Balance Sheet Recessions and the Economics of Credit and Debt

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How it all started

The importance of finance and credit is suddenly gaining attention in economics, I suspect, because the economy is not recovering after four years of zero interest rates and almost astronomical quantitative easing. If the economy did recover after a year or so after the Lehman shock, it would have been business as usual and none of us will be gathering in Waterloo to discuss these topics today. Indeed when the crisis hit, those economists in the mainstream, most notably the Chairman of the Federal Reserve Ben Bernanke, commented that the impact of the shock will probably cost the US economy about 0.5 percent of GDP and that the economy should be on its way to recovery within a year. Larry Summers at the White House also argued in early 2009 that a large jolt of fiscal stimulus will pump prime the US economy back to its growth path, after which the President should be able to cut the deficit in half by the end of his four-year term.

When the recovery failed to materialize however, things began to change. The Fed, for example, began extending the date of possible recovery, which is a clear sign that they do not know what is going on. Now the FOMC is saying that the Fed will not start raising interest rate until mid-2015 which means that a self-sustaining recovery may not start until 2015. Since the bubble burst in 2007, that means the Fed is saying it will take the US fully eight years to start a recovery.

Larry Summers also changed his tone on fiscal stimulus from his original three Ts, temporary targeted and timely, to three Ss, speedy substantial and sustained. By then however, the credibility of Obama Administration's economic policies were under serious questioning, and the President literally had to fight for his re-election when his failure to reduce the deficit in half was repeatedly attacked by his challenger Mitt Romney.

Since all other post-war recessions started their recoveries much sooner, and with much less help from both the central bank and the government, the relevant question is what is so different this time around. Or more to the point, why the conventional policy

responses based on conventional economic theories which worked reasonably well in the post-war period, failed to produce the expected result this time around.

This questioning led to the talk about the importance of financial sector and the role of money and credit. This talk started probably because many economists realized that their models, which did not contain a financial sector, could not say anything useful about the spectacular collapse of Lehman Brothers, tragedies of subprime mortgages and the struggle with Tarp and stress tests that were dominating the economic policy debate at both national and international levels. And without understanding the implications of these events, economists were unable to predict where the economy is going either.

Pin-pointing the problem

But one should also be careful here because the economics and econometric models that did not explicitly mentioned financial sector nonetheless worked reasonably well until 2007. In other words, those models still produced reasonable forecast of where an economy is headed until 2007. The relevant question therefore, is what changed after 2007 that suddenly makes the understanding of financial sector indispensible in predicting where the economy is going.

Since the role of financial sector is financial intermediation, this suggests that the financial sector becomes important for economists when the financial intermediation is not proceeding smoothly, as in the world after 2007. Put differently, economists are somehow “allowed” to ignore the financial sector if the financial intermediation is proceeding smoothly, as in the world before 2007.

The key role of financial intermediation in an economy is to equate savings and investment. In a national economy, if there is someone saving money or paying down debt, there must be someone else who are borrowing and spending those saved funds in order to keep the economy going. And this task is performed by banks and securities houses that have the incentive to make sure that all the saved funds that are entrusted to them are invested in order to maximize their profits.

The financial sector performs this function by raising or lowering interest rates. If there are too many borrowers, interest rates are raised, and if there are too few, interest rates are lowered. Since the former case is often associated with a booming economy which may become inflationary, the central bank is likely to come in to push rates higher as well. Similarly, since the latter case is often associated with a weak economy, the central bank is likely to come in to push the interest rates lower. For most of the post-

war period, such adjustments by both the private sector financial institutions and the central bank were sufficient to weather shocks to the economy, with the economy returning to a "normal" path within a year or two of policy actions.

This time around, however, interest rates have been brought down to historic lows soon after the Lehman shock in all industrialized countries: to zero percent in the US and Japan, 0.5 percent in the UK, and 0.75 percent in the Eurozone. And yet, the responses of these economies have been most dismal, with the US unemployment rate at 7.9 percent and the Eurozone unemployment rate at the historic high of 11.6 percent.

In acts of desperation, central banks adopted quantitative easing, expanding monetary base from 100 at the time of Lehman shock to 311 in the US, to 196 in the Eurozone, and to an astronomical 413 in the UK. These actions not only failed to spur economic recovery, but also failed to prevent the UK and many Eurozone economies from falling into double-dip recessions starting in 2011. The fact that zero interest rates and massive injection of liquidity failed to turn these economies around suggests that there has been a global breakdown in financial intermediation. That, in turn, prompted the economists to enquire into the workings of the financial sector.

