

How to Avoid a Third Depression

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Nobel Laureate Paul Krugman argued in his recent essay, “The Third Depression,” that “recessions are common; depressions are rare,” adding that “both the U.S. and Europe are well on their way toward Japan-style deflationary traps.” Remarkable similarities between house price movements in the U.S. this time and in Japan 15 years ago as shown in Exhibit 1 suggest that the two countries have indeed contracted a similar disease. The post-1990 Japanese experience, however, also demonstrated that ordinary recessions and depressions are actually two different diseases requiring totally different treatments.

The key driver of depression

The key difference between an ordinary recession and those that can lead to a depression is that in the latter, a large portion of the private sector is actually *minimizing debt* instead of maximizing profits following the bursting of a nation-wide asset price bubble. When a debt-financed bubble bursts, asset prices collapse while liabilities remain, leaving millions of private sector balance sheets underwater. In order to regain their financial health and credit ratings, households and businesses in the private sector are forced to repair their balance sheets by increasing savings or paying down debt, thus reducing aggregate demand.

The first casualty of this shift to debt minimization is monetary policy, the traditional remedy for recessions, because people with negative equity are not interested in increasing borrowing at any interest rate. Nor will there be many lenders for those with impaired balance sheets, especially when the

lenders themselves have balance sheet problems. There is no reason why bringing back inflation or inflation targeting should work, either, because people are paying down debt in response to the fall in *asset* prices, not consumer prices.

More importantly, when the private sector de-leverages in spite of zero interest rates, the economy enters a deflationary spiral because, in the absence of people borrowing and spending money, the economy *continuously* loses demand equal to the sum of savings and net debt repayments. This process will continue until either private sector balance sheets are repaired, or the private sector has become too poor (=depression) to save any money.

To see this, consider a world where a household has an income of \$1,000 and a saving rate of 10 percent. This household would then spend \$900 and save \$100. In the usual or textbook world, the saved \$100 will be taken up by the financial sector and lent to a borrower who can best use the money. When that borrower spends the \$100, the aggregate expenditure totals \$1,000 (\$900 plus \$100) against the original income of \$1,000, and the economy moves on. When demand for the saved \$100 is insufficient, interest rates are lowered, which usually prompts some borrowers to take up the remaining sum. When the demand is too large, interest rates are raised, which prompts some borrowers to drop out.

In the world where the private sector is minimizing debt, however, there will be no borrowers for the saved \$100 even with zero interest rates, leaving the economy with only \$900 of expenditure. That \$900 is someone's income, and if that person saves 10 percent, only \$810 will be spent. But since repairing balance sheets after the bursting of a major bubble typically takes many years (it took 15 years in Japan), the saved \$90 will go unborrowed again, and the economy will shrink to \$810, and to \$730, and so on.

This is exactly what happened during the Great Depression, where everybody was paying down debt and nobody was borrowing money. From 1929 to 1933, the U.S. lost 46 percent of its GDP due mostly to this debt-repayment-induced deflationary spiral.

The significance of Japanese experience

Japan faced the same challenge following the bursting of its bubble in 1990, when it lost wealth equivalent to three years worth of GDP on shares and real estate alone (the U.S. lost wealth equivalent to one year's worth of 1929 GDP during the Depression), and net debt repayment in the corporate sector shot up to more than 6 percent of GDP a year (Exhibit 2) on top of household savings of over 4 percent of GDP, all with interest rates at zero percent. In other words, Japan could have lost 10 percent of GDP every year, just as the US did during the Great Depression.

Japan managed to avoid the depression, however, because the government borrowed and spent the aforementioned \$100 every year, thereby keeping the economy's expenditure at \$1,000 (\$900 household spending plus \$100 government spending). In spite of nationwide commercial real estate prices falling 87 percent from their peak, Japan managed to keep its GDP above the bubble peak throughout the post-1990 era (Exhibit 3). Its unemployment rate never went beyond 5.5 percent, either. Private sector balance sheets were also repaired by 2005.

Although this fiscal action increased government debt by 460 trillion yen or 92 percent of GDP during the 1990-2005 period, the amount of GDP this fiscal action managed to sustain compared with a depression scenario was over 2,000 trillion yen, making it a huge bargain. Because the private sector was deleveraging, the government's fiscal actions did not lead to crowding out, inflation, or skyrocketing interest rates.

Since there is no name in the economics literature for an economic contraction triggered by private sector deleveraging or debt minimization, I called it a "*balance sheet recession*" to distinguish it from ordinary recessions. Balance sheet recessions are certainly rare, just as nationwide debt-financed bubbles are rare, and a depression is the ultimate form of an untreated balance sheet recession.

The world in balance sheet recession

Today the U.S., the U.K., Spain, Portugal, and Italy (but not Greece) are in serious balance sheet recessions with massive private sector deleveraging, even with near-zero interest rates. The Federal Reserve's Senior Loan Officer Opinion Survey indicates that demand for funds from businesses in the U.S. is still falling even with zero interest rates (Exhibit 4), and the banks have raised lending standards to very restrictive levels (Exhibit 5).

With disappearing borrowers and reluctant lenders, it is no wonder that, after nearly two years of zero interest rates and massive liquidity injections, industrial production is still at the level of 2004, and the unemployment rate is almost in double digits.

