Balance Sheet Recession as the Other-Half of Macroeconomics

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These are extraordinary times. Near zero interest rates and massive liquidity injections by the central banks are still failing to bring life back to so many economies in the developed world. Huge budget deficits and public debt are coinciding with ridiculously low government bond yields except in the periphery of the Eurozone. The ten-year government bond yield in Japan, for example, is less than one percent for a country with a public debt of over 200 percent of GDP. Obviously something is very different this time compared with economic difficulties in the past.

Even though something is awfully different this time around, economists and policy makers around the world are still viewing the size of the deficit and public debt in the same way they worried about these problems in the past. In particular, it has been argued that, because private sector can allocate resources far better than public sector, government deficits are at best a necessary evil and at worst a prescription for disaster. The history has also shown that this assumption was correct on most occasions. As a result, the natural instinct of most economists and many citizens is to view deficits with suspicion if not with disdain. Their inclination is to see every deficit reduced to an absolute minimum if not to zero as soon as possible.

As a result, the policy debate in most countries today starts with the level of deficit and how it can be reduced or whether there is sufficient private sector savings to finance it. It is almost never the case that the debate starts with the level of private savings and examines whether the government deficit is large enough to recycle the savings.

Although the above way of perceiving the deficit worked well for most of the last half century, the fundamental assumption behind this thought process is violated in the current crisis. This is because, even though the deficits are huge in many countries, the governments in most cases are in fact responding to an even bigger problem in the private sector. In other words, the causality this time is the reverse of the usual deficit problem.

Today, private sectors in the US, UK, Japan, Spain, Ireland, Portugal are all massively increasing savings or paying down debt at record low interest rates. According to the flow of funds data, the US private sector today is saving whopping 8.5 percent of GDP (four-quarter moving average ending in Q2, 2012) at zero interest rates (Exhibit 1.) The figure for Japan is 9.8 percent of GDP also at zero interest rates (Exhibit 2). The figure for the UK is 5.0 percent of GDP at interest rates of 0.5 percent, the lowest in British history (Exhibit 3.) The savings figures for Spain, Ireland and Portugal as a percentage of GDP are 5.5 percent, 10.0 percent and 4.0 percent, respectively, all with 0.75 percent interest rates, the lowest post-war interest rate in Eurozone countries (Exhibits 4,5, and 6.) Indeed, the private sector in the eurozone as a whole is saving 4.0 percent of GDP (Exhibit 7) at the same record low interest rates.

Moreover, in all of the above countries except Portugal, not only household sector but also the corporate sector is increasing savings or paying down debt at these record low interest rates. This behavior of the corporate sector runs totally counter to the usual pattern where profit maximizing firms are expected to be increasing borrowings at these record low interest rates. In other words, the developed world is faced with private sectors that are behaving totally outside the conventional framework of neoclassical economics.

Private sector is minimizing debt instead of maximizing profits

Private sectors in all of these countries are increasing savings or paying down debt because their balance sheets were damaged badly when asset price bubbles burst in those countries. In the case of Japan, where the bubble burst in 1990, commercial real estate prices fell 87 percent nationwide (Exhibit 8), destroying balance sheets of businesses and financial institutions in no small way. The collapse of housing bubbles after 2007 on both sides of the Atlantic (Exhibit 9) also devastated millions of household and financial institution balance sheets. The resulting loss of wealth reached well into tens of trillions of dollars and Euros while the liabilities incurred during the bubble days remained on the books at their original values.

With a huge debt overhang and no assets to show for, the affected businesses and households realized that they have no choice but to put their financial houses in order. This means increasing savings or paying down debt until they are safely away from the negative equity territory. A failure to do so would mean a loss of access to the credit if not to the society altogether. This means they are forced to shift their priorities away from the usual profit maximization to debt minimization.

The shift here has been nothing short of spectacular. The US private sector went from a net borrower of funds to the tune of 5.3 percent of GDP in Q4 2008 to a net saver of funds to the tune of 8.4 percent of Q1 GDP in 2010, all with the lowest interest rates in the US history. This means the US economy lost private sector demand equivalent to 13.7 percent of GDP in just five quarters, pushing the economy into a serious recession. The UK lost private sector demand equivalent to 9.6 percent of GDP from Q2 2006 to Q2 2010. Spain lost 19.4 percent of GDP from private sector shift between Q3 2007 to Q1 2010, also with record low interest rates.

These private sector scramble to repair damaged balance sheets pushed the world economy into the crisis we see today. In other words, the problem started out with the private sector, not with the government sector. The government sectors in all of these economies are simply responding to the recession cause by the collapse of private sector demand which in turn was caused by the private sector shift to debt minimization.

The economics profession, which built elaborate theories based on profit maximization, seldom considered the case where the private sector is minimizing debt. Not even Keynes, who ushered in the era of macroeconomics by introducing the concept of aggregate demand, could not free himself from the mind-set of neoclassical economics where the private sector is expected to be maximizing profits at all times.

But once every several decades, the private sector loses its mind and discipline in a bubble. Businesses and households, believing that they are going to make tons of money, leverage themselves up to the hilt as they borrow and invest in all sorts of assets. When the bubble bursts, asset prices collapse while liabilities remain, leaving millions of private sector balance sheets underwater. This leaves private sector with no choice but to minimize debt in order to climb out of negative equity territory and regain its credit ratings.

In the usual world, the task of ensuring that the saved funds are borrowed and spent falls on the financial sector which takes in the saved funds and lent them to those who can make the best use of the funds. And the mechanism which equates savings and investments is the interest rate. If there are too many borrowers, interest rates are raised which prompts some potential borrowers to drop out, and if there are too few borrowers, interest rates are lowered which prompts some potential borrowers to step forward to take the funds.

Today, however, the private sector as a whole is saving money at near-zero interest rates. This means those savings generated by the private sector will find no borrowers. Since interest rates cannot go any lower, the saved funds are stuck in the financial sector unable to re-enter the economy. This means those unborrowed funds become a leakage to the income stream and a deflationary gap of the economy.

If these unborrowed funds are left unattended, the economy enters a deflationary spiral as it continuously looses aggregate demand equivalent to the saved but unborrowed amounts. To see this, consider a world where a household has an income of $1,000 and a savings rate of 10 percent. The household would then spend $900 and save $100. In a textbook world, the saved $100 is taken up by the financial sector and lent to the borrower who can make best use of 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 there is insufficient demand for the $100 in savings, 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 a world where the private sector is minimizing debt, however, there are no borrowers for the saved $100 even at an interest rate of 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 asset bubble typically takes years—15 years in the case of Japan—the saved $90 will go un-borrowed again, and the economy will shrink to $810, and $730, and so on. This process will continue until the private sector either repairs its balance sheet or becomes too poor to save (i.e., the economy enters a depression).

It should be noted that the households and businesses are all doing the right thing by trying to repair their balance sheets. But when everyone tries to minimize debt at the same time, the economy falls into a massive fallacy of composition. This is because in a macro-economy, if someone is saving money or paying down debt, someone else must be borrowing and spending the saved and deleveraged funds in order to keep the economy going.

If no-one outside the private sector borrowed and spent the excess savings in the US private sector, the US economy today will be shrinking 8.5 percent per year. Although that may sound outlandish at first, it was precisely this deflational spiral from private sector deleveraging that resulted in a loss of 46 percent of GDP in the US from 1929 to 1933 during the Great Depression.

Private debt minimization nullifies effectiveness of monetary policy

Those businesses and households with balance sheets underwater are also not interested in increasing their borrowings at any interest rates. There will not be many lenders either, especially when the lenders themselves have balance sheet problems. The lenders will also run afoul of government bank regulators if they knowingly lend to those with balance sheets underwater.

This private sector shift to debt minimization is the reason why near zero interest rates by the Federal Reserve and European Central Bank since 2008 and by the Bank of Japan since 1995 failed to produce recoveries for those economies.

In acts of desperation, central banks around the world have flooded the financial system with liquidity in a policy now known as quantitative easing or QE. The BOJ, under pressure from politicians who in turn were persuaded by foreign economists, increased monetary base from 100 in 1990 to 343 today. Instead of having a double or triple digit inflation rate, Japan is still struggling with deflation.

The BOJ was followed by the Fed and the BOE after the Lehman Shock when they also increased their monetary base massively from 100 in 2008 to 304 and 413 today, respectively. The ECB also joined the club late in 2011 with its LTRO operations, increasing the monetary base from 100 in 2008 to 197 today.

In spite of record low interest rates and massive injection of liquidity, credit growths in all of these countries, the key indicator of the amount of funds that was able to leave the financial system and enter the real economy, have been absolutely dismal. If we set the pre-Lehman Shock level as 100, the US figure is 97 and the UK figure is 86 today. In the Eurozone, the credit stands at 102. These are shown in Exhibit 10. In other words, private sector credit in the West is either stagnant or shrinking after four years of astronomical monetary easing. In Japan, the private sector credit stands at 102 (1990=100) which is the same level as 22 years ago.

Stagnant or negative credit growth means the liquidity injected by the central banks could not enter the real economy to support private sector activities. It is no wonder that these economies are doing so poorly. None of these countries has experienced pickup in inflation rate either, with Japan still suffering occasionally from deflation.

Ten years ago, it was popular among Western economists to bash the Bank of Japan for not bringing real interest rates down with inflation or price targets. Today, both the UK and the US have negative real interest rates and positive inflation rates. But they still failed to keep the US and UK private sectors from deleveraging or keep the UK economy from falling into a serious double-dip recession.

The reason for this result is simple: private sectors in all of these countries are responding to the fall in *asset* prices, not consumer prices: as long as their balance sheets are underwater, they have no choice but to minimize debt. As long as the private sector is minimizing debt, therefore, there is no reason for the economy to respond to monetary easing, conventional or otherwise.

