GnS economics **Q-Review 2/2017**[1]

June 2017

Towards global recession

- The global economic expansion is on its final leg.
- Signals from the US and from China indicate a slowing economic momentum.
- Overvalued asset markets have set a stage for a major global deflation.
- The risk of a global asset crash is growing.

There has been a lot of talk about a global reflation trade or economic re-recovery recently. Economies of the US, China and Eurozone are expected to pick up steam, lifting global economic growth to some 3.5 % for the following years.[2] However, we argue that the direction of the global economy is completely different. The US and China are heading to a recession, which are likely to onset a major global downturn. This will drag stock markets notably lower, which has the potential to start a large scale deleveraging, deflation and a global banking crisis. In this report, we provide evidence to back our claim concentrating on the US and China.

During 2016, China was supporting the global economy (see Q-review 1/2017). Since then, growth in Eurozone rebounded and it had been proposed that Europe could replace China as the global growth driver. However, within the last 8 years the role of China in the global economy has grown considerably while the role of Europe has diminished. Figure 1 (see the Appendix), presents the gross capital formation of China, the US and Eurozone as a share of the global capital formation. It also presents the share of the exports of GDP for the same countries or regions. Figure 1 shows the decreasing role of Eurozone and the increasing role of China in global capital formation. Further, while the role of the exports diminished in China, it has grown in Eurozone. The roles of the US for the EU are: number 2 (imports) and number 1 (exports).

The role of Europe in the global economy is still considerable but as many European countries have concentrated on expansion through exports it cannot lead the global growth. This needs a strong investment and consumption position, which Europe does not have currently. Thus, it is unlikely that the current Europe could replace China as the engine of the global growth, unless Germany and the other Europan surplus countries decide to take an unexpected investing spurt.

Given that the US and China currently account for 40 percent of global capital creation, their role in the global economic expansion is essential. This is why the crucial question for the global economy is where these countries are heading to.

The mature expansion in the US

Economic growth consists of two parts: the long-run trend and the fluctuations around that trend (the business cycles). The long-run trend is dictated by

[1] GnS Economics wishes to thank Min Zhu for her assistance with the Chinese data.

[2] See, e.g.: http://www.imf.org/en/Publications/WEO/Issues/2017/04/04/world-economic-outlook-april-2017.

technological progress which enables the continuous production growth. The business cycles are driven by the fluctuations in different short-run factors from which the most prominent one is credit. In an upturn, both consumers and business use credit to expand their consumption and production. This creates a positive pulse in the aggregate demand feeding more consumption and investment again. When the business cycle matures, credit starts to contract. In a mature business cycle, the consumers and the corporations have 'loaded' themselves with debt and they start to cut back their lending. Furthermore, periods of economic expansion usually create unproductive investments which start to burden the revenue flow of the corporations. At the end of an upturn, interest rates are usually high (in relation to the stock of debt) hastening the contraction in lending. Credit diminishes and the economy starts to contract. This continues until the consumers and businesses start to increase their consumption and investing, which restarts the credit and business cycle again.

For any country that has experienced a long economic boom, the flow of credit is crucial when determining the phase of the business cycle. In the US, the upturn has already lasted for eight years, which is the third longest economic expansion since the Second World War. Figure 2 presents the fractions of consumer and non-financial corporate total credit from GDP. It shows that both of their GDP shares are beyond their former peaks. Therefore, we can conclude that the US credit and thus business cycles are in their mature stages. But where are they heading to?

In a mature business cycle, the *flow* of credit is an important gauge on what's to come. It measures the new borrowing used to increase production. If the flow of credit is declining, then businesses are constraining their investments. A declining flow of the consumers' credit signals diminishing consumption.

Figure 3 presents the flow of credit or the *credit impulse* in the US (see the Appendix II for a more detailed explanation on how the measure is calculated).[3] The Figure shows that this credit impulse has fluctuated rather heavily after the recession of 2007 – 2009. It declined sharply in early 2011 and then recovered in late 2011 and 2012. Currently, the impulse is in a clear decline.

Figure 4 presents the credit impulse for commercial and industrial loans, an important sub-component of the broad loans and leases credit category. A comparison of the credit impulses shows that they are both declining currently. The credit impulse for commercial and industrial loans is also declining the fastest rate outside a recession since the first quarter of 1988 (following the stock market collapse in October 1987).

It is of course possible that the credit impulse will turn positive again. There have been some signals of easing the credit conditions after the interest rate rise by the FED in March. The reason for this abnormality (credit conditions should tighten with the interest rate) is unclear but the credit conditions have been tightening in the auto market accounting for some 20 % of consumer spending. When auto sales start to contract, other consumer segments are likely to follow. The decline in the light vehicle sales (see Figure 5) is thus a bad omen for the overall US economy.

Moreover, if this was, for example, the year 2013 we would not be worried. The overall indebtedness of the consumers and businesses would be below their previous peaks and interest rates would be low. Now, debt of both consumers and companies are higher than ever and the interest rates are on the

[3] See Biggs, Mayer and Pick (2010).

rise making a notable turnaround in the credit impulse unlikely.

It is actually rather difficult to see where the speculated growth spurt could come from. The confidence of the consumers and small and medium-sized businesses is already at record heights. The government debt of the US is now standing at 105 % of GDP. The political situation is tricky, to say the least. President Trump faces a strong and stubborn opposition and his managerial mistakes in the White House have given some leverage to it. It is our assessment that there is only a very small chance that fiscal stimulus programs like tax cuts and large scale infrastructure investments will pass the Congress and the Senate. Even if they pass, the realized programs are likely to be smaller than what is expected by the markets. Furthermore, the passed programs would boost the economy just for some quarters.