Moreover, in all of the above countries, increases in private sector savings (including debt repayments) during the last two years have exceeded increases in government borrowings, which suggest that governments are not doing enough (Exhibit 6). Yet policymakers in many of these countries, spooked by what happened to Greece, have made strong pushes to cut budget deficits as quickly as possible. Unfortunately, the proponents of fiscal consolidation are only looking at increases in the deficit ((B) in Exhibit 6) while ignoring an even bigger increase in private sector savings ((A) in Exhibit 6). Removing government support in the midst of private sector deleveraging will repeat the Japanese mistake of premature fiscal consolidation in 1997 and 2001, which in both cases triggered a deflationary spiral and *increased* the deficit (Exhibit 7). In fact, Japan would have come out of its balance sheet recession much faster and at a significantly lower cost than the 460 trillion yen noted above if it did not implement austerity measures on those two occasions. The U.S. made the same mistake of premature fiscal consolidation in 1937, with equally devastating results.

There is actually no reason why a government should face financing problems during a balance sheet recession. This is because the amount of money it must borrow and spend in order to avert a deflationary spiral is exactly equal to the un-invested savings in the private sector (the \$100 mentioned above) that is sitting somewhere in the financial system. With very few viable borrowers left in the private sector, fund managers in financial institutions should be more than happy to lend to the government,

the last borrower standing. Although talk of “bond market vigilantes” is often invoked by deficit hawks pushing for fiscal consolidation, the fact that the 10-year bond yield in the U.S. today is only 3 percent—an unthinkably low yield given a fiscal deficit of over ten percent of GDP—suggests that bond market participants are aware of the nature of balance sheet recessions.

In Japan, where the private sector has grown extremely averse to borrowing after its bitter experience of paying down debt for over a decade, the 10-year bond is yielding less than 1.3 percent even with government debt of nearly 200 percent of GDP. The same aversion to borrowing by the U.S. private sector following its devastating experience of paying down debt during the Great Depression kept interest rates unusually low for thirty years, until 1959 (Exhibit 8).

Fiscal policy determines the effectiveness of monetary policy

It should be noted that fiscal stimulus is also needed to make monetary policy work during a balance sheet recession. This is because the money supply, which consists mostly of bank deposits, contracts when the private sector draws down bank deposits to repay debt. Although the central bank can inject liquidity into the banking system, it will be hard-pressed to reverse the shrinkage of bank deposits when there are no borrowers and the money multiplier is zero or negative at the margin. During the Great Depression, the U.S. money supply shrank by nearly 30 percent mostly for this reason (Exhibit 9).

Post-1990 Japan managed to keep its money supply from falling in spite of private sector deleveraging because government borrowing took the place of private sector borrowing and kept banks’ assets from contracting. This is shown in Exhibit 10. The post-1933 U.S. money supply also stopped shrinking and started growing because the Roosevelt Administration began borrowing money for its New Deal programs, as shown in Exhibit 9. Fiscal stimulus is therefore essential in keeping both GDP and the money supply from contracting during a balance sheet recession.

Ending the panic was the easy part; rebuilding balance sheets is the hard

part

Some people have become more optimistic or even complacent after seeing certain economic and market indicators improve from their trough in March 2009. The stock market, for example, has gone up nearly 60 percent during this period. This “recovery,” however, is largely limited to a recovery from the policy mistake of allowing Lehman Brothers to fail. The collapse of Lehman sparked a global panic to “safety” that was far more severe than what would have been suggested by balance sheet problems alone. This panic-driven part of the collapse had to be countered with all the policy tools that could be mobilized, and the Federal Reserve, together with governments and central banks around the world, contributed some 8.9 trillion dollars in liquidity and guarantees for this purpose.

Since the panic was caused by the mistake of not safeguarding the liabilities of a major financial institution when so many institutions had similar problems, the panic dissipated when the mistake was corrected. That was the V-shaped recovery observed in some quarters since the spring of 2009.

Although the panic has subsided, all the balance sheet problems that existed before the Lehman shock are still in place. These problems are likely to slow down the recovery or smother it altogether unless the government moves to offset the deflationary pressure coming from private sector deleveraging. In other words, the recovery so far was the easy part ((B) in Exhibit 11). The hard work of repairing millions of impaired private sector balance sheets is just beginning ((A) in Exhibit 11).

Conclusion

It is laudable for policy makers to shun fiscal profligacy and aim for self-reliance on the part of the private sector. But every several decades, the private sector loses its self-control in a bubble and incurs heavy financial damage when the bubble bursts. That forces the private sector to pay down debt even with interest rates at zero, triggering a deflationary spiral. At such times and at such times *only*, the government must borrow and spend the excess savings in the private sector, not only because

