

March 2017

Bellwethers of a fall

- We issue our first-ever warning of a global crash.
- International debt issuance stalled in 2008 and has never recovered. To cope, central banks and governments created a massive flux of artificial liquidity that led to a feeble economic recovery.
- Asset valuations are not in line with the underlying real economy, which creates a risk for a market crash in the near future.
- Economic forecasts may be seriously biased at the moment.

It is well known that the recovery from the financial crisis of 2007 – 2008 has been nascent all over the world. Global economic growth has lagged previous recoveries both in speed and scope. Figure 1 (see Appendix) presents the gross domestic product (GDP) per capita for 160 countries indicating declining growth. While the average annual GDP pc growth was 2.3 % from 1994 to 2008 (1991-1993 there was a global recession), this growth was only 1.5 % from 2010 to 2015.

Several attempted explanations for this slowdown have been provided, including declining aggregate demand, debt-overhang and productivity slowdown. Our analysis yields a more detailed outcome: The crisis of 2007 - 2008 reversed the trend of financial globalization, which has undermined global growth. The pull-back in financial globalization has been masked by central bank-induced liquidity and continuous stimulus from governments which have created an artificial recovery and pushed different asset valuations to unsustainable levels. This implies that we live in a “central bankers’ bubble”. This is something we have been warning earlier (see, e.g., Q-review 1/2016). In this report, we will show why the central bankers’ bubble is such a big problem for the global economy.

During the past few decades, globalization has been one of the driving forces of economic growth. Moving production to low-cost countries tamed inflation, elevated millions of people out of poverty and fostered global growth. In this process, financial globalization has played an essential role. Financial capital has been seeking the most productive investments worldwide, which has created opportunities for borrowing and development also in the more rural areas. This has been seen as an increased issuance of international debt securities and cross-border bank lending. However, the growth in the issuance of international debt securities stopped in 2009 (Figure 2) and the cross-border bank lending started to contract in 2008 (Figure 3). These are signals for a reversal trend in financial globalization.

This reversal is visible in the global net inflows of foreign direct investments presented in Figure 4. They reached their peak in 2007 being still some \$2 trillion dollars below this level. Currently, they are also below their long-run trend (1990-2015).

Plausible explanations for the declining international debt issuance include:

1. Debt securities and cross-border lending are returning to their long-run/natural trend

¹ Gns Economics wishes to thank Laura Jernström for insightful comments and suggestions for the final version of the report.

from the debt-fueled boom in the late 1990's and early 2000's.

2. The world economy has been in a slowly moving crash since 2008, which can pickup pace at any moment.
3. Increased uncertainty.
4. Combinations of the above.

In the first case, it is assumed that there exists a long-run trend, or an *equilibrium*, between global GDP, the international debt securities and cross-border lending. Increasing production and/or improving production technologies are usually associated with borrowing against future income from those investments. Thus, when production grows, the debt stock has a tendency to grow. This leads to a trend or *equilibrium* growth in GDP and debt. The IT-boom at the end of the 1990's and the excess savings of Chinese and oil-rich nations in the early 2000's accelerated speculative investing worldwide. This may have led to an abnormal growth of debt and cross-border lendings. That is, international financial flows to speculative investments could have increased international debt issuance and broken its equilibrium with the world GDP. The crisis of 2007 - 2008, mostly induced by speculative investments (CDO's, etc.), led to a pull-back in speculative investment flows, which caused a contraction in the international debt issuance. And this will keep going until global debt issuance reaches a new equilibrium with the global GDP growth.

The second explanation states that the economies never recovered from their 2007 – 2008 crisis. Low aggregate demand and slow productivity growth left the economies in a situation, where they have been unable to grow due to lack of productive investments. This has led to decreasing debts and cross-border financial flows between nations, as

profitable investment opportunities have not been available.

Thirdly, financial anxiety created by exceptional and un-tested monetary policies (e.g., near zero and negative interest rates) and geopolitical tensions in Middle-East, South China Sea and Ukraine may have caused investors to become more wary concerning their investment strategies. This increased uncertainty among investors could have obstructed international debt creation since the crash of 2008.

Every explanation forebodes troubles for the global asset markets and GDP growth. Because debt and especially bank lending create liquidity,² stalling or diminishing loan creation indicates that there is less liquidity in the world economy. This leads to deflation and a recession. Major central banks have been battling this trend since the crisis of 2007 - 2008 (Figure 5). They have tripled the size of their balance sheets (from around \$6 trillion to around \$18 trillion) through the programs of *quantitative easing* (QE) to stem off global deflation. Governments have joined the battle and the share of central government debt to GDP in 36 major industrial economies rose from 62.5 % in 2008 to 83.4 % in 2015. The global sovereign debt now stands at \$44 trillion (around 60% of global GDP). These measures have supported the global economy but they have not solved the underlying problem, namely the reversal trend of financial globalization.

Limits of central bank-induced stimulus

The expansion in governments' debt and balance sheets of central banks can naturally go on only for a limited time. There is an upper limit in the debt per GDP ratio and QE programs will be limited by the assets available to the central banks. In practice,

² See, e.g., Werner (2014) for a detailed explanation and empirical evidence on the bank lending.

the market economy restricts the central bank-induced creation of money.