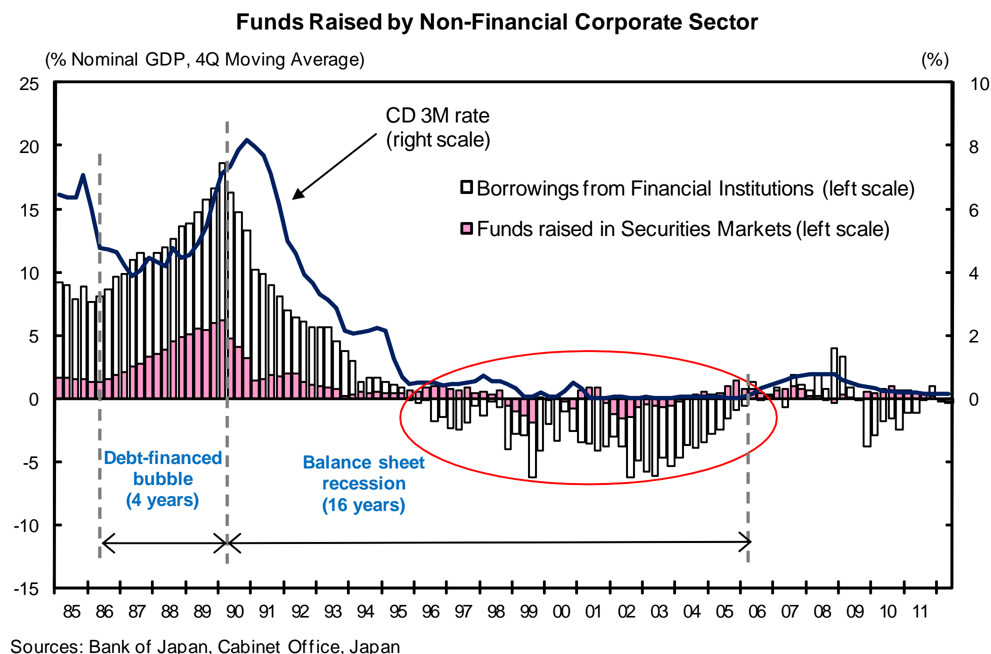
These dismal results of monetary and fiscal easing also led to much soul searching among economists many of whom also failed to see the crisis coming. Other economists showered policy makers with wildly different and often contradictory policy recommendations. Those wild and opposing recommendations, many from well-known economists, confused the policy makers and the public even further.

My intellectual journey

Luckily for the West, Japan went through all of this experience 15 years ago. The lowering of interest rates by the Bank of Japan, which brought short-term rates from 8 percent during the bubble peak to almost zero by 1995, failed to produce recovery in asset prices or real economy. The repeated fiscal stimuli by the Japanese government stimulated economy only when implemented, but failed to pump-prime the economy into a self-sustaining recovery. The confusion and dismay among the economists and policy makers were widespread, just as in the West today. As the chief economist of the largest investment bank in the country, I had to grapple with this phenomenon for very many years since the bursting of the Japanese bubble in 1990.

It was around 1996 that a chart I put together (Exhibit 1.) showed something I have never expected to see: the demand for funds from the Japanese corporate sector has been in the negative range starting in 1995 even though interest rates were already near zero. This meant that the corporate sector in Japan has been paying down debt at zero interest rates. Such a phenomenon was totally outside the neoclassical economics and the teachings of business schools.

Exhibit 1. Japan's De-leveraging with Zero Interest Rates Lasted for 10 Years



Sources: Bank of Japan, Cabinet Office, Japan

Companies are not supposed to pay down debt at zero interest rate because under ordinary interpretations such actions suggest that the corporate management in these companies are so inept that they cannot find good use of the money even at zero interest rates. But if the management is that inept, it should be fired. At minimum, the money should be returned to the shareholders so that they can do something better with the funds. But in Japan this phenomenon continued for over ten years.

I then started to ponder under what circumstances would firms want to pay down debt at zero interest rates? The only reasonable explanation I could come up with was that these companies have cash flow but their balance sheets are underwater. And sure enough, as the earlier years of Exhibit 1 clearly indicate, these companies were borrowing massively to invest in all sorts of assets during the bubble days. The value of those assets collapsed starting in 1990, but the value of their liabilities remained at or near their original values. The commercial real estate, for example, fell 87 percent from the peak to the level of 1973, and golf club memberships, an important part of both the corporate and

household wealth in those days, fell 95 percent nation-wide. As a result, millions of businesses and households realized that their balance sheets are underwater.