The stock market is likely to have a decisive role in determining the turning point. It has moved higher and higher being supported by the assets purchase programs of the global central banks (see Q-review 1/2017) and the hype around president Trump's stimulus programs. The market cap to GDP, measured by the share of the corporate equities (stocks) to the nominal GDP has reached a very high level (see Figure 6). In practice, the markets are expecting accelerating growth and thus considerable improvements in corporate earnings. The first quarter was good but, as we argue above, the short- to medium-term prospects in the US economy do not look so rosy.

The bleak outlook spells troubles for the asset markets. This creates a serious threat as consumers' confidence is highly correlated with the equity markets in the US (see Figure 7). If stock markets start to fall, confidence sacks leading to a contraction in the economy. This would lead to further falls in the asset markets and the confidence of the consumers and businesses would fall even more. A vicious circle of debt deleveraging and deflation would commence, leading the US economy sharply lower possibly even to depression. The artificial liquidity created by the central banks would vanish from the global markets, causing them to crash and the world economy to fall into recession. The faith of the global economy may thus depend on the prospects in the US equity markets.

The outlook of the US economy, based on the flow of credit, on the length of the expansion, on the level of debt and in the political situation, signals a downturn. Although an increase at the growth rate in the second quarter is almost certain, the growth momentum is unlikely to last without some extensive positive shocks.

China at the end of the road

We have been closely following the development in China since 2014. Back in December 2014, we wrote:

If the economic growth of China would stagnate, the burden of unprofitable investments would become unbearable and China would face a profound and, possibly, a regime altering economic crisis.

Ominously, the credit contraction started the following year when international bank liabilities started their rapid decline, signaling the beginning of capital outflows (see Figures 8 and 9). At the same time, China started to support the economy with fiscal stimulus (see Figure 10).

The core factors in the slowdown of China are her increasingly unproductive investments which now have become a considerable burden to the economy. The incremental capital-output ratio (the unit increase in capital formation per a unit increase in output, ICOR) has increased. Using the official GDP statistics, grossly overstated as it may be, we can see that at the end of last year ICOR was 6.9 while it was 2.9 in 2007. This means that 7 yuans must be invested to create 1 yuans output currently.

This shows as a decline in productivity growth. From 2009 to 2015, the annual factor productivity grown was only 0.13 % while from 2000 to 2007 it was 2.9 %.[4] In 2015 and 2016, the factor productivity actually fell by 2.3 and 1.6 percentage points.

As the productivity growth has sacked, authorities have increased credit creation to maintain economic growth. The loan growth currently outpaces output growth by a factor of three. In 2007, the share of credit ot GDP was around 118 %. By the end of third quarter 2016, it had reached massive 208 % of GDP (see Q-review 1/2017). Furthermore, as Moodys Investor Service has estimated that the size of the shadow banking sector is $8.5 trillion dollars the total private debt of China may be close to 300 % of GDP, a horrifying rate for any developing nation. Obviously, the credit-induced growth model is approaching the end of the road in China.

Therefore, there was no surprise that China enacted capital controls at the end of the last year and started what could be called a 'stealth liquidity constraining operation' in the financial markets early this year. The liquidity constraining operations have consisted for example of small increases in the reverse repo rate and lending facility rates. The critical question is, how successful the Chinese authorities are in controlling the market panic, while draining the liquidity. So far, everything has gone rather smoothly. However, in a highly leveraged system like the one in China, panic can start abruptly. For something of a 'canary in the gold mine', corporate bond net financing diminished for three consequtive months (through February) meaning that more debt was maturing than what was issued (see Figure 11). Although the situation has improved a bit, this may indicate a notable increase in the defaults in the future. China has not used to defaults or bankruptcies and these could trigger larger market panics.

While stimulating the Chinese economy, harrowing credit growth has supported the 'reflation trade'. As noted in March (see Q-review 1/2017), most of the global economic recovery last year was due to the stimulus programs in China. The same hold for a large array of commodities and asset classes. As China tightens, the reflation trade will be losing its most important driver.

When considering the path forward for China, two scenarios rise above others. The first one implies that the Chinese authorities try to do everything to keep the economy humming until the 19th National Congress of the Communist Party in October or November this year. However, there is a catch which leads to the second scenario. It is not known how much firepower central bank of China (PBoC) has left. When the market sentiment turns in a risky highly leveraged environment, it cannot be turned back by just increasing liquidity. Markets will eventually win the central planning. That is an economic fact. Authorities may also correctly anticipate that global economy is heading towards a recession, which can turn to be a major one. To cope with that, they need all the firepower they can master. Thus, the Chinese authorities may be forced to give more control to market forces and that may lead to unforeseen shocks and market panics.

Regardless of the policy option chosen by the Chinese authorities, it is likely to be reshuffled after the National Congress. This could mean that the authorities remove all stimulus measures letting the markets crash and then clean-up after. Another option would be some kind of controlled winding down of liquidity, although it is a mystery how this

[4] Conference Board, Total Economy Database, alternative TFP measure for China: https://www.conference-board.org/data/economydatabase/index.cfm?id=27762

could be achieved facing the current levels of debt and unproductive investments.

Thus, we need to be prepared for the adverse (economic crisis) scenario occurring in China in the nearest future. Especially because everything is not in the hands of the Chinese authorities. If the US stock market crashes, China will be seriously affected.

Forecasts

We estimate that the likelihood of a serious correction or crash in the asset markets is 75 % for the next twelve months.

We estimate that the likelihood of a global financial crisis is 65 % for the next twelve months. We evaluate the likelihood that a global financial crisis would morph into a systemic crisis is currently 15 % for the same period of time.

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 uncer consencus scenario. Source: OECD, Bureau of Statistics and GnS Economics.

