

# The world in balance sheet recession: causes, cure, and politics

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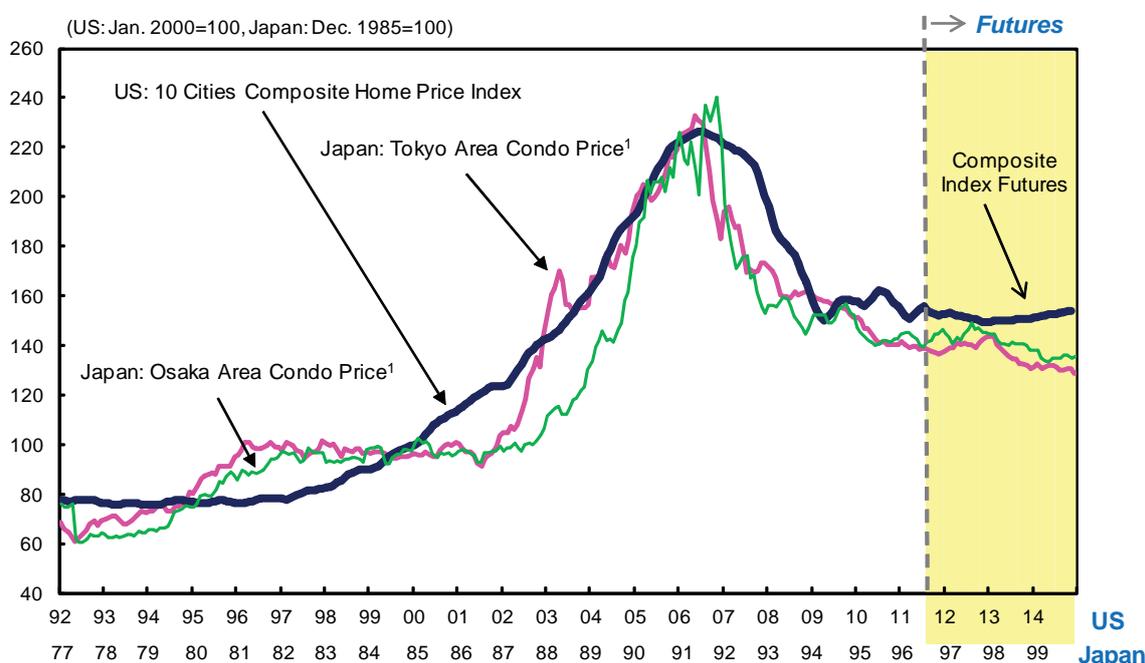
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A recurring concern in the Western economies today is that they may be headed toward a Japan-like lost decade. Remarkable similarities between house price movements in the U.S. this time and in Japan 15 years ago, illustrated in Exhibit 1, suggest that the two countries have indeed contracted a similar disease. The post-1990 Japanese experience, however, also demonstrated that the nation's recession was no ordinary recession.

## Exhibit 1. US Housing Prices Mirror Japan's Experience



Note: per m<sup>2</sup>, 5-month moving average

Sources: Bloomberg, Real Estate Economic Institute, Japan, S&P, S&P/Case-Shiller® Home Price Indices, as of Oct. 5, 2011

## Recession driven by deleveraging leads to prolonged slump

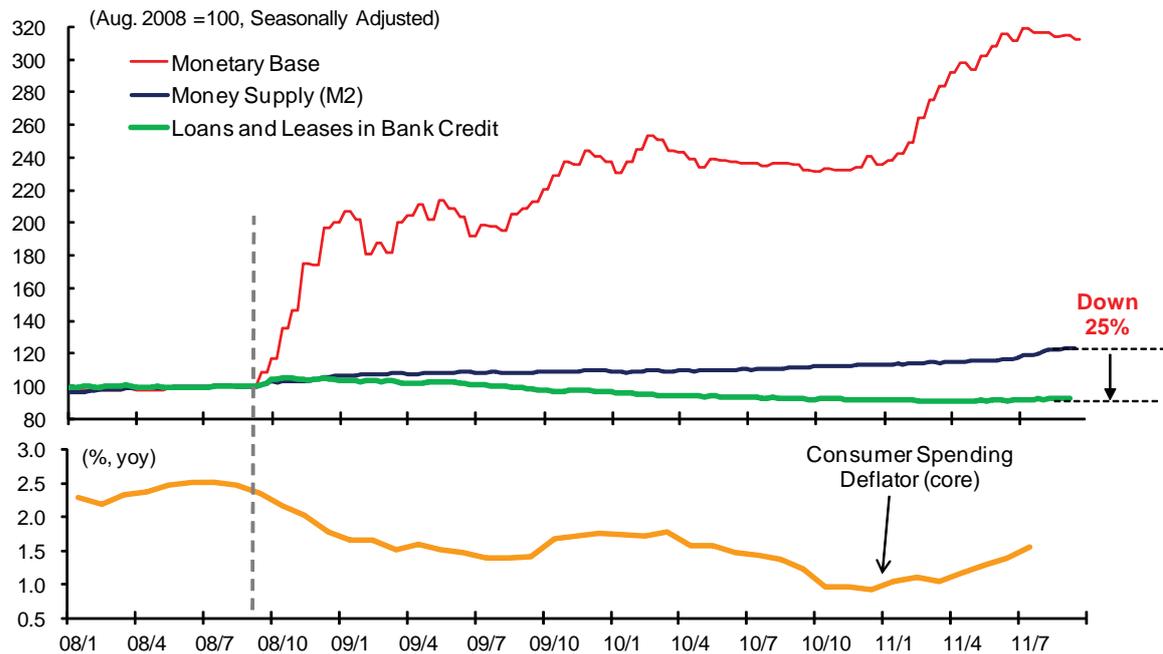
The key difference between an ordinary recession and one that can produce a lost decade is that in the latter, a large portion of the private sector is actually *minimizing debt* instead of maximizing profits following the bursting of a nation-wide asset price bubble. When a debt-financed bubble bursts, 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 are forced to repair their balance sheets by increasing savings or paying down debt. This act of deleveraging reduces aggregate demand and throws the economy into a very special type of recession.

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 willing lenders for those with impaired balance sheets, especially when the lenders themselves have balance sheet problems. Moreover, the money supply, which consists mostly of bank deposits, contracts when the private sector collectively 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.

As shown in Exhibits 2 and 3, massive injections of liquidity by both the Federal Reserve in the US and the Bank of England in the UK not only failed to prevent contractions in credit available to the private sector, but also produced only miniscule increases in the money supply. This is exactly what happened to Japan after the bursting of its bubble in 1990, as shown in Exhibit 4.

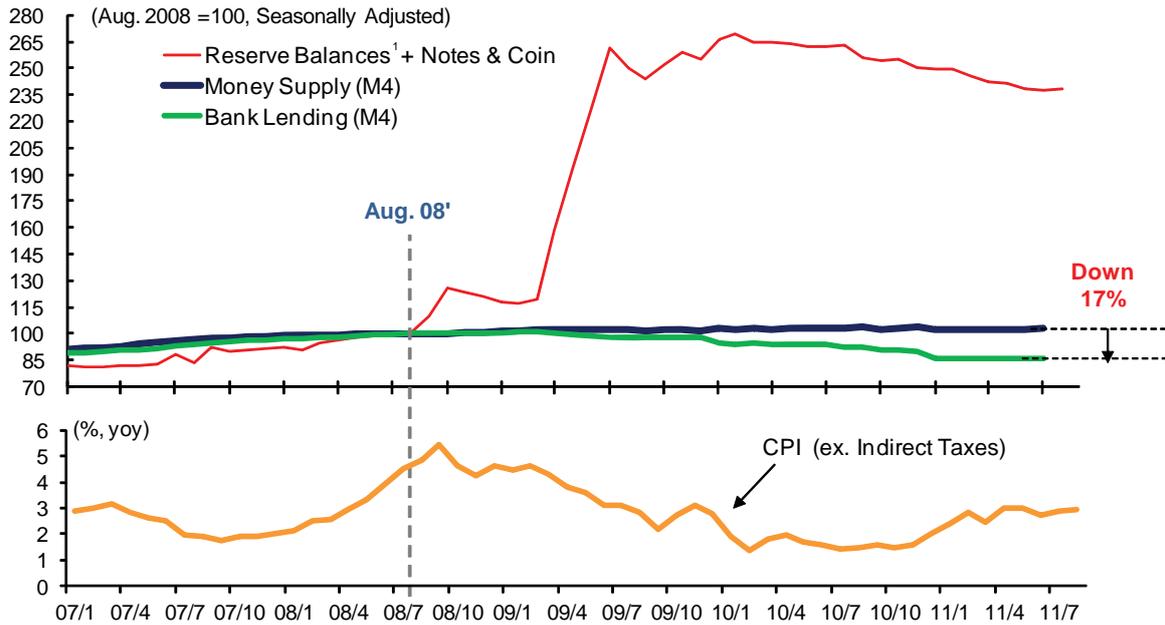
Nor is there any reason why bringing back inflation or inflation targeting should work, because people are paying down debt in response to the fall in asset prices, not consumer prices. And with the money multiplier negative at the margin, the central bank does not have the means to produce the money supply growth needed to increase the inflation rate.