Balance sheets underwater means they are all technically bankrupt, but there are actually two kinds of bankruptcies. The usual variety is that the company's main line of business is doing poorly and the company's cash and cash flow are both depleted. In that case, the company must be liquidated because there is no cash flow to justify its continued existence.

But there is another kind of bankruptcy where the cash flow is healthy but the balance sheet is underwater because of the silly decision the management made during the bubble days. In the second case, it make sense for the management to use the cash flow to pay down debt because that way it does not have to tell its shareholders that their shares are just pieces of paper now. It will also not have to tell its creditors that their loans are non-performing now. Most importantly, it will not have to tell its workers that they have no jobs tomorrow. In other words, for all the stake-holders of the firm, the right thing to do is to use the cash flow to pay down debt.

Since asset prices never turn negative, as long as there is a reasonable amount of cash flow, time will eventually solve the problem of debt overhang. But that also means during the debt-repayment period, these firms are actually minimizing debt instead of maximizing profits which put them totally outside the neoclassical framework of economics where the private sector is always expected to maximize profits.

Since there is no name for a recession driven by private sector minimizing debt, I had to come up with a name to describe it. So I coined the word "balance sheet recession" to describe this type of recession.

As the chief economist of Nomura, I had plenty of chances to speak with Japan's corporate executives, and I used every opportunity to ask discreetly whether that is what they are actually doing. I had to ask these questions carefully and often indirectly because no executives want to be inquired over whether their corporate balance sheets are underwater especially when they are actually underwater or very close to it. A public disclosure of such a fact will mean sudden death for the companies as credit lines and credit ratings are cut by both their suppliers and creditors. The vast majority of those I spoke however give me a clear indication that I am on the right track in thinking that they are actually minimizing debt instead of maximizing profits.

In January 2004, I was invited to the Davos Forum to speak at the annual Japan dinner. In my presentation I explained that Japan's recession was a balance-sheet recession triggered by a sharp fall in asset prices that had prompted companies to pay down debt. Having been given only about fifteen minutes in which to speak, I worried whether the more than 300 academic and business leaders assembled for the event would be able to grasp my abbreviated message on this new concept of economics.

But after I finished speaking, Nissan CEO Carlos Ghosn stood up and told the audience about his own experience with the balance-sheet recession. He said, "When I came from Renault to Nissan, I was amazed by the size of Nissan's debt. Nothing in my education or experience had prepared me for the possibility of paying down debt at a time of zero interest rates, but in the end, I was forced to do so. I was simply unable to sleep at night knowing how much debt we were carrying." I suspect Renault's financial assistance helped Nissan greatly in reducing its debt load. Thanks to the covering fire provided by Ghosn, people that night were able to realize the importance of balance-sheet problems. Stories like Ghosn's are very common among Japanese corporate managers.

The Japanese experience

The shift in private sector priorities to debt minimization, however, completely disrupts the financial intermediation at the macro level because the corporate sector no longer borrows the funds saved by the household sector, even at very low interest rates. With no one borrowing money, the entire savings of the household sector, together with the debt repayment of the corporate sector, end up languishing in the financial sector unused, effectively becoming the leakage to the income stream and the economy's deflationary gap. If left unattended, the aggregate demand of the economy will contract by the amount of unborrowed savings each year, resulting in a continuous shrinkage in GDP until either private sector balance sheets are repaired, or the private sector has become so poor that it can no longer save any money. The latter outcome is usually referred to as a depression.

In the post-bubble Japan, the net savings by the private sector reached as high as 10 percent of GDP as the corporate sector not only has stopped borrowing money altogether, but also has been saving money and paying down debt. Deflationary pressure of such a magnitude will throw any economy into recession if not into outright depression. Furthermore, this shift toward debt repayment started in the early 90s when Japan still had inflation. These facts indicate that it is balance sheets, not deflation that has been the main concern of Japanese companies.

Although deflation may have prompted a handful of companies to begin paying down debt, the vast majority did so because their balance sheets were damaged by the bubble's collapse. Ultimately, these debt repayments weakened the economy and generated deflation, but there is no reason to believe that fixing deflation would have ended the recession. These recessions will persist until firms have finished repairing their balance sheets.

