Bank

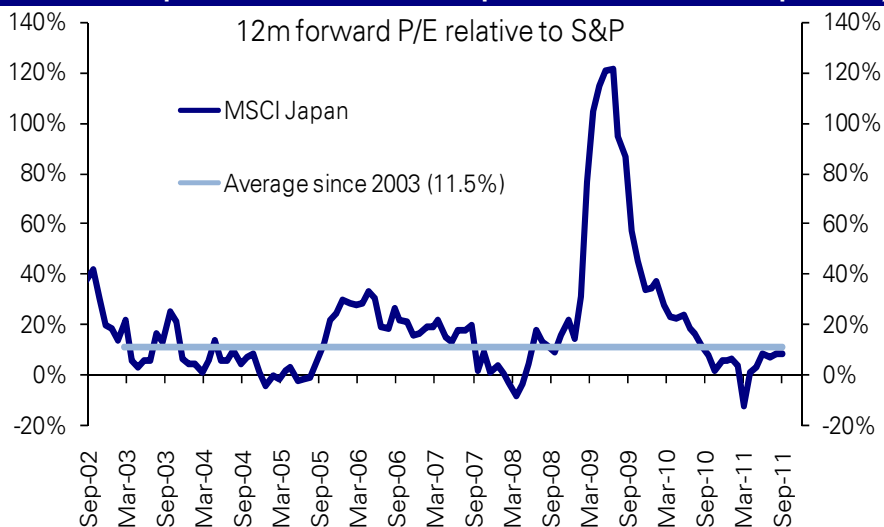
A Japanization of the US equity multiple would be positive?

Figure 31: The Japan P/E multiple de-rated from extreme highs...



Source: IBES, Deutsche Bank

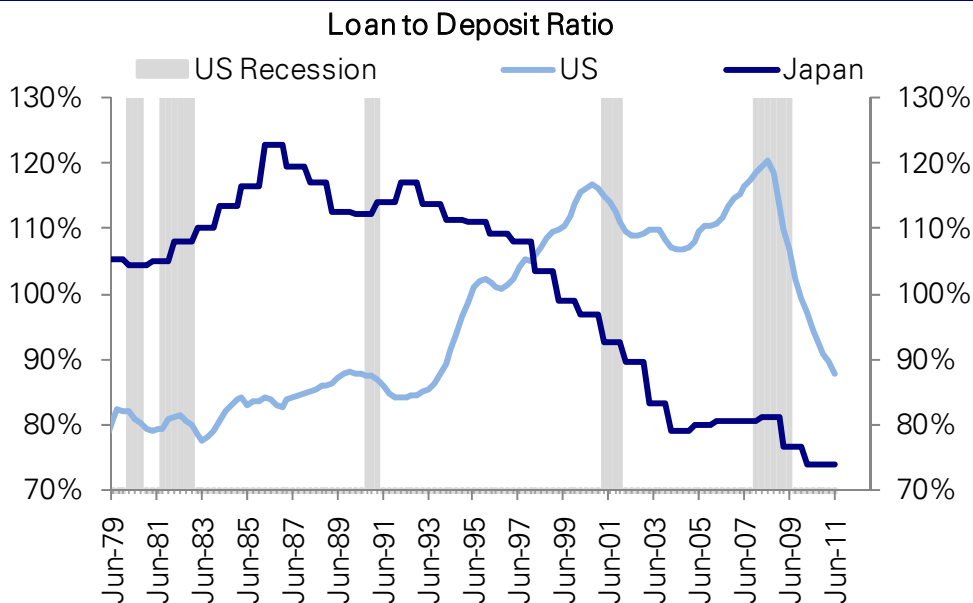
Figure 32: ...but Japan continued to trade at a premium to the US in the past ten years



Source: IBES, Deutsche Bank

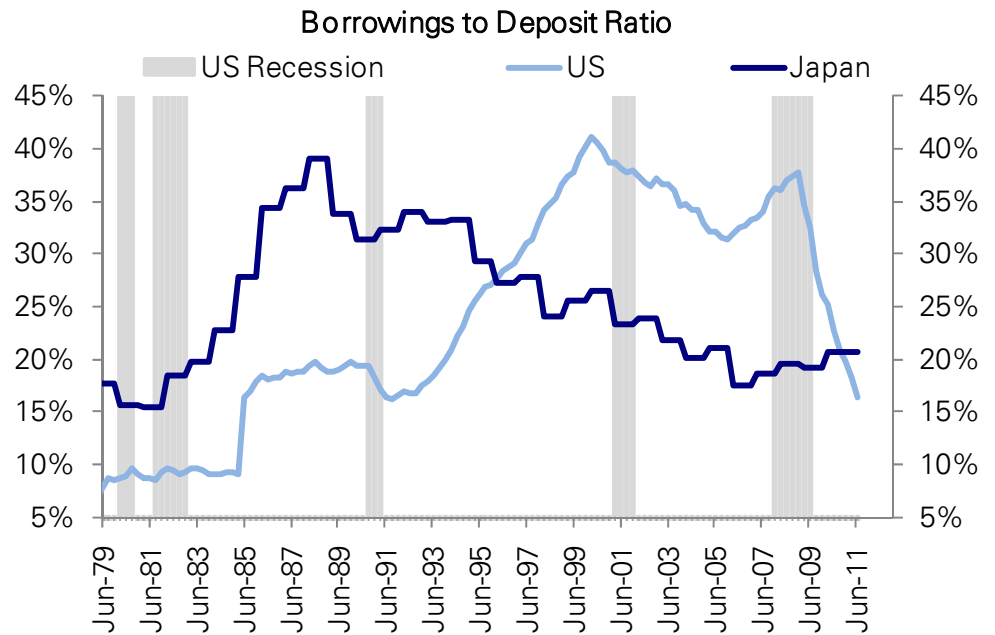
Taking stock of the deleveraging process