When private firms issue loans and bonds to households, corporations and investors, they trade with each other in competitive markets that allocate assets and resources on the basis of their expected profits and risks. The larger the share of publicly owned assets in these markets, the less efficient is this allocation process. This is because efficient allocation requires that the risks and expected returns of assets are signaled through market prices. When central banks take active roles in these markets, they mess up the price signals, because, unlike normal investors, central banks do not have a budget limit; they need not to obey the fundamental economic principle of scarcity. Thus, when central banks buy assets with money that has no counterpart in the real economy, it will only inflate the asset prices thus distorting the price signals from expected profits and risk. At some point, the central bank would hold majority of the assets, which would “kill” their market. This is why central banks have capped their purchases of assets.

So, in practice, the QE programs are limited by the fact that government bonds are held as collateral by banks and other financial institutions, which at some point, will just refuse to sell. Currently, holdings of government bonds by the European Central Bank (ECB) is closing the (self imposed) 33 % issuer limit put on place to stop ECB of coming dominant government of creditors. ECB also holds over 10 % of European corporate bond market. Therefore, ECB programs are already reaching their (practical) limits.

The central banks have already bought massive amounts of government and corporate bonds. Thus, the prices of assets have already been fed by central

bank stimulus indicating that the current valuations are not sustainable, or that they are sustained only through central bank-induced artificial liquidity. In a way, the central banks have painted themselves into the corner. Returning to normally functioning market economy would require removing all the support functions (normalizing interest rates and selling cbs’ holdings of corporate and government bonds), which would crash the asset markets. The central banks cannot go on buying debt securities indefinitely either, as explained above. This poses a perplexing problem. As the central banks hold large amounts of government and corporate debt, a dramatic fall in their values could force them to bear heavy losses thus impairing their independence and credibility.³ Although the central banks can temporarily operate with negative capital, losses would eventually need to be covered. This can be done either through capital injections from governments and/or by increasing seigniorage revenues through money printing. As governments are already highly indebted, money printing is the only option to cover massive losses.⁴ But this tends to lead to rapid deterioration in the value of money, i.e., to markedly fast inflation.

Threat of a systemic crisis

As we speculated in our report in December (Q-review 4/2016), the risk for a systemic crisis or a ‘meltdown’ has increased as well. A systemic crisis occurs when credit markets cease to function, i.e. as they ‘freeze’ due to mistrust between financial institutions induced by unknown but potentially massive losses. Such losses may arise, for example, through a crash in the asset markets. In practice, a systemic crisis arises when banks stop lending and making mutual deals. Other financial agents, like investment banks, will follow and the flow of credit dries up. We came extremely close to this after the

³ For a detailed explanation on accounting standard for central banks and historical examples, see Dalton and Dziobek (2005).

⁴ There is also one interesting theory on how central banks could be reliquified through the International Monetary Fund (IMF) using the Special Drawing Rights. We will return to this in our blog later in the spring.

failure of the investment bank Lehman Brothers in the fall of 2008. According to several insiders, we were only hours away from a shut-down of the global financial system.⁵ Therefore, utopistic as it may sound, the threat of a systemic meltdown is still tangible.

Seizing up of the global credit markets would have some serious repercussion for the global economy. In a systemic crisis, the global trading of bonds, commodities, assets, and derivatives will lose power. One of the most noticeable effects of a systemic crash would be the freezing of the Forward Freight Agreement (FFA) markets used by ship owners, traders and charterers to protect their shipments against price swings and accidents. Without FFA's, the global shipments of goods and trade would seize. The roll-over of debts would become basically impossible and the flow of credit would become squeezed. Credit cards would stop working and, eventually, money would stop coming out of ATM's. Commerce would diminish to a very minimum (food and basic necessities) and economies would grind to a halt. It is very likely that civil unrest would follow.

There is, however, a system in place to contain the effects of a meltdown of the financial markets. After 2008, governments across the globe have put in place regulations and means, which allow a controlled closing of financial markets and seizing up the assets of financial institutions by government authorities. They would, basically, lock-up the money of consumers, corporations and investors in financial institutions until the crisis has passed, to avert the failures of the big financial institutions. The money locked-up could also be used to shore up the balance sheets of financial institutions. This is the 'bail-in' procedure, which is the current guiding principle of bank rescues in the EU. It would be an effective remedy for the crisis, but it

would also wreak havoc among corporations and consumers as these measures would deny access to the funds. Officials may also issue similar cash withdrawals as in Greece during the summer of 2015, when the daily limit of a withdrawal from an ATM was €50. This would naturally seriously undermine the functioning of the economy.

For such an apocalyptic event, a trigger that induces a global financial meltdown is needed. We identified four such triggers in December (Q-review 4/2016):

1. The crash of the European banking sector.
2. A combination of a rising value of the dollar, banking regulation and risk aversion among the big banks, decreasing the roll-over of global dollar-denominated debts.
3. China's economic crisis.
4. Bursting of the central bankers' bubble.