Fiscal stimulus is the only effective remedy

With monetary policy largely ineffective, the only policy left to keep the economy away from a deflational spiral in this type of recession is for the government to borrow and spend the unborrowed savings in the private sector. In other words, if the private sector firms and households cannot help themselves because they have no choice but to repair their balance sheets, the government, the only entity outside the fallacy of composition, must come to their rescue.

It is indeed with fiscal stimulus that Japan managed to maintain its GDP at or above the bubble peak for the entire post-1990 period in spite of massive corporate deleveraging and commercial real estate prices falling 87 percent nation-wide. This was shown in Exhibit 8. It was also with concerted fiscal stimulus implemented in 2009 that G20 countries managed to arrest the collapse of the world economy triggered by the Lehman Shock.

Put differently, it was the private sector rush to repair its balance sheets that caused the economic implosion. And the private sector had to repair its balance sheets because it realized that it was chasing wrong asset prices and that those prices will not come back anytime soon. The fact that the private sector was chasing wrong asset prices also means that the sector was grossly misallocating of resources during the bubble.

Far from being a necessary evil, therefore, government borrowing and spending becomes absolutely indispensible in saving the economy and helping the private sector recover from its own madness that created the bubble. More precisely, by borrowing and spending the unborrowed savings in the private sector, the government keeps the economy away from deflationary spiral. By keeping the GDP from shrinking, the government ensures that the private sector has the income to repair its balance sheets. Since asset prices never turn negative, as long as private sector has the income to repair its balance sheets, at some point, its balance sheets will be repaired. Once that point is reached and the private sector is ready to borrow money again, the government should embark on its balance sheet repair.

Although deficit spending is frequently associated with crowding out and misallocation of resources, during balance sheet recessions, the opposite is true. When the private sector is minimizing debt by deleveraging, government borrowing and spending causes no crowding out because the government is simply taking up the unborrowed savings in the private sector. The issue of misallocation of resources does not arise either because those resources not put to use by the government will go unemployed in this type of recessions which is the worst form of resource allocation.

Last but not least, the deficit spending by the government also helps maintain money supply from shrinking when the private sector is minimizing debt. This comes from the fact that money supply, which is the liability of the banking system, starts shrinking when the private sector as a whole starts paying down debt. This is because banks are unable to lend out the money paid back to them by the deleveraging borrowers when the entire private sector is deleveraging at the same time. During the Great Depression, the US money supply shrunk by over 30 percent from 1929 to 1933 mostly for this reason (85 percent due to deleveraging, 15 percent due to bank failures and withdraws related to failures.)

The post-1990 Japan managed to maintain its money supply from shrinking because the government was borrowing the deleveraged funds from the private sector (Exhibit 11). Post-1933 US money supply was also able to grow because the Roosevelt Administration had to finance its New Deal fiscal stimulus through borrowings (Exhibit 12).

All of the above suggest that deficit spending is not only absolutely essential in fighting balance sheet recessions, but also have minimal undesirable effects when the private sector is minimizing debt.

The cost of premature fiscal consolidation

Unfortunately, economics profession and policy makers in most countries are still stuck with the orthodox perception of deficit spending that are based on an implicit assumption that private sector balance sheets are clean and businesses and households are maximizing profits. Even though most people in the above named countries are aware of the large size of their budget deficits, 99.9 percent of them have no idea about the size of their private sector savings. As a result, everyone is talking about the size of the deficit and how bad it is, while no-one is talking about the onerous size of private sector savings. By not mentioning the size of private sector savings, the inference here is that the government is running a profligate fiscal policy without sufficient private savings. Although that was frequently true in the past, it is not at all true today.

Without checking to see whether their assumptions still hold, many deficit hawks are using emotional lines such as "we should not leave debt to our children" in their push for immediate fiscal consolidation. Their well-meaning but misguided effort to reduce the deficit, however, are prolonging the recession and making life difficult for everyone, especially the children. Many parents are unable to send their children to college because they themselves are unemployed, and many graduates are unable to find jobs because the economy is trapped in a fallacy of composition. Unemployment rate for the young people in Spain is already 50 percent. It is their future that is at stake if the current misguided effort for fiscal consolidation is continued.

Those economists who are insisting on fiscal austerity failed to note that it is the private sector that is totally out of whack, that public sector is only trying to save the economy from devastating fallacy of composition which businesses and households cannot disengage. The private sector is not supposed to increase savings or reduce debt at zero interest rates. But households and businesses today have no choice but to do so because their balance sheets are seriously underwater. This means any attempt to repair government finances is likely to fail without first repairing private sector balance sheets. And failed they have.

In 1997, the Japanese government under Prime Minister Ryutaro Hashimoto was told by the orthodox economists in the IMF and OECD to cut its budget deficit. The deficit reduction package with higher taxes and lower spending was supposed to reduce the deficit by 15 trillion yen or 3 percent of GDP. When the measure was implemented, the economy collapsed, recording five consecutive quarters of negative growth which also led to a massive banking crisis. The result was a sharp decline in tax receipts and a 16 trillion yen or 68 percent *increase* in the deficit which took Japan more than ten years to bring down (Exhibit 13.) A similar but more modest attempt at fiscal consolidation by Prime Minister Koizumi in 2001 also resulted in negative GDP growth, lower taxes and higher deficits. If these two mistakes were not made, Japan would have come out of its recession and deflation long ago.

Similar attempts by the UK and Spain since 2010 also resulted in severe double dip recessions. Recovery in the US brought about by President Obama's fiscal stimulus in 2009 also lost momentum starting in 2011 after a large portion of the stimulus was allowed to expire. These failures suggest that any attempt at austerity will fail and may actually leave the economy with more public debt instead of less if the private sector is in the midst of the debt minimization.

Anyone can implement fiscal austerity if he has the votes or power. But whether such efforts will actually succeed in reducing the deficit is an entirely different matter. The above examples indicate that fiscal consolidation will succeed only if the private sector is healthy financially and is willing to borrow the funds left unborrowed by the government.

Importance of the role of persuasion

The challenge now is how to maintain fiscal stimulus until private sector deleveraging is completed. It is a challenge because average citizens do not understand why the government should not be balancing its budget when the households and businesses are all forced to do so. They do not realize that if the private sector as a whole is saving money, the public sector must be borrowing and spending money to keep the economy going. Instead, they demand fiscal consolidation as soon as visible "crisis" is over, which is the case in most Western countries today. Their well-meaning but premature demands for austerity are lengthening recessions in all of these economies.

Because this type of recession, now known as "balance sheet recession", was never taught in schools, the leader of a country facing one must explain to the people that the government must borrow the unborrowed savings in the private sector not only to keep the economy from imploding, but also to provide income for the private sector so that it can repair its balance sheets. He must explain that, in this rare type of recession, the government should embark on fiscal consolidation only after the private sector has finished repairing its balance sheets and is willing to borrow money again.

This is no easy task. Indeed such an attempt is likely to result in a huge backlash from orthodox economists who cannot accept the fact that private sector may be minimizing debt. But until the concept of balance sheet recessions is in everyone's textbooks, the leaders of affected countries have no choice but to persuade the public, including bond market participants, that the economy is afflicted with an unusual disease requiring unusual treatment. Failure to do so will mean longer recessions, larger public debt and reduced opportunity for everyone, including children.

It is hoped, therefore, that every effort is made to maintain fiscal stimulus in those economies suffering from balance sheet recessions until their private sectors are ready to borrow again. Even though that may mean a larger deficit up front, by ending the balance sheet recession sooner, such effort will result in a smaller total debt compared with a scenario where stingy governments or premature fiscal consolidations ended up lengthening the recessions.

The textbook world and the world of balance sheet recessions

The fact that the effectiveness of both fiscal and monetary policies are completely reversed in the world where private sector is minimizing debt compared with the world where the private sector is maximizing profits suggests that there are actually two phases to macroeconomics, the normal or textbook world and the world of balance sheet recessions.

The two phases may be called Yin (shadow or moon in Chinese) for the world of balance sheet recessions and Yang (light or sun) for the normal or textbook world. In a Yang economy, private-sector balance sheets are healthy and businesses seek to maximize profits. In such a world, the smaller and less intrusive government is, the better it is for the economy. Having a forward-looking corporate sector with a strong appetite for funds also means that monetary policy is highly effective. Fiscal policy, on the other hand, should be avoided because of its potential to crowd out private investment. In the Yang phase, therefore, monetary policy should be the main tool of economic policymakers.

But the situation is reversed in a Yin economy. During this phase, private-sector firms have sustained damage to their balance sheets as a result of the fall in asset prices and are therefore focused on shoring up their balance sheets by minimizing their liabilities. With a large number of firms trying to minimize debt all at the same time, a fallacy of composition problem sets in, as noted earlier, and the economy heads toward a contractionary equilibrium known as a depression.

In this phase, monetary policy is ineffective because firms are all rushing to pay down debt and private sector demand for funds is essentially nonexistent. Since the government cannot tell companies not to repair their balance sheets, all it can do is to do the opposite of what the private sector is doing. In other words, it has to borrow and spend the savings generated by the private sector so that household savings and corporate debt repayments can be returned to the income stream. Fiscal policy therefore becomes absolutely essential. During this phase, there is also no danger of crowding out because the private sector will be paying down debt instead of borrowing money to invest.

The key difference between Yin and Yang phases is the financial health of the private sector. In a Yang economy, private-sector balance sheets are strong, asset prices are high, and businesses enjoy solid credit ratings. These conditions drive companies to take risks to expand operations and maximize profits. As long as businesses are maximizing profits, Adam Smith's "invisible hand" guides the economy towards prosperity and growth.

But in the Yin phase, the private sector's financial health is impaired. If the government does not offer help in the form of fiscal spending to return unborrowed private-sector savings to the income stream, the invisible hand will work to push the economy into a deflationary spiral until either the private sector becomes too poor to save or the private sector debt overhang is removed. Without removing the debt overhang, however, the economy can never hope to return to the Yang phase.