As soon as their balance sheets are cleaned up, they will shift to forward-looking behaviour even if the general price level is falling. That was clearly demonstrated by Panasonic which started expanding rapidly after it finished repairing its balance sheet in 2002 even though the rest of the economy was still suffering from balance sheet problems and consequent deflation.

Today, private sectors in the US, UK, 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. The figure for the UK is 5.0 percent at an interest rate of 0.5 percent, the lowest in British history. The figures for Spain, Ireland and Portugal are 7.2 percent, 10.0 percent and 5.5 percent, respectively, all with 0.75 percent interest rates, the lowest post-war interest rate in Eurozone countries. Indeed, the private sector in the Eurozone as a whole is saving 4.6 percent of GDP at the same record low interest rates.

Moreover, in all of the above countries, not only the household sector but also the corporate sector is increasing savings or paying down debt at these record low interest rates. This means the West is squarely in a balance sheet recession.

In this type of recessions, monetary policy is ineffective. This is because those with balance sheets underwater are not interested in increasing borrowings at any interest rate. There will not be many lenders either, especially when the lenders know that the borrowers are bankrupt. The lenders may also have their own balance sheet problems.

Even though central bank typically brings interest rates down in response to the recession, it cannot increase the money supply and credit because, with nobody borrowing money, the liquidity provided by the central bank cannot leave the banking system. This means money multiplier is negative at the margin when the private sector as a group is deleveraging.

Since the government cannot tell the private sector *not* to repair its balance sheets, the only thing it can do to keep the economy going is to borrow and spend the unborrowed savings in the private sector. This fiscal action is needed not only to stabilize the economy and allow businesses and households to pay down debt, but also to keep the money supply from shrinking as a result of the private sector paying down its debt.

And that is exactly how Japan managed to stay afloat in spite of a loss of wealth that, as a percentage of GDP, was easily double the loss that the US suffered during the Great Depression in the 1930s. Instead of losing half its GDP and 33% of its money supply as in the US under President Hoover 80 years ago, Japan managed to maintain both its GDP and money supply above the bubble peak for the last 22 years because of the prompt fiscal response that filled the deflationary gap each year before the contraction was allowed to start.

Even though Japanese fiscal policies were always applied "behind the curve" and seldom in sufficient quantities, most companies had finished repairing their balance sheets by 2005. Indeed the Japanese corporate sector today has the cleanest balance sheets in the world: nearly half of Japan's listed companies have no effective debt because their financial assets are larger than their financial liabilities.

Borrower's problem or lender's problem?

The above also means that the current emphasis on the financial sector may be misplaced because the break down in financial intermediation is not a result of some inherent problems within the financial sector itself. Instead, the breakdown is a result of the private sector finding itself with a debt overhang after the bubble has burst. The moment private sector realizes that it was chasing wrong asset prices and that those asset prices will not come back any time soon, it will shift to debt minimization mode in order to repair its damaged balance sheets. And it is at that very moment the economy enters a balance sheet recession. It is also at that moment that the monetary policy stops working.

Against this view, it has been argued that it was not the lack of willing borrowers but the inability or unwillingness of the lenders that resulted in the breakdown of financial intermediation and subsequent recession. It is true that when a debt-financed bubble bursts, not only the borrowers but also the lenders are hurt. The lenders are hurt because the borrowers are unable to pay back the debt. If enough borrowers default, the capital of

the banks may be impaired so badly that they may be forced to recall loans, thus resulting in a credit crunch.

Media reports, both in Japan earlier and in the West recently have been filled with stories of credit crunch, that many hard working small and medium sized firms are denied credit by the banks. Many lenders have also tightened credit standards for granting house mortgages to individuals, sometimes drastically. Even though it is the increase in defaulting borrowers that weakens the banks, to the extent that weakened banks are constrained from lending, one could argue that financial intermediation broke down because of the problem with the lenders.

One must be careful here, however, that bankers not lending typically get disproportionally more media coverage than the borrowers not borrowing. This is because when the banks are not lending, it is front page news, but when the borrowers are not borrowing, it is seldom reported. As a result, those outside the financial sector are often brainwashed into thinking by the media that the problem is with the bankers and not with the borrowers. Since bankers are not particularly loved in any jurisdiction, bank bashing by politicians typically follows such reports of credit crunch.