From these, the de-regulative policies of the Donald Trump decreases the likelihood of no. 2 by scaling back the banking regulation. Furthermore, the likelihood of the other triggers has remained the same or increased.

The European banking sector is still teetering on the edge of collapse. Italian government has pledged to use some €20 billion to save ailing Monte dei Paschi di Siena, the world oldest bank, but they have serious issues with their largest bank, Unicredit, too. Earlier this year, this bank announced that its capital ratio may fall short of the requirements of the ECB. To cover the shortfall, Unicredit needs to raise over \$13 billion of new capital by June, the biggest capital expansion in the history of the Italian stock market. In total, Italian banks are reported having \$360 billion worth of non-performing loans in their balance sheets versus \$225 billion of equities. This indicates that the

⁵ See, e.g., the interview of former Chancellor of the Exchequer of Britain [Alistair Darling](#) and comments by former Chairman of the Federal Reserve [Ben Bernanke](#).

entire Italian banking system may become insolvent, if its economy fails to recover. IMF has also raised alarm about the banking system in Portugal. At the end of the last year, the ratio of non-performing loans to total gross loans in Portuguese banks was 12.2 %, having increased by 11 percentage points since 2006. The euroarea average is 5.4 %. If bank failures starts from Italy and/or Portugal, they could easily expand to European-wide, because of the close financial connections between the European banks. Moreover, The Deutsche Bank is still alarming, regardless of the \$8.5 billion public offering and the \$2 billion it is expected to receive from asset sales. Banking crisis in Italy could be something that pushes it over the edge and the European banking sector with it.

One of the main factors behind the latest spurt in global economic growth has been the stimulus of China. It is not well known, but China had a miniscule recession in 2015 caused by a squeeze in lending and a fiscal shock. To counter this, Beijing issued a massive debt-driven economic stimulation program at the beginning of 2016. Both the recession and the stimulation can be seen from the development in the composite leading indicators (CLI) shown in Figure 6 in the Appendix. CLIs track the near future prospects of an economy through changes in the orders and inventories of businesses, different financial market indicators and business confidence surveys. Figure 6 shows first a downturn in summer of 2015 and then a sharp upturn in the summer of 2016 in the CLI of China. China has relied heavily on debt creation to stimulate economic growth since 2008 and that road is ending. Figure 7 shows the current level of credit-to-GDP ratio and the GDP per capita in China, Finland, Japan, Taiwan and the United States and their financial crises. The Figure shows that in

China, the share of credit-to-GDP is at a very high level, especially when compared with the level when other countries have faced financial crises. Also, the numbers do not include the ‘shadow banking’ sector, which is reported being large in China. With the speed of credit creation more than twice that that of growth of GDP, it is evident that China cannot continue with this trajectory for very long.

The bursting of the central bankers’ bubble could start from a crash in the stock and/or bond markets. In the US, the traditional valuation criteria e.g the price-to-earning, and price-to-sales ratios of stocks are very high. According to some estimates, they have been higher only two times: before the crash that ignited the Great Depression in 1929 and before the bursting of the IT-bubble in 2000. From these, the crash in 1929 is the most relevant to the current situation. Its was preceded by years of easy credit and speculation.⁶ After the Federal Reserve tightened its monetary policy in January 1928, corporate results started to worsen, but speculation increased.⁷ Boom reached its peak in August 1929 and after months of poor corporate earnings the Dow Industrial lost 25 % of its value in just three trading days between October 24 (“Black Thursday”) and October 29 (“Black Tuesday”). After a brief recovery, stock markets continued their decline and bottomed out only two and a half years later in June 1932 having lost almost 90 % of their value. Consumption, investments and corporate profits collapsed leading to a depression that spread across the globe. In the US, the depression lasted until spring of 1933.⁸

There is one additional trigger that needs to be considered, namely European politics. Elections in France and Germany could leave the euro and the

⁶ Crafts and Fearon (2010).

⁷ Gold standard was a partial reason for this, as under it increasing interest rate attracts gold inflows and capital into the country.

⁸ Crafts and Fearon (2010).

EU in a perilous situation. The victory of Marie Le Pen in France could start a process, where France would exit from the common currency. Although the likelihood of an euroexit of France is still relatively small, 15 % according to our estimate, elections and referendums last year imply that surprises (against the polls) are possible. However, there is another course that could lead to political instability in Europe. Let us say Emmanuel Macron wins in France, there will be coalition excluding the party of Geert Wilders in Holland and Martin Schultz wins in Germany. Then Germany and France could start to hasten European integration. European parliament and commission are currently drawing out plans for, e.g., rainy-day fund which all the countries of Eurozone would be obliged to participate. It would provide gratuitous funds for the euro countries experiencing recession. This would enact direct income transfers between countries of Eurozone, mainly from North to South. There could even be a requirement that not joining the rainy-day fund would mean stepping out of the euro. How would, say, people in Finland and the Netherlands respond to this? With all likelihood, not well. And the situation of Greece is getting very hairy, once again. If there is a default, Greece will most likely leave the Eurozone. If a single country leaves the euro, it will change the currency union in a way that is very difficult to predict, possible even leading to its complete demise. Eurozone breakup would shake the global financial order to the core. Therefore, European political developments need to be watched closely as they may yield some major shocks. We estimate that the likelihood of a political crisis in the EU is 45 % for the next 12 months.