Quarter	Finland	Eurozone	USA
2016	1.31	1.68	1.88
2017:1	1.60	0.50	0.17
2017:2(nc)	0.78	0.66	0.80
2017:3	0.79	0.36	0.52
2017:4	0.61	0.25	0.49
2017	3.8	1.8	2.0
2018	0.7	0.4	1.5

Forecasts presented in Table 1 look rather promising for this year. Finland would achieve impressive 3.8 percent growth, while the economies of Eurozone and the US will grow around 2 percent. In 2018, growth slows down in all countries and areas implying that the current global expansion is coming to an end. However, these forecast depends crucially on the continuation of the *status quo*. That is, they are dependent on the continuation of the asset market hype in the US and the credit expansion in China.

What would growth figures look like, if stock markets crash and financial crisis would start? In Table 2 we present the growth forecast under a scenario where global financial crisis starts in fourth quarter this year.

Table 2. *Nowcasts* (nc) and forecasts for the growth rate of real GDP in the US, Eurozone and Finland under a crisis scenario. Source: OECD, Bureau of Statistics and GnS Economics.

Quarter	Finland	Eurozone	USA
2016	1.31	1.68	1.88
2017:1	1.60	0.50	0.17
2017:2(nc)	0.78	0.66	0.80
2017:3	-0.16	-0.25	-0.11
2017:4	-1.72	-1.26	-0.93
2017	0.5	-0.4	-0.1
2018	-9.5	-5.5	-3.2

Under the crisis scenario, the economies of Eurozone and the US would face a small contraction in the real GDP this year and a considerably larger decline in 2018. The economy of Finland would still grow this year driven by its strong momentum, but it would contract by almost 10 % in 2018.

Conclusion

The political momentum towards postponing the upcoming global recession is obvious. President Trump has taken some credit on the heavily inflated asset prices since his election. FED President Janet Yellen is desperately trying to get interest rates higher before the next recession and the Communist party in China is trying to postpone the inevitable (recession and rebalancing) at least until the meeting of the Communist party in the fall. Thus, although the economies of the US and the China show signals of turning towards a recession, political capital invested in maintaining the economic momentum makes it very difficult to predict the time of the start of the recession.

It is also likely that central bankers around the world are acutely aware of the ‘monster’ they have created. An asset market crash would bring their questionable means (zero interest rates and QE) into scrutiny. After the financial crisis of 2007-2008, they were called heroes and savers of the global economy. Now, a completely different role awaits. It is more than likely that the central bankers try to do their best to postpone this. We have already seen some signals of desperation, which include the record injections of liquidity through QEs in the first quarter this year, the large scale ETF purchases by the Bank of Japan during Nikkei’s down days and the equity purchases by the Swiss National Bank, especially in March this year. Thus, there are no guarantees that central bankers will not resort to even more desperate measures, including (direct) monetization of government debt and/or the so called helicopter drops of money.

In the long run, the markets will prevail over central planning. No amount of “funny money” created by the central banks nor the government induced stimulus can dictate the market process permanently. The problem of QE:s is that they do not create income or collateral needed to service the elevated asset levels. QE:s just add zeroes to asset prices. According to recent reports, the central banks now own one third of the global bond market. This implies that the same share of the market liquidity is artificial, i.e. not based on market activities.When the tide turns and faith to centrally planned valuation levels evaporates, prices will return to the level dictated by the prospects and risks of the real economy. This is inevitable and it will lead to a global deflation on a massive scale in the future.

The stabilization process is likely to start from either China or the United States. The current asset market valuations will not sustain a recession in either of them. However, it is impossible to say where the normalization begins. The best guess may be the United States. Its political situation is shaky, the stock markets are at preposterous levels, the expansion is mature, the credit cycle seems to have turned and the FED Chair Yellen seems to be determined to keep increasing rates.

The bottom line is that everything is set for a major global crash, as we warned in March (see Q-review 1/2017). In this report, we have tried to add the knowledge on where the crash is likely to commence. The over-levered economy of China and the over-levered asset market of the US are the most likely inflection points. However, in current situation, timing the start of the recession is extraordinarily difficult, because the authorities of China and global central bankers seem to have determined to keep everything afloat until the bitter end.

It is our assessment that the key is to follow the asset market in the US. When it goes, a global asset deflation and recession will follow. In the mean time, efforts should be made to prepare for the coming market mayhem. This means develeraging, hedging the vulnerable positions and keeping a strong cash in different currencies. The storm is coming, and one should be prepared when it hits.