**Exhibit 2. Drastic Liquidity Injection Failed to Increase Money Supply (I): US**



Sources: Board of Governors of the Federal Reserve System, US Department of Commerce  
 Note: Commercial bank loans and leases, adjustments for discontinuities made by Nomura Research Institute.

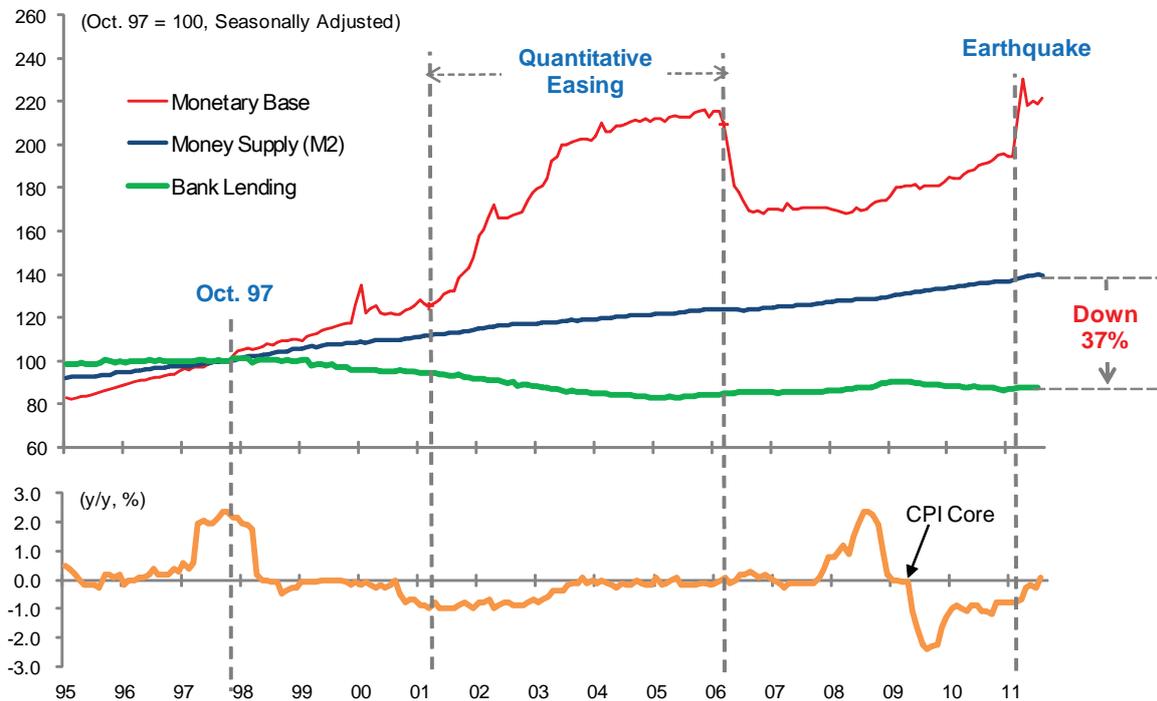
**Exhibit 3. Drastic Liquidity Injection Failed to Increase Money Supply (II): UK**



Sources: Bank of England, Office for National Statistics, UK

Notes: 1. Reserve Balances data are seasonally unadjusted. 2. Money supply and bank lending data exclude intermediate financial institutions.

**Exhibit 4. Drastic Liquidity Injection Failed to Increase Money Supply (III): Japan**



Note: Bank lending are seasonally adjusted by Nomura Research Institute.

Source: Bank of Japan

More importantly, when the private sector deleverages 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 to save (i.e., the economy enters a depression).

To see this, consider a world where a household has an income of \$1,000 and a savings 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, aggregate expenditure totals \$1,000 (\$900 plus \$100) against original income of \$1,000, and the economy moves on. When demand for the \$100 in savings is insufficient, interest rates are lowered, which usually prompts a borrower to take up the remaining sum. When demand is excessive, interest rates are raised, prompting some borrowers to drop out.

In the world where the private sector is minimizing debt, however, there are no borrowers for the saved \$100 even with interest rates at zero, leaving only \$900 in expenditures. That \$900 represents someone's income, and if that person also saves 10 percent, only \$810 will be spent. Since repairing balance sheets after a major bubble bursts typically takes many years—15 years in the case of Japan—the saved \$90 will go un-borrowed again, and the economy will shrink to \$810, and then \$730, and so on.

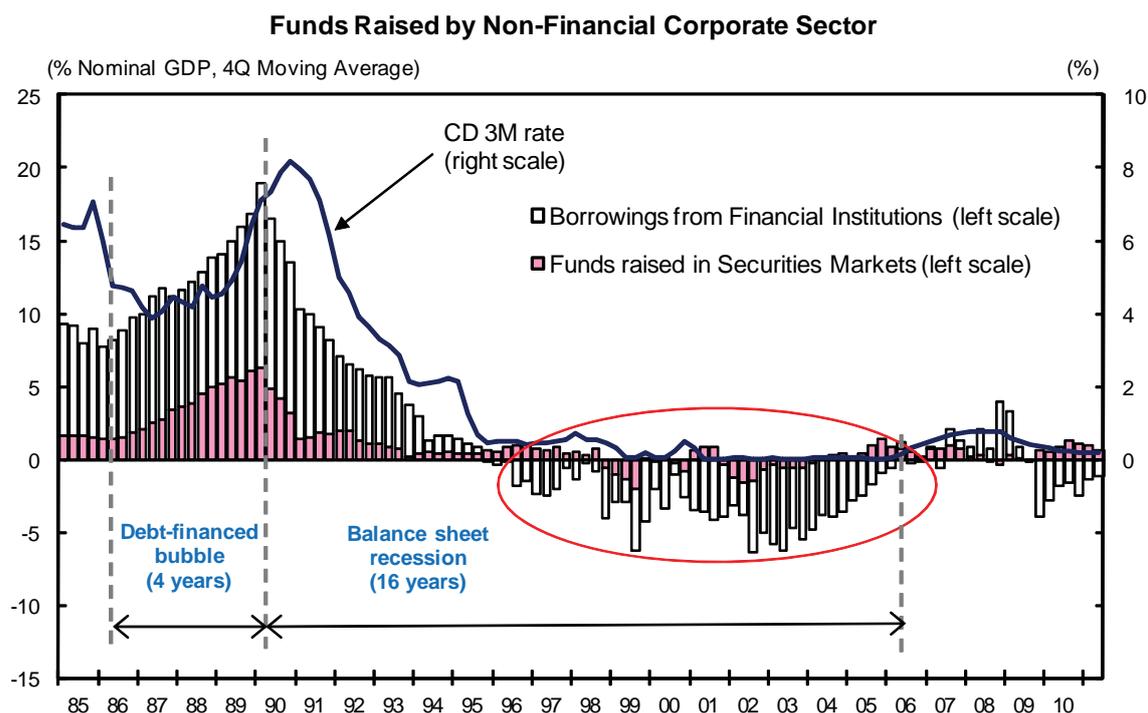
This is exactly what happened during the Great Depression, when everyone was paying down debt and no one was borrowing and spending. From 1929 to 1933, the U.S. lost 46 percent of its GDP mostly because of this debt-repayment-induced deflationary spiral. It was also largely for this reason that the U.S. money supply shrank by nearly 30 percent during the four-year period.