Forecasts

We estimate that the likelihood of a serious correction or a crash in the asset markets is 70 % for the next twelve months. Thus, we issue a global crash warning. If there is a crash, central banks are likely to hasten or re-start their QE-programs.

Whether this will be sufficient to stop the fall is uncertain, but if not, a crisis will commence.

We estimate that the likelihood of a new financial crash is 60 % for the next 12 months. We evaluate the likelihood that a global financial crisis would morph into a systemic crisis is currently 10 % for the same period of time.

However, we consider that in a case of a renewed global financial crisis or a major panic in the asset markets, the partial or full application of lock-down and bail-in procedures would almost be guaranteed. This is because a crash the bond markets would seriously undermine the solvency of the central banks thus making it very hard for them to increase the size of their balance sheets in a response to the crisis. That is why the only reasonable option left for policymakers would be a lock-down of the financial assets and markets.

Although we have drawn a disturbing picture of the world economy, its short-term growth prospects look rather good. In Table 1 we present the *nowcasts* and the growth forecasts for the real GDP of Eurozone, Finland, and the United States under a consensus scenario.

Table 1. *Nowcasts* (nc) and forecasts for the growth rate of real GDP in the US, Eurozone and Finland. Source: OECD, Bureau of Statistics and GnS Economics.

Quarter	Finland	Eurozone	USA
2016	1.31	1.68	1.88
2017:1(nc)	0.8	0.88	0.71
2017:2	0.52	0.39	0.49
2017:3	0.47	0.29	0.56
2017:4	0.29	0.35	0.50
2017	2.1	1.9	2.3
2018	2.0	1.3	2.3

According to our forecasts, the US economy would grow 2.3 percent this year and the following year. Eurozone would grow 1.9 percent this year and 1.3 percent next year. Finnish economy would grow 2.1 percent this year and 2 percent next year. So,

everything looks rather nice, but the problem is that these figures are highly dependent on the policy decision made by government and central banks. More so than probably ever in the history of modern fiscal and monetary policies (that is, since the 1930's).

How long can this all continue? The simple answer is: As long as governments and central banks can keep it going. World economy has been supported by China recently, so a lot depends on what kind of a policy China takes. The asset purchases of the central banks will be limited by the assets available. The ability of central banks to act in a crisis is also questionable as they would suffer crippling losses if bond markets crash.

For the crisis to start, all that is required is a trigger that starts a panic selling in the financial markets. Years of easy credit, central bank meddling and speculation have led prices to very high levels in several asset markets, including stocks. If there would be a crash in the stock markets, the economy of China would tumble, the Italian banks would fall or Eurozone would fall into disarray, the crisis would be very likely to start. Not on that instant, but within the next few months when losses would begin to emerge. Faced by a market panic, the central banks would probably re-start or hasten their QE-programs. They could also resort to, e.g.,

helicopter drops of money, cash bans and negative interest rates or to the direct monetization of government deficits. It is uncertain whether these would be enough to stem the panic, but even if successful, they could only delay the onset of the crisis.

To summarize, it is our view that the bubble in the world economy has just come too big to avoid a massive correction. Without some kind of “divine intervention”, the bubble will burst and the world economy will crash. We just do not know the exact date of its demise. The first signals of the bursting of the bubble could include increasing fluctuations (mini crashes) in the asset markets and stress on the money markets, especially in the inter-bank markets.

However, when predicting the onset of a crisis, the wisdom of former economist and professor at MIT, Rudiger Dornbusch, should always be remembered:

“Crises always take longer to arrive than you think and then happen much quicker than they ought to.”

The policy makers still have tools in their disposal to delay the inevitable. The big question is what they will do next and this makes forecasting the onset of a crisis exceptionally challenging. Nonetheless, in the current economic environment, the safest bet is preparing for the worse.

