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Debt Creation: What Is The Limit?

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At a recent investment conference, I had a heated debate with an economist who claimed that the ever-rising debt-to-GDP ratios around the world were a sure sign of renewed economic sickness and deterioration. "The Minsky moment will return," he declared, literally pounding the table. He singled out China as the place where the next collapse and crisis would occur, because China's credit expansion had grown "too much, too fast."

This sounds intuitive, reasonable and even profound, but it is a very old story. I disagreed with almost everything he said. His predictions and analysis on debt and, more specifically, his rantings on China's debt were, in my view, based on flawed theories and confused observations that are unsupported by empirical evidence.

Debt Creation Versus National Savings Rate

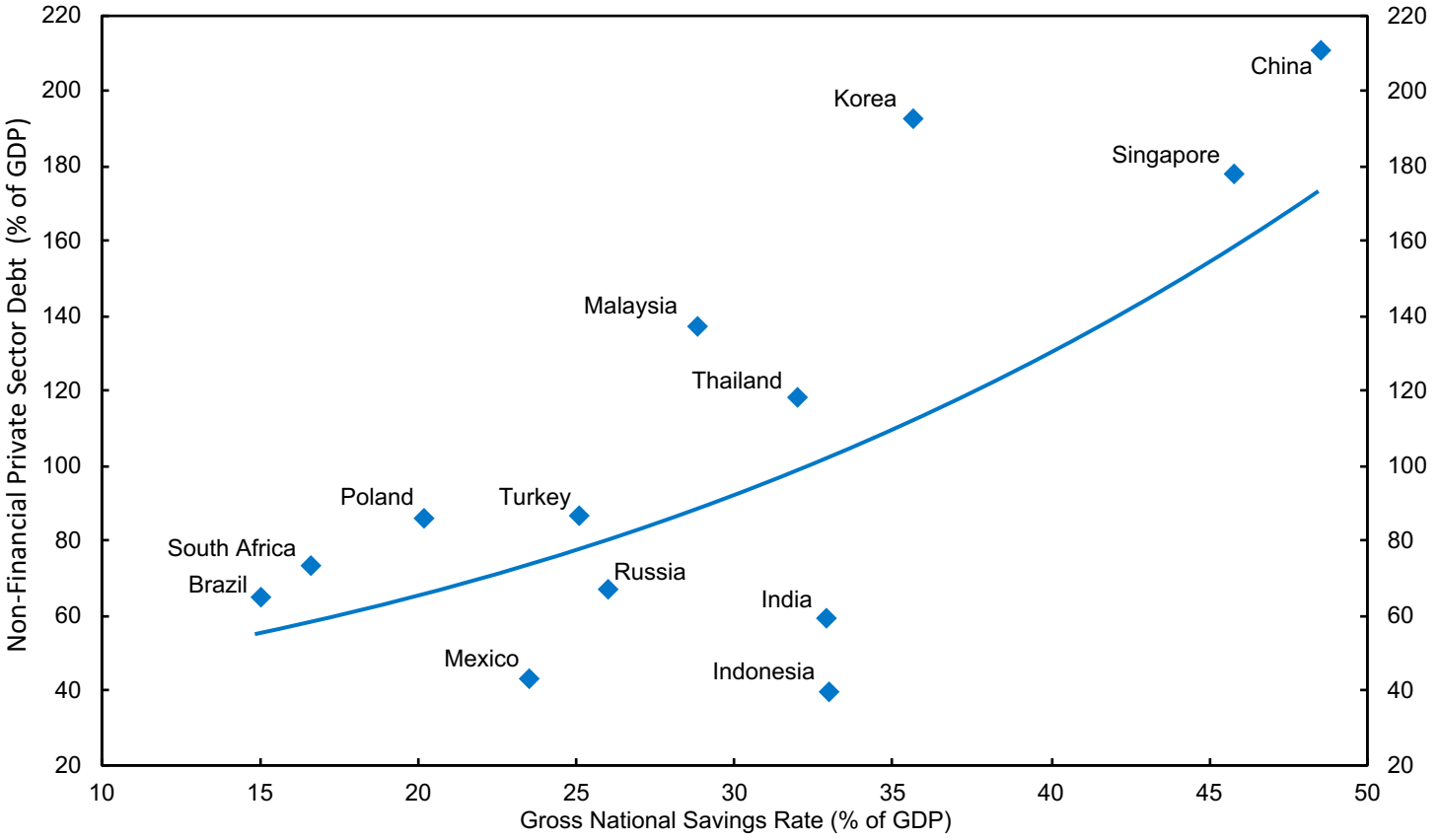
In any economy, there are several key mechanisms to allocate domestic savings: equity markets, debt markets (including banks, government and real estate), or by exporting excess savings abroad through running a current account surplus. The relative importance of each mechanism is very different from country to country.

In the U.S., for instance, equity markets play a much more important role in resource allocation while Germany and Japan traditionally have relied more heavily on banks for allocating savings. For most developing countries, banks are almost always the dominant mechanism.

Given a stable financing structure (between banks or debt and equity markets), countries with higher national savings rates often – albeit not always – have higher levels of debt creation than those with lower savings rates. This is simply because countries with higher saving rates have larger pools of savings to be intermediated into investment.