Figure 33: Japanese banks took 22 years to reduce loans on their balance sheets to be more in line with deposits; it has taken just three years for US banks to do the same



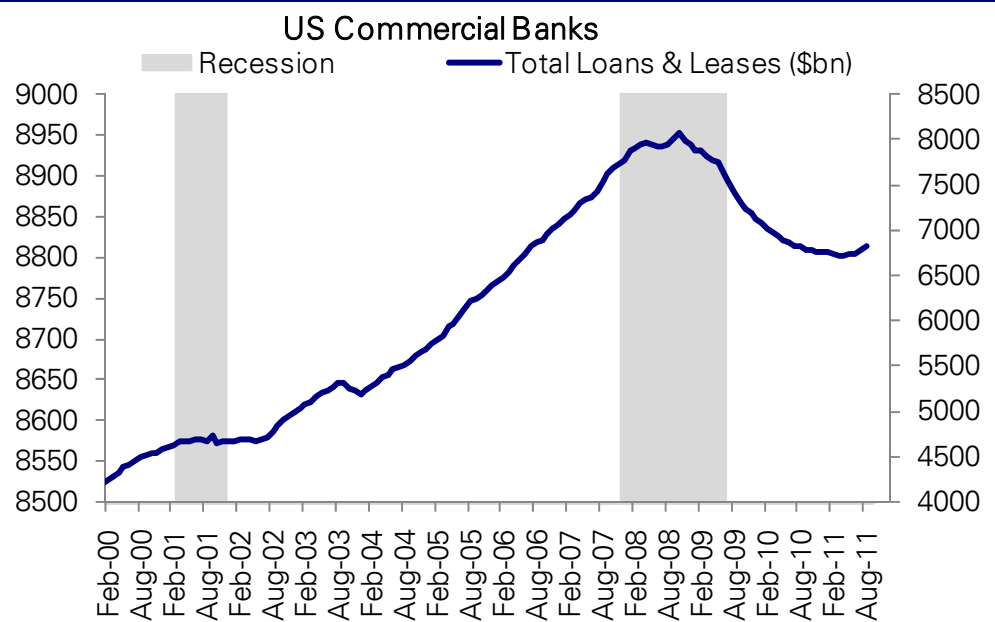
Source: US FRB, Bank of Japan, Haver, Deutsche Bank

Figure 34: Similarly, US banks have quickly paid off their borrowings to delever



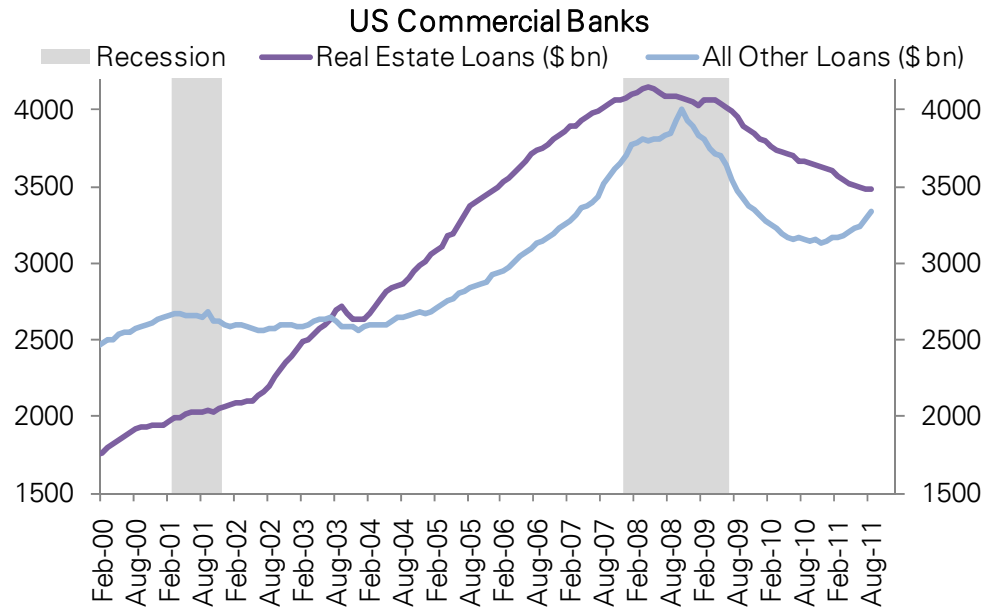
Source: US FRB, Bank of Japan, Haver, Deutsche Bank