Appendix

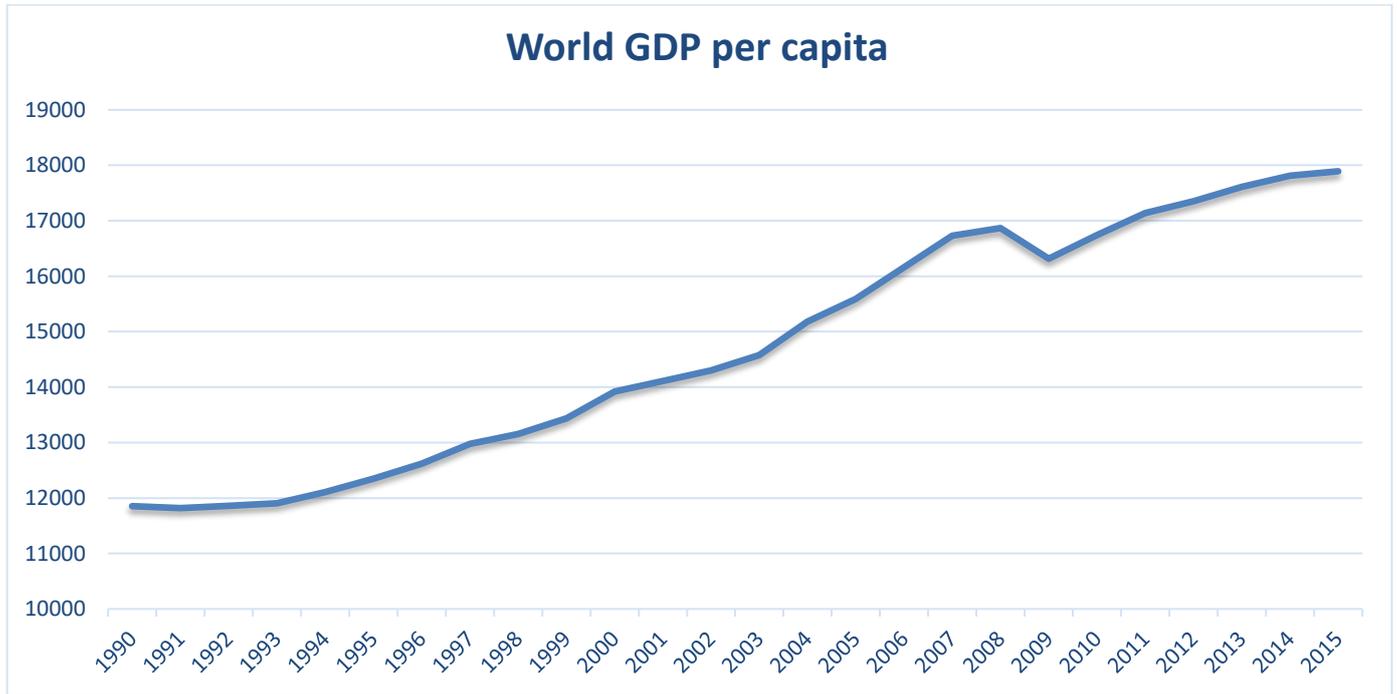


Figure 1. The GDP per capita of 160 countries in constant international dollars (base year 2011). Source: World Bank.



Figure 2. International short term debt securities in current local currencies for 47 countries. Source: World Bank

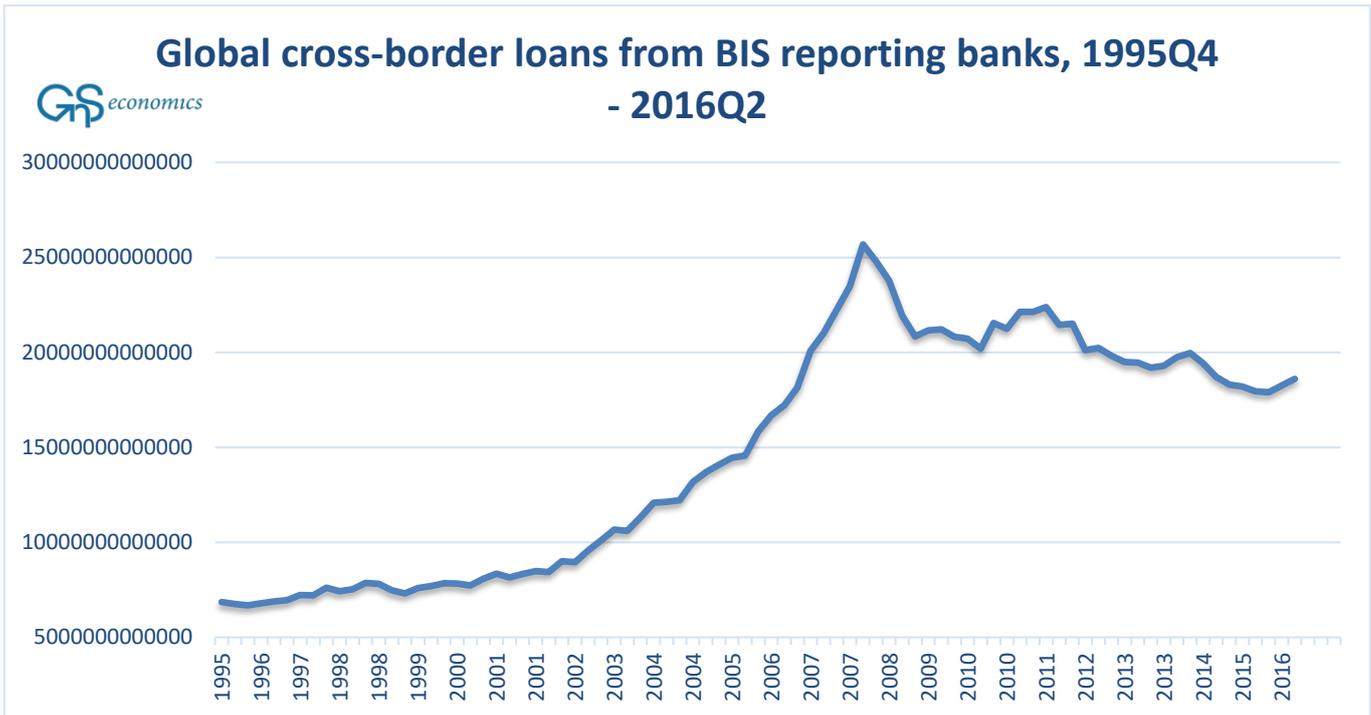


Figure 3. Cross-border loans for 185 countries in current dollars for banks reporting to the Bank of International Settlements (BIS). Source: BIS