The discussion above suggests that there are at least two types of recessions: those triggered by the usual business cycle and those triggered by private sector deleveraging or debt minimization. Since the economics profession never considered the latter type of recession, there is no name for it in the literature. In order to distinguish this type of recession from ordinary recessions, it is referred to here as a *balance sheet recession*. Like nationwide debt-financed bubbles, balance sheet recessions are rare and, left untreated, will ultimately develop into a depression.

### **Significance of Japanese experience**

Japan faced a balance sheet recession following the bursting of its bubble in 1990 as commercial real estate prices fell 87 percent nationwide. The resulting loss of national wealth in shares and real estate alone was equivalent to three years of 1989 GDP. In comparison, the U.S. lost national wealth equivalent to one year of 1929 GDP during the Great Depression. Japan's corporate sector responded by shifting from its traditional role as a large borrower of funds to a massive re-payer of debt, as shown in Exhibit 5. The net debt repayment of the corporate sector increased to more than 6 percent of GDP a year. And this was on top of household savings of over 4 percent of GDP a year, all with interest rates at zero. In other words, Japan could have lost 10 percent of GDP every year, just as the US did during the Great Depression.

**Exhibit 5. Japan's Deleveraging under Zero Interest Rates Lasted for 10 Years**

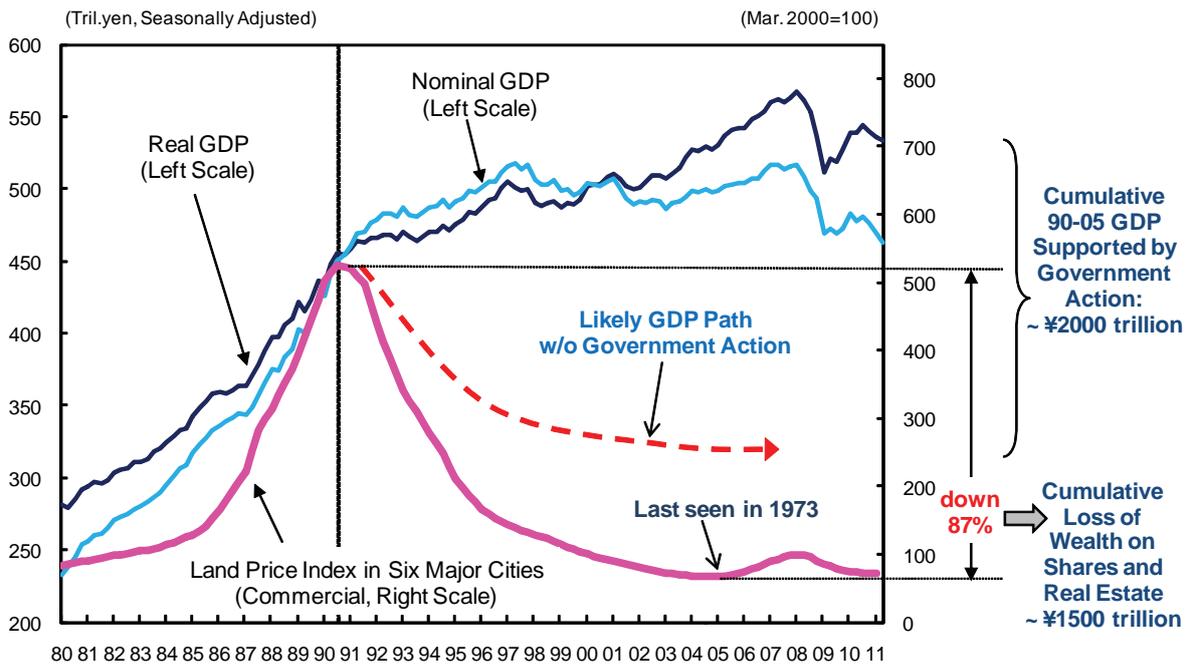


Japan managed to avoid a depression, however, because the government borrowed and spent the aforementioned \$100 every year, thereby keeping the economy's expenditures at \$1,000 (\$900 in household spending plus \$100 in government spending). In spite of a massive loss of wealth and private sector deleveraging reaching over 10 percent of GDP per year, Japan managed to keep its GDP above the bubble peak throughout the post-1990 era (Exhibit 6), and the unemployment rate never climbed above 5.5 percent.

This government action maintained incomes in the private sector and allowed businesses and households to pay down debt. By 2005 the private sector had completed its balance sheet repairs.

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 preserved by fiscal action compared with a depression scenario was far greater. For example, if we assume, rather optimistically, that without government action Japanese GDP would have returned to the pre-bubble level of 1985, the difference between this hypothetical GDP and actual GDP would be over 2,000 trillion yen for the 15-year period. In other words, Japan spent 460 trillion yen to buy 2,000 trillion yen of GDP, making it a tremendous bargain. And because the private sector was deleveraging, the government's fiscal actions did not lead to crowding out, inflation, or skyrocketing interest rates.

**Exhibit 6. Japan's GDP Grew despite Massive Loss of Wealth and Private Sector Deleveraging**

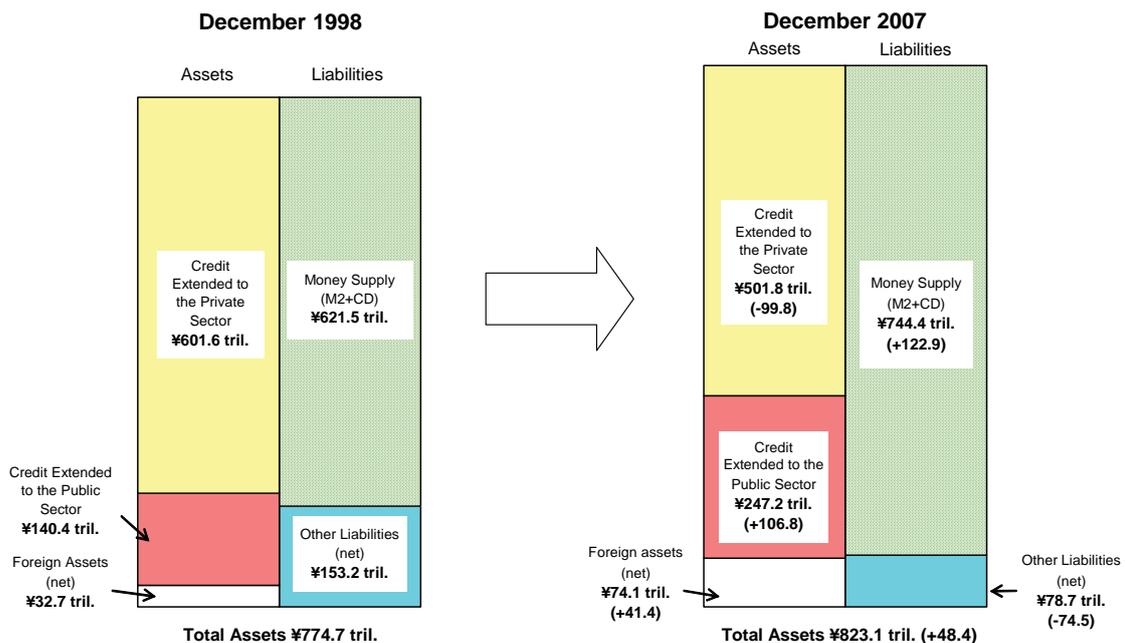


Sources: Cabinet Office, Japan Real Estate Institute

Post-1990 Japan also 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 prevented a contraction of banks' assets. This is shown in Exhibit 7. The post-1933 U.S. money supply also stabilized and started growing again because the Roosevelt Administration began borrowing money aggressively for its New Deal programs, as shown in Exhibit 8.