Figure 35: The overall stock of loans extended looks to have bottomed earlier this year and begun to expand



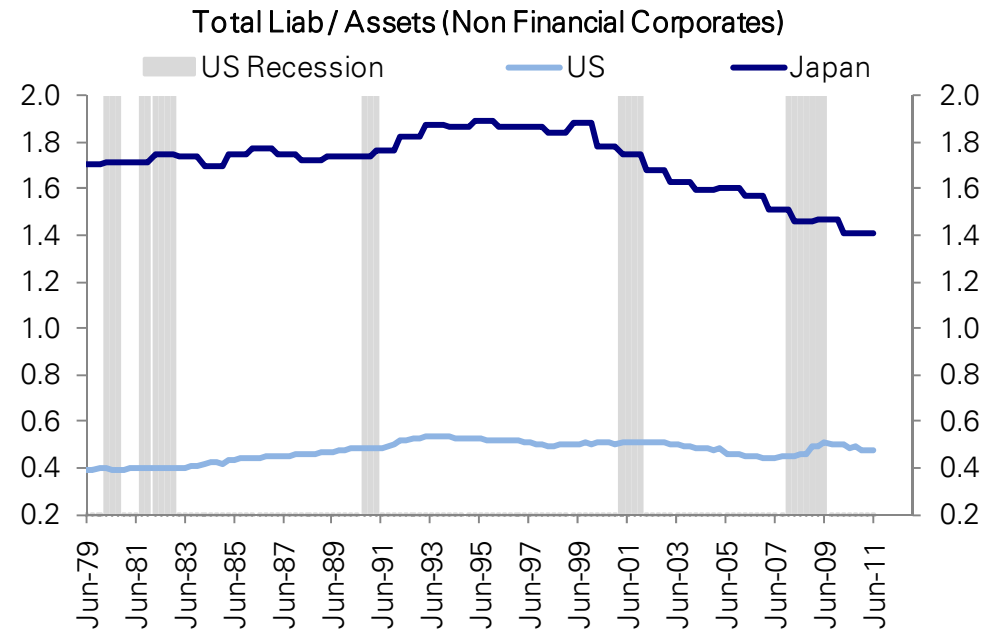
Source: US FRB, Deutsche Bank

Figure 36: Several categories of loans such as C&I loans have been growing notably, while real estate loans continue to shrink



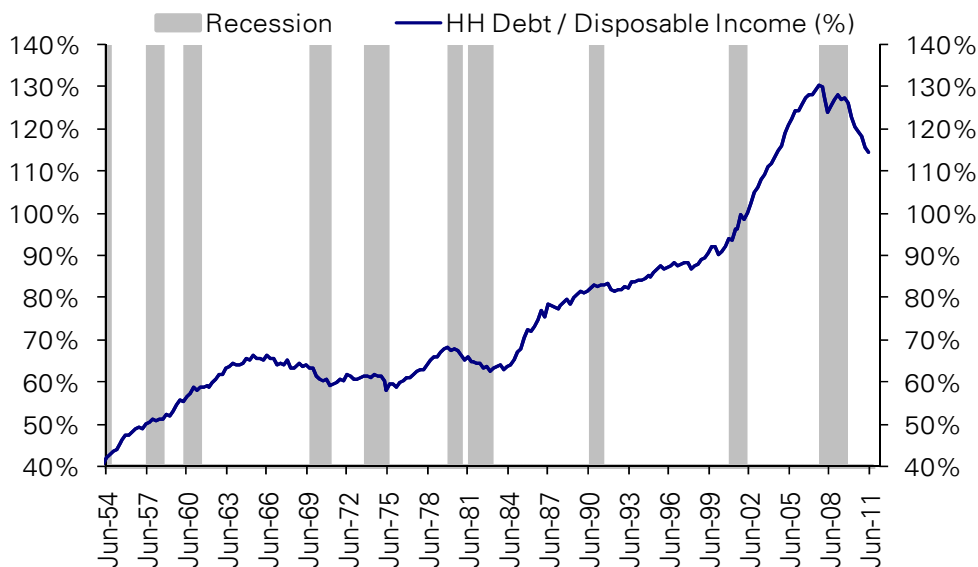
Source: US FRB, Deutsche Bank

Figure 37: Japanese corporates are still extremely levered while US corporates have very little debt