Appendix I: Figures

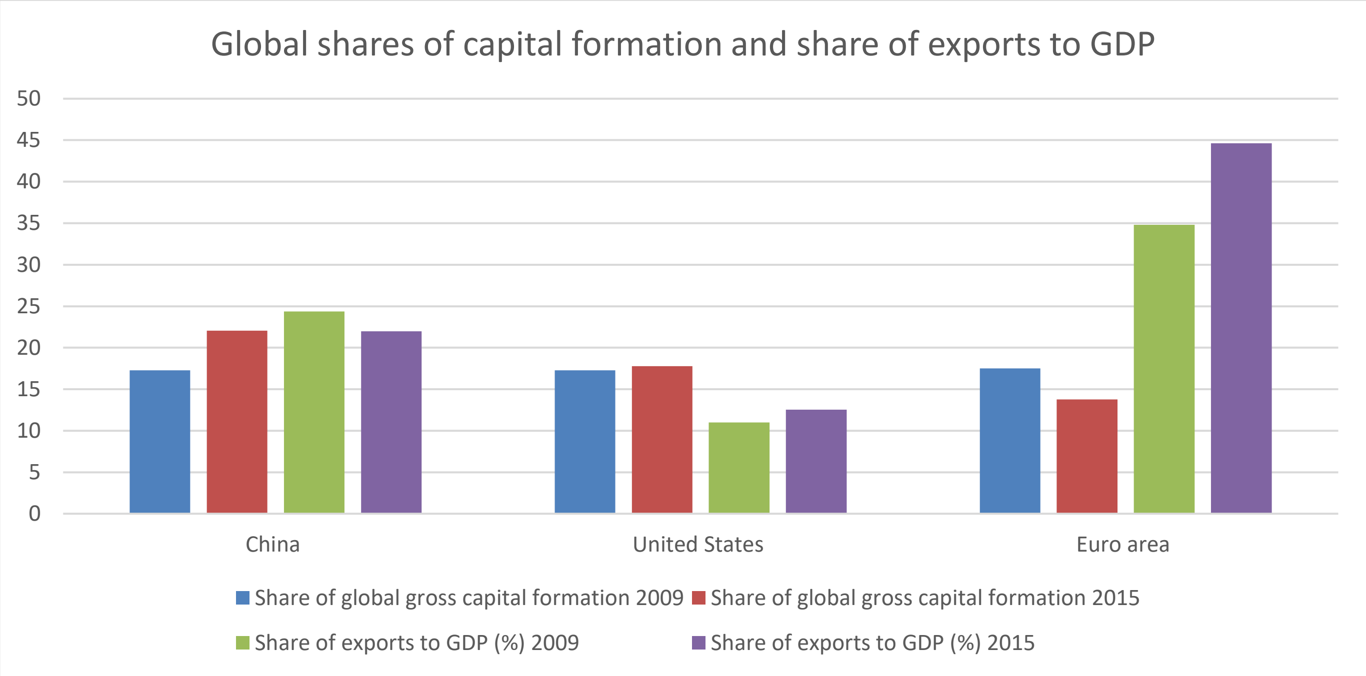

Figure 1. Global shares on capital formation and exports in China, euroarea and the US. Source: World Bank and GnS Economics

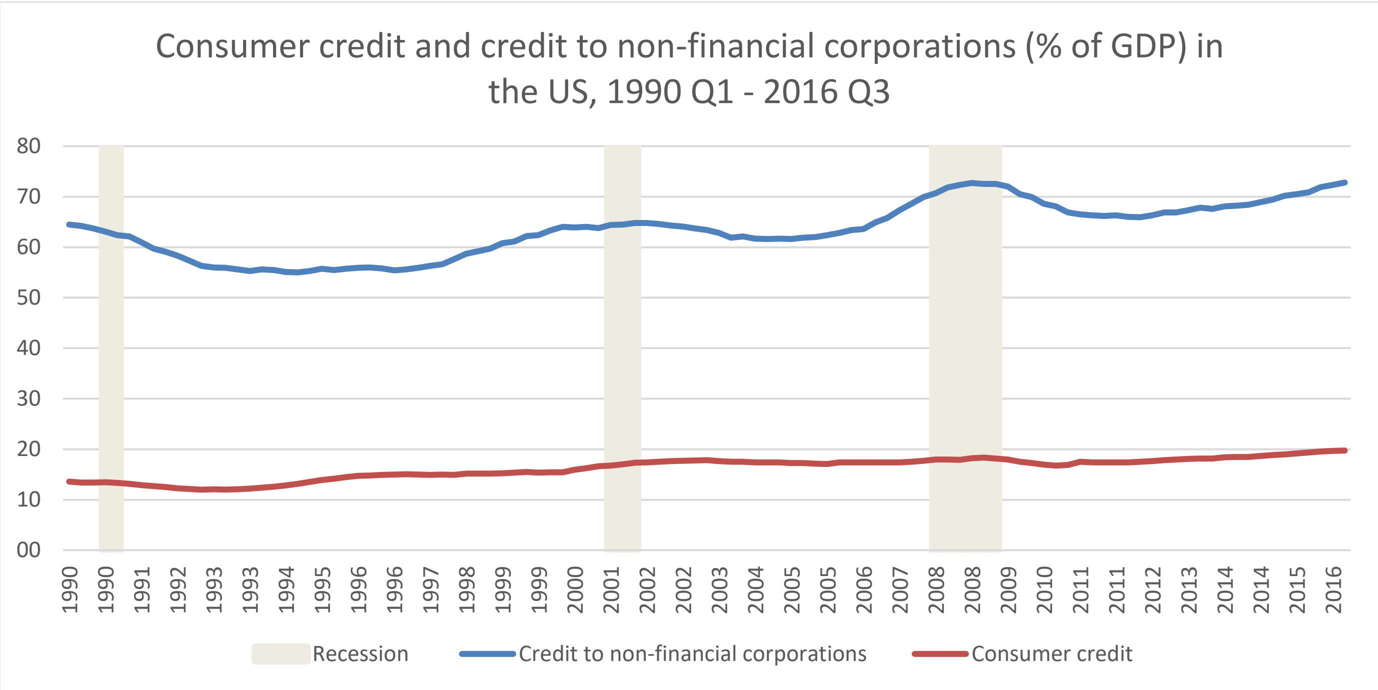

Figure 2. Total consumer credit owned and securitized and total credit to non-financial corporations as % of GDP. Source: Fed St. Louis and BIS