Chart 1 shows the clear positive correlation between the levels of national savings rates and levels of national indebtedness. China and Singapore both have tremendous amounts of debt accumulation, mirroring their very high levels of savings. Similarly, countries with lower savings rates, such as Brazil and Mexico, have much lower debt accumulation.

Chart 1: Saving Rates VS. National Indebtedness



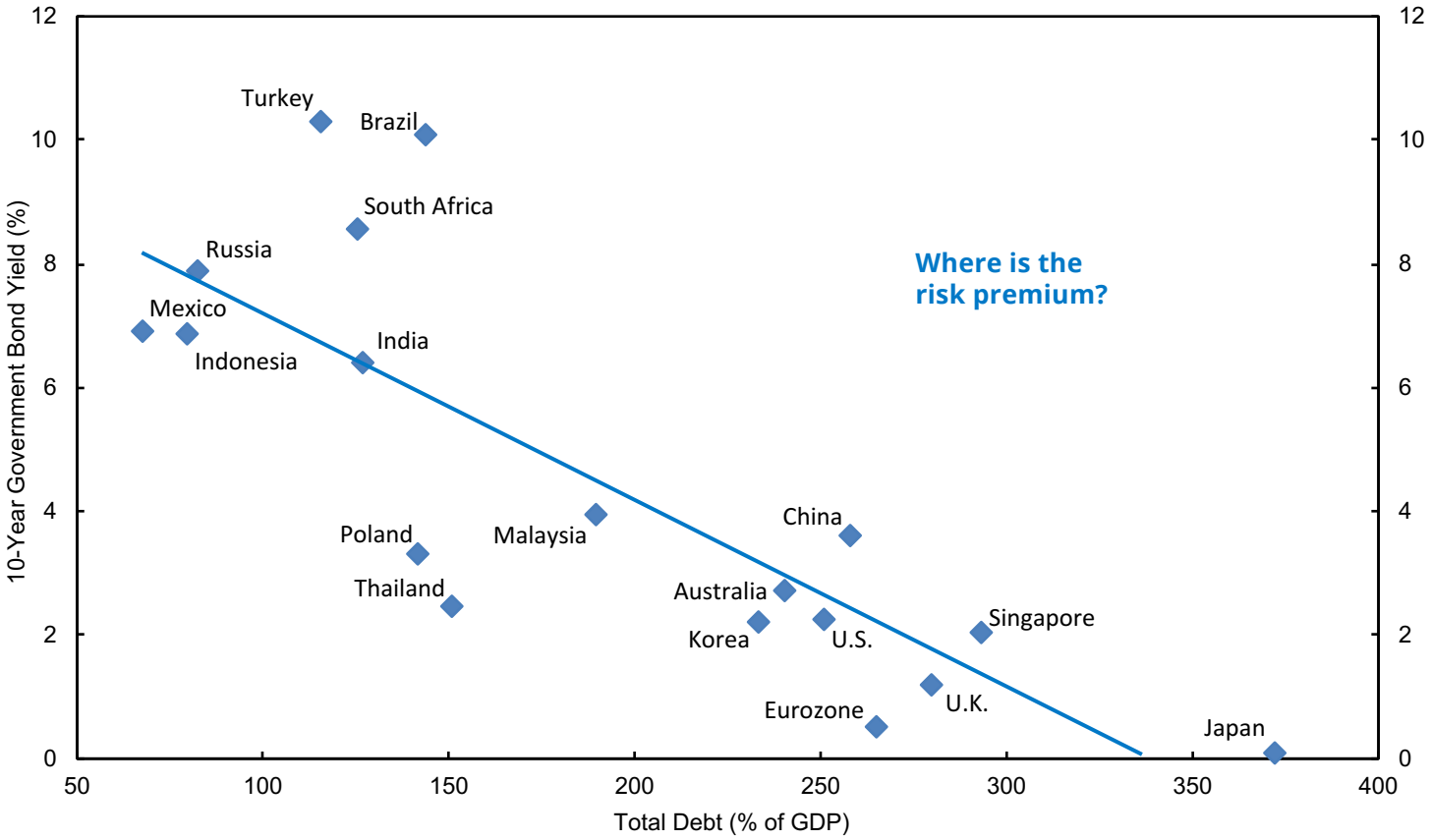
Source: BIS; World Development Indicators; Macrobond

A high debt-to-GDP ratio may or may not have anything to do with credit excesses or systemic risk, as is often feared. Contrary to conventional wisdom, recent history has shown that debt crises often occur in countries with lower debt-to-GDP ratios than those with higher ratios. The 1995 Mexican peso crisis occurred with the total national debt standing at only 70% of GDP, a rather modest level. The same was true during the 1998 Brazil and Russia meltdowns, the 1999 Argentina debt default, and so on.

Empirical evidence also refutes the notion that the higher the debt ratio, the riskier the economy. **Chart 2** shows that levels of interest rates are negatively correlated with levels of total indebtedness. This negative correlation, seemingly simple, is in fact profoundly insightful. It disproves the generally accepted notion that "higher debt levels lead to higher macro risk."