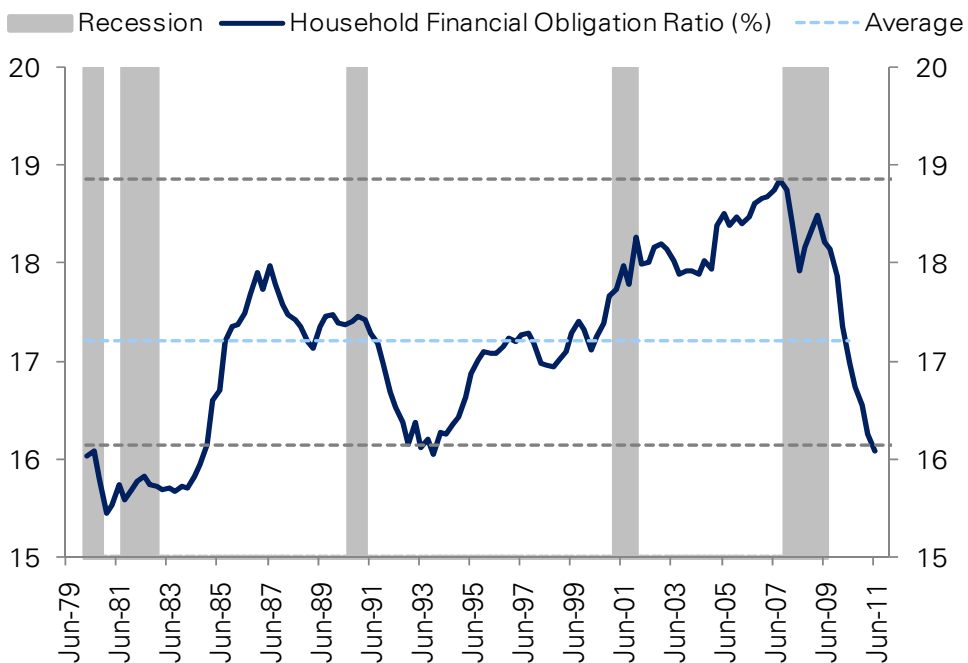
Source: US FRB, Bank of Japan, Haver, Deutsche Bank

Figure 38: US household debt is high as a ratio of income...



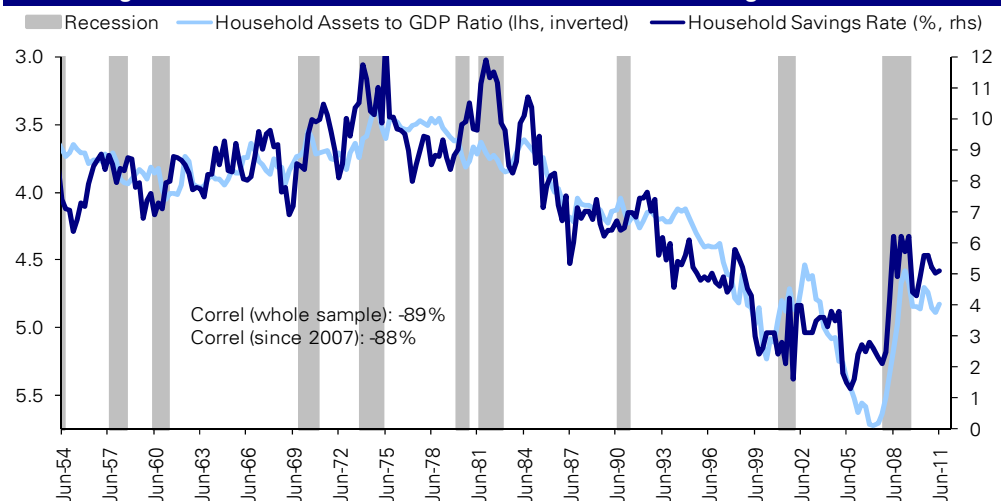
Source: US FRB, Bank of Japan, Haver, Deutsche Bank