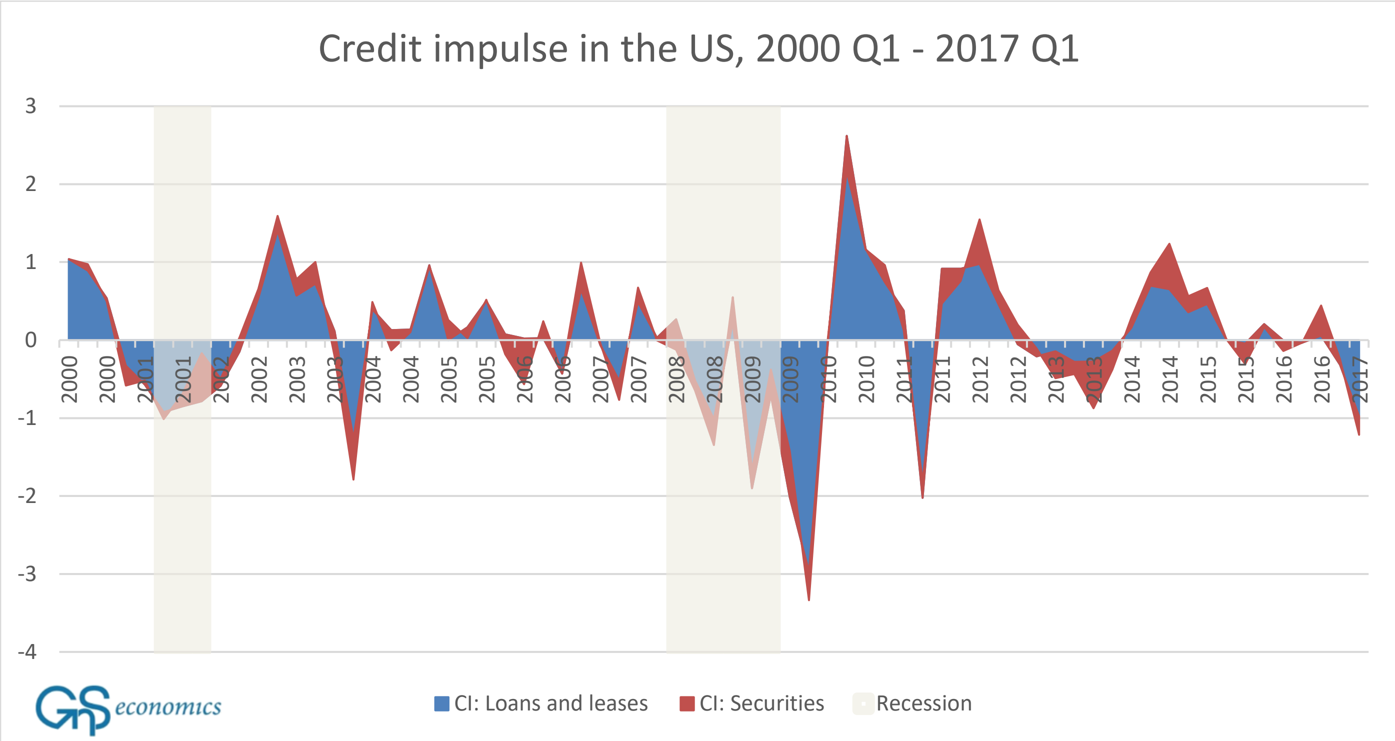

Figure 3. Change in the annual normalized growth of US credit (credit impulse) based on loans and leases in bank credit and securities in bank credit. Sources: GnS Economics and Fed St. Louis

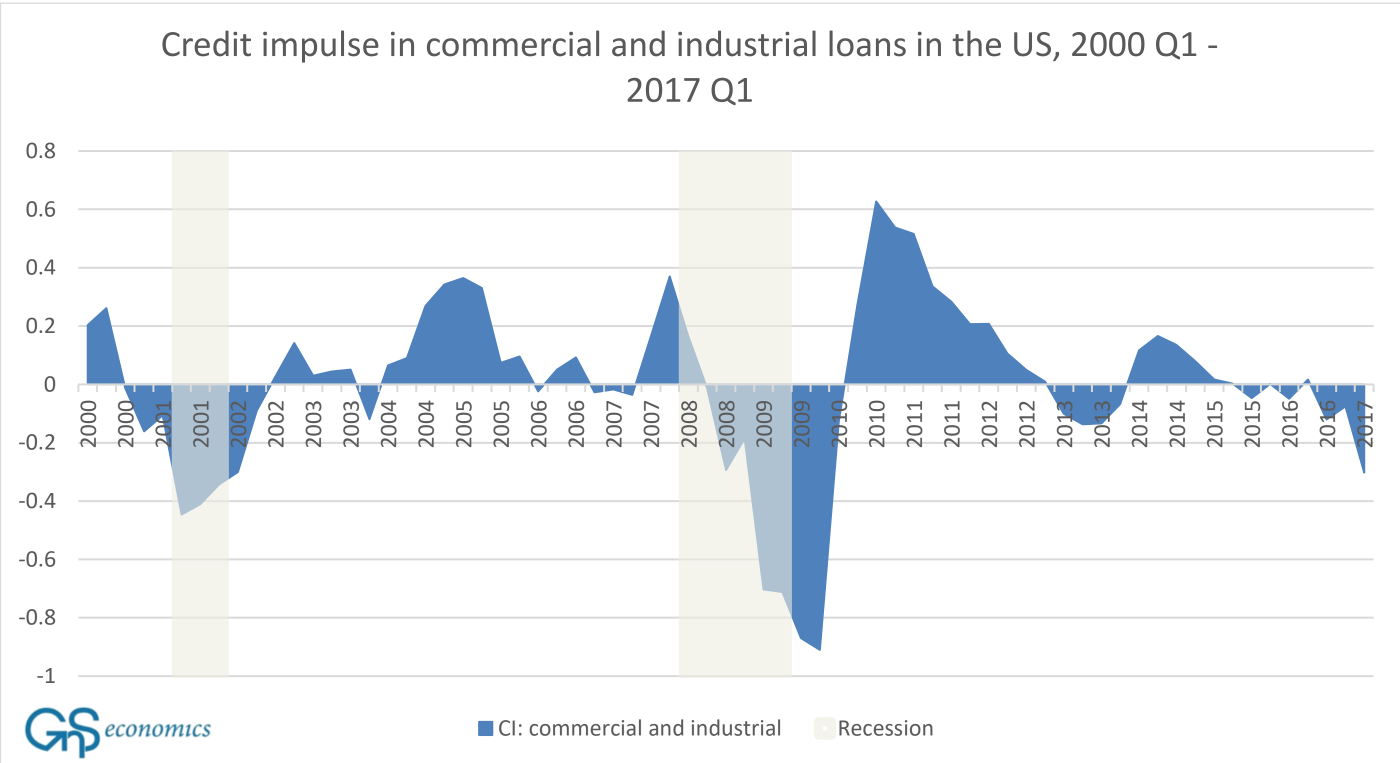

Figure 4. Change in the annual normalized growth (credit impulse) of commercial and industrial loans in the US. Sources: GnS Economics and Fed St. Louis