**Exhibit 7. Japan's Money Supply Has Been Sustained by Government Borrowings**

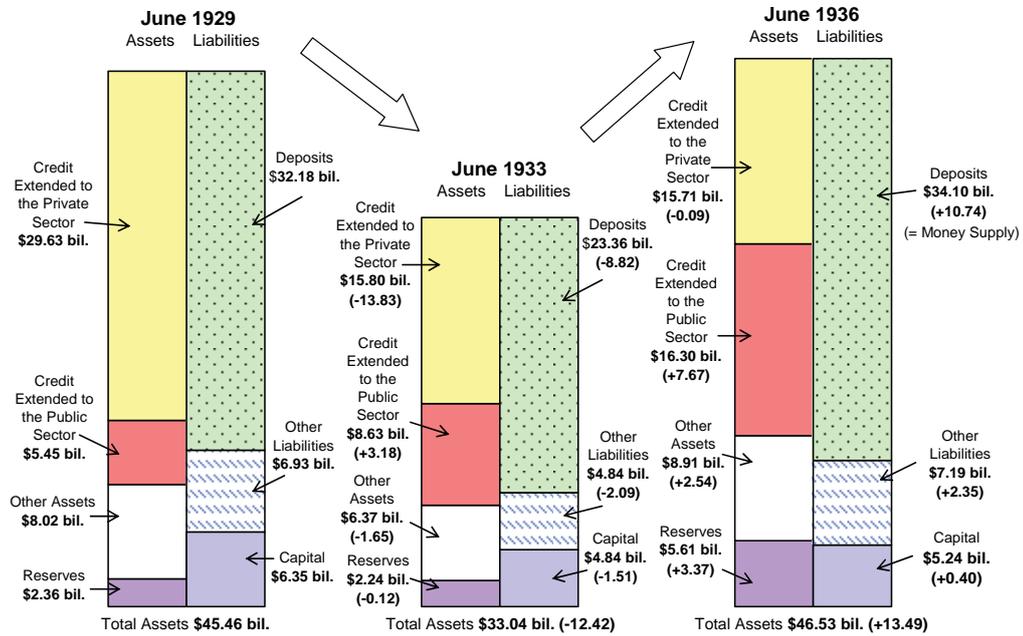
Balance Sheets of Banks in Japan



Source: Bank of Japan "Monetary Survey"

**Exhibit 8. 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

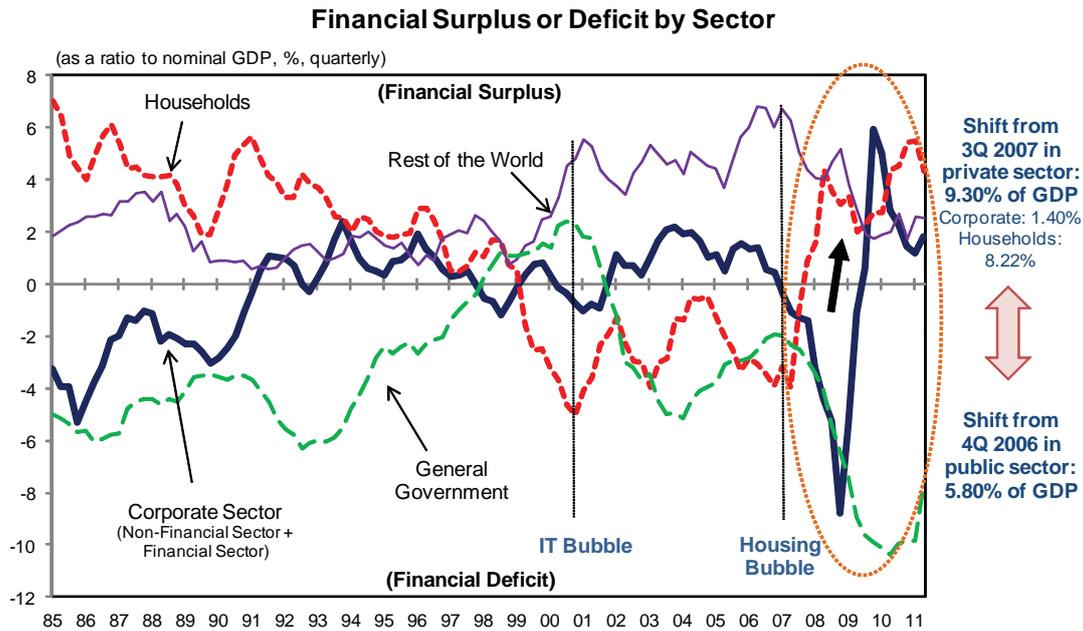
Many authors have argued that it was monetary policy that led to the post-1933 U.S. recovery, but they all failed to look at the asset side of banks' balance sheets. From 1933 to 1936, only lending to the government increased, while lending to the private sector did not increase at all. And lending to the government increased because the government had to finance the New Deal programs. Both of the examples above indicate that fiscal stimulus is essential in keeping both GDP *and* the money supply from contracting during a balance sheet recession.

**The world in balance sheet recession**

Today private sectors in the U.S., the U.K., Spain, and Ireland (but not Greece) are undergoing massive deleveraging in spite of record low interest rates. This means these countries are all in serious balance sheet recessions. The private sectors in Japan and Germany are not borrowing, either. With borrowers disappearing and banks reluctant to lend, it is no wonder that, after nearly three years of record low interest rates and massive liquidity injections, industrial economies are still doing so poorly.

Flow of funds data for the U.S. (Exhibit 9) show a massive shift away from borrowing to savings by the private sector since the housing bubble burst in 2007. The shift for the private sector as a whole represents over 9 percent of U.S. GDP at a time of zero interest rates. Moreover, this increase in private sector savings exceeds the increase in government borrowings (5.8 percent of GDP), which suggests that the government is not doing enough to offset private sector deleveraging.

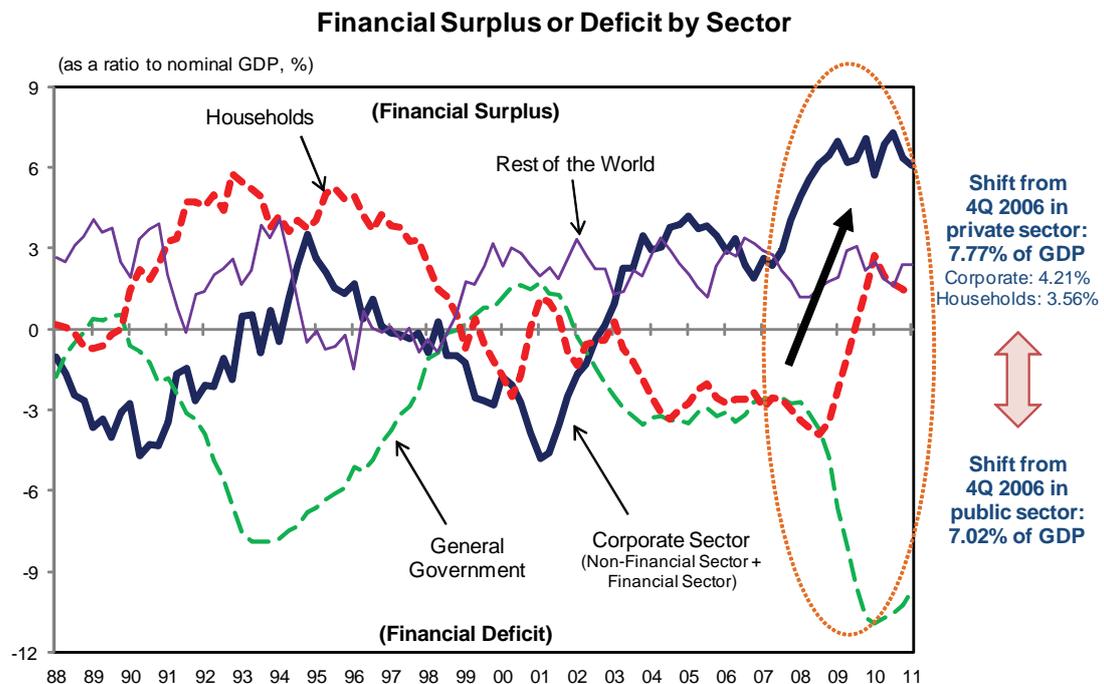
**Exhibit 9. U.S. in Balance Sheet Recession: U.S. Private Sector Increased Savings Massively after the Bubble**



Note: For figures, 4 quarter averages ending with 2Q/11' are used.  
 Sources: FRB, US Department of Commerce

Flow of funds data for the U.K. (Exhibit 10) tell the same story, with the growth in private savings (7.7 percent of GDP) exceeding the increase in government deficit (7.0 percent of GDP). Once again, this means the UK government is not doing enough to stabilize the economy by offsetting private sector deleveraging.