Some economists may disagree, pointing out that high debt levels can simply be a direct consequence of low and falling interest rates. This is precisely the point: debt creation is a function of borrowing costs and logically, countries that have borrowed more aggressively than others in response to interest rates cannot be punished by these rates. This means that the level of a nation's indebtedness must depend

Chart 2: The Heavier the Debt Load, the Lower the Interest Rates



upon economic forces other than interest rates. The national savings rate is the key variable because it usually dictates the price of savings (i.e. interest rates) and therefore, the level of debt creation.

Forecasting Debt Crises

For decades, investors, economists and forecasters have tried to discover ways to forecast a debt crisis, with most focusing on the debt-to-GDP ratio. Not surprisingly, this measure has proven to be, at best, useless, if not outright misleading. In the mid-1990s, many concluded that Japan was headed for fiscal ruin because of its ever-rising debt-to-GDP ratio, which would inevitably collapse the bond market and the yen. What transpired instead was a total debt-to-GDP ratio escalating to 370% today and JGB yields falling to zero (**Chart 3**).

The gross misjudgment on Japan should have served as a wake-up call to economists and investors that the debt-to-GDP ratio can be a very misleading indicator for the credit riskiness of an economy. Unfortunately, the forecasting errors and wrong predictions on Japan have not been heeded by the investment community. On the contrary, the debt-to-GDP ratio continues to be used as the primary risk gauge by the investment community.

The fundamental problem with the debt-to-GDP ratio is that it only provides a narrow snapshot

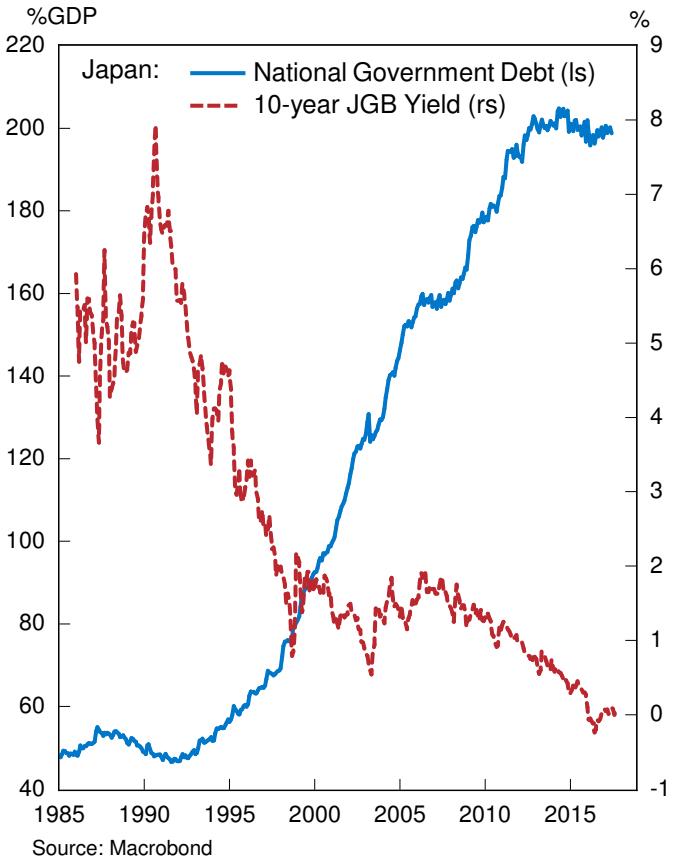
of an economy's debt dynamics. Debt is a stock concept, while GDP is a flow. The ratio tells more about how much of an economy's accumulated savings have been allocated via either the debt or the banking channel. It does not tell us anything about a country's net asset position, nor does it provide any information on debt-servicing costs or the mix of local versus foreign currency-denominated debt. As such, the debt-to-GDP ratio provides very little information on a nation's ability to sustain its debt.

There is no hard and fast rule for forecasting a debt crisis, but the most important point is that there is no specific level of indebtedness that indicates an imminent danger of a collapse in an economy. However, there are a few key factors that may contribute to financial instability. These include:

- **Debt servicing costs versus nominal GDP growth**. The interplay between these two factors is important for the financial stability of an economy. If increases in debt servicing costs surpass nominal GDP growth, borrowers could be under increasing financial stress. This is obviously not a sustainable situation. **Chart 4** shows that when debt-servicing costs outpace nominal GDP, it often leads or coincides with recessions or financial crises.

- **Asset returns versus capital costs**. If the rate of return on assets exceeds capital costs, borrowers' net worth will grow. Otherwise, it will shrink. Should asset returns chronically fall short of capital costs, debt eventually becomes unsustainable. In practical terms, either a drop in asset returns or a rise in capital costs could put borrowers in jeopardy, creating financial instability.