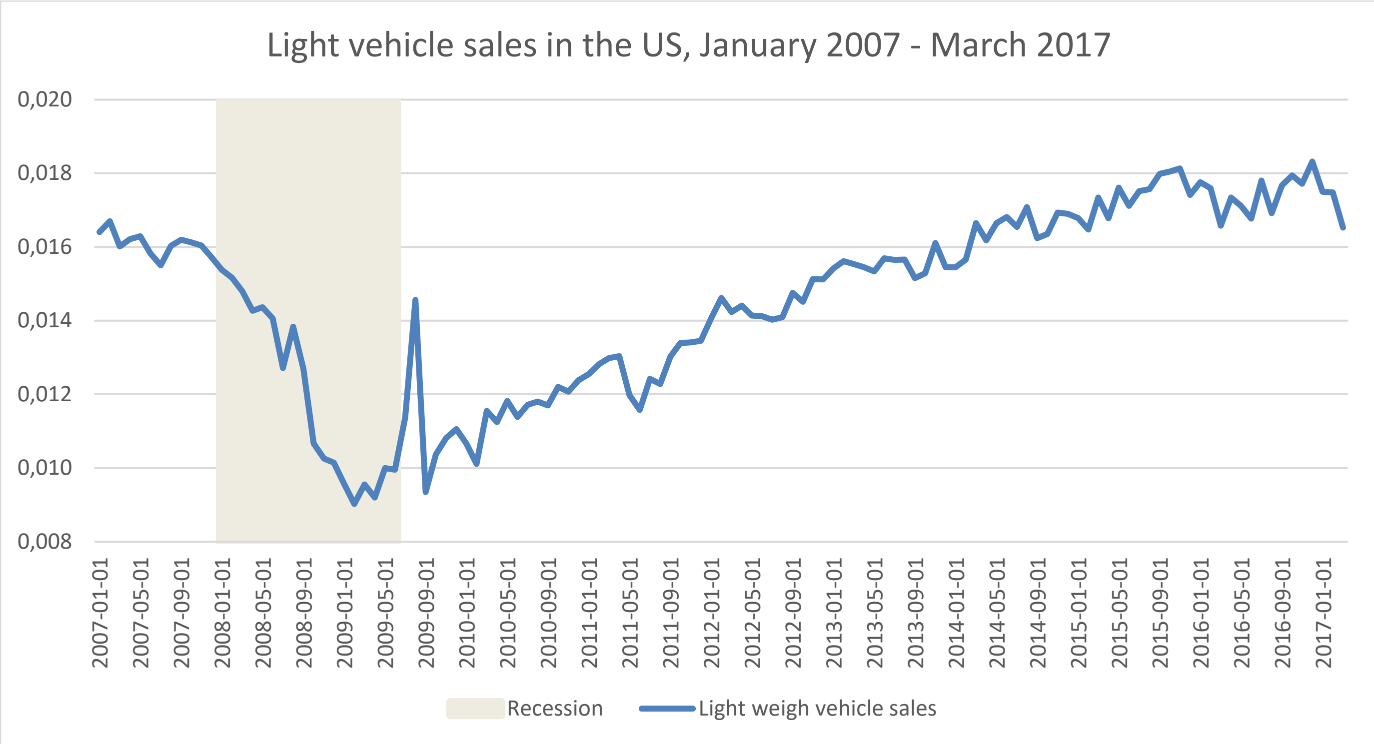

Figure 5. Light weight vehicle sales, millions of units in the US. Source: U.S. Bureau of Economic Analysis