It should be noted that the Yin phase need not necessarily mean slower economic growth or depressed asset prices. It all depends on whether economic policies are matched to the needs of that phase. If the government consistently applies an appropriately sized fiscal stimulus, the economy can continue to grow and asset prices can rise (albeit from a low base). Similarly, even in the Yang phase the economy and asset prices can do poorly if the government persists in running large budget deficits, pushing interest rates higher and crowding out private investment.

Since the Yin and Yang phases of a cycle will span years if not decades, the usual cyclical or inventory-driven business cycles will coexist within the Yin-Yang cycles.

The length of time that it takes for an economy to come out of the Yin phase and enter the Yang phase will depend on how fast private sector manages to repair its balance sheets and how fast households and businesses manage to overcome their aversion to debt. Unfortunately, there are few historical guidelines to indicate how long this aversion is likely to last.

One precedent is provided by the Great Depression of 1929 and its aftermath. The fact that it took US interest rates thirty years (until 1959) to return to the average level of the 1920s (4.1% for both short- and long-term rates) suggests that the aversion to debt can persist for an extended period of time (Exhibit 14.) With interest rates remaining so low for so long in spite of massive fiscal expenditures for the New Deal, World War II, and the Korean conflict suggests that the offsetting fall in private-sector demand for funds must have been very large. Although there was an Accord between the Federal Reserve and the Treasury to keep long-term rates at 2.1 percent until 1951, even in 1952 the average long bond yield was only 2.65 percent, which implies that the market rate was probably not that different from the administered rate under the agreement.

The mistake of applying Yang tools to a Yin world

The economics being taught in our universities today is based entirely on the assumption that the economy is in a Yang phase. Consequently, most policy recommendations from economists presume that firms are forward-looking and trying to maximize profits. The recommended response to a recession therefore almost always consists of a more activist monetary policy and reductions in the fiscal deficit to prevent crowding-out. Structural reforms aimed at reducing the size of government are also policies for a Yang world. But monetary policy is ineffective when there are no private-sector borrowers, and attempts to reduce the budget deficit will only hurt the economy and increase the deficit if the economy happens to be in the Yin phase.

In 1997, as mentioned earlier, fiscal retrenchment was pushed by conventionally minded economists at the IMF and OECD and by Japan's own Ministry of Finance with disastrous results. At that time, however, officials at the Ministry of Finance and many conventionally-minded economists argued—based on principles applying only in the Yang phase—that large budget deficits would push interest rates sharply higher.

But the facts tell a very different story. In April 1997, when the Hashimoto administration embarked on its contractionary fiscal policy, the yield on the 10-year government bond stood at 2.3%; it subsequently dropped below 0.8% as the budget deficit subsequently increased by 68 percent to ¥38 trillion. In other words, Hashimoto's fiscal retrenchment caused two phenomena unthinkable in a Yang world—a much larger budget deficit and a sharply lower government bond yield—because the economy was falling deeper into a Yin phase.

What is important is to recognize which phase the economy is in and then implement economic policies tailored to that phase. Indeed, the time it takes for an economy to pull itself out of a Yin phase may well depend on how quickly people discard their Yang perceptions and adopt policies suitable for a Yin world.

This is not as easy as it sounds, because most people tend to regard smaller government and self-reliance on the part of the private sector as universally correct precepts that are applicable under all circumstances. They do so not only because these principles seem correct but also because they are associated with the rapid economic growth and prosperity typical of Yang phases. But the truth of the matter is that the economy prospered under smaller government because it was already in a Yang phase with healthy private sector balance sheets.

Further, it is difficult for ordinary people to see that recessions or liquidity traps are a result of everyone paying down debt at the same time. At the individual level, as mentioned earlier, people are doing the right thing by trying to repair their balance sheets, and they quite naturally believe that if everyone else does the same right thing the economy will improve.

The waters are muddied even further when pundits and members of the media start to argue that the effect of a recession on businesses depends on their own efforts. They argue that since there are winners and losers even in recessions, losers can become winners—thus pulling the economy out of recession—if only they try as hard as the winners.

But regardless of the efforts made by individual businesses, leakages in the economy's income stream (=shrinkage of the pie) will continue as long as private sector as a whole is saving money. Ironically, the harder companies work to fix their balance sheets, the more aggregate demand will fall and the sicker the economy will grow. Under such conditions, both winners and losers are competing for a share of a dwindling pie, and no efforts on their part will increase the size of that pie.

Similarly, many pundits have argued that things will improve if only the private sector helps itself without relying on the government. This is the correct argument to make during a Yang phase, but it is a terrible mistake in a Yin phase. Of course it is important for companies to "help themselves" whatever phase the economy is in. But when self-help involves minimizing debt, the broader economy will fall into a deflationary spiral unless the government steps in to plug the deflationary gap.

The combination of a natural desire at businesses experiencing balance sheet problems to keep their difficulties a secret and conventional economic theory's lack of consideration for a balance sheet recession created a situation in which most government officials and members of the media did not realize the primary cause of the recession. This misunderstanding drove the opinion leaders to call for orthodox (i.e., Yang-based) monetary accommodation, which put tremendous pressure on central banks, and fiscal retrenchment, which put pressures on political leaders to cut deficits. These misguided pressures are delaying the recovery of economies suffering from balance sheet recessions.

In this situation, someone with a macroeconomic perspective must stand up and point out to the public that the economy is mired in a fallacy of composition and that an agent standing outside this fallacy, namely the government, must offset the actions of the private sector. That person must make it clear that the adoption of policies designed for a Yang phase will worsen the economy and increase the ultimate damage, as in 1997 when the Hashimoto government embarked on its policy of fiscal retrenchment.

Interestingly, Keynesians made similar mistakes in the opposite direction in the 1950s and 1960s. Not realizing that their policy recommendations were valid only during a Yin phase, they tried to fine-tune major economies using fiscal policy. But their efforts only resulted in more inflation, misallocation of resources and higher interest rates because those economies were already in the Yang phase. Keynesian policy, so highly touted after the Great Depression, gradually lost credibility, and fiscal stimulus itself came to be shunned.

The pros and cons of balanced budget arguments

The adoption of Yang policies like fiscal retrenchment during a Yin phase and the adoption of Yin policies such as aggressive fiscal stimulus during a Yang phase will both harm the economy. However, the former mistake has the potential to inflict far greater damage. Whereas Yin policies during a Yang phase can bring about inflation, high interest rates, and inefficient resource allocation, Yang policies during a Yin phase can lead to massive unemployment and plunge the economy into depression. Because the effect is not symmetric, it is better to err on the side of too much fiscal stimulus during the Yin phase than on the side of too little stimulus.

Still, fiscal consolidation and a balanced budget find a receptive audience in any era, particularly when the government is running large budget deficits. Over the years this has led policymakers in many nations to adopt fiscal consolidation policies at inopportune moments, with tragic consequences. It was US President Herbert Hoover's faith in balanced budgets that sent the global economy over the precipice into depression. Heinrich Brüning, the German chancellor at the time, was also an advocate of balanced budgets, and under his leadership an already-weak German economy soon collapsed.

This double failure of economic policy in the United States and Germany helped to lay the foundations for the rise to power of men like Hitler, who under ordinary circumstances would never have been elected.

Aggravating the situation was the fact that Hitler proceeded to implement precisely the kind of aggressive fiscal policy that Germany needed to deal with the extreme Yin phase it found itself in. His policies succeeded beyond his wildest dreams as unemployment went down from almost 30% in 1933 to just 2% in 1938 (Exhibit 15). That success elevated him to godlike status, especially in relation to surrounding democracies that were still beholden to the Yang mentality and were unable to reduce massive unemployment. Hitler soon grew overconfident and launched the conflict that would become World War II, the greatest tragedy in human history.

In the United States, the public works projects launched under the New Deal finally sparked a recovery. But even Roosevelt was not immune to the charms of the balanced-budget proponents, and in 1937 he reversed course by announcing a fiscal retrenchment. The United States quickly fell into a severe recession that widened the economic gap with Germany. Roosevelt had defeated Hoover in 1932 with a platform calling for fiscal consolidation and until his 1937 failure was not a proponent of aggressive fiscal stimulus. So the events of 1937 were good in the sense that they alerted Roosevelt to the importance of fiscal policy. At the same time, however, the US economic retreat made Hitler even more confident.

What these events suggest is that complacence in the warm glow of fiscal consolidation and balanced budgets can lead to major tragedies. In this case, the tragedy was multiplied because a dictator with a wrong agenda adopted fiscal policies matched to the Yin phase. British economist Joan Robinson famously stated that "I do not regard the Keynesian revolution as a great intellectual triumph. On the contrary, it was a tragedy because it came so late. Hitler had already found how to cure unemployment before Keynes had finished explaining why it occurred." This danger persists even today.

Economic historians would do well to study the question of which policy mistake—profligate fiscal policy or a dogged insistence on balancing the budget, as seen in Depression-era Germany and the United States—has had more severe repercussions. While such an examination is beyond the scope of this paper, the likely outcome would be that no matter how large the budget deficit, the fallout from heavy spending is generally limited to higher interest rates and crowding-out of private investment *as long as there is a strong and disciplined central bank*. Once the central bank bows to the government's pressure and undertakes actions that cause it to lose the public's trust, however, tragedy awaits.

During the Reagan years in the United States and over the past fifteen years in Japan, proponents of fiscal consolidation warned almost continuously that the nation was on the road to fiscal ruin. In the end, of course, nothing of the sort happened. The reason is that central banks in both countries did not bow to government pressure and steadfastly maintained policies deserving of the people's trust.