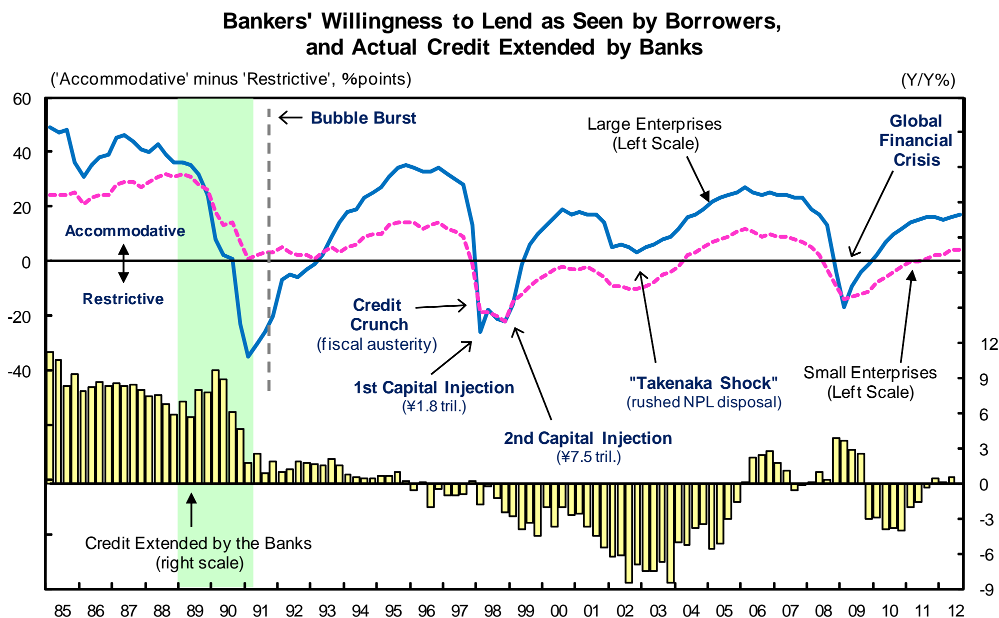
With both credit crunch and deleveraging by the borrowers weighing on the economy at the same time, it is difficult to determine which factor is the main driver of recession. That often leads to an acrimonious debate in the political arena where politicians bash the bankers for not lending while bankers argue back by saying there are not enough credit worthy borrowers. Although this debate is still going on in the US and many European countries, Japan was able to address this issue head-on because the Bank of Japan has been conducting survey of more than 10,000 businesses both large and small for decades as to their impression of their bankers' willingness to lend.

This survey, which is reproduced in Exhibit 2, clearly shows that except for the period of monetary tightening during the 1989-90 bubble period, borrowers acknowledge that Japanese bankers were willing lenders until the fall of 1997. The fact that businesses still refused to borrow even with record low interest rates suggests that the lack of borrowers was the dominant driver of the break-down in financial intermediation during this period.

The same data then shows that the banker's willingness to lend suddenly disappeared following the ill-fated fiscal austerity in 1997 which resulted in five quarters of negative GDP growth and a complete breakdown in the banking system. As

mentioned earlier, when the private sector is deleveraging at near zero interest rates, only government borrowing and spending can keep the economy from imploding. So when that fiscal support was removed with higher taxes and lower spending, the economy promptly collapsed. The resultant double-dip recession brought down a number of major banks for the first time in post-war Japan. Because it was clear from this data that the breakdown in financial intermediation was coming from the lenders, the government promptly implemented two capital injections which ended the credit crunch by the spring of 1999.

Exhibit 2. Except for Three Occasions, Japanese Banks Remained Willing Lenders



Note: Shaded areas indicate periods of BOJ monetary tightning.
Sources: Bank of Japan, "Tankan," "Loans and Discounts Outstanding by Sector"

There was another bout of credit crunch starting in 2001 when an uninformed minister of financial services forcibly tried to apply a US type treatment of deferred tax credit on Japanese banks without realizing that there was a huge difference in the tax treatment of non-performing loans between the two countries.

Unfortunately, in the US or Eurozone, survey on banker's willingness to lend as seen by the borrowers is not available: only surveys from lenders are available from the Fed and the ECB. Since determining whether the problem stems from the borrower or the lender is critically important for policy makers, it is hoped that central banks around the world will start collecting data similar to the BOJ's Tankan survey as soon as possible.