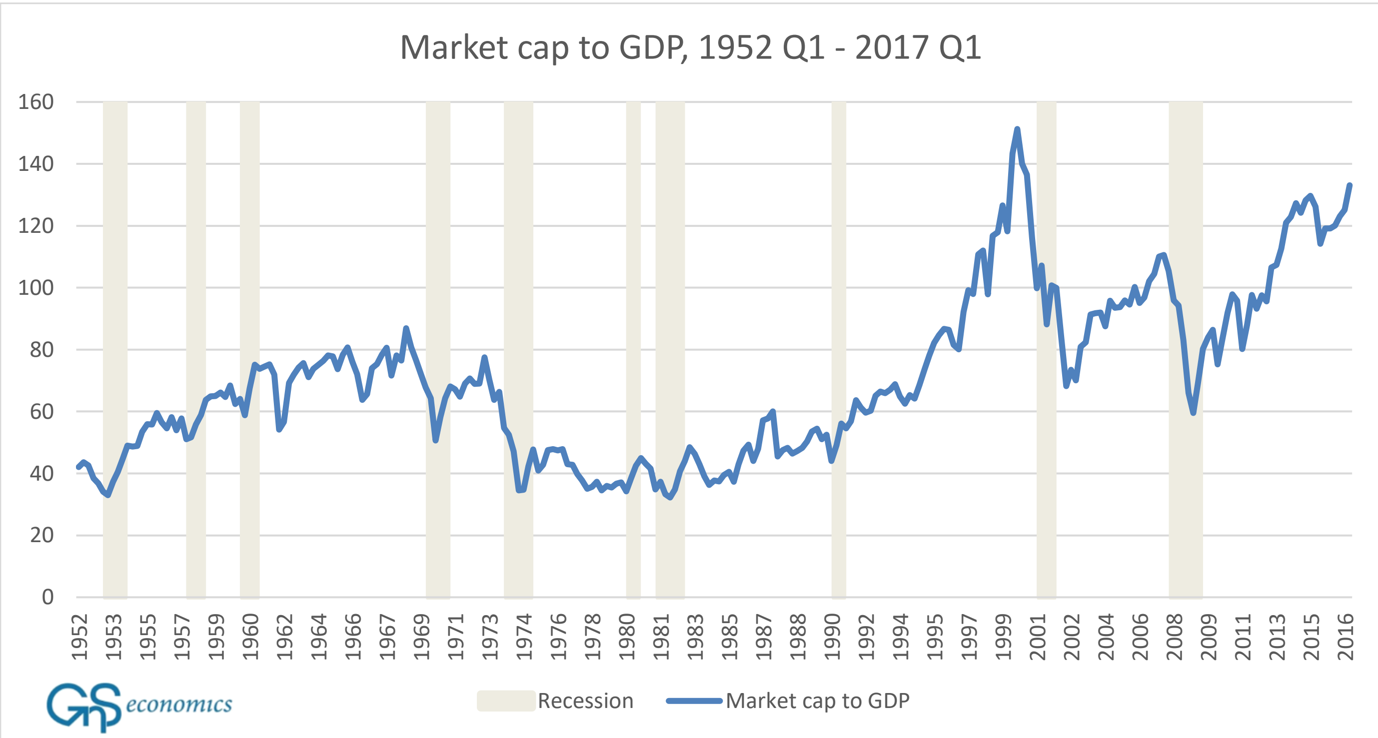

Figure 6. Share of market value of equities outstanding to GDP in the US. The Q1 number is based on the quarterly change in the Wilshire 5000. Source: Fed St. Louis and GnS Economics

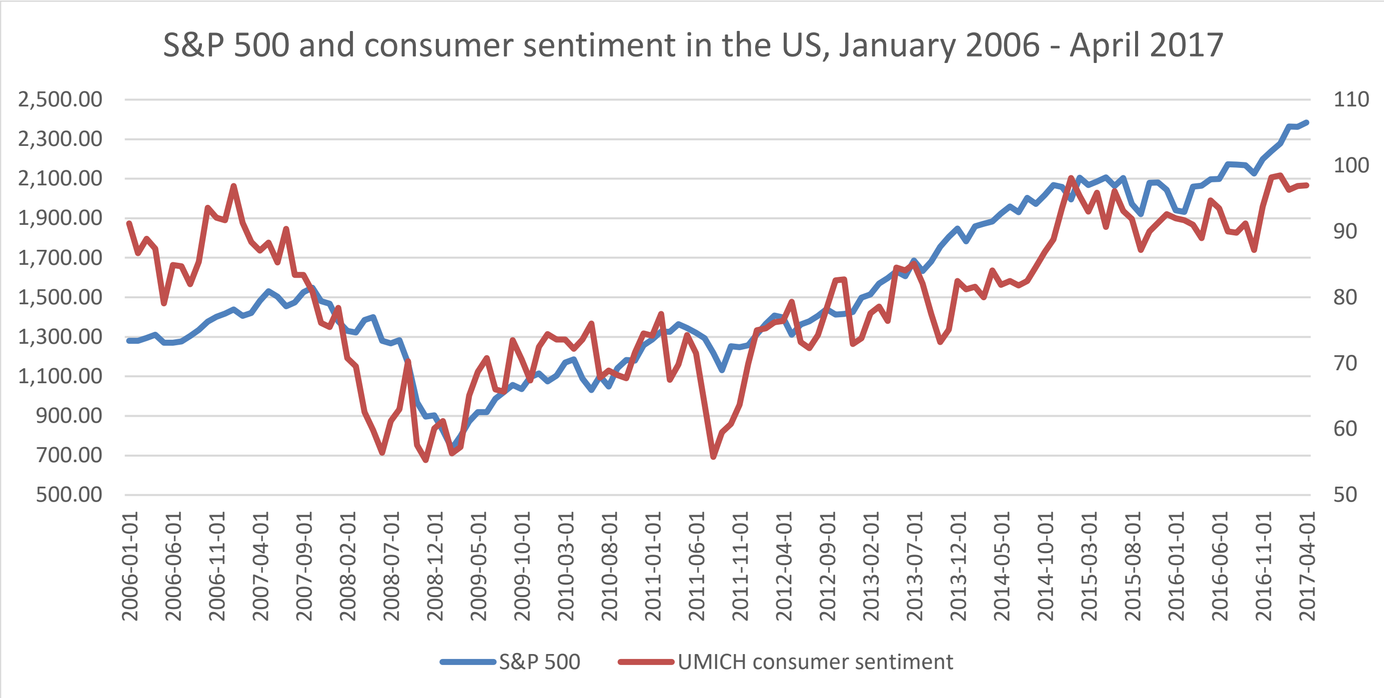

Figure 7. S&P 500 index (left axis) and the consumer sentiment according to the University of Michigan consumet sentiment indicator (right axis). Source: Fed St. Louis