Still, many economists have spent the last fifteen years claiming with no real basis that Japan is on the brink of national bankruptcy and demanding that the government rein in spending and raise taxes. At the same time they have recommended the kind of drastic monetary accommodation that would make a central bank appear irresponsible in anyone's eyes. Such prescriptions totally ignore the lessons of history, which teaches that only fiscal policy is effective during a Yin phase, and that heavy fiscal stimulus will not lead to major problems as long as the central bank administers monetary policy responsibly.

Their misguided recommendations are based on two articles of blind faith. One is the prophecy of imminent fiscal ruin; the other, the belief that greater liquidity will everywhere and always boost the economy.

The latter article assumes that net private-sector loan demand is positive which is simply not true today. The former has little theoretical support—the British economy did not collapse in 1945 despite a fiscal deficit amounting to 250% of GDP. And many pundits have been proclaiming for over a decade that Japan's large fiscal deficit will cause interest rates to surge. In fact, interest rates have *fallen* despite a steadily expanding fiscal deficit and public debt for the simple reason that businesses were rushing to pay down debt even faster and the resulting surplus of private-sector savings had no place to go except to the government, which was the last borrower standing.

Economists' susceptibility to preconceptions and articles of faith with little theoretical backing reflects their discipline's short history. Recent experiences however, have shown that fiscal retrenchment and monetary easing will have the expected effect in a Yang economy but the opposite effect during a Yin phase. Similarly, the proactive fiscal policy proposed by the Keynesians who once constituted the mainstream of economic thought will produce the expected effect in a Yin economy but the opposite effect during a Yang phase. Most importantly, the recent experience, starting with those in post-1990 Japan, clearly demonstrated that neither monetary nor fiscal policy is in itself all-powerful.

The negative legacy of the Keynesian revolution

Post-1990 recession in Japan and post-2008 recession in the West were both caused by a lack of borrowers and not lenders. Adding the central banks as another lender simply worsened the already serious overcrowding of lenders, with unfortunate consequences for the profitability of a banking sector that had already been badly weakened by the massive fall in asset prices.

Other economists who recognized the limitations described above began saying the Bank of Japan should buy up everything from fighter planes to tomato ketchup. But the authority to buy fighter planes and ketchup lies not with the central bank but with the government because such decisions directly affect resource allocation within the economy. This power is called fiscal policy. The closer one examines the claims of these economists, the more evidence one finds that during a balance sheet recession monetary policy is ineffective and fiscal policy effective.

On the other hand, the Japanese and the recent experience with the West have also exposed serious flaws in the analytical framework of Keynes and his followers, who failed to consider balance sheets when formulating their theory. Like the monetarists and neoclassical economists, they missed the possibility that businesses could be minimizing debt instead of maximizing profits. Keynes, who continued to assume that firms always maximize profits, had to argue that it was a decline in the marginal efficiency of capital that induced corporations to stop investing. But he never offered a convincing explanation of why the marginal efficiency of capital should suddenly fall.

Keynes also argued that monetary policy is ineffective at low interest rates because people shift out of bonds and into cash, expressing what he called the liquidity preference. But the fact that the concept is based on a lender's perspective suggests that Keynes overlooked the possibility that balance sheet problems at borrowers could cause demand for funds to vanish.

Further, Keynes failed to offer any explanation as to why an economy that until a short while before had been responding so well to monetary policy should suddenly cease to do so. Like the monetarists and neoclassical economists, he failed to see that the liquidity trap was a *borrowers'* phenomenon. Perhaps this was because Keynes himself was a wealthy man and did not have to worry about debt.

Even though Keynes got the solution to a balance sheet recession correct—deficit spending by the government—the logic that he put forward was in terms of the multiplier and the marginal disutility of labor for the long-term unemployed. He was not arguing for deficit spending as an offset to private sector debt minimization.

His postwar followers, the Keynesians, had even less reason to worry about balance sheet problems because no economy experienced a balance sheet recession until Japan in 1990. As a result, the viewpoint of repairing balance sheets is conspicuously absent from the analyses of Keynes and his followers. In that sense, Keynesian theory as it stands is critically incomplete because it fails to see private sector debt minimization as the driving force behind the economic problem it has tried to explain and solve. Private sector debt minimization is the long-overlooked micro-foundation of Keynesian macroeconomics.

Further, the absence of this foundation has forced Keynesians to rely on wage and other rigidities to explain unemployment and recessions. In effect, they have had to argue that unemployment results when aggregate demand falls faster than wages. The concept of price stickiness was also adopted by the neoclassical economists from the 1970s. They, too, struggled to make their theories confirm more closely to reality, and their efforts to incorporate price rigidities came to be known as the New Keynesian School that emerged at the start of the 1990s.

When firms are minimizing debt, however, no wage or price rigidities are needed to produce prolonged recessions and unemployment, since the leakage from the income stream created by private sector deleveraging will continuously reduce aggregate demand until either private sector financial health is restored or the private sector as a whole has become too poor to save any money.

By incorporating the balance sheet recession into the Keynesian analysis of aggregate demand, it is now possible to explain why a robust economy suddenly stalls following a crash in asset prices and what kind of mechanism is involved in the emergence of a liquidity trap. In effect, the Keynesian revolution becomes theoretically complete with the incorporation of problems with balance sheets prompting private sector to minimize debt.

If Keynes had recognized balance sheet concerns at businesses and households as the main cause of the Great Depression and had indicated in 1936 that fiscal stimulus should be used *only* when the private sector is paying down debt, his followers in the 1950s and 1960s would not have pushed for active fiscal policies. That in turn would have preserved the credibility of deficit spending as the key policy tool for fighting a balance sheet recession all the way to the 1990s. Unfortunately, that is not how history unfolded, and precious time and energy were wasted in Japan and more recently in the West attempting monetarist and structuralist remedies when the actual problem was to be found in balance sheets.

Towards a synthesis of economic theory

The possibility that otherwise healthy firms may minimize debt when faced with daunting balance sheet problems has been the critical missing link in economics, and its absence has prevented the synthesis of many important macroeconomic ideas. Because of its absence, economists have had to rely on such gimmicks as price stickiness and downward rigidities in order to explain longer-term recessions and unemployment.

By incorporating the possibility of private sector debt minimization and drawing a clear distinction between ordinary and balance sheet recessions, neoclassical, monetarist, Keynesian, and New Keynesian ideas can all be integrated into a truly comprehensive macroeconomic theory for the first time. In a normal or Yang phase, where businesses have healthy balance sheets and are maximizing profits, private-sector loan demand is robust and responsive to changes in interest rates. In such a world, monetary policy should be the main tool for reducing fluctuations in economic activity. Fiscal stimulus should be avoided because it leads to crowding-out, inflation, and rising interest rates and can interfere with the optimal allocation of resources. In the Yang phase, upon which the theories of the neoclassicals, monetarists, and New Keynesians are all based, smaller government is better.

But every several decades private sector loses its mind and discipline in a nationwide asset price bubble. When that bubble bursts, private sector balance sheets sustain heavy damage, and businesses move collectively to minimize debt. Demand for funds drops off sharply and aggregate demand contracts, sending the economy into deflationary spiral and generating liquidity trap. Under such circumstances no amount of central bank easing will provoke a response from the private sector. Furthermore, both the money supply and income come to depend on the sole remaining borrower—the government—and Keynesian fiscal stimulus becomes essential. During the Yin phase, therefore, the bigger and more proactive the government, the better (at the very least it must be large enough to fill the deflationary gap). Keynes, who wrote his *General Theory* during the midst of the Great Depression, was unable to free himself completely from the mindset of a Yang world even though he was trying to explain a Yin world, and as a result his theoretical edifice was unfinished. This is also why his theory was abused during the Yang phase that followed after 1945.

Balance sheet recession as the other-half of macroeconomics

The clear symmetry between the world of profit maximization and debt minimization on the one hand and the effectiveness of monetary and fiscal policy on the other means that this is really a dual problem and that the two phases should have been studied as a pair from the very beginning of economics. Private sector debt minimization was not just the micro-foundation of Keynesian economics, but the long-overlooked "other half" of macroeconomics. With the two finally together, we now have a complete “General Theory” covering both the textbook world and the world of balance sheet recessions. The two halves of general macroeconomics are summarized in Exhibit 16.

Until now, private sector profit maximization and debt minimization have never been recognized as a dual problem because the latter can be observed only after a nationwide asset price bubble bursts. Now post-1990 Japan and post-2008 West have brought the two parts of the problem together for everyone to see.

Many mainstream economists may still find resistance to accepting this conclusion. But someday—perhaps several years from now, perhaps longer—this is how we will think about the economy. Only then will the world finally appreciate the significance of Japan’s long and painful experiment.