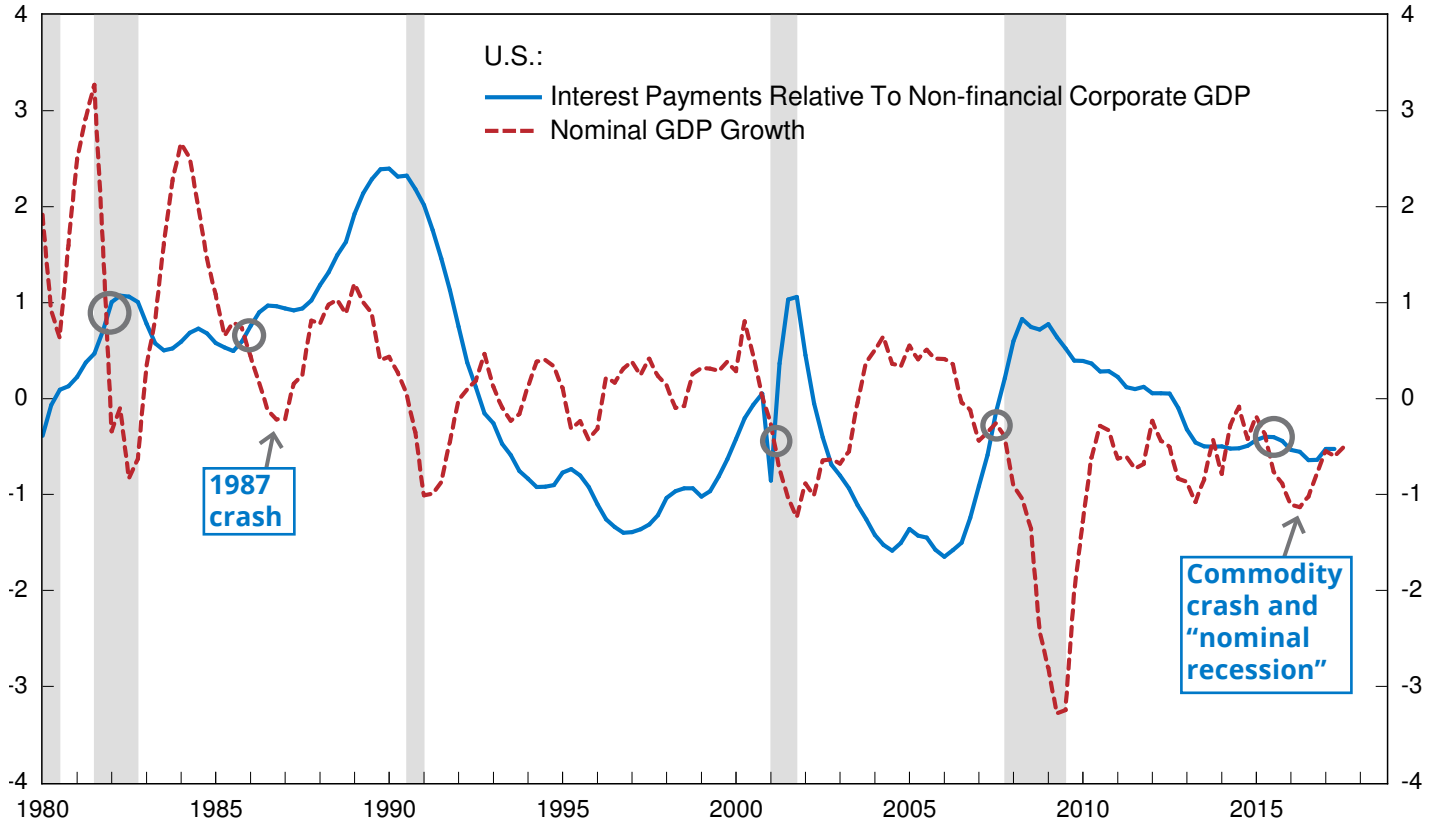
Chart 3: Where Is Japan's Public Sector Debt Crisis?



Source: Macrobond

- **Asset values versus total debt obligations**. Asset values change, which can produce huge repercussions on the sustainability of debt. Debtors' solvency will be at risk if asset values fall sharply. A "credit event" will inevitably occur if asset prices fall below the value of debt obligations, thus eroding net worth. The 2008 meltdown in the U.S. residential housing market was a classic example of how falling asset values provoked massive foreclosures in the residential market, setting in motion a vicious circle that resulted in a national and international debt crisis.

Chart 4: Debt Service Cost VS. Nominal Growth: A Useful Gauge of Financial Stress



Note: both series are shown normalized; shading represents U.S. recession
Source: Macrobond