Figure 39: ...but debt service for households is low



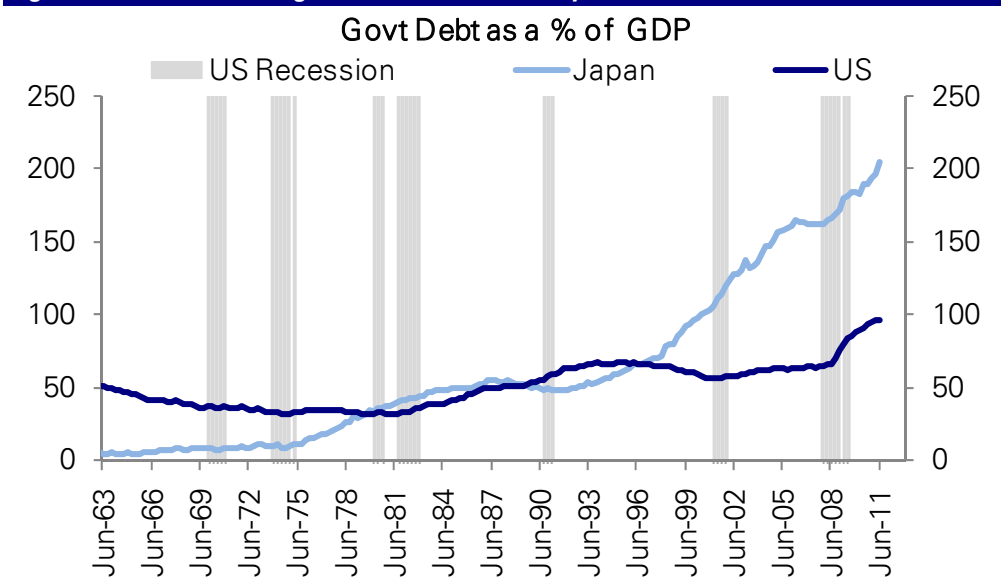
Source: US FRB, Deutsche Bank

Figure 40: The US household savings rate is driven by wealth, peaking with the bottom in equities (March 2009) and fluctuating narrowly since. Deleveraging by certain segments of the household sector has not seen the savings rate rise



Source: US BEA, Deutsche Bank

Figure 41: The rise in US government debt is a key risk



Source: US Treasury, Bank of Japan, Deutsche Bank

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Against the motion

Michael Biggs, European Strategist

Superficially similar, fundamentally different

It has become the vogue once again to compare Japan in the early 1990s with the US today. There are obvious parallels that can be drawn – both countries had a period of strong credit growth that was followed by a financial crisis and a sharp decline in equity markets. In Japan economic activity remained weak for the next decade – real GDP growth averaged 1.3% in the 1990s after averaging 4.7% in 1980s. Equity markets moved sideways. If the US today really is a “Japan redux”, then US growth is likely to remain sub-trend at best and the outlook for US risky assets is not favorable.

The logic of the “Japan redux” argument is that after the credit boom in the 1980s, the Japanese private sector was left with very high levels of debt. To get these debt levels down they were forced to de-lever, and this de-leveraging process proved a drag on demand growth and consequently GDP and earnings growth.

The argument goes that the US experienced a similar explosion of debt prior to the recent crisis, and even now private sector debt levels remain extremely high. The US private sector will have to de-lever, and this process will take years. While the de-leveraging process continues, domestic demand growth will be weak as it was in Japan, GDP growth will be sub-trend, and earnings growth will suffer accordingly.

In our view, the US during the 2010s will not mirror the Japan experience of the 1990s. We agree that US debt levels are high and will need to come down, but we do not believe that this de-leveraging process needs to be a drag on demand growth. In this piece we will attempt to argue that the “Japan redux” view is based on an incorrect understanding of the relationship between credit and domestic demand. What drives domestic demand growth is not whether credit growth is positive or negative, but whether credit growth is rising or falling. Seen in this context, the outlook for the US is not at all similar to Japan in the 1990s.

In Japan credit growth was positive after the crisis but fell gradually, turning negative only in 1997. The negative “credit impulse” from falling credit growth was a drag on demand growth, and GDP growth was weak. But because credit growth was positive, private debt ratios increased until 1995. Consequently credit growth had to keep falling for longer to get the debt ratios to adjust.

In the US, in contrast, credit growth fell sharply during the crisis and was severely negative in 2009. Since then, credit growth has been negative but rising. The positive “credit impulse” from rising credit growth has boosted real private sector demand growth (demand growth was 4.1% in 2010) but, because credit growth was negative, private sector debt ratios declined. Credit growth is still very low, which means that credit growth can rise further even as the debt ratio falls.

Whereas the US today and Japan in the early 1990s look similar in terms of developments in debt, they are opposites in terms of developments in credit growth. The fall in credit growth should have been a drag on demand growth in Japan, even as the rise in credit growth should boost demand growth in the US. If the outlook for US demand is so different to Japanese demand in the 1990s, then it is not clear why developments in asset prices should be similar.

In this piece we will start by justifying our view that it is the change in credit growth rather than credit growth itself that drives demand growth. We will then apply this argument to the US and Japan to explain why we do not expect the US to suffer a Japan-style lost decade.

The credit impulse argument

The conventional approach when associating developments in credit and demand is to compare credit growth with demand growth. This suggests that for economic growth to resume after a credit crisis, credit growth needs to turn positive. From this perspective the weak credit growth explains weak demand growth in Japan in the 1990s, and the expected weak credit growth could have a similar impact in the US over the next few years.

In our view, this comparison is flawed – developments in a flow variable (domestic demand) are being compared to developments in a stock variable (credit). To the extent that spending is credit-financed, demand should be related to new borrowing, or the flow of credit. Consequently, spending growth should be related to changes in the flow of credit, rather than changes in the stock (credit growth). For those with a more quantitative bent, spending growth should be related to the second derivative of credit, not the first.