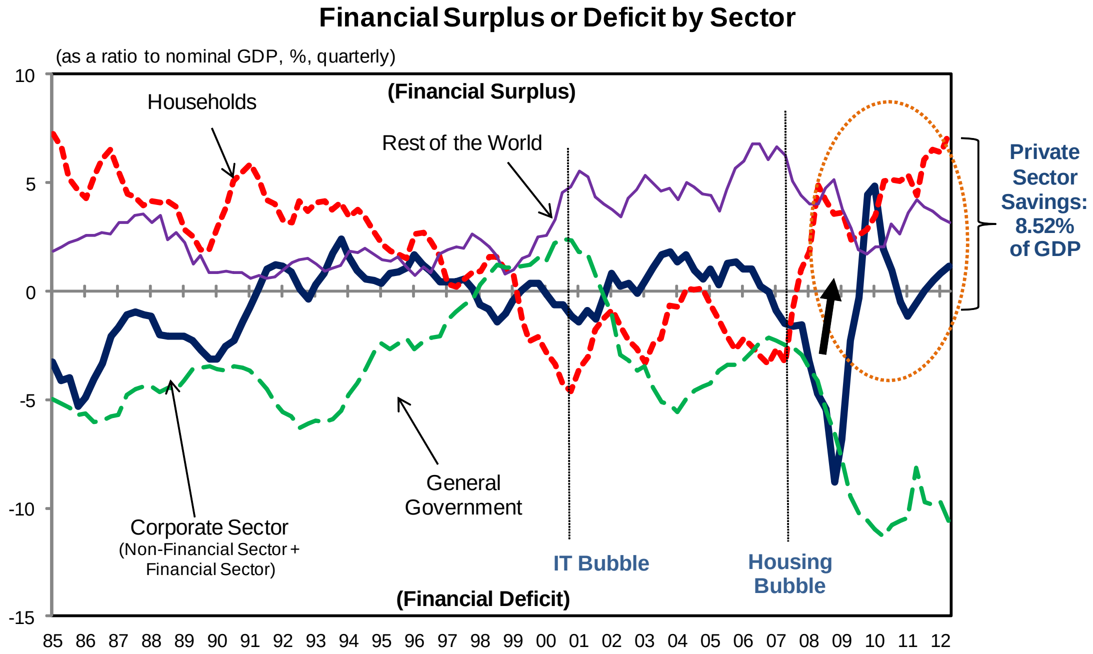
This synthesis will also have major implications for future economic analysis. The next time a country experiences a recession that proves unresponsive to monetary policy, economists will quickly consider the possibility that businesses have shifted from profit maximization to debt minimization and will not hesitate to recommend the use of fiscal policy if they confirm that this is the case.

Of course recessions seldom fall entirely into one category or the other; usually they contain elements of both. In an ideal world, the mix of fiscal and monetary policies should be determined by the degree to which the recession is brought about by balance sheet or cyclical factors. Unfortunately, the fact that firms with balance sheet problems typically hide them from the public makes such precise determination very difficult.

One can still get some idea of the key driver of a recession, however, by observing private-sector fund demand and interest rates. If the economy is in a normal, or Yang, world, a normal level of interest rates will be accompanied by robust fund demand, with the latter responding quickly to changes in the former. If the economy is in a balance sheet recession, or Yin, world, exceptionally low interest rates will be accompanied by very weak fund demand, with the latter hardly responding to changes in the former.

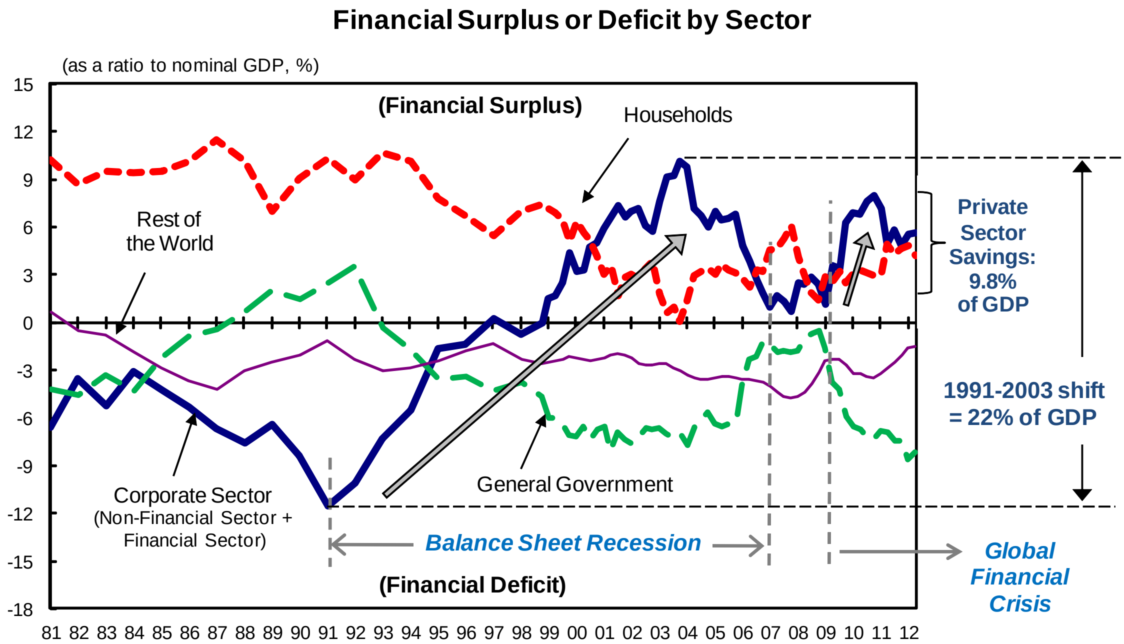
In the former case, where the economic bottleneck is on the side of lenders, the central bank can and must ease the constraint by lowering interest rates and adding liquidity. In the latter case, where the economic bottleneck is with the borrowers, many of whom are minimizing debt, only the government can return the excess savings to the income stream.

Exhibit 1. US in Balance Sheet Recession: US Private Sector Increased Savings Significantly after the Bubble



Note: All entries are four-quarter moving averages. For the latest figures, four-quarter averages ending with 2Q/'12 are used.
Sources: FRB, US Department of Commerce

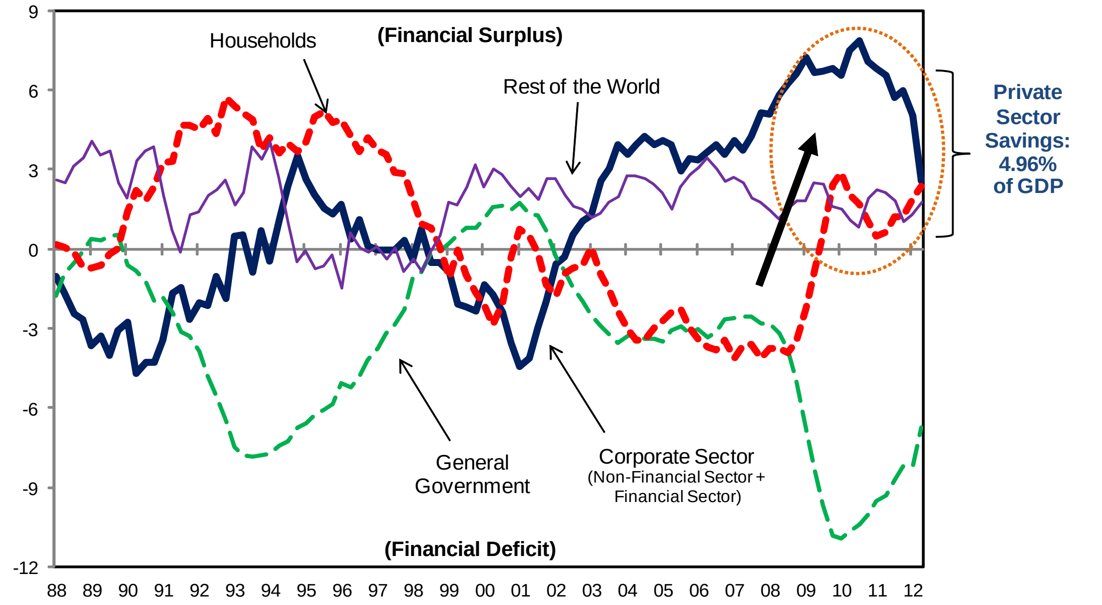
Exhibit 2. Japanese Corporates Increased Savings again after Lehman



Note: All entries are four-quarter moving averages. For the latest figures, four-quarter averages ending with 2Q/'12 are used.
Sources: Bank of Japan, *Flow of Funds Accounts*, and Government of Japan, Cabinet Office, *National Accounts*

Exhibit 3. UK in Balance Sheet Recession: UK Private Sector Increased Savings Significantly after the Bubble

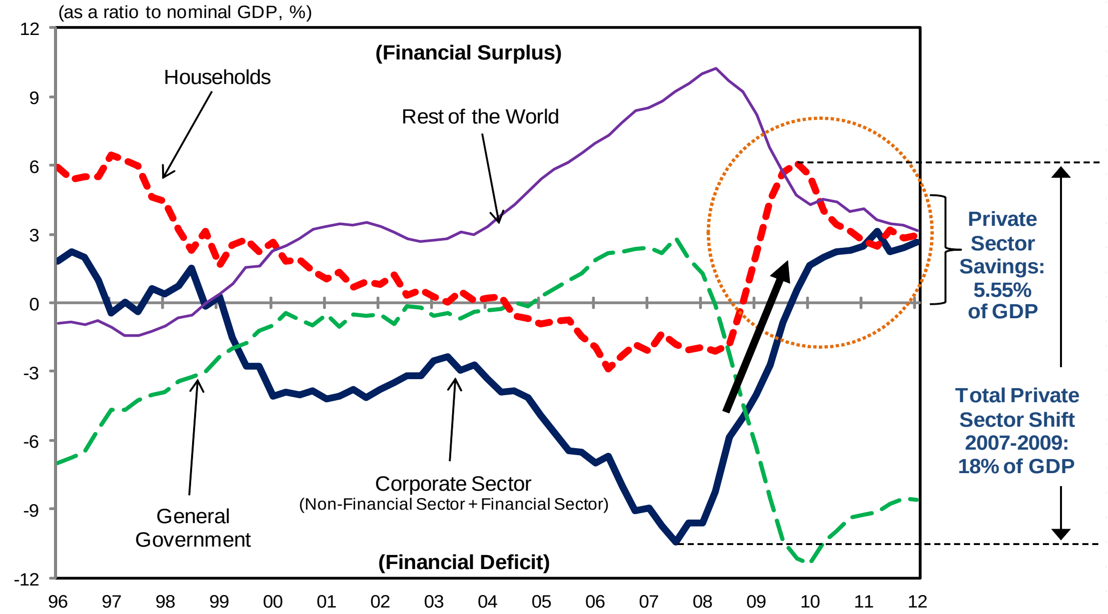
Financial Surplus or Deficit by Sector



Note: All entries are four-quarter moving averages. For the latest figures, four-quarter averages ending with 2Q/'12 are used.
Source: Office for National Statistics, UK