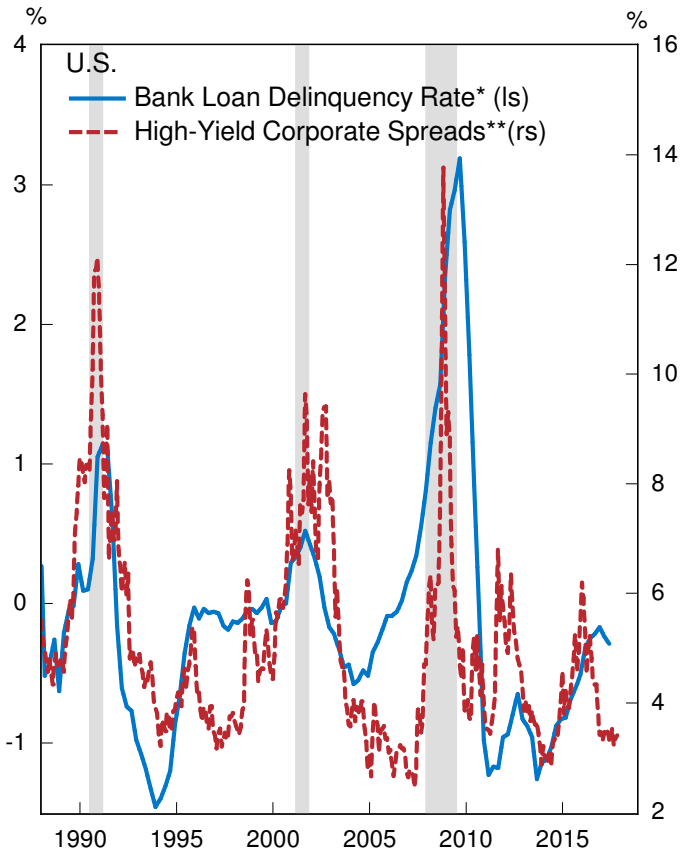
Both capital and debt servicing costs mirror interest rate levels. As such, the financial stress and vulnerability of an economy will always escalate if interest rates rise to a point where they begin to choke off economic activity. This is why a credit crisis, more often than not, happens toward the end of an economic boom, when debtors have become excessively leveraged, economic growth begins to slow and assets become overvalued, but the central bank is still tightening aggressively.

As well, asset returns key off economic cycles, whereas credit risk in the private sector almost always increases in a contractionary environment – regardless of whether the debt-to-GDP ratio is high or low. This is evidenced in **Chart 5**, which shows default rates at U.S. banks skyrocketing during recessions.

Is a Sovereign Debt Default Possible?

The simple rule of thumb is, if the sovereign debt of a nation is denominated in local currency terms, it is impossible for the government to default on its outstanding liabilities, no matter whether these debt obligations are domestically or externally owned.

Chart 5: Default Rate at U.S. Banks Keys Off Business Cycle



* Shown as a 12-month change

**Merrill Lynch U.S. High Yield 100 Index over 10-year Treasury Yield

Note: shading represents U.S. recession

Source: Macrobond

The reason is that sovereign government debt, as long as it is denominated in local currency, will always be supported by the central bank's printing press. In essence, government debt and central bank liabilities (i.e. money) are always perfectly interchangeable because the central bank is a "ready buyer of last resort" of its own government's debt. As such, it is not possible for the government to default on its debt.

Of course, debt monetization can produce economic consequences. It can drive down the local currency and/or push up inflation if aggregate demand is already excessive. By the same token, debt monetization can also be used as an anti-deflationary policy tool, if aggregate demand is deficient. The massive debt monetization in the U.S., Europe and Japan since 2009 has clearly prevented a repeat of the 1930s-style downward spiral in output and prices.

However, if a sovereign government has borrowed in foreign currency, a sovereign debt crisis can occur. When foreign creditors collectively redeem their holdings of debt, the borrowing country inevitably experiences a "run". The debtor needs to liquidate its foreign currency assets to meet the redemption demand. Once the debtor country depletes its foreign assets, it is forced to restructure or simply default on its debt. The problem here is obvious: the local central bank is unable to print foreign currency, therefore ceasing to be "the buyer of last resort."

In postwar history, all major sovereign debt defaults or crises occurred because debtor countries borrowed too much in foreign currency-denominated debt – to a point beyond their capability to service it. For example, the emerging market debt crises in the 1980s and 1990s were all rooted in too much foreign currency debt.

What about the eurozone debt crisis in 2011-2012? Isn't eurozone sovereign debt denominated in the local currency? The answer is that the eurozone debt crisis occurred simply because the ECB refused to act as the buyer of last resort for its member countries' debt, effectively turning the local currency debt into de-facto foreign currency debt. Therefore, it is not an exaggeration to say that the eurozone debt crisis was a man-made disaster that could have been avoided.

Political Economy of Deleveraging

Austrian school disciples often blame politicians and governments for taking short-term measures to ease pain and try to spend their way out of economic troubles. This undertaking of using more debt to bail out a country's debt-induced crisis was termed *The Debt Supercycle* by Tony Boeckh, our Editor-in-Chief and co-founder. Now the question: is it possible to engineer a true deleveraging process where overall indebtedness is cut?

I don't think so. Faced with a recession or a crisis, any government has two policy options. It can lean against the cycle by injecting fiscal stimulus in order to offset the output gap and deflationary pressures, or it can step aside and take no action. The former can smooth out the cycle by reducing economic pain, while the latter will allow the recessionary process to take hold, risking a downward spiral. In modern democracy, very few governments can afford to take this second policy option, especially when economic prosperity has become a mandate.

From an economic viewpoint, there is nothing wrong with activist fiscal policy at times of recession and crises. Whenever the private sector stops spending in a recession, the public sector must step up its own spending to keep aggregate demand afloat. In this vein, the debate on public finances is more philosophical than economic.