The post-bubble lender's problem is usually referred as financial crisis, while the post-bubble borrower's problem is the balance sheet recession. The distinction here is

critical because if the problem is with the lenders, capital injection by the government and liquidity injections by the central bank can usually remedy the crisis quickly. The Japanese credit crunch, for example, was eradicated soon after the second capital injection in March 1999 as shown in Exhibit 2. In other words, if the problem is with the lenders, it will still be "business as usual" because well known remedies can handle it quickly. Those economists who argued at the beginning of the crisis that the situation will improve in a year or two probably had this kind of problem in mind.

If the problem is with the borrowers, however, sustained and substantial fiscal stimulus is needed for many years until private sector balance sheets are repaired. And even after balance sheets are repaired, private sector may not resume borrowing right away because of the trauma toward debt after a long and painful period of deleveraging. Japan is facing this trauma problem today, and it is likely that parts of US and European economies will face the same problem once their balance sheets are repaired. And it is the lack of understanding of the borrower's problem that is confusing economists and policy makers in the West today.

Detecting balance sheet recessions and utilizing that knowledge

Unfortunately, balance sheet recessions are both inaudible and invisible, because those with balance sheet problems are least disposed to share that information with the outside world. The economist and policy makers who are fighting this ailment must consult loan officers and fund managers in the financial sector frequently because they are usually the first to notice the disappearance of private sector demand for funds. They should also talk with corporate executives and check their borrowing behaviours, as mentioned earlier, to detect signs that they may be actually minimizing debt. They should also follow carefully the flow of funds data and, if outside the Eurozone, movements in government bond yields.

I was extremely fortunate in that I had access to all of the above as the chief economist of Nomura. After I developed the concept of balance sheet recession, I was able to predict the collapse of the Japanese economy following the austerity move by the government in 1997. In fact I was the only person who issued this warning publicly in Japan. That in turn, catapulted me into the policy circles of many subsequent prime ministers.

I was also able to predict that the Japanese government bond yields will remain low for a long time even with large deficits and public debt because in a balance sheet

recession, the amount of deficit the government must run to keep the economy from contracting is equal to the amount of unborrowed savings in the private sector that are languishing somewhere in the financial system. Using the same logic, I was also able to predict that the US and UK bond yields will come down to very low levels after the bursting of their housing bubbles.

The same understanding allowed me to predict in my 2003 book *Balance Sheet Recessions: Japan's Struggle with Uncharted Economics and its Global Implications* (John Wiley, Singapore) that the Eurozone will fare the worst among the developed world in a balance sheet recession because there is no provision at all in the Maastricht Treaty for this type of recessions. I was also able to predict that monetary easing will have minimal stimulative effects in all of these economies. I also predicted from the time it was announced that it will be impossible for President Obama to fulfil his promise to cut deficit in half by the end of his four-year term. I was also able to warn Mr. George Osborne, before he became the Chancellor of the Exchequer, that any attempt at fiscal austerity will push the UK economy into a double-dip recession.

These predictions, both in the reports issued by Nomura and in outside publications, were appreciated by both investors and policy makers around the world. The business world also appreciated my contribution when the National Association of Business Economist in Washington, D.C. awarded me their Abramson Award in 2001 on my paper titled "The Japanese Economy in Balance Sheet Recession: The Real Culprit is Fallacy of Composition, not Complacency" published in their journal *Business Economics*. The only problem with this award was that it was granted at the World Trade Center ballroom in New York City on September 11 which meant that all the economists present, including myself, had to literally run for life when the planes attacked.

Need to make the concept operational

Although I have had some success warning the West that it is afflicted with an unusual disease requiring unusual treatment, there is only so much an individual can do. To be fully useful for policy makers, the concept of balance sheet recession must also be made more operational. For example, policy makers need to know in advance how much fiscal stimulus is needed in the following year so that they can put together the budget accordingly. This is an extremely challenging task for at least two reasons. First, no one with balance sheet problems will volunteer information on how deep their holes are and how long they plan to take to fill those holes. Second there are so few historical examples to even produce a ball-park estimate.

In this regard, I am extremely grateful for the INET which took upon itself not only to spread the word that balance sheet recession is a real threat facing the Western economies today, but also to bring together researchers from around the world with a similar sense of mission to overcome the above challenge together. Until this concept is in standard economic textbooks however, it will be a long and hard uphill battle because the recession's remedy, the sustained fiscal stimulus, has been shunned by the profession since the 70s when inflation instead of deflation became the primary concern of economists. Even though the challenge facing us is a huge one, any new and additional advice we could give to policy makers that would shorten the recession and limit its destructive powers will be a contribution to human knowledge and well-being.