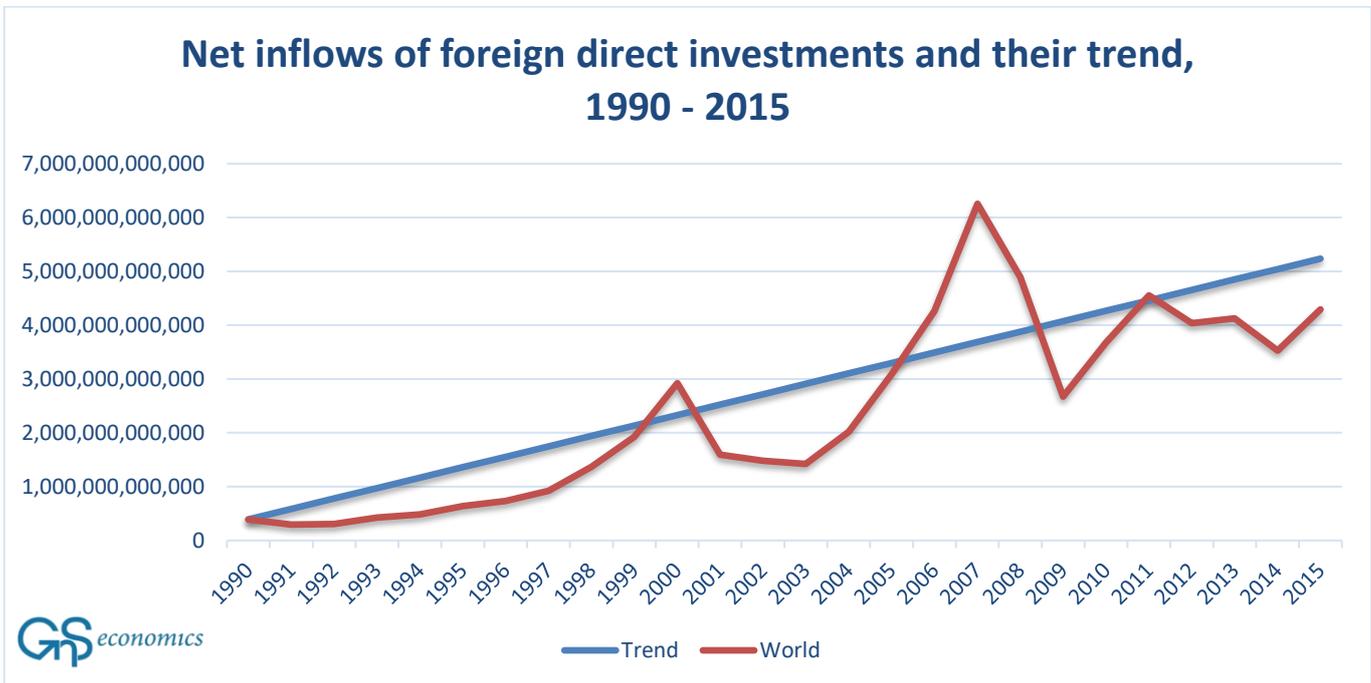


Figure 4. Net inflows of foreign direct investments (current dollars) and their linear trend estimated from a regression: $FDI = a + bt + \epsilon_t$ for 190 countries. Sources: World Bank and GnS Economics.