Those who believe that governments are generally ineffective will not support any activist policy, regardless of the context in which such policy is applied. However, the Keynesians would view fiscal policy as an integral part of aggregate demand management. As such, governments should always calibrate their fiscal stance according to the overall balance of the economy.

As investors, we must take a practical viewpoint. Our job is not to judge the philosophical merits of these opposing views and policy recommendations, but to predict the most likely policies that a government will take in the event of a negative economic shock and evaluate its possible financial market reactions.

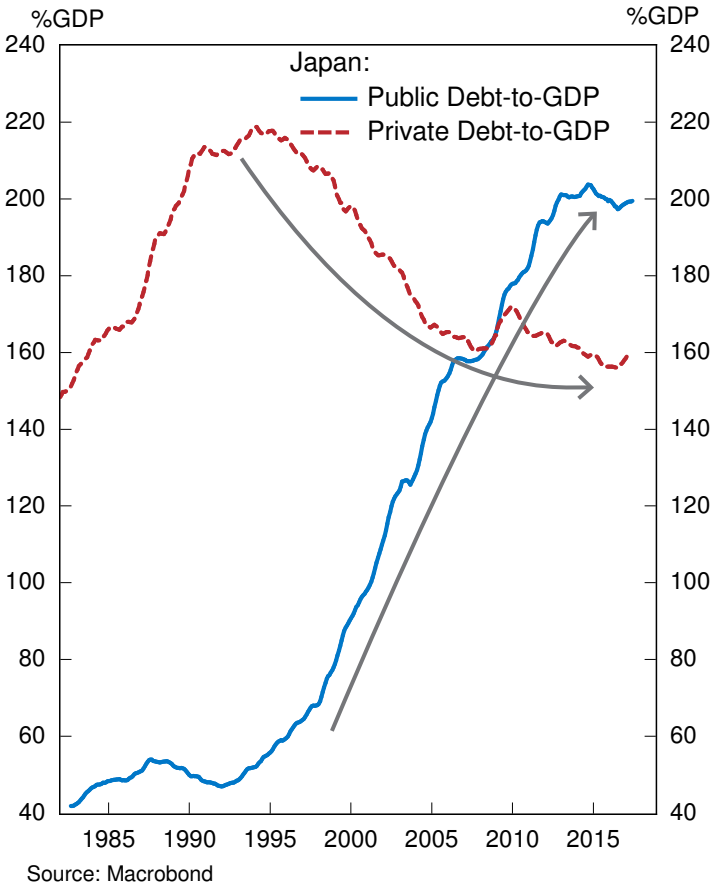
A Few Takeaways

Former Treasury Secretary Lawrence Summers has raised concerns about how the global economy will deal with the next recession, with interest rates zero-bound in the developed world.

It seems to me that a return to fiscal activism is inevitable. However, politicians and lawmakers have been brainwashed into believing that the soundness of fiscal policy is judged by whether a budget is balanced and whether national debt can be reduced, or at least contained at "viable" levels. The prevailing dogma is that, with a large public-sector debt overhang, most Western governments feel that their ability to borrow has been maxed-out. As such, there will be enormous political resistance to using fiscal policy as a counter-cyclical tool in the future.

There is no question that fiscal policy has often been abused by politicians, who are tempted to use handouts to buy votes, or bribe people with their own money. Nevertheless, bad practice does not change the fact that the public sector is an integral part of aggregate demand and, as such fiscal policy is an effective tool of aggregate demand management. A shift in fiscal policy is the most direct and effective way to address a

Chart 6: Political Economy of Deleveraging and Releveraging



Source: Macrobond

business cycle imbalance, especially at times of economic boom or recession.

The fiscal conservatives should understand that the merits of fiscal policy should not be judged by whether a government can balance its books. Rather, a sound and prudent policy can only be evaluated by whether a government can promptly react to rising unemployment without compromising price stability. This means that during times of excessive demand and rising inflation, fiscal policy must be contractionary to rein in excessive aggregate demand. By the same token, the public sector must step up stimulus and borrowing during times of deficient demand or recessions. This is why private deleveraging often coincides with public sector releveraging, see **Chart 6** for the Japanese example.