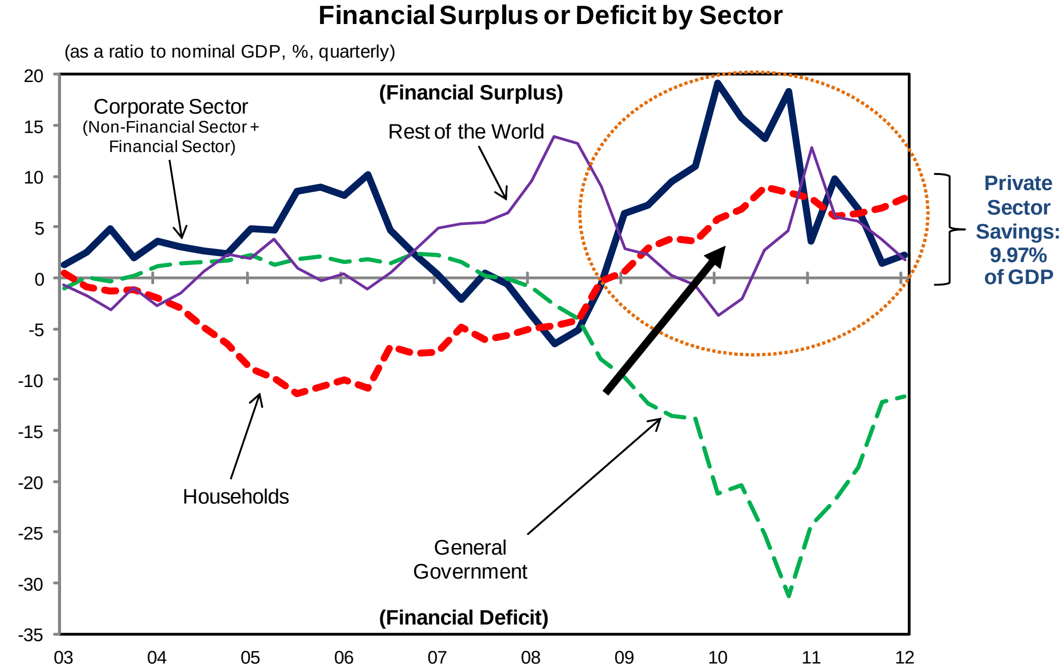
Exhibit 4. Spain in Balance Sheet Recession: Spanish Private Sector Increased Savings Significantly after the Bubble

Financial Surplus or Deficit by Sector



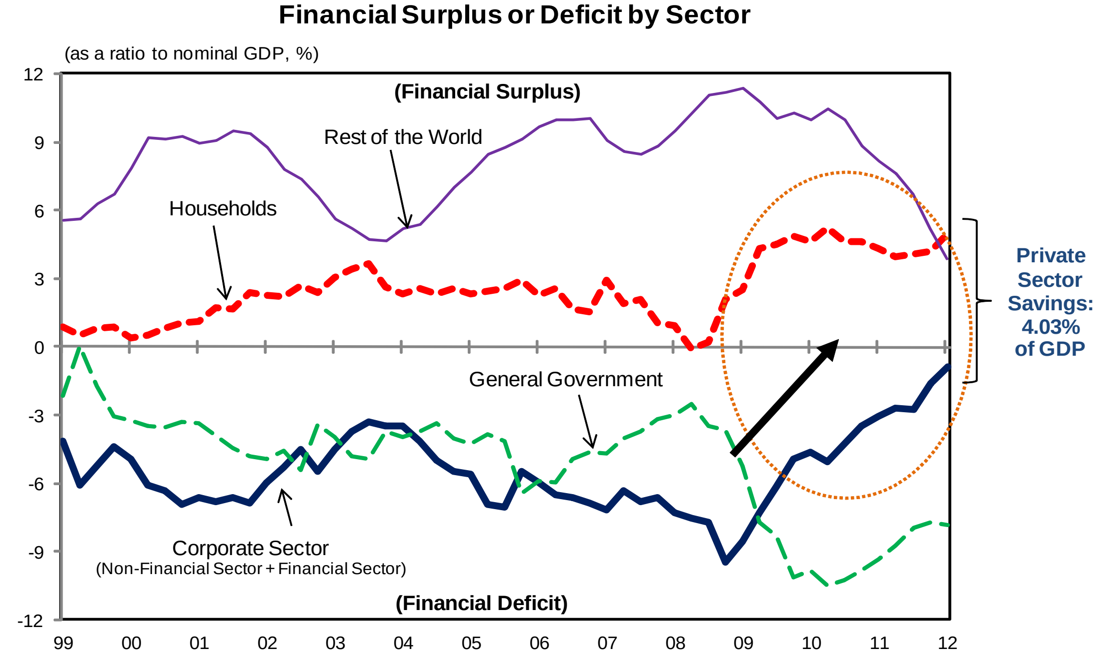
Note: All entries are four-quarter moving averages. For the latest figures, four-quarter averages ending with 1Q/'12 are used.
Source: Banco de España

Exhibit 5. Ireland in Balance Sheet Recession: Irish Private Sector Increased Savings Significantly after the Bubble



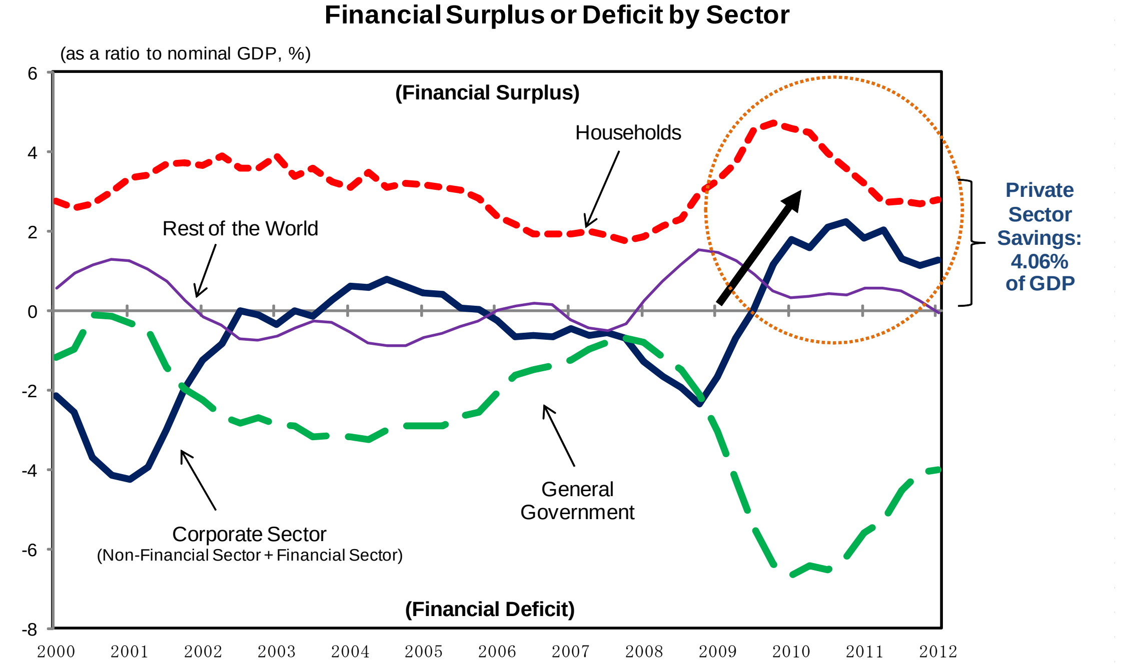
Note: All entries are four-quarter moving averages. For the latest figures, four-quarter averages ending with 1Q/'12 are used.
Sources: The Central Bank of Ireland and Central Statistics Office, Ireland

Exhibit 6. Portugal in Balance Sheet Recession: Portuguese Private Sector Increased Savings Significantly after the Bubble



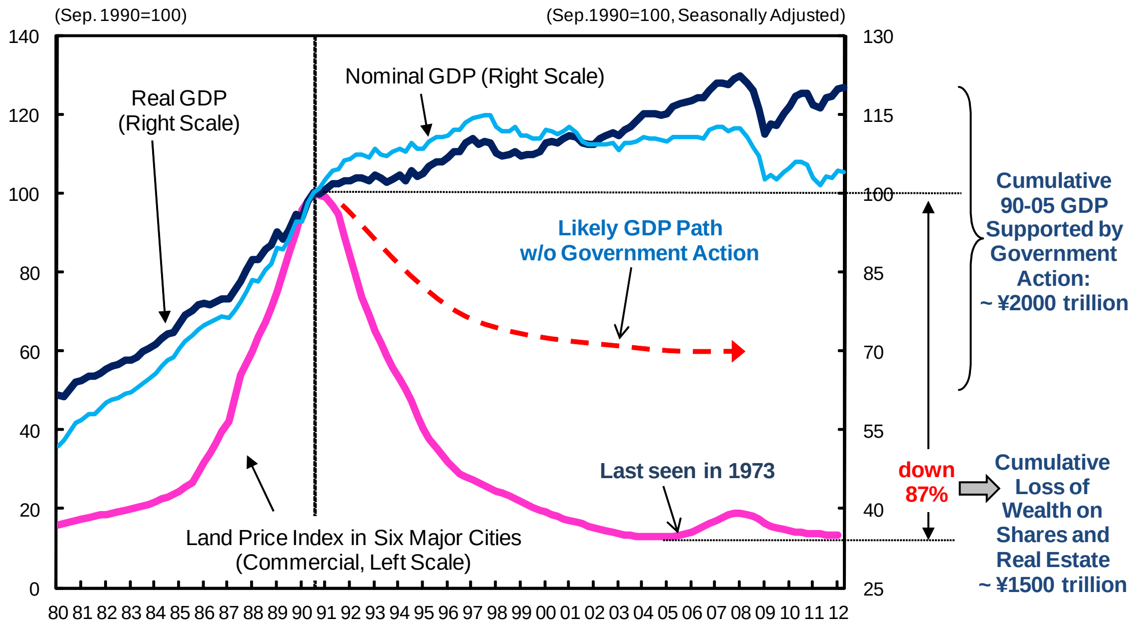
Note: All entries are four-quarter moving averages. For the latest figures, four-quarter averages ending with 1Q/'12 are used.
Source: Banco de Portugal