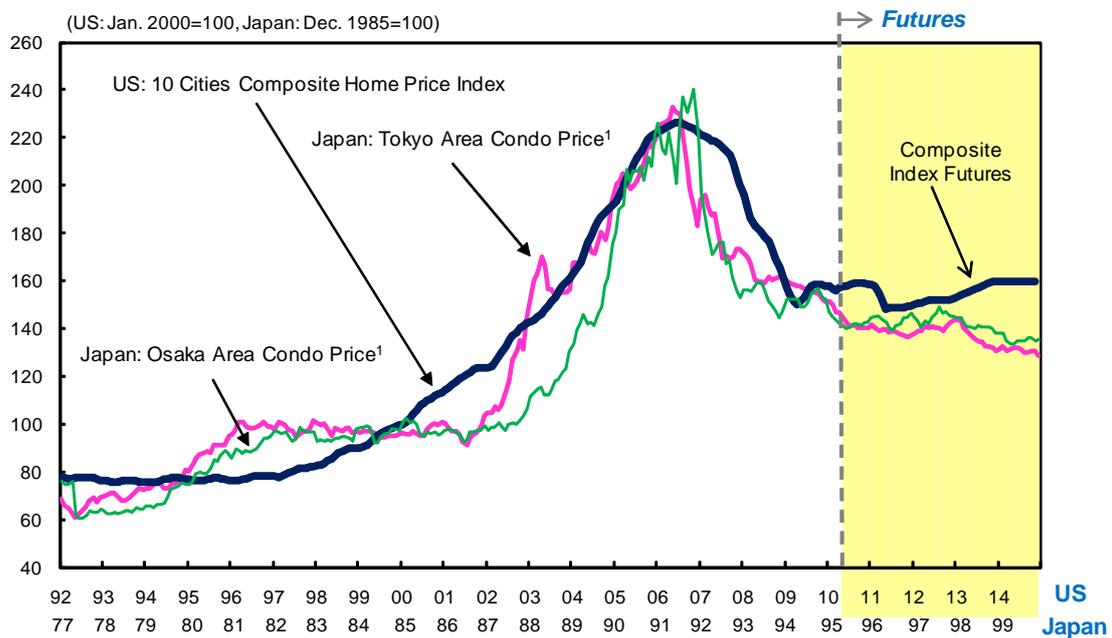
monetary policy is useless but also because the government cannot tell the private sector *not* to repair its balance sheet.

Although anyone can push for fiscal consolidation by advocating higher taxes and lower spending, whether such efforts actually succeed in reducing the budget deficit is another matter entirely. When the private sector is both willing and able to borrow money, fiscal consolidation efforts by the government will result in a smaller deficit and higher growth as resources are released to the more efficient private sector. But once every several decades, when the financial health of the private sector is impaired and in need of treatment, a premature withdrawal of that treatment will both increase the deficit and weaken the economy. Key differences between the textbook world and the world of balance sheet recessions are summarized in Exhibit 12.

With massive private sector deleveraging still going on in the U.S. and in many other countries around the world in spite of historically low interest rates, this is no time to embark on fiscal consolidation. It is ill-advised for these countries to try to halve their deficits by 2013 as proposed at the recent G-20 Summit in Toronto. Such consolidation must wait until it is certain the private sector has finished deleveraging and is healthy enough to borrow and spend the savings left unborrowed as a result of the government's austerity measures.

As for the accumulated public debt, there should be plenty of time to pay it down because the next balance sheet recession of this magnitude is likely to be generations away. It will be generations away because those of us who learned a bitter lesson in the present episode will not make the same mistake again. That means the next bubble and balance sheet recession of such magnitude will happen only after those of us who remember this one are no longer here.

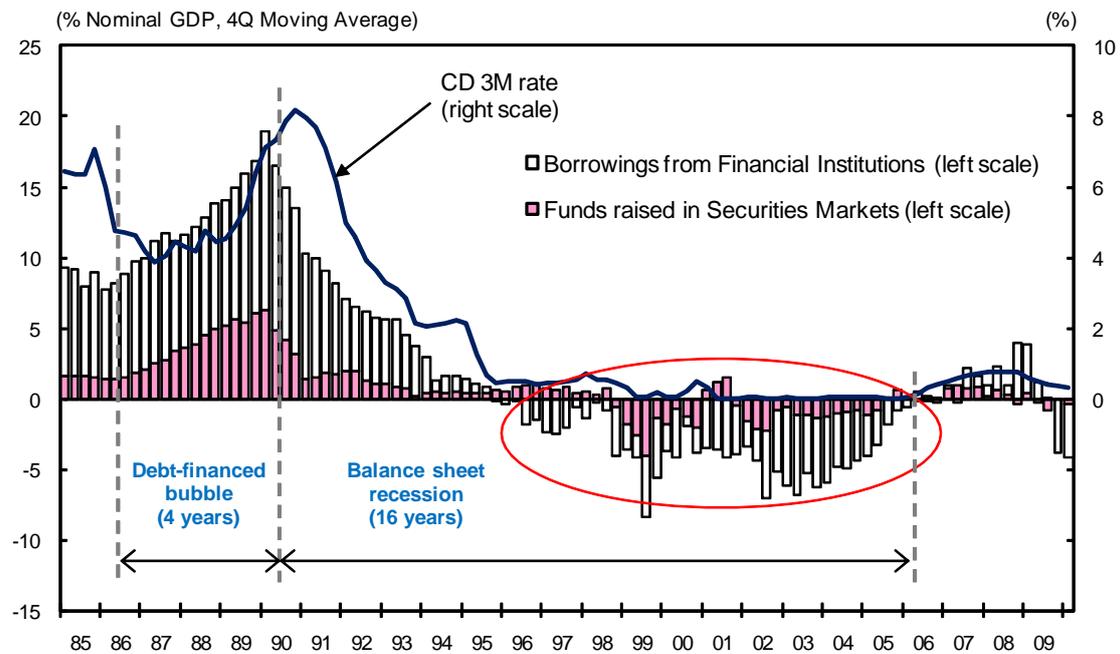
Exhibit 1. US Housing Prices Are Moving along the Japanese Experience