To put this more succinctly, we are arguing the flow of domestic demand should be compared with the flow of credit, rather than the stock of credit. To illustrate, assume GDP in year t is:

$$(1) \text{GDP}_t = C_t + I_t$$

and

$$(2) \Delta \text{GDP}_t = \Delta C_t + \Delta I_t$$

where C and I are consumption and investment and Δ indicates first differences of the variables. Now assume that the investment expenditure is financed by borrowing. If debt at the start of period t is D_{t-1} and investment is financed from new borrowing, then debt will increase by the amount of the investment. In other words,

$$(3) I_t = \Delta D_t$$

where ΔD_t is the flow of new credit (and $\Delta D_t/D_t$ is credit growth). Consequently,

$$(4) \Delta \text{GDP}_t = \Delta C_t + \Delta \Delta D_t$$

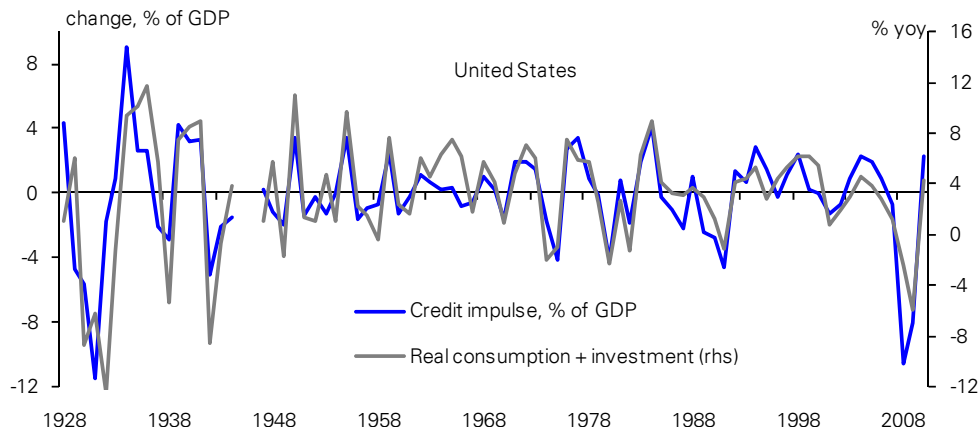
The change in GDP is related to the second derivative of credit (the credit impulse) rather than credit growth. Or, to put it another way, spending growth depends not on the level of credit growth, but on whether credit growth is rising or falling.

This has an important implication for our US/Japan analysis. After a credit crisis all that is required for a recovery in demand growth is that new borrowing rises – it is not necessary that the level of new borrowing (and therefore credit growth) is positive. If households are de-leveraging (as they are currently in the US), then a slowdown in the pace of de-leveraging will be sufficient to boost demand growth. **A credit-led rebound in domestic demand growth can occur even while credit growth is negative and debt levels fall.**

As empirical support for this view, we show the credit impulse for the US against real private sector demand growth since 1928 (Figure 42). In our view the correlation is excellent. The relevance of the credit impulse rather than credit growth to demand was particularly evident in the US in 2010. Credit growth was negative but, because credit growth was less negative

than in 2009, the credit impulse was positive. As a result, real private sector demand grew 4.1%.