**Exhibit 10. U.K. in Balance Sheet Recession: Massive Increase in Private Savings after the Bubble**

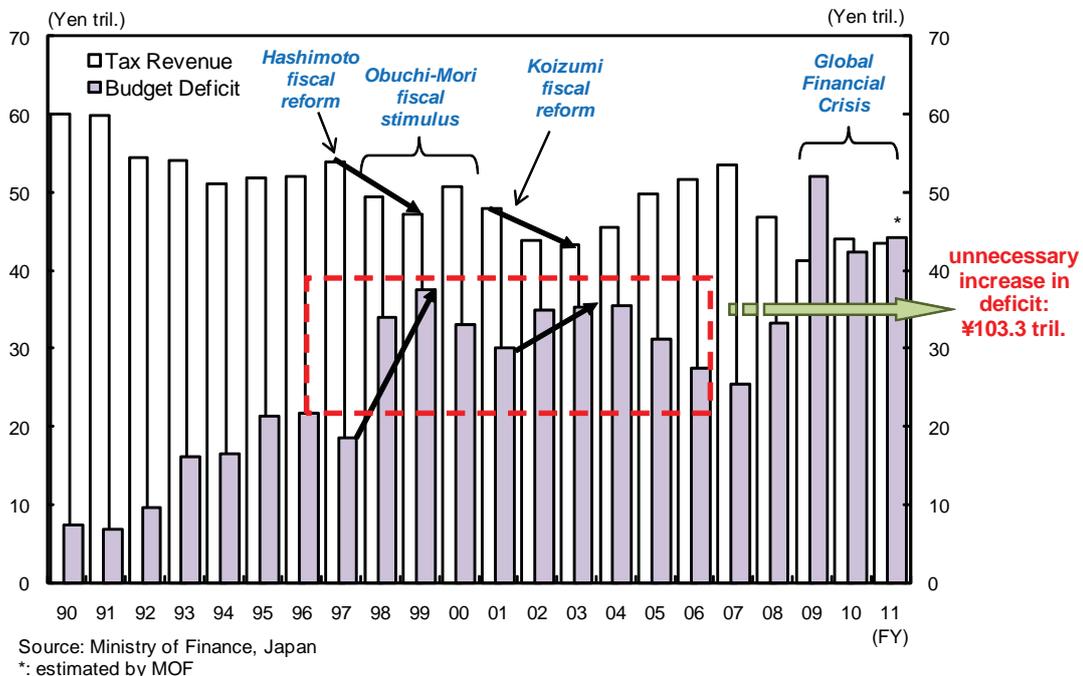


Note: For figures, 4 quarter averages ending with 1Q/11' are used.  
 Source: Office for National Statistics, UK

Yet policymakers in both countries, spooked by the events in Greece, have pushed strongly to cut budget deficits, with the U.K. pushing harder than the U.S. Although shunning fiscal profligacy is the right approach when the private sector is healthy and is maximizing profits, nothing is worse than fiscal consolidation when a sick private sector is minimizing debt. Removing government support in the midst of private sector deleveraging is equivalent to removing the aforementioned \$100 from the economy's income stream, and that will trigger a deflationary spiral as the economy shrinks from \$1,000 to \$900 to \$810.

Unfortunately, the proponents of fiscal consolidation are only looking at the growth in the fiscal deficit while ignoring even bigger increases in private sector savings. Indeed these governments are repeating the Japanese mistake of premature fiscal consolidation in 1997 and 2001, which in both cases triggered a deflationary spiral and ultimately *increased* the deficit (Exhibit 11).

**Exhibit 11. Premature Fiscal Reforms in 1997 and 2001 Weakened Economy, Reduced Tax Revenue and Increased Deficit**



The mistake in 1997, for example, resulted in five quarters of negative growth and increased the deficit by 68 percent, from 22 trillion yen in 1996 to 38 trillion yen in 1999. It took Japan 10 years to climb out of the hole created by this policy error. 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 had it not implemented austerity measures on those two occasions. The U.S. made the same mistake of premature fiscal consolidation in 1937, with equally devastating results.

Except for certain countries in the eurozone which will be discussed below, there is no reason why a government should face financing problems during a balance sheet recession. The amount of money it must borrow and spend to avert a deflationary spiral is exactly equal to the un-borrowed and 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 who must invest in fixed income assets without foreign exchange risk have no choice but to lend to the government, which is the last borrower standing. Although deficit hawks pushing for fiscal consolidation often talk about “bond market vigilantes,” the fact that 10-year bond yields in the U.S. and U.K. today are only around 2 percent—unthinkably low given fiscal deficits of nearly ten percent of GDP—indicates that bond market participants are aware of the nature and dynamics of balance sheet recessions. Indeed bond yields in the U.S. and U.K. today are equivalent to Japanese bond yields in 1997.

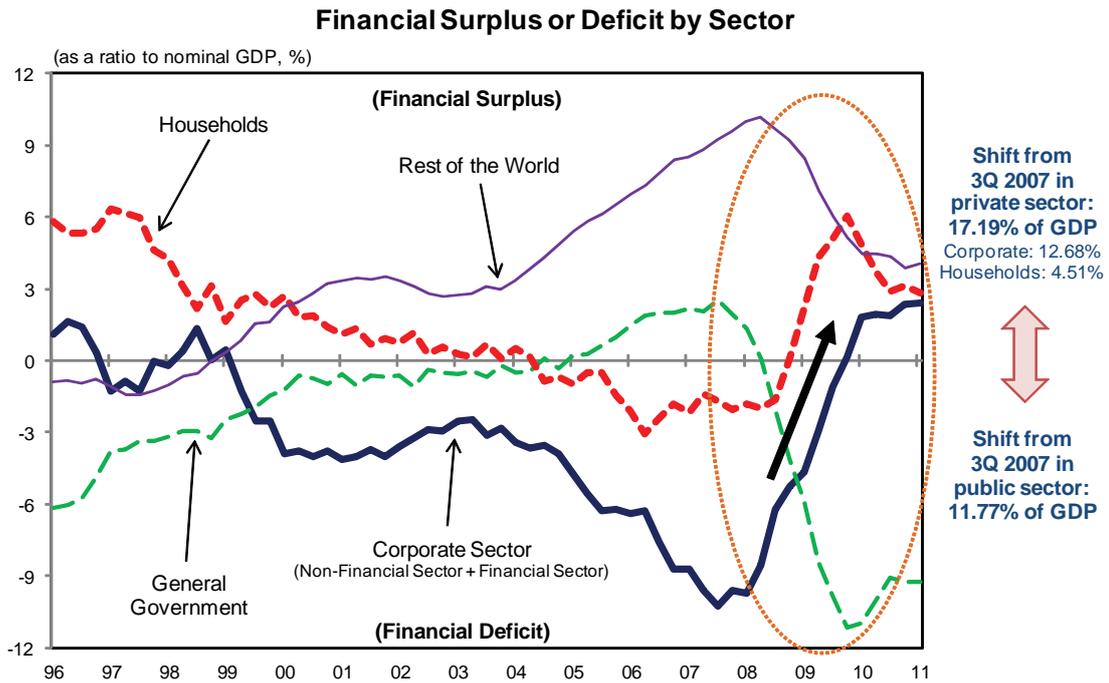
### **Reason for eurozone debt crisis**

While western economies experience balance sheet recessions and most government bond yields fall to historic lows, investors continue to demand high yields to hold the debt of eurozone countries like Spain and Ireland. The reason behind this phenomenon is a factor unique to the eurozone: fixed-income fund managers can buy government bonds issued by *other* eurozone countries without taking on any exchange rate risk. If they grow worried about their own government’s fiscal position, they can simply buy other governments’ debt.

Spain and Ireland, for instance, are both in serious balance sheet recessions, with private sector deleveraging reaching 17 percent of GDP in Spain (Exhibit 12) and a whopping 21 percent of GDP (Exhibit 13) in Ireland, all under record low interest rates. Indeed the entire eurozone is in a balance sheet recession (Exhibit 14). Even though this means there is huge pool of private sector savings available in these countries, Spanish and Irish pension fund managers who do not like their own countries’ debt can easily buy German government bonds. That leaves the governments of both Spain and Ireland unable to tap their own private savings surpluses to fight the balance sheet recessions.