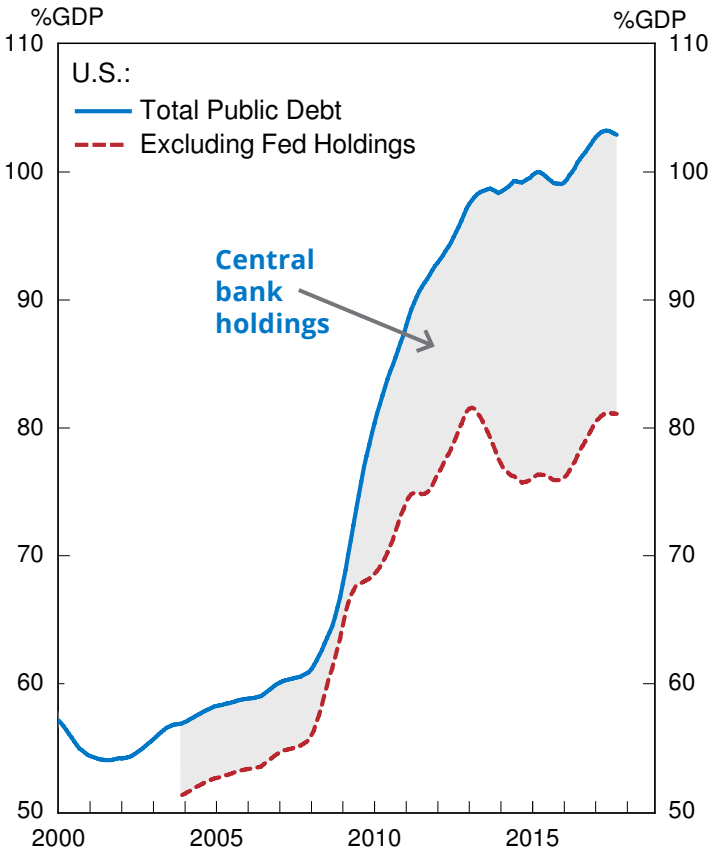
The existing amount of public-sector debt is not a major issue for the underlying economy and financial markets if the debt is mostly denominated in local currency. The Bank of Japan owns over 45% of the JGB market. Since the beginning of 2013, net annual increases in the central bank's JGB holdings have averaged ¥67 trillion while the entire JGB market has increased by less than ¥30 trillion annually (i.e., the BoJ's net buying has been more than twice as big as the total increases of the JGB market). This means that nearly half of Japan's outstanding debt is effectively forgiven by the Bank of Japan.

It does not make any difference if the Japanese government's indebtedness is 200% or 120% of GDP. In a similar vein, it does not make any difference if the U.S. public sector debt is 100% or 80%, since it is the Federal Reserve that owns 20% of the outstanding debt (**Chart 7**). The issue with government indebtedness here is basically one of accounting rather than economic.

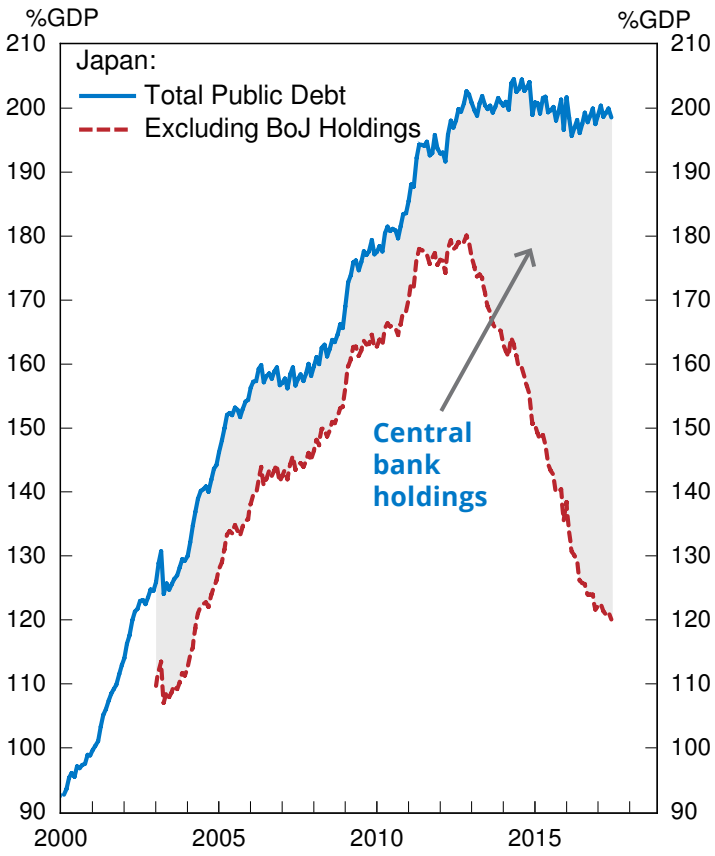
Some clients may ask, what if the BoJ liquidates its balance sheet? Would that cause problems? My answer is: why would the central bank do that, if inflation remains too low and demand too deficient? Of course, if inflation ever comes back and becomes an economic problem, the BoJ can sell JGBs to constrain demand.

Another practical issue is with regards to China's credit creation. The country's rapid credit expansion is often interpreted as excessive, dangerous