Exhibit 7. Eurozone in Balance Sheet Recession: Eurozone Private Sector Increased Savings Significantly after the Bubble



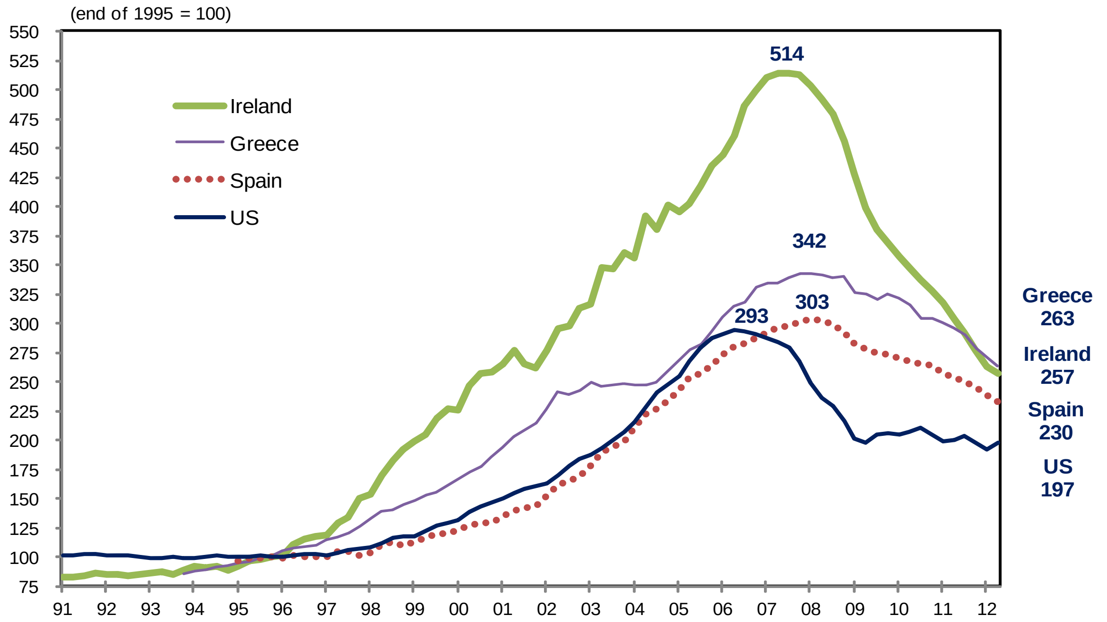
Note: All entries are four-quarter moving averages. For the latest figures, four-quarter averages ending with 1Q/'12 are used.
Source: ECB

Exhibit 8. Japan's GDP Grew in spite of Major Loss of Wealth and Private Sector De-leveraging



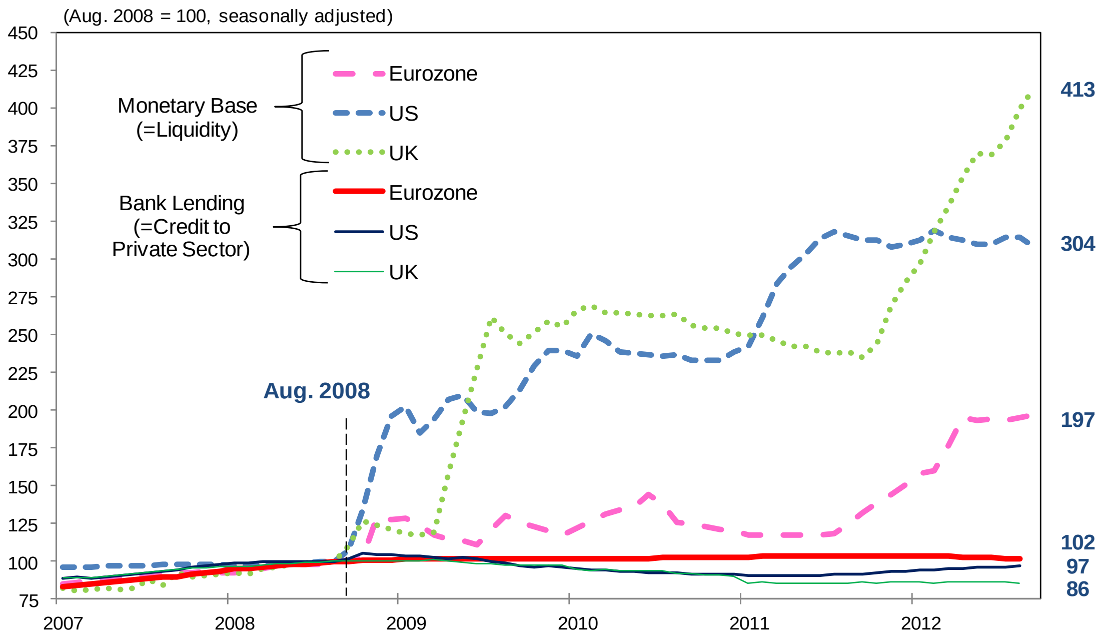
Sources: Cabinet Office, Japan Real Estate Institute

Exhibit 9. Bursting of Housing Bubbles on both Sides of Atlantic Caused the Crisis



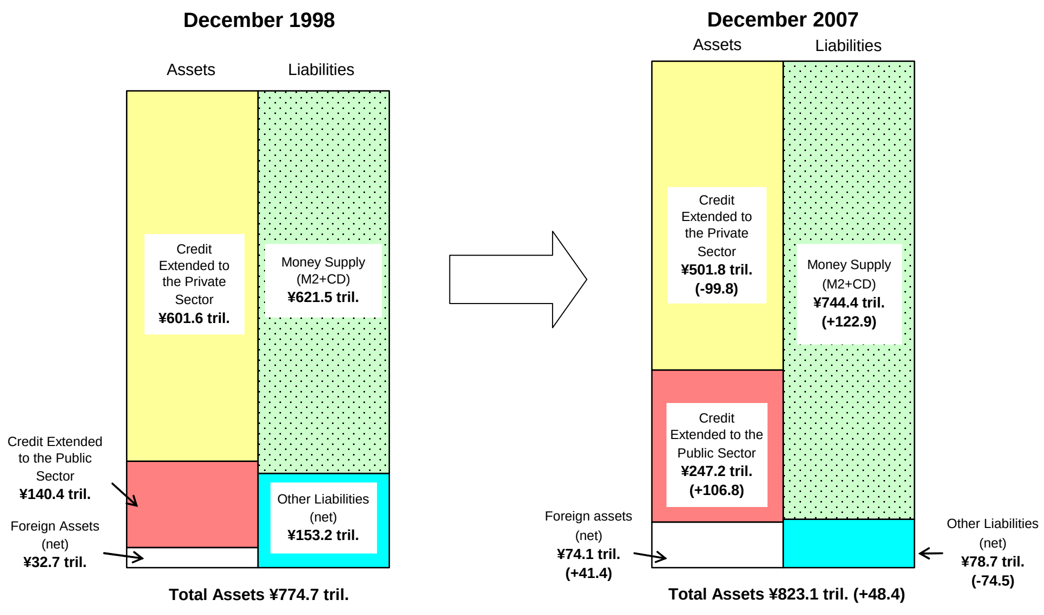
Notes: Ireland's figures before 2005 are existing house prices only. Greece's figures are flats' prices in Athens and Thessaloniki. Germany's latest figure is estimated from the house price index of Europace AG.
Source: Nomura Research Institute, calculated from BIS, S&P and Europace AG data.

Exhibit 10. Massive Quantitative Easings Failed to Increase Credit to the Private Sector



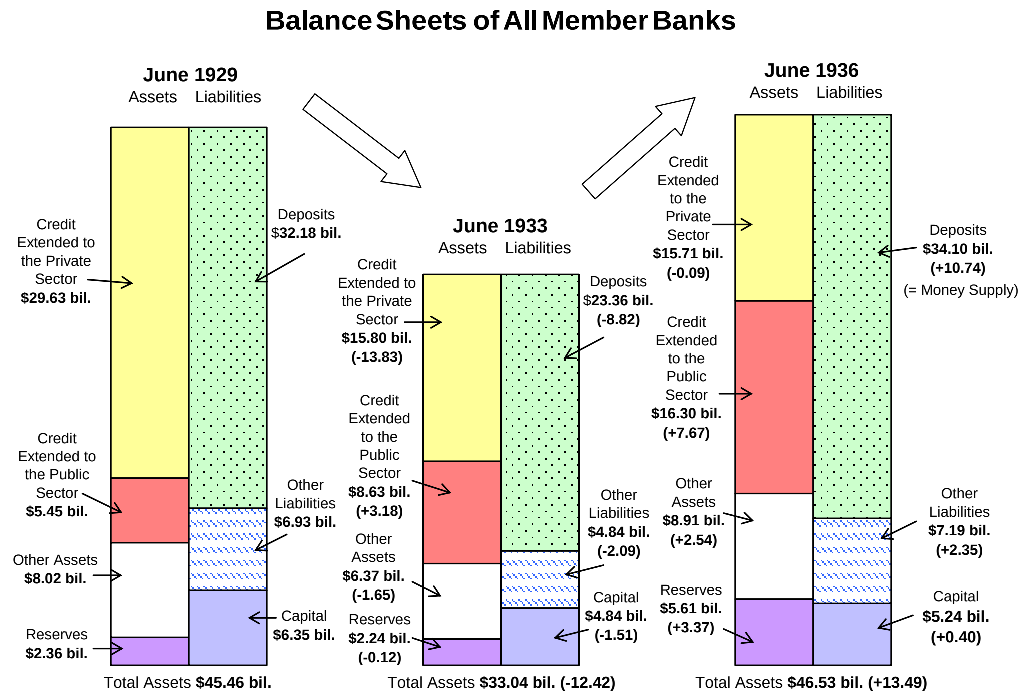
Notes: 1. UK's reserve balances data are seasonally unadjusted.
2. UK's bank lending data exclude intermmediate financial institutions.
3. Base money's figures of Eurozone are seasonally adjusted by Nomura Research Institute.
Source: Nomura Research Institute, based on FRB, ECB and Bank of England data.