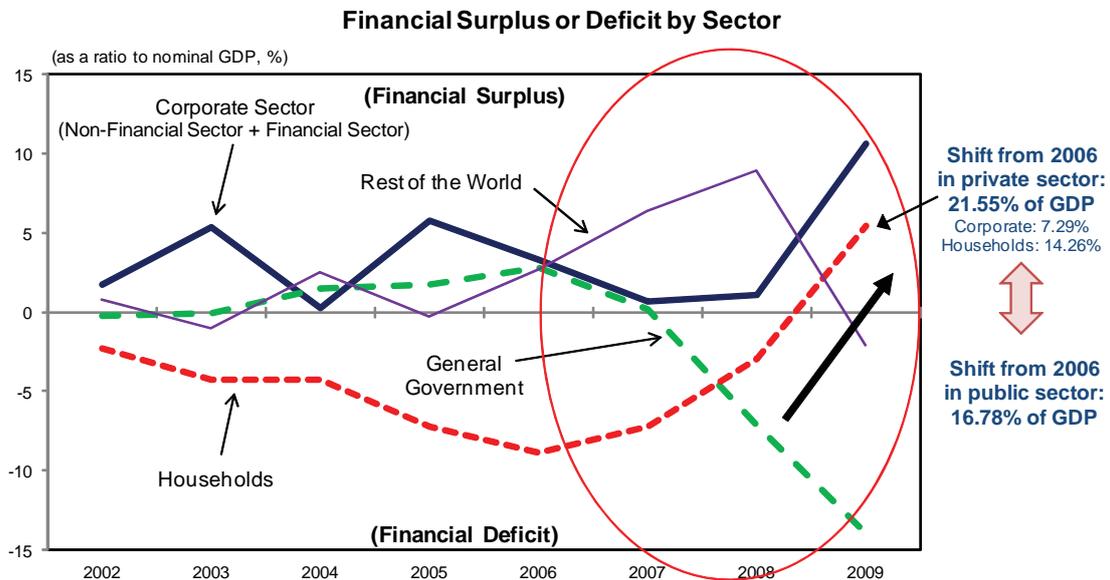
If the governments of countries like Germany and the Netherlands actively borrow and spend the money flowing in from Spain and Ireland, that will sustain economic activity in the broader eurozone economy and have a positive impact on Spain and Ireland as well. Unfortunately, the governments of Germany and the Netherlands are focused entirely on deficit-reduction efforts in a bid to observe the 3% ceiling on budget deficits prescribed by the Maastricht Treaty.

**Exhibit 12. Spain in Balance Sheet Recession:  
Massive Increase in Private Savings after the Bubble**



Note: For figures, 4 quarter averages ending with 1Q/11' are used.  
Source: Banco de España

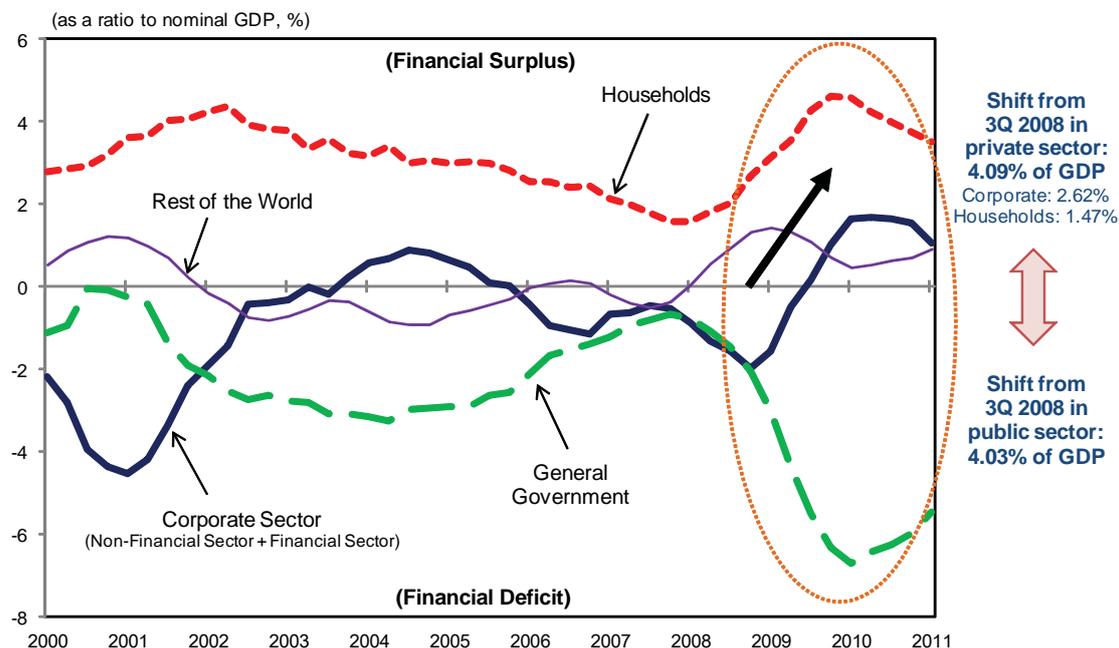
**Exhibit 13. Ireland in Balance Sheet Recession:  
Massive Increase in Private Savings after the Bubble**



Sources: Eurostat, Central Statistics Office, Ireland

**Exhibit 14. Eurozone in Balance Sheet Recession:  
Massive Increase in Private Savings after the Bubble**

**Financial Surplus or Deficit by Sector**



Note: For figures, 4 quarter averages ending with 1Q/11' are used.  
Source: ECB

Countries in balance sheet recessions such as Spain are desperately in need of fiscal stimulus but are unable to take advantage of the rapid increase in domestic savings and are therefore forced to engage in fiscal consolidation of their own. That causes the aforementioned \$100 to be removed from the income stream, prompting a deflationary spiral. And since the countries receiving those savings are not borrowing and spending them, the broader eurozone economy is rapidly weakening. It is no wonder that the Spanish unemployment rate is over 21 percent and Irish GDP has fallen more than 10 percent from its peak.

Fund flows within the eurozone were following the opposite pattern until just a few years ago. Banks in Germany, which had fallen into a balance sheet recession after the telecom bubble collapsed in 2000, aggressively bought the debt of southern European nations, which were denominated in the same currency but offered higher yields than domestic debt. The resulting capital inflows from Germany poured further fuel onto the fire of housing bubbles in these countries.

There is thus a tendency within the eurozone for fund flows to go to extremes. When times are good, funds flow into booming economies in search of higher returns, thereby exacerbating the bubbles. When the bubbles finally burst, the funds shift suddenly to the countries least affected by the boom.

The problem with these shifts is that they are pro-cyclical, tending to amplify swings in the economy. Countries that are in the midst of a bubble and do not need or want additional funds experience massive inflows. Meanwhile, countries facing balance sheet recessions and in need of funds can only watch as money flows abroad, preventing their governments from implementing the fiscal stimulus needed to stabilize the economy.

### **Solution for Euro: allow only nationals to buy government bonds**

One way to solve this eurozone-specific problem of capital shifts would be to prohibit member nations from selling government bonds to investors from other countries. Allowing only the citizens of a nation to hold that government's debt would, for example, prevent the investment of Spanish savings in German government debt. Most of the Spanish savings that have been used to buy other countries' government debt would therefore return to Spain. This would push Spanish government bond yields down to the levels observed in the U.S. and the U.K., thereby helping the Spanish government implement the fiscal stimulus required during a balance sheet recession.

The Maastricht Treaty with its rigid 3 percent GDP limit on budget deficits made no provision for balance sheet recessions. This is understandable given that the concept of balance sheet recessions did not exist when the Treaty was being negotiated in the 1990s. In contrast, the proposed new rule would allow individual governments to pursue autonomous fiscal policies within its constraint. In effect, governments could run larger deficits as long as they could persuade citizens to hold their debt. This would both instill discipline and provide flexibility to individual governments. By internalizing fiscal issues, the new rule would also free the European Central Bank from having to worry about fiscal issues in individual countries and allow it to focus its efforts on managing monetary policy.

In order to maximize efficiency gains in the single market, the new restriction should apply only to holdings of government bonds. German banks should still be allowed to buy Greek private sector debt, and Spanish banks should still be allowed to buy Dutch shares.