Note: per m², 5-month moving average
 Sources: Bloomberg, Real Estate Economic Institute, Japan, S&P, S&P/Case-Shiller® Home Price Indices, as of Jul. 15, 2010

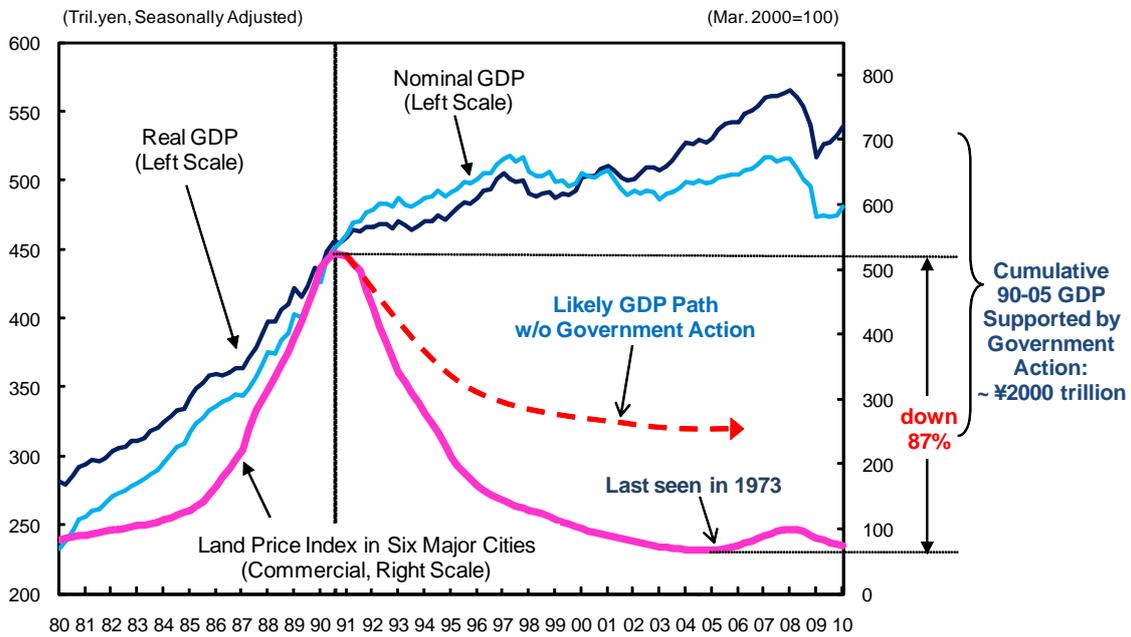
Exhibit 2. Japan's De-leveraging with Zero Interest Rates Lasted for 10 Years

Funds Raised by Non-Financial Corporate Sector



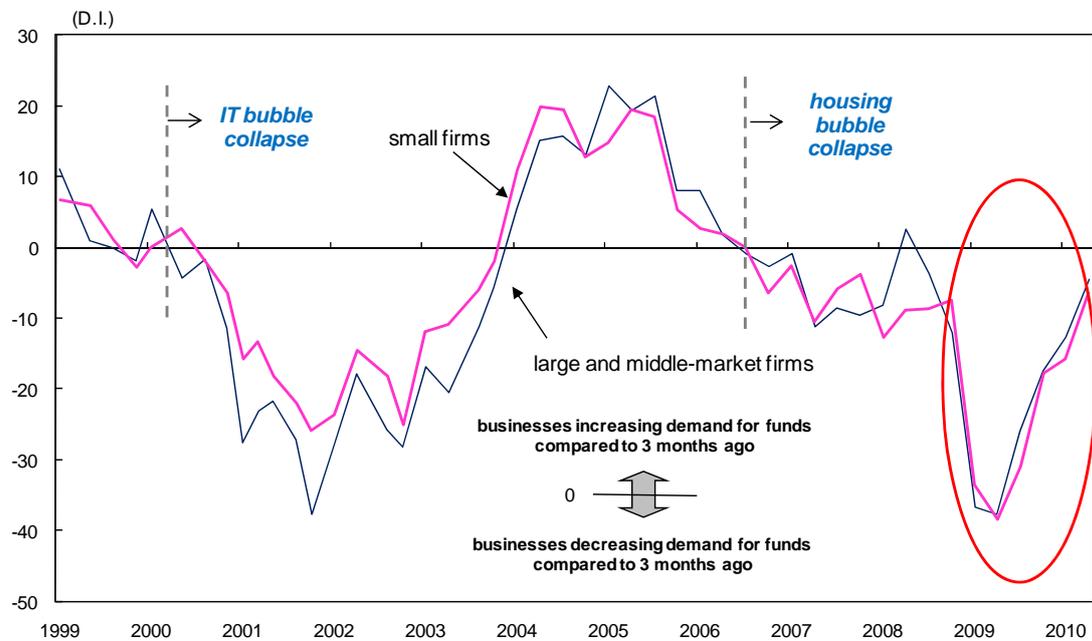
Sources: Bank of Japan, Cabinet Office, Japan