Chart 7: A Lot of Government Debt Is Already Effectively Forgiven



Source: Federal Reserve; Macrobond



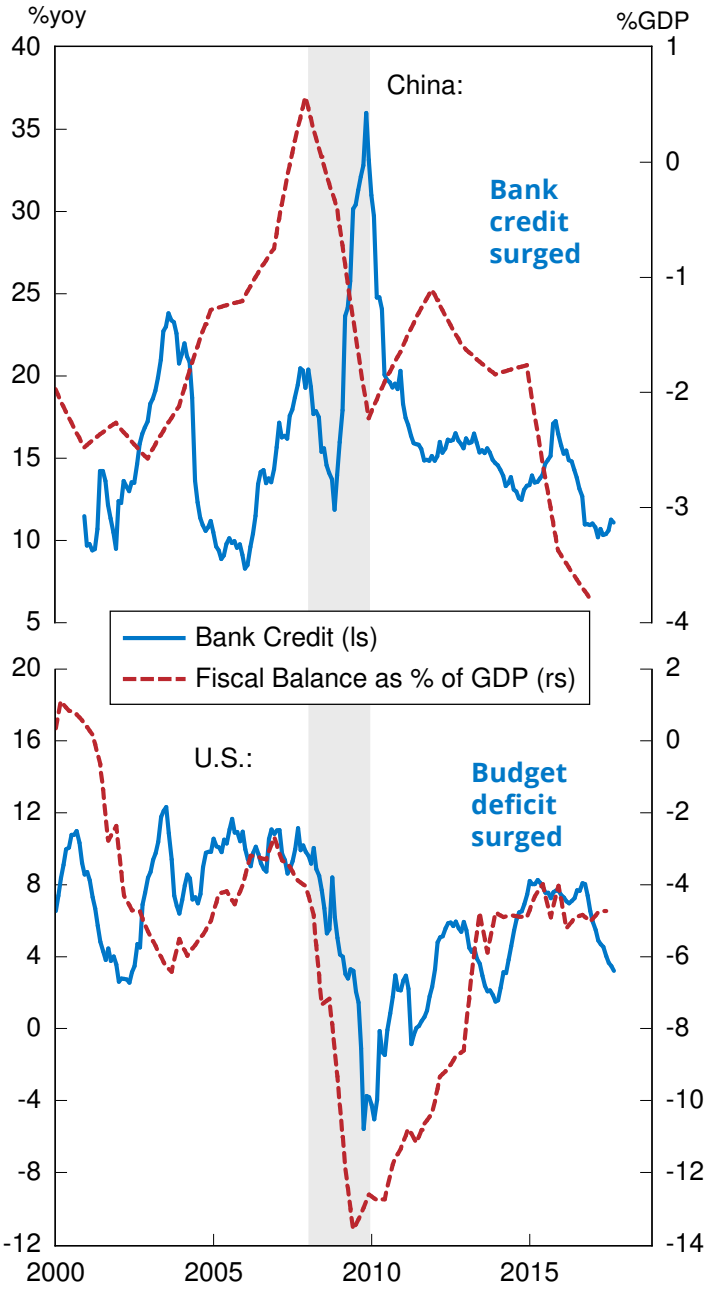
Source: Bank of Japan; Macrobond

and unsustainable. Even the Chinese authorities have acknowledged that the economy needs deleveraging. The critics of China's credit growth have ignored one crucial fact: the country's capital markets are too narrow a pipeline to funnel the country's vast pool of savings (48% of GDP) into investment.

Investors need to remember that China's economy, like Singapore's and Japan's, has traditionally relied on banks to allocate national savings. This is a key reason behind these countries' very high debt-to-GDP ratios. Any attempt to artificially suppress credit growth almost always leads to financial disintermediation, clogging the flow of savings into investment and naturally, resulting in economic slumps or bouts of price deflation.

The rise in the debt-to-GDP ratio in recent years reflects another fact: aggregate demand has been inadequate, as desired investment has fallen and export growth has slowed. As a result, Chinese governments – both at the central and provincial levels – have been aggressively pushing state banks to finance various investment projects. Hence, the rise in credit in recent years should be properly regarded as fiscal

Chart 8: China's Credit Surge = America's Fiscal Stimulus



stimulus (**Chart 8**). In essence, there is no difference between rising fiscal stimulus, financed by debt, and rising "credit stimulus," financed by deposits.

Of course, like other economies, China has had its fair share of bad investments and misallocations of resources, but that issue is different from simply looking at the high debt-to-GDP ratios and questioning whether a credit bubble is already dangerously inflated. With the domestic savings rate still very high and a large external surplus, the Chinese economy's ability to self-finance is enormous. Therefore, the so-called China credit risk is overplayed. In this context, the recent S&P downgrade of China's sovereign debt is a clear mistake and will undermine the rating agency's credibility.

Chen Zhao,
Chief Global Strategist

Investment Recommendations

Strategic Positions (6 - 12 months)

Recommendations	Open Date	Open Levels	Closing Date	Closing Levels	P&L Since Inception
Long EM / S&P 500	11/3/2017	0.435	N/A	N/A	0.5%
Long EAFE / S&P 500	11/3/2017	0.778	N/A	N/A	-0.3%
Long Oil / S&P 500	11/3/2017	0.0212	N/A	N/A	4.2%
Underweight / Short 10-Year Bunds	11/3/2017	0.37%	N/A	N/A	0

Tactical Investment Positions (3 - 6 months)

Recommendations	Open Date	Open Levels	Stop	Closing Date	Closing Levels	P&L Since Inception
Long Gold	11/3/2017	1277	1213	N/A	N/A	0.9%
Long GBP	11/3/2017	1.311	1.245	N/A	N/A	0.4%
Long MXN	11/3/2017	18.98	19.929	N/A	N/A	0.2%
Long BRL	11/3/2017	3.26	3.423	N/A	N/A	0.6%
Long Copper	11/3/2017	314.35	298.633	N/A	N/A	-1.7%