In retrospect, this rule should have been in place since the beginning of the euro. If that were the case, none of the problems the eurozone now faces would have materialized. Unfortunately, the euro was allowed to run for more than ten years without the rule, accumulating massive imbalances along the way. It may take many years to undo the damage.

In the meantime, it will be necessary to continue financing certain countries with bonds issued jointly by a body like the European Financial Stability Facility (EFSF). But compared with the present situation, where there is no end-game, the declaration of an end to member state sales of government bonds to other nationals five or ten years from now should help restore confidence in the euro. This is because none of the problems that have plagued the euro up to now would be repeated if the new rule were adopted.

Ending the eurozone's crisis will require a two-pronged approach. First, international bodies like the EU and ECB need to declare that member countries experiencing balance sheet recessions must implement and maintain fiscal stimulus to support the economy until private sector balance sheets are repaired. Second, eurozone member nations must declare that in ten years they will prohibit the sale of government debt to anyone other than their own nationals.

The first prescription would provide the international organizations' seal of approval for the fiscal stimulus needed to stabilize economies afflicted by balance sheet recessions, while the second would prohibit savings in countries like Spain from being invested in German

government bonds. Without these two “game changers,” forcing eurozone nations in balance sheet recessions to engage in fiscal consolidation will simply make the problem worse.

Unfortunately, both ECB President Jean-Claude Trichet and BOE Chairman Mervyn King are still pushing for additional fiscal retrenchment. Among international organizations, only the IMF appears to have recognized the need for fiscal stimulus in countries facing balance sheet recessions.

### **Difficulty of maintaining fiscal stimulus in democracies**

Federal Reserve Chairman Ben Bernanke understands the risk of balance sheet recessions and has been warning since early 2010 that now is not the time to engage in fiscal consolidation. Given that he was once a believer in the omnipotence of monetary policy, this represents a dramatic change of heart. Unfortunately, he and National Economic Council Chairman Gene Sperling are the only two officials openly pushing for fiscal stimulus: everyone else, including President Obama himself at times, seems to be in favor of fiscal consolidation. But with the U.S. private sector still deleveraging massively in spite of zero interest rates, nothing is potentially more dangerous for the U.S. economy than premature fiscal consolidation.

More broadly, recent developments in Washington, London, Madrid and other western capitals have proven that it is extremely difficult to maintain fiscal stimulus in a democracy during peacetime. This is a crucial problem during a balance sheet recession because fiscal stimulus must be maintained for the duration of the private sector deleveraging process in order to minimize both the length and the final fiscal cost of the recession. Unfortunately, in most democracies fiscal hawks are out in numbers demanding an end to fiscal stimulus as soon as the economy shows the first signs of life.

For example, many on both sides of the Atlantic have grown complacent after seeing certain economic and market indicators improve from their trough in the first half of 2009. The stock market, for example, was up nearly 60 percent at one point. Industrial production, which fell back to the level of 1998 in the U.S. and to the level of 1997 in the eurozone following the Lehman collapse, climbed back to the level of 2005 on both sides of the Atlantic, although it remains far below the peak levels of 2007.

This “recovery” has prompted a huge backlash from the Republican and Tea Party opposition in the U.S. seeking immediate fiscal consolidation. They argue that big government is bad government and that pork-barrel fiscal stimulus is costing future generations billions if not trillions. In the U.K., the Brown government, which implemented fiscal stimulus in 2009, was promptly voted out of office and replaced with the fiscal hawks of the Cameron government. In the eurozone, fiscal consolidation is now the only game in town. Even in Japan, the new DPJ government is pushing for a tax hike to pay for reconstruction work in the wake of the March 11<sup>th</sup> earthquake-tsunami-nuclear power plant disaster.

As a result of this backlash from fiscal hawks, the fiscal stimuli implemented by these countries in response to the Lehman-induced financial crisis are being allowed to expire. Private sector deleveraging, on the other hand, continues unabated at alarmingly high levels in all of these countries. Consequently, all of these economies are decelerating if not contracting altogether.

If the contraction appears serious and painful enough, the governments are likely to implement further fiscal stimulus, only to be forced back into fiscal consolidation once the stimulus breathes life back into the economy. This pattern of on-again, off-again fiscal stimulus is the reason why it took Japan 15 years to climb out of its own balance sheet recession. As shown in Exhibit 11, this policy zigzag, especially the austerity initiatives in 1997 and 2001, prolonged the recession by at least five years if not longer and added at least \$1 trillion to the public debt unnecessarily. This policy zigzag also caused the disastrous collapse of the US economy in 1937.

Something else that slows down the implementation of fiscal stimulus in a democracy is the issue of how the money should be spent. As the previous example of 460 trillion yen in fiscal stimulus buying 2,000 trillion yen in Japanese GDP during the 1990–2005 period demonstrates, how the money is spent is largely irrelevant during a balance sheet recession: the important thing is *that* the money be spent.

In a democracy, however, where most people see only the trees and not the forest, even those few political leaders who understand the need for stimulus end up arguing endlessly about which projects the money should be spent on. In the meantime, the economy continues to shrink in the \$1,000-to-\$900-to-\$810 deflationary spiral described above. Only during wartime, when it is obvious where the money should be spent, can democracies implement and sustain the kind of fiscal stimulus needed to overcome a balance sheet recession in the shortest possible time.

Even those who manage to prevent an economic meltdown by implementing necessary fiscal stimulus *before* the crisis are likely to be bashed instead of praised by the public. This is because the general public typically cannot envision what might have happened in the absence of fiscal stimulus. Seeing only a large deficit and no crisis, they assume the money must have been wasted on useless projects. That is exactly what happened to Liberal Democratic politicians in Japan, President Barack Obama in the U.S. and former Prime Minister Gordon Brown in the U.K. Although their actions saved their economies from devastating deflationary spirals, they were bashed because the public is unable to contemplate the counterfactual scenario. The man or woman who prevents a crisis never becomes a hero. For a hero to emerge we must first have a crisis, as Hollywood movies will attest.

It has also become popular in some circles to talk about medium-term fiscal consolidation while pushing for a short-term fiscal stimulus. Although this sounds responsible at one level, it is totally irresponsible at another. When the private sector is deleveraging in spite of zero interest rates, a condition that has never been anticipated in the economics or business literature, it is safe to assume that the private sector is very sick. Talking about medium-term consolidation in this environment is like asking a seriously injured person just admitted to an intensive care unit whether she can afford the expensive treatment needed. If asked this question enough times, the patient may become so depressed and discouraged that her condition will actually worsen, ultimately resulting in an even larger medical bill.

It has become commonplace to talk about the so-called policy duration effect of monetary policy. The July 2011 announcement by the Fed that it will not raise interest rates until well into 2013 was a prime example of maximizing this effect. For some reason, however, we hear nothing about the policy duration effect of fiscal policy. Talk of medium-term fiscal consolidation effectively *minimizes* the policy duration effect of whatever fiscal

stimuli that are still in place, which in a sense is highly irresponsible. Since the patient must be cured somehow, the government should work to maximize the policy duration effect of both monetary and fiscal policies in order to minimize the final cost of treatment. It is never a good idea to depress both the brakes and the accelerator at the same time.

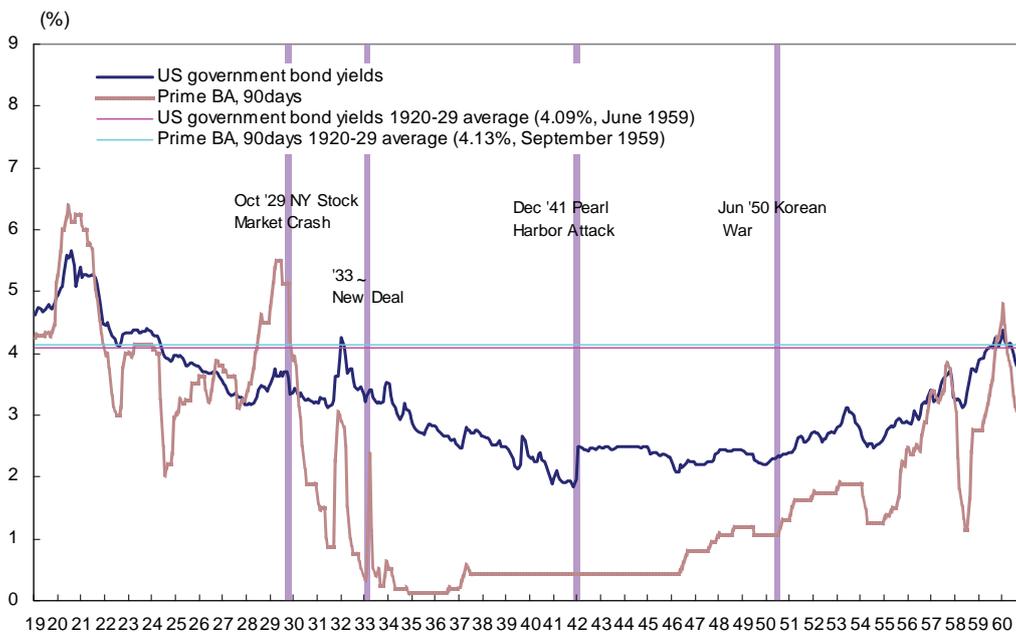
The above reality, together with the recent push for fiscal consolidation in Western capitals, suggests that it is difficult to maintain fiscal stimulus in a democracy during peacetime. Recovering from a balance sheet recession will therefore take a long time in a democracy.