Exhibit 3. Japan's GDP Grew despite Massive Loss of Wealth and Private Sector De-leveraging



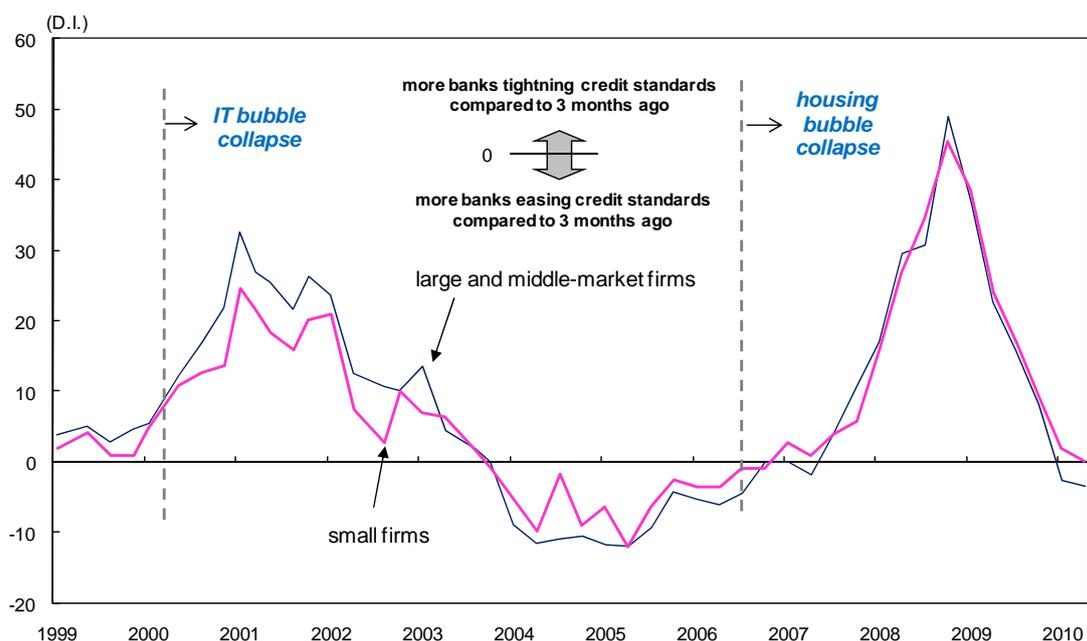
Sources: Cabinet Office, Japan Real Estate Institute

Exhibit 4. Demand for Funds from US Businesses Is Still Falling



Source: Nomura Research Institute, based on FRB, *Senior Loan Officer Opinion Survey on Bank Lending Practices*.
 Note: D.I. are calculated from the answers to the question, "Apart from normal seasonal variation, how has demand for C&I loans changed over the past three months?"
 D.I. = ("Substantially stronger" + "Moderately stronger" × 0.5) - ("Moderately weaker" × 0.5 + "Substantially weaker")

Exhibit 5. US Banks Have finally Stopped Tightening Lending Standards



Source: Nomura Research Institute, based on FRB, *Senior Loan Officer Opinion Survey on Bank Lending Practices*.
 Note: D.I. are calculated from the answers to the question, "Over the past three months, how have your bank's credit standards for approving applications for C&I loans or credit lines changed?"
 D.I. = ("Tightened considerably" + "Tightened somewhat" × 0.5) - ("Eased somewhat" × 0.5 + "Eased considerably")

Exhibit 6. Too Much Attention on Deficits (B), Too Little Attention on Private Savings (A) Countries in Balance Sheet Recession

(indicated as % of GDP)

	Changes in Private Savings (A) ^{1,2}	Changes in Government Deficits (B) ¹	Deflationary Gap (A-B)
Spain	+18.34%	+13.09%	+5.25
US³	+12.05% ~ +5.33%	+8.43%	+3.62 ~ -3.10
UK	+10.28%	+8.75%	+1.53
Portugal	+7.42%	+6.55%	+0.87
Japan	+5.95%	+4.71%	+1.24
Italy	+4.18%	+2.53%	+1.65
Greece⁴	+3.24%	+5.76%	-2.52

Notes: 1. Measured from the recent trough of private sector savings: Spain (2007), US (2006), UK (2007), Portugal (2008), Japan (2008), Italy (2008), Greece (2008).

2. Include debt repayments.

3. Huge range exists in private savings data because of problems with the US Flow of Funds statistics since 2008. Economic and market indicators suggest that the 12% figure is closer to the truth than the 5% figure.

4. NOT in balance sheet recession. Included for comparison purposes only.

Source: Nomura Research Institute, from respective countries' flow of funds data

Exhibit 7. Premature Fiscal Reforms in 1997 and 2001 Weakened Economy.