Exhibit 11. Monetary Easing No Substitute for Fiscal Stimulus (I): Japan's Money Supply Has Been Kept Up by Government Borrowings



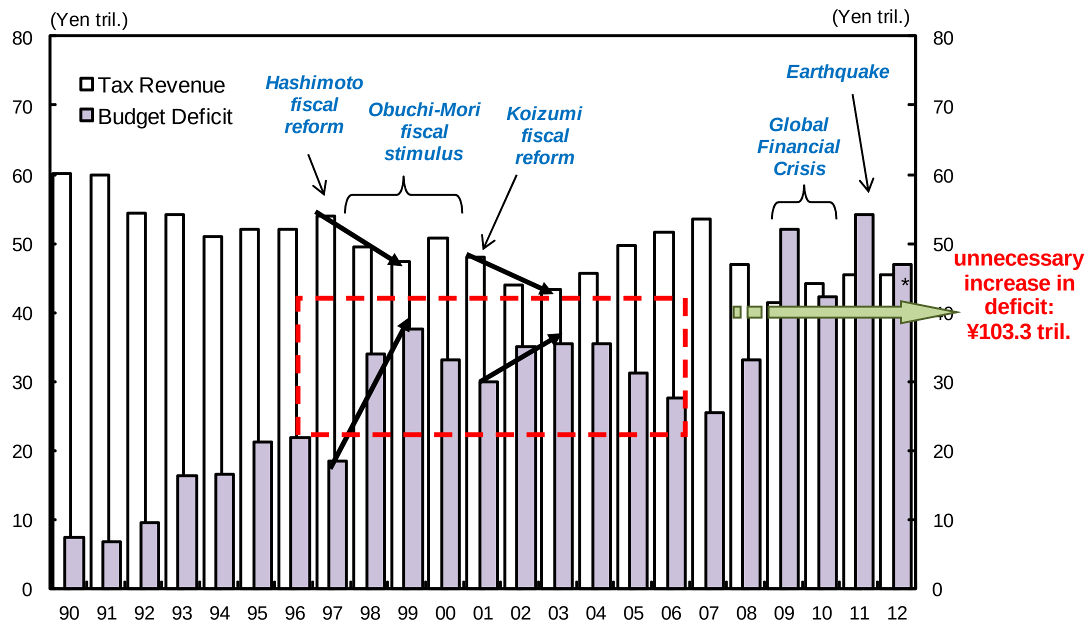
Source: Bank of Japan "Monetary Survey"

Exhibit 12. Monetary Easing No Substitute for Fiscal Stimulus (II): Post-1933 US Money Supply Growth Made Possible by New Deal Borrowings



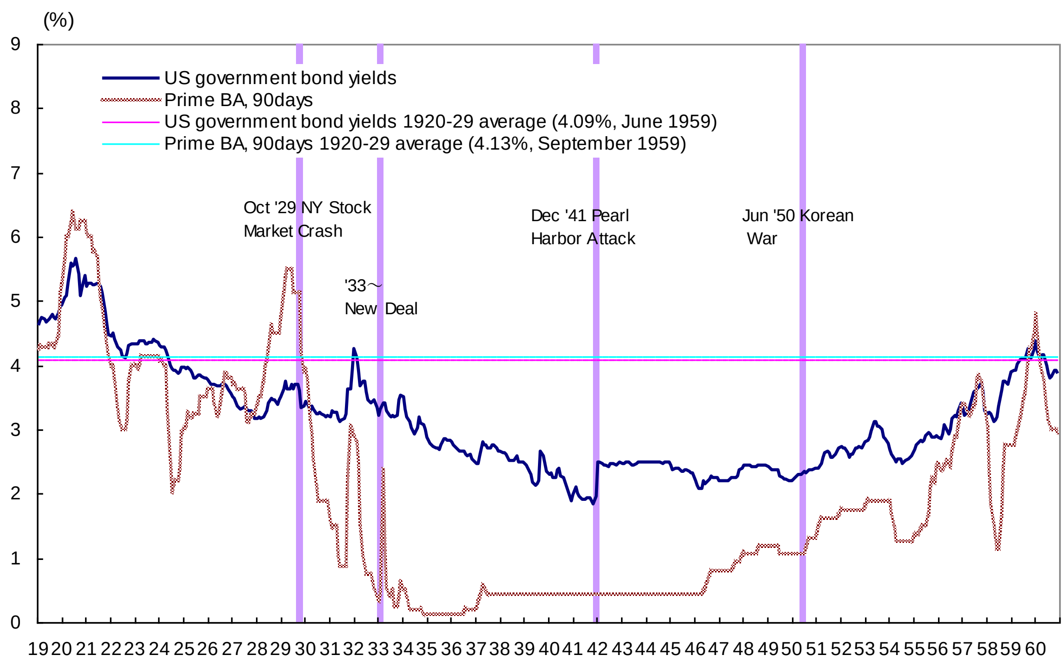
Source: Board of Governors of the Federal Reserve System (1976) *Banking and Monetary Statistics 1914-1941* pp.72-79

Exhibit 13. Premature Fiscal Reforms in 1997 and 2001 Weakened Economy, Reduced Tax Revenue and Increased Deficit



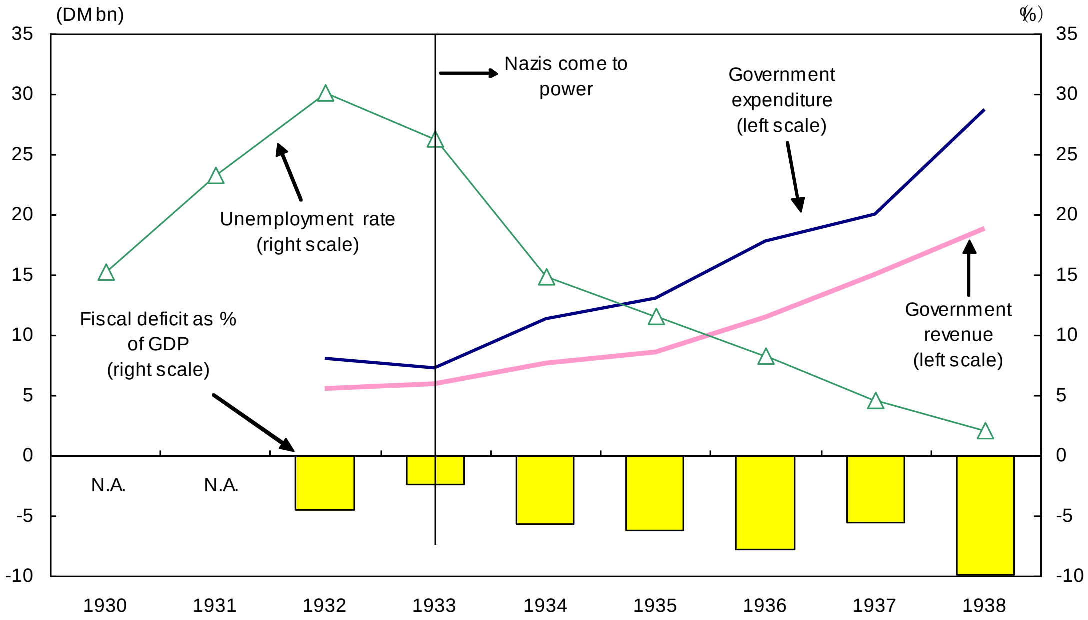
Source: Ministry of Finance, Japan
Notes: Latest figures(*) are estimated by MOF. From FY2011, figures includes reconstruction taxes and bonds.

Exhibit 14. US Took 30 Years to Normalize Interest Rate after 1929 because of Private Sector Aversion to Debt



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 15. German Fiscal Stimulus Reduced Unemployment Dramatically



Source: Mitchell (1975), p. 170; Flora et al. (1987), p. 350; Deutsche Bundesbank (1976).

Exhibit 16. Contrast Between Yin and Yang Phases of Cycle

		Yang	***Yin***
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) Behavioral principle		Profit maximization	Debt minimization
5) Outcome		Greatest good for greatest number	Depression if left unattended
6) Monetary policy		Effective	Ineffective (liquidity trap)
7) Fiscal policy		Counterproductive (crowding-out)	Effective
8) Prices		Inflationary	Deflationary
9) Interest rates		Normal	Very low
10) Savings		Virtue	Vice (paradox of thrift)
11) Remedy for Banking Crisis	a) Localized	Quick NPL disposal Pursue accountability	Normal NPL disposal Pursue accountability
	b) Systemic	Slow NPL disposal Fat spread	Slow NPL disposal Gov. capital injection

Source: Richard Koo, *The Holy Grail of Macroeconomics: Lessons from Japan's Great Recession* ,
John Wiley & Sons, Singapore, 2008