Figure 42: US private sector demand growth and the credit impulse

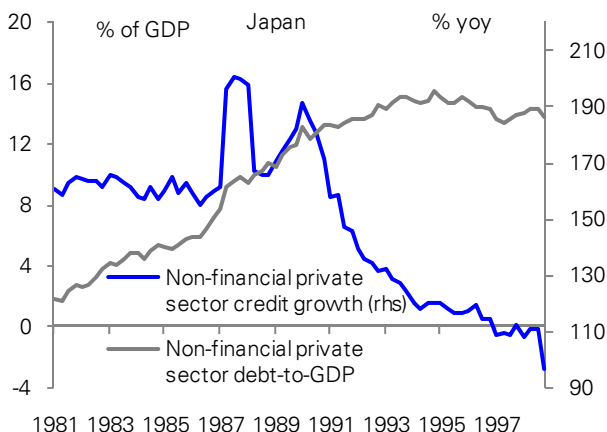


Source: Deutsche Bank, US Bureau of the Census, BEA

Applying the credit impulse to Japan and the US

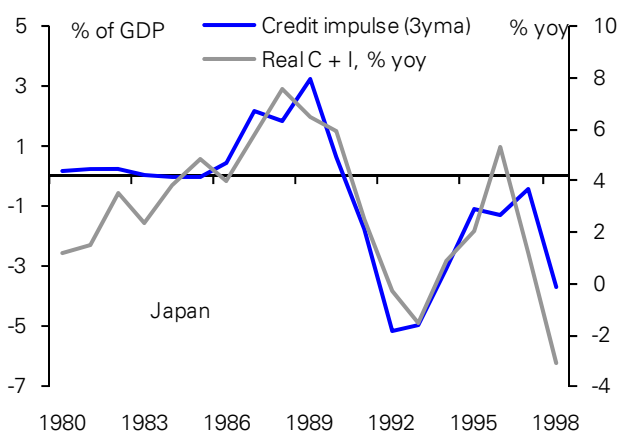
When this credit impulse argument is applied to Japan, it is evident why demand growth was so weak during the 1990s. Credit growth increased sharply in the 1980s and reached a second peak in Q1 1990 (Figure 43). The decline in real estate prices in the early 1990s caused non-performing loans (NPLs) on banks' books to rise. Banks were generally under-provisioned for loan defaults, and public disclosure on NPLs was virtually non-existent. As the loan books were not marked to market banks were not forced to recognize the conditions of their balance sheets. Banks were also encouraged to keep lending, with the result that new credit issuance was slow to fall. Credit growth peaked in 1990 and started to fall quite sharply thereafter, but it only turned negative in 1997, and continued on a downward trend until at least 1998 (when the old-style flow of funds data end).

Figure 43: Credit growth in Japan



Source: Deutsche Bank, Haver, BoJ

Figure 44: Japan credit impulse and private demand

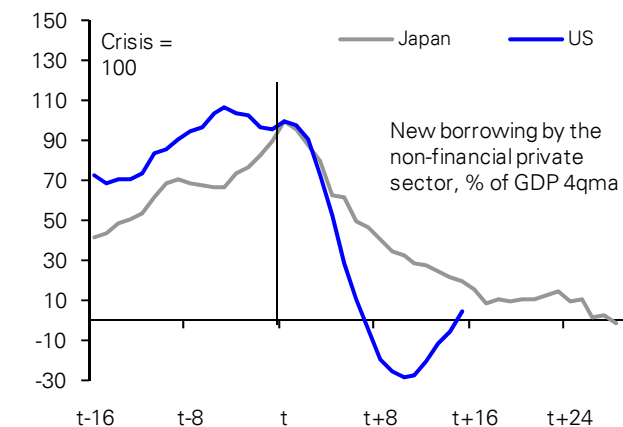


Source: Deutsche Bank, Haver, BoJ

This had two implications. First, because credit growth exceeded nominal GDP growth until 1995, the non-financial private sector debt ratio continued to increase for a few years after the crisis. More importantly, however, because credit growth was falling, the credit impulse was negative for most of the 1990s (Figure 44). Consequently, demand growth was weak, and real GDP growth remained subdued.

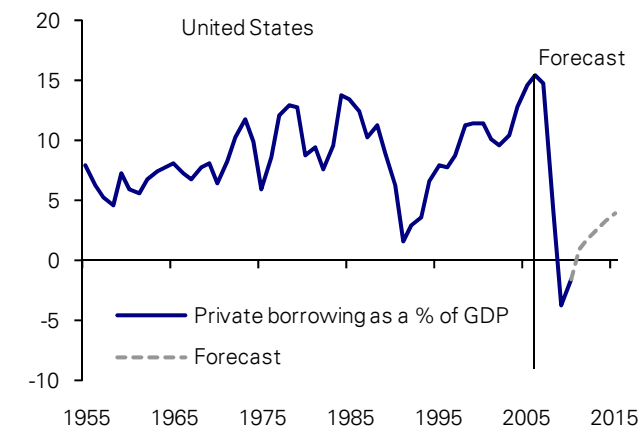
What prevents something similar happening in the US? In our view, the key difference is that while credit growth was very slow to fall in Japan, it collapsed in the US (Figure 45). Credit in Japan peaked as a % of GDP in Q1 1990 and turned negative in Q4 1998 (four-quarter moving average). In the US, in contrast, credit was near its peak in Q4 2007 but had turned negative by Q2 2009. The US moved from near peak levels of borrowing to de-leveraging in four quarters, whereas in Japan it took the better part of eight years.