Reduced Tax Revenue and Increased Deficit

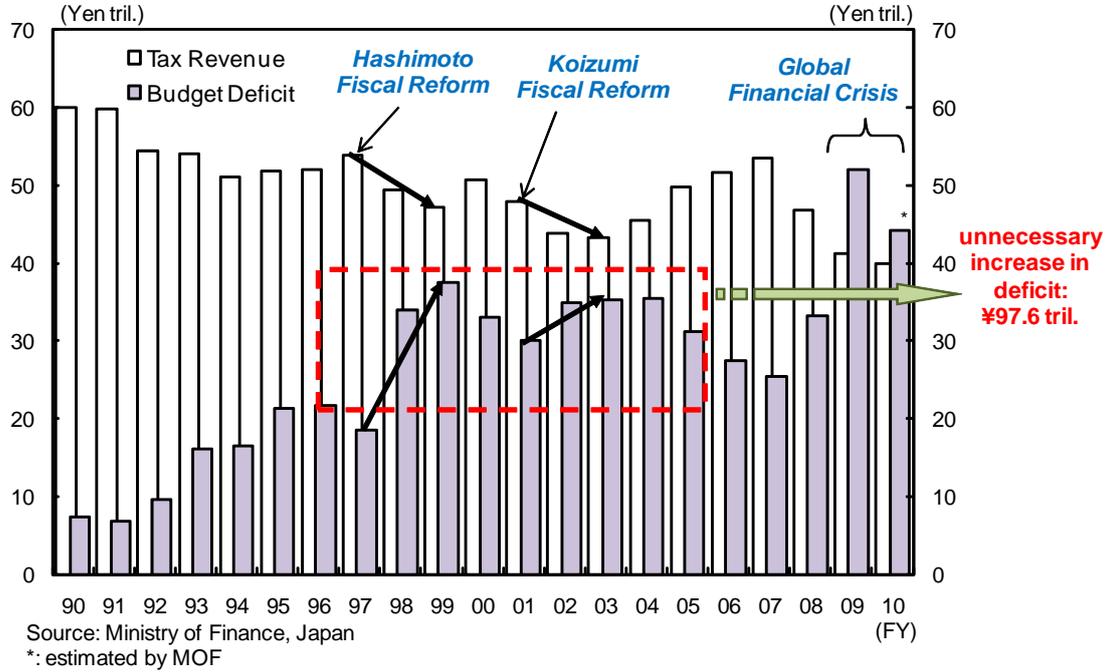
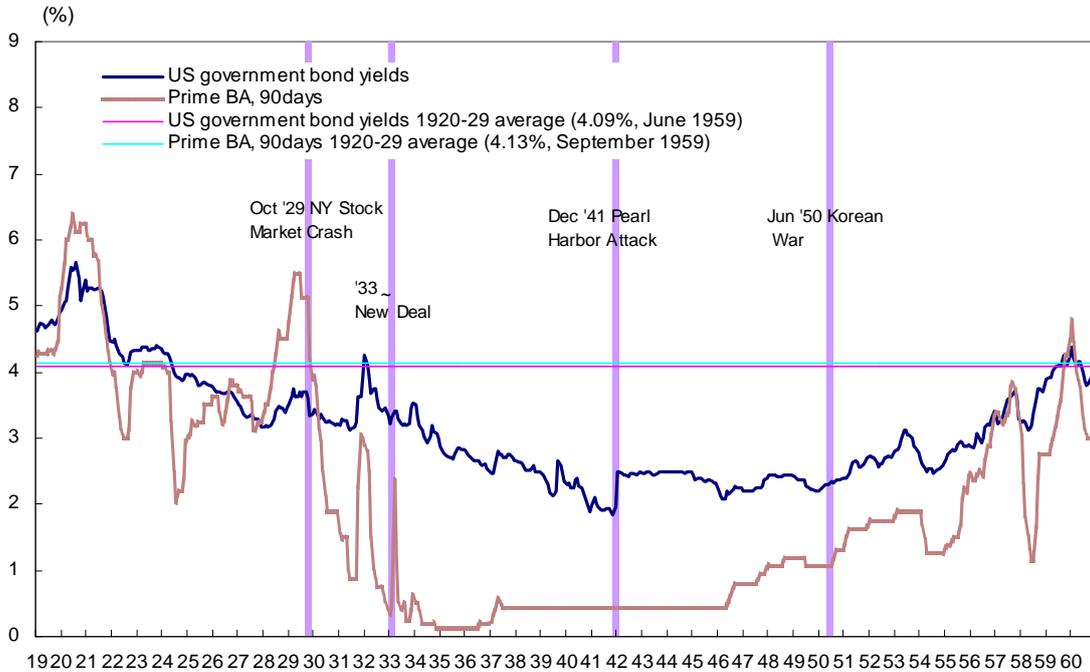
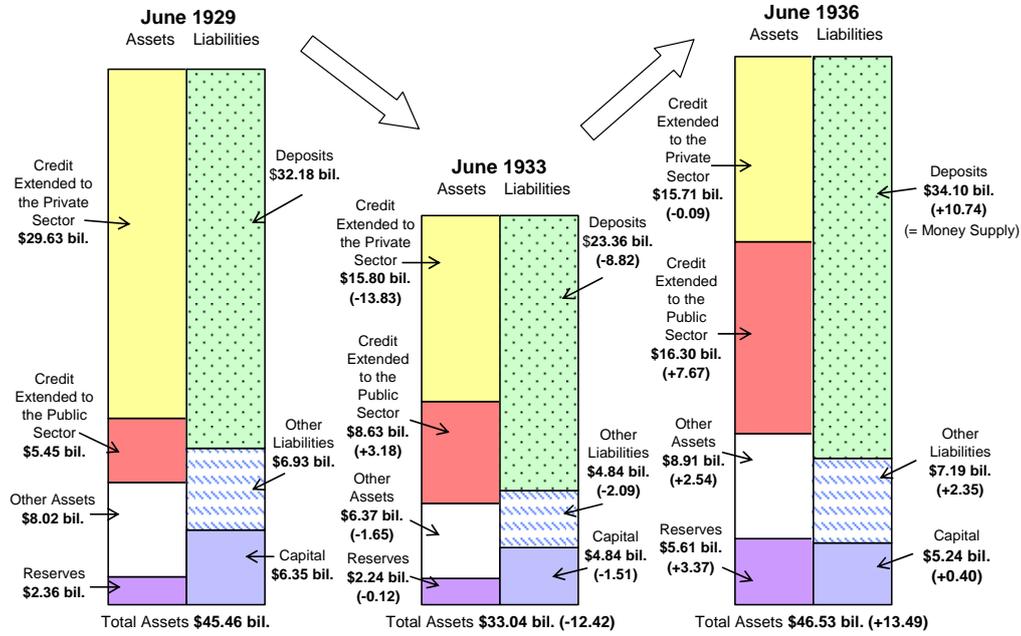