**“Exit problem” in balance sheet recessions**

The long time required for the economy to pull out of a balance sheet recession means the private sector must spend many painful years paying down debt. That in turn brings about a debt “trauma” of sorts in which the private sector refuses to borrow money even after its balance sheet is fully repaired. This trauma may take years if not decades to overcome. But until the private sector is both willing and able to borrow again, the economy will be operating at less than full potential and may require continued fiscal support from the government to stay afloat. Overcoming this trauma may be called the “exit problem.”

In Japan, where the private sector has grown extremely averse to borrowing after its bitter experience of paying down debt from 1990 to 2005, businesses are not borrowing money in spite of willing lenders and the lowest interest rates in human history. As a result, the 10-year government bond is yielding only around 1 percent even though government debt amounts to nearly 200 percent of GDP.

**Exhibit 15. Exit Problem: U.S. Took 30 Years to Normalize Interest Rates after 1929 because of Aversion to Borrowing**



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

After the U.S. private sector’s devastating experience of paying down debt during the Great Depression, the same aversion to borrowing kept interest rates unusually low for a full

thirty years, until 1959 (Exhibit 15). The fact that it took the U.S. three decades to bring interest rates back up to 4 percent even with massive fiscal stimuli in the form of the New Deal and World War II suggests the severity of the trauma. Indeed many of those Americans forced to pay down debt during the Depression never borrowed again.

The experiences of post-1929 US and post-1990 Japan suggest that interest rates will remain low for a very long time even after private sector balance sheets are repaired. The governments of countries facing exit problems should therefore introduce incentives for businesses to borrow. Such incentives, which may include investment tax credits and accelerated depreciation allowances, should be exceptionally generous in order to attract private sector attention. The sooner the trauma is overcome, the sooner the government can embark on fiscal consolidation. The generosity will more than pay for itself once the private sector trauma is overcome.

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

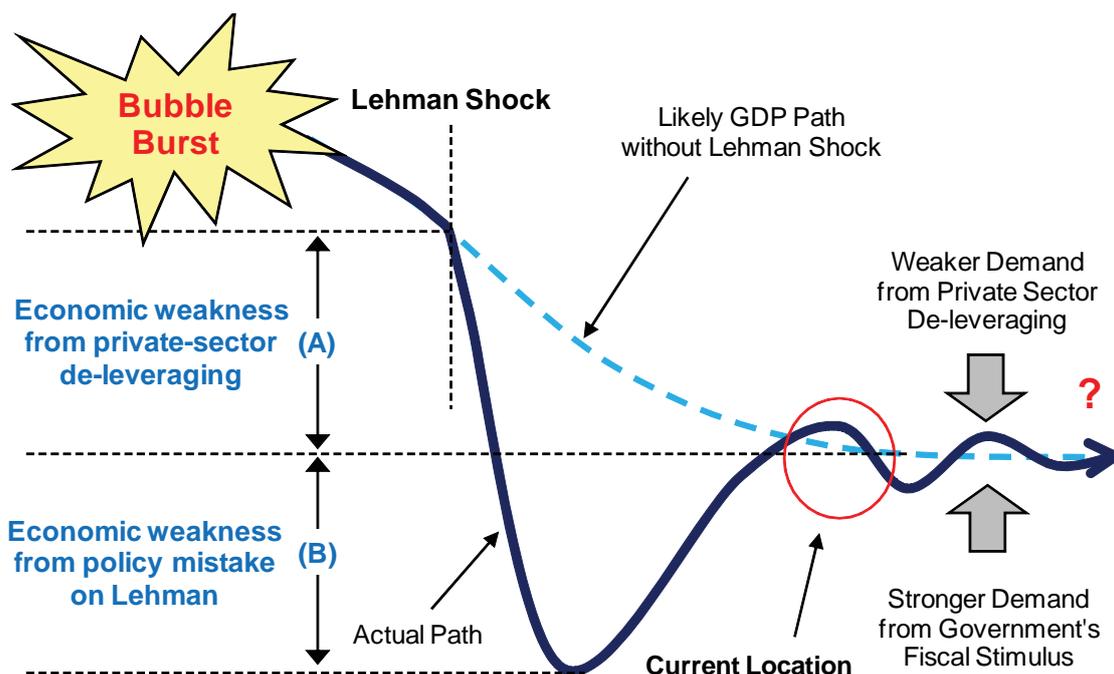
A distinction should also be drawn between balance sheet recessions and financial crises, since both are present in the post-Lehman debacle. The former is a borrower's phenomenon, while the latter is a lender's phenomenon. This distinction is important because the economic "recovery" starting in 2009 has been largely limited to a recovery from the policy mistake of allowing Lehman Brothers to fail. The collapse of Lehman sparked a global financial crisis that weakened the economy far more severely and rapidly than what would have been suggested by balance sheet problems alone.

Unlike balance sheet recessions, in which monetary policy is largely impotent, financial crises can and must be addressed by the monetary authorities. Available tools include liquidity infusions, capital injections, explicit and implicit guarantees, lower interest rates and asset purchases. According to IMF figures, the Federal Reserve, together with governments and central banks around the world, injected some \$8.9 trillion in liquidity and guarantees for this purpose in the wake of the Lehman shock.

The Lehman panic was caused by the government's decision not to safeguard the liabilities of a major financial institution when so many institutions had similar problems. Consequently, the panic dissipated when the authorities moved to safeguard those liabilities. That was the "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 failure are still in place. If anything, the continuous fall in house prices since then has exacerbated these problems. Balance sheet problems are likely to slow down the recovery or derail 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 16). The hard work of repairing millions of impaired private sector balance sheets is just beginning ((A) in Exhibit 16).

Exhibit 16. Recovery from Lehman Shock Is NOT Recovery from Balance Sheet Recession



Source: Nomura Research Institute

## 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 sustains heavy financial injuries when the bubble bursts. That forces the private sector to pay down debt in spite of zero interest rates, triggering a deflationary spiral. At such times and at such times *only*, the government must borrow and spend the private sector's excess savings, not only because monetary policy is impotent at such times but also because the government cannot tell the private sector *not* to repair its balance sheet.

Although anyone can push for fiscal consolidation in the form of 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 lead to a smaller deficit and higher growth as resources are released to the more efficient private sector. But when the financial health of the private sector is so impaired that it is forced to deleverage even with interest rates at zero, a premature withdrawal of fiscal stimulus 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 17.

With massive private sector deleveraging continuing in the U.S. and in many other countries in spite of historically low interest rates, this is no time to embark on fiscal consolidation. Such measures must wait until it is certain the private sector has finished deleveraging and is ready to borrow and spend the savings that would be left un-borrowed by the government under an austerity program.

There will be plenty of time to pay down the accumulated public debt because the next balance sheet recession of this magnitude is likely to be generations away, given that those who learned a bitter lesson in the present episode will not make the same mistake again. The next bubble and balance sheet recession of this magnitude will happen only after we are no longer here to remember them.

Exhibit 17. Contrast Between Profit Maximization and Debt Minimization

Private sector behavior	<b><i>Profit Maximization</i></b>	<b><i>Debt Minimization</i></b>
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

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

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