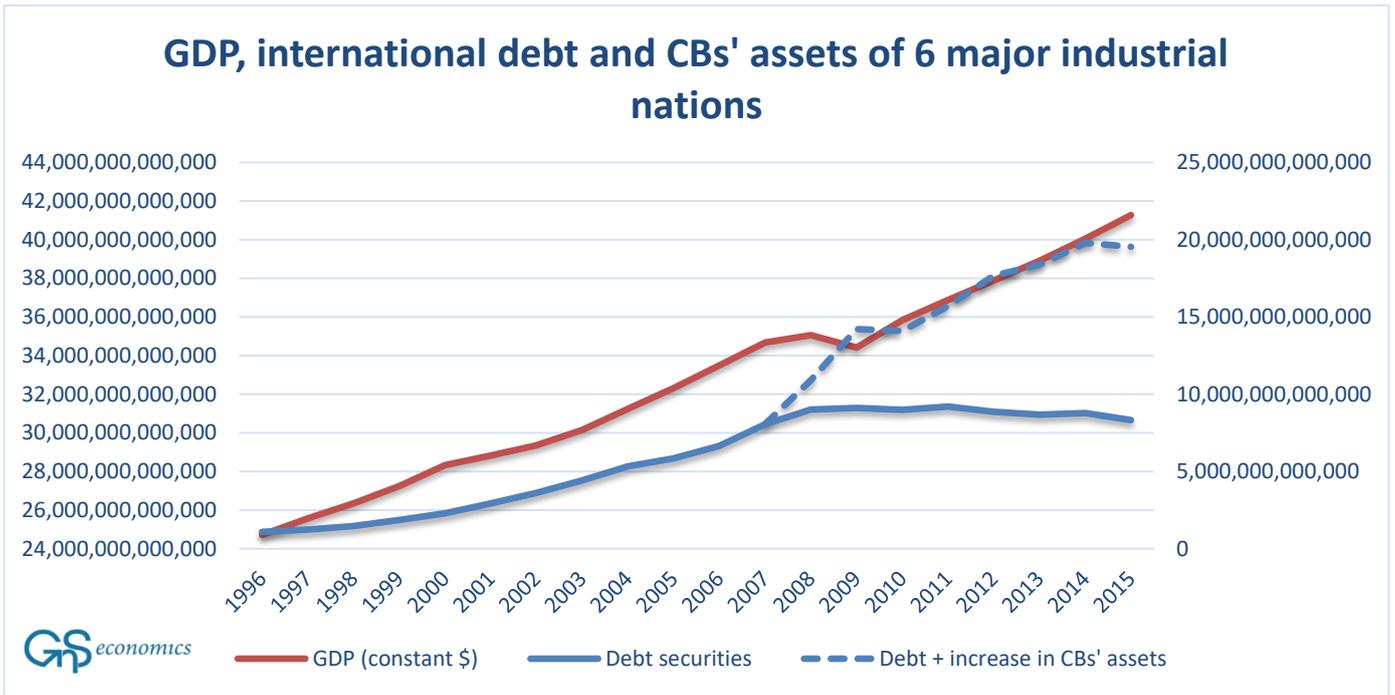


Figure 5. Real gross domestic product (left axis), international debt securities in all maturities and increase in assets of central banks since 2007 (right axis) in real international dollars in China, France, Germany, Japan, Switzerland, the United Kingdom and the United States. Source: World Bank

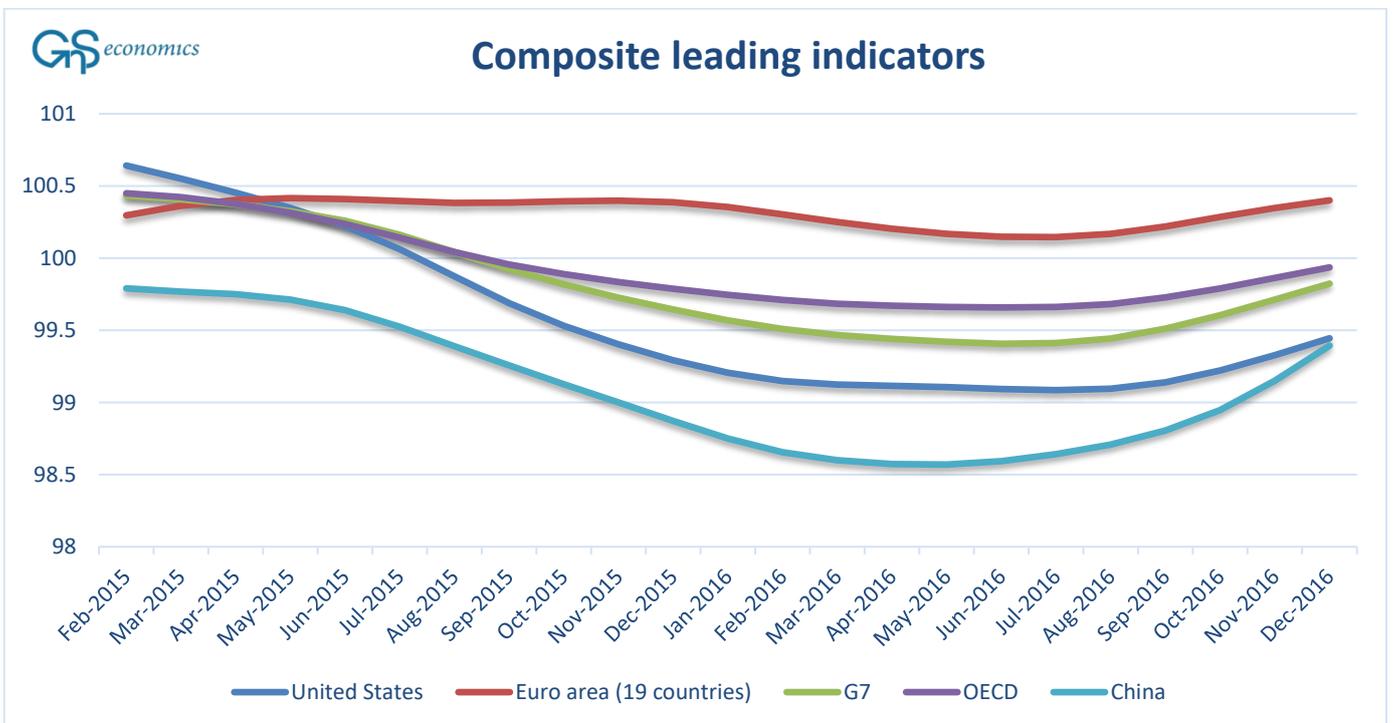


Figure 6. Composite leading indicators for the euroarea, the United States, China and G7 and OECD -countries. Source: OECD