Exhibit 8. The Exit Problem: Debt Rejection Syndrome
US Took 30 Years to Normalize Interest Rate after 1929



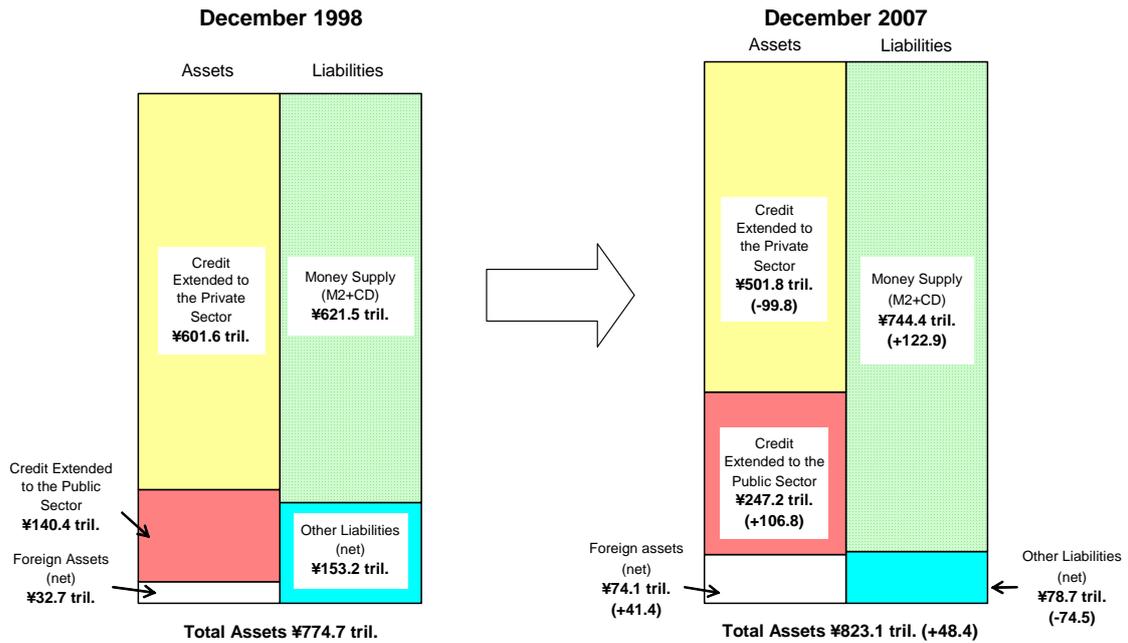
Source: FRB, *Banking and Monetary Statistics 1914-1970* Vol.1, pp.450-451 and 468-471, Vol.2, pp.674-676 and 720-727

**Exhibit 9. Post-1933 US Money Supply Growth Was also Made Possible
by Government Borrowings**
Balance Sheets of All Member Banks