Figure 45: New borrowing in the US and Japan



Source: Deutsche Bank, US Federal Reserve, BEA, BoJ, Haver

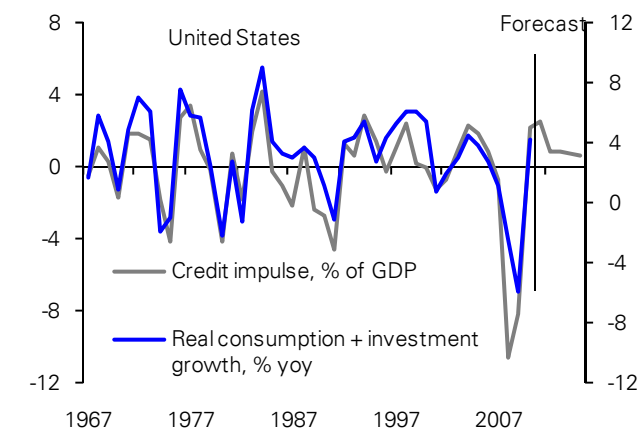
Figure 46: New borrowing in the US



Source: Deutsche Bank, US Federal Reserve, BEA

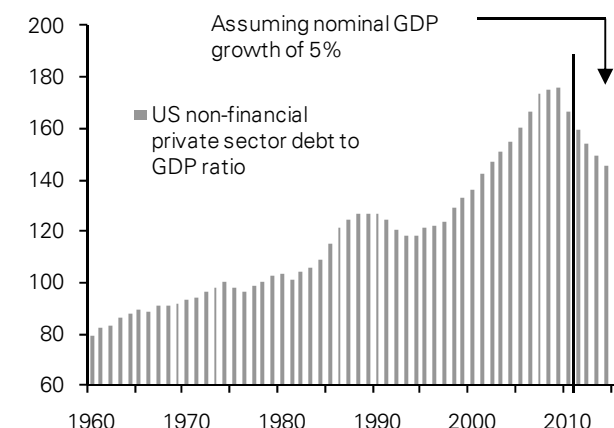
This initial move in credit had a material impact on the demand outlook. In Japan, credit growth remained reasonably robust for the first half of the 1990s, and to boost demand credit growth would have had to increase from already reasonably high levels. As credit growth was at or above nominal GDP growth for much of the decade, a credit-led boost to spending growth would have meant an increase in the private sector debt-to-GDP ratio. Given that the private sector was arguably already over-leveraged, this was unlikely.

Figure 47: US credit impulse and demand growth



Source: Deutsche Bank, BEA, US Federal Reserve

Figure 48: US private sector debt



Source: Deutsche Bank, BEA

In the US, in contrast, because credit growth fell so sharply through 2009, all that was required for a rebound in demand in 2010 was that the pace of deleveraging slowed. This duly happened, with the result that real private sector demand growth in 2010 was 4.1% (Figure 42). And because this positive credit impulse occurred even as credit growth was

negative, the US was able to achieve strong spending growth even as the private sector debt ratios declined.

In recent quarters new borrowing in the US has become mildly positive but, as Figure 46 shows, it remains extremely low relative to GDP. If private sector new borrowing were to increase over the next few years (to 2015) to levels that are still extremely low by historic standards, then the credit impulse would be positive and at levels consistent with real private sector demand growth of around 3.5% (Figure 47). If this robust demand growth resulted in real GDP growth of 2.5-3.0% and inflation of 2.0-2.5%, then the private sector debt ratio would fall in the manner shown in Figure 48.

More opposite than similar

The “Japan redux” argument is based on the view that in the US today, as in Japan in the early 1990s, the private sector debt level is too high. The private sector needs to de-leverage, and consequently credit growth must remain negative or at best very low. Weak credit growth should translate into weak domestic demand growth.

We agree that debt levels in the US today are high and need to come down, just as they did (finally) in Japan in the 1990s. The flaw in the “Japan redux” argument, however, is that this de-leveraging needs to weigh on domestic demand growth. If our argument is correct that what is important for demand growth is changes in credit growth rather than credit growth itself, then the US today is the opposite of Japan in 1990.

In the two years after the crisis, credit growth in Japan was positive but falling, whereas in the US it has been negative but rising. The resilience of credit growth in Japan in the early 1990s meant that Japan never suffered a deep recession – in fact, Japan never suffered negative annual real GDP growth until 1998. However, because credit growth was relatively high, private sector debt ratios continued to increase.

In the US the sharp fall in credit growth means that domestic demand suffered its fastest peace-time collapse since 1933. However, after the collapse credit growth was severely negative. From this starting point simply a slowdown in the pace of deleveraging could boost spending growth even as balance sheets were repaired. New borrowing levels remain extremely low from an historical perspective (Figure 46), and if they normalize from these levels the increase in new borrowing will boost spending growth even as debt ratios decline.

The US is in that rare position that it can achieve private sector balance sheet repair even as spending rises. Japan could not. The starting point for the US is so dramatically different from Japan in the 1990s that it seems unlikely to us that the US should suffer a lost decade of weak demand growth.

The credit impulse argument cannot exclude the possibility of sustained weak demand growth in the US. However, this would require a sustained negative credit impulse, which in turn would require a further decline in US credit growth from levels that are already very low. While this is a risk, we would view it as unlikely because 1) new borrowing levels are still extremely low from an historic perspective, and 2) balance sheet repair can be achieved without an acceleration in deleveraging.

Appendix 1

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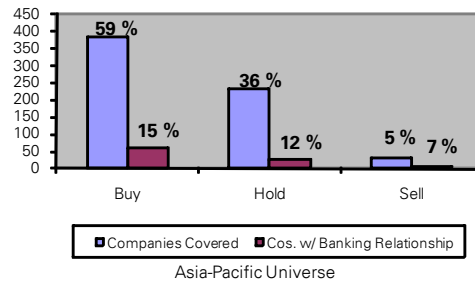
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