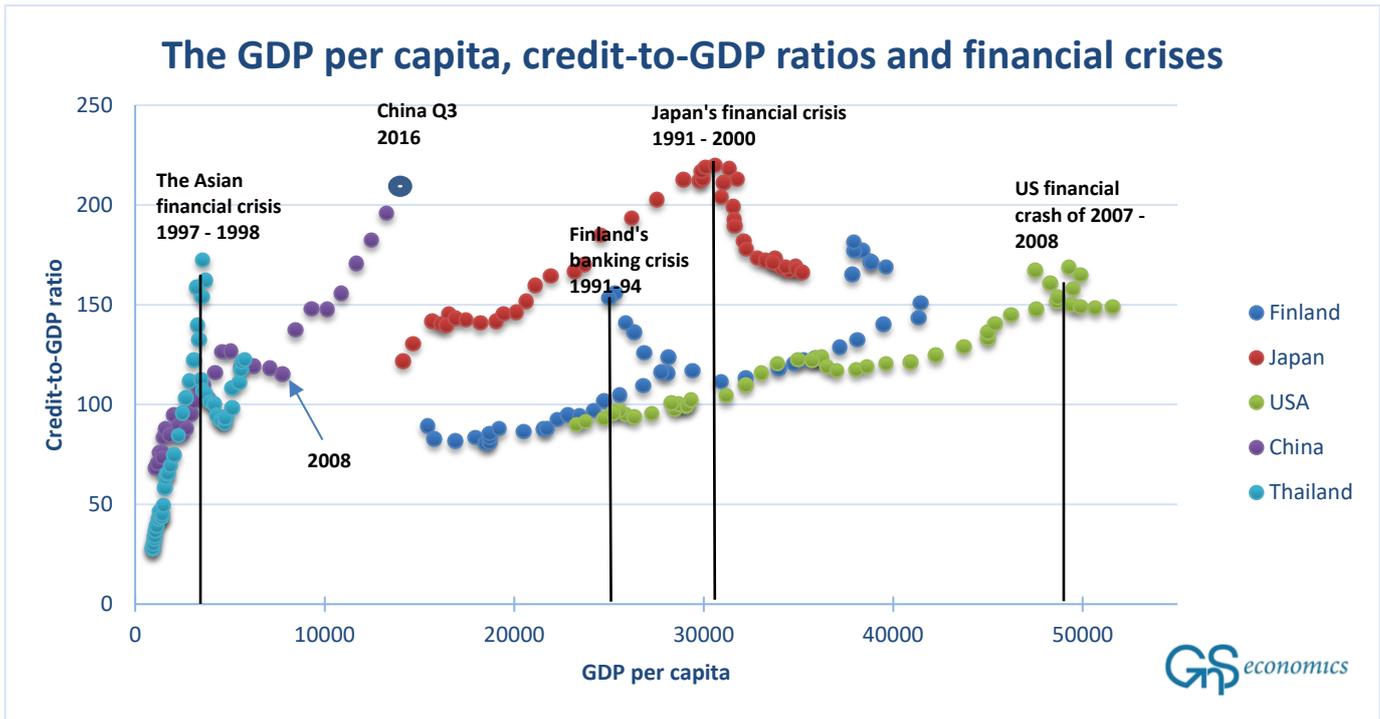


Figure 7. The GDP per capita (horizontal), credit-to-GDP ratios for non-financial private sector (vertical) and financial crises. Sources: BIS, the World Bank and GnS Economics

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Process descriptions

The forecasts reported in this Q-review are based on the statistical modeling methods from the most recent academic research on predicting business cycle fluctuations. Nowcasts refer to the forecasts of the growth rates of the real Gross Domestic Product (GDP) for the current quarter. Nowcasts are needed because the standard measures for the GDP are published after a considerable lag and are typically subject to subsequent revisions, indicating that the coincident state of the economy is always uncertain. Our nowcasts for the current quarter are based on statistical models where all relevant information available at the time of nowcasting is utilized.

The GDP forecasts for longer horizons (over the current quarter) are based on the dynamic forecasting models where forecasts are constructed iteratively. This means, for example, that the three-quarter forecast is essentially based on the two-quarter forecasts and so on. Forecasts are constructed for all three economic areas (the Eurozone, Finland and the US) indicating that they depend on each other. Finally, note that the forecast scenarios considered in this Q-review are based on the expert view of GnS Economics.

The next Q-review will be published in June 2017.

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