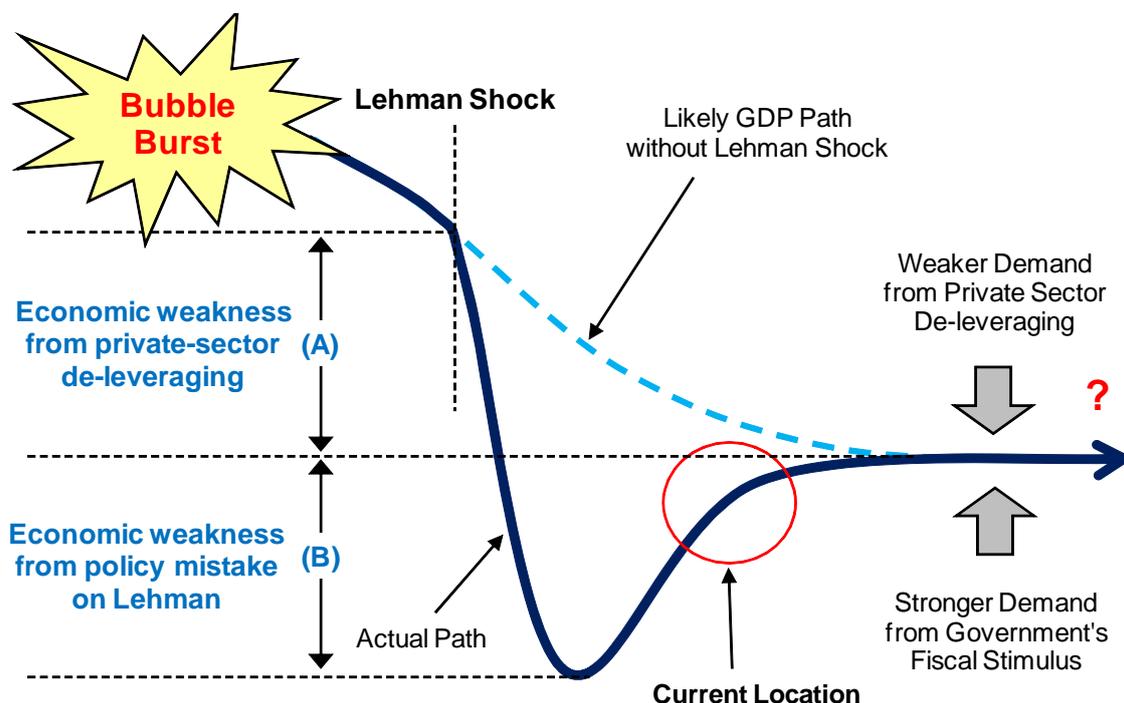
Source: Board of Governors of the Federal Reserve System (1976) *Banking and Monetary Statistics 1914-1941* pp.72-79

**Exhibit 10. Japan's Money Supply Has Been Kept Up
by Government Borrowings**
Balance Sheets of Banks in Japan



Source: Bank of Japan "Monetary Survey"

Exhibit 11. Short and Long Term Trends of Global Economy



Source: Nomura Research Institute

Exhibit 12. Contrast Between Profit Maximization and Debt Minimization

Private sector behavior	<i>Profit Maximization</i>	<i>Debt Minimization</i>
1) Phenomenon	Textbook economy	Balance sheet recession
2) Fundamental driver	Adam Smith's "invisible hand"	Fallacy of composition
3) Corporate financial condition	Assets > Liabilities	Assets < Liabilities
4) Outcome	Greatest good for greatest number	Depression if left unattended
5) Monetary policy	Effective	Ineffective (liquidity trap)
6) Fiscal policy	Counterproductive (crowding-out)	Effective
7) Prices	Inflationary	Deflationary
8) Interest rates	Normal	Very low
9) Savings	Virtue	Vice (paradox of thrift)
10) Remedy for Banking Crisis	a) Localized	Quick NPL disposal Pursue accountability
	b) Systemic	Slow NPL disposal Fat spread
		Normal NPL disposal Pursue accountability
		Slow NPL disposal Capital injection

Source: Richard Koo, *The Holy Grail of Macroeconomics: Lessons from Japan's Great Recession Updated*, John Wiley & Sons, Singapore, 2009, p.176

Richard C. Koo



Mr. Richard C. Koo is the Chief Economist of Nomura Research Institute, with responsibilities to provide independent economic and market analysis to Nomura Securities, the leading securities house in Japan, and its clients. Before joining Nomura in 1984, Mr. Koo, a US citizen, was an economist with the Federal Reserve Bank of New York (1981-84). Prior to that, he was a Doctoral Fellow of the Board of Governors of the Federal Reserve System (1979-81). In addition to conducting financial market research, he has also advised several Japanese prime ministers on how best to deal with Japan's economic and banking problems.

In addition to being one of the first non-Japanese to participate in the making of Japan's 5-year economic plan, he is also the only non-Japanese member of the Defense Strategy Study Conference of the Japan Ministry of Defense.

Author of many books on Japanese economy, his latest book "The Holy Grail of Macroeconomics - Lessons from Japan's Great Recession" (John Wiley & Sons, 2008) has been translated into and sold in four different languages.

Mr. Koo holds BAs in Political Science and Economics from the University of California at Berkeley (1976), and MA in Economics from the Johns Hopkins University (1979). From 1998 to 2010, Mr. Koo was a visiting professor at Waseda University in Tokyo.

In financial circles, Mr. Koo was ranked 1st among over 100 economists covering Japan in the Nikkei Financial Ranking for 1995, 1996 and 1997, and by the Institutional Investor magazine for 1998. He was also ranked 1st by Nikkei Newsletter on Bond and Money for 1998, 1999 and 2000. He was awarded the Abramson Award by the National Association for Business Economics, Washington D.C. for the year 2001. Mr. Koo, a native of Kobe, Japan, is married with two children.