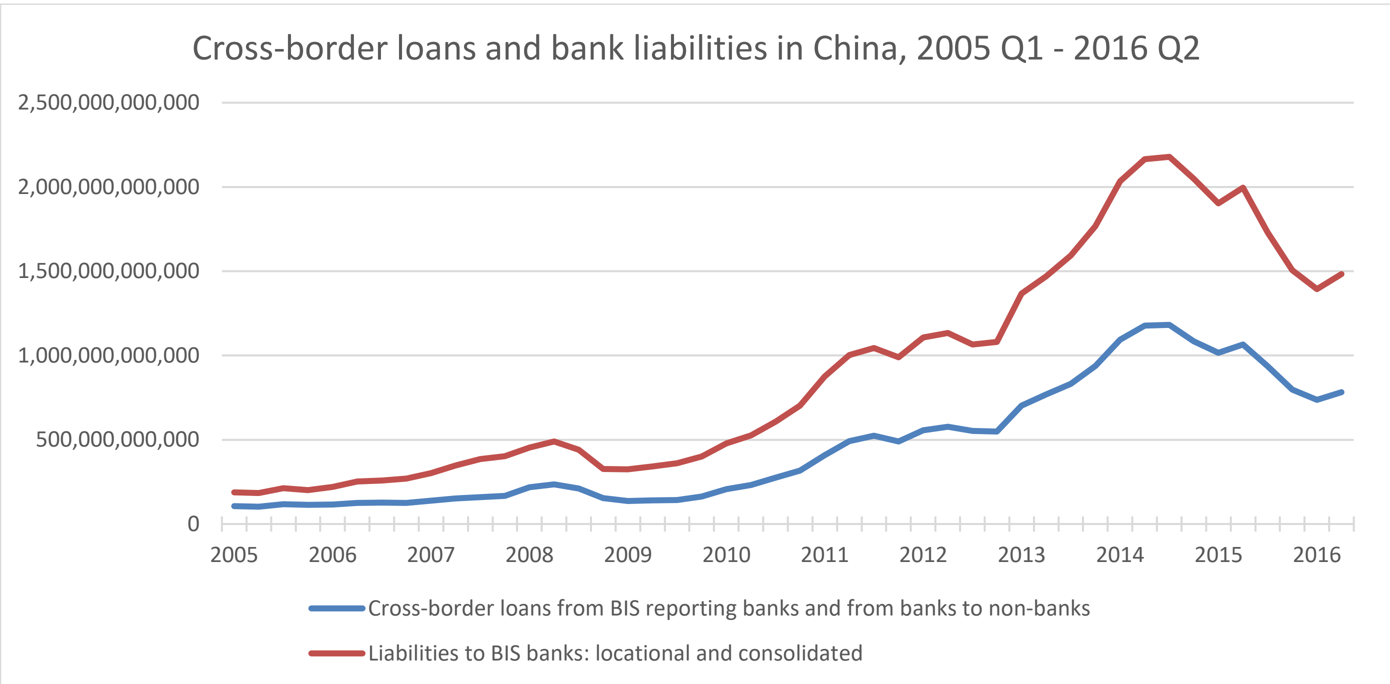

Figure 8. Cross border loans from BIS reporting banks and from bank to non-banks and locational and consolidate liabilities to BIS banks. Source: World Bank

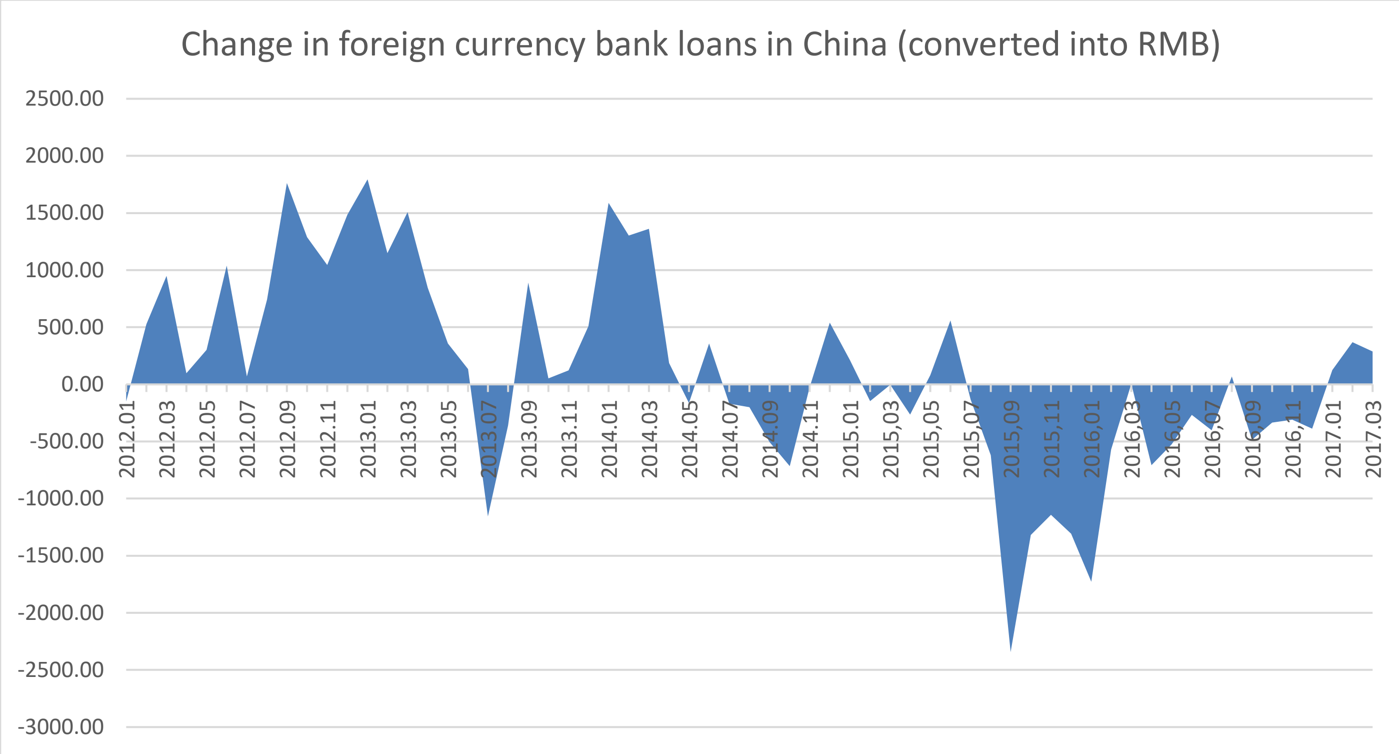

Figure 9. Foreign currency bank loans in RMB. Source: People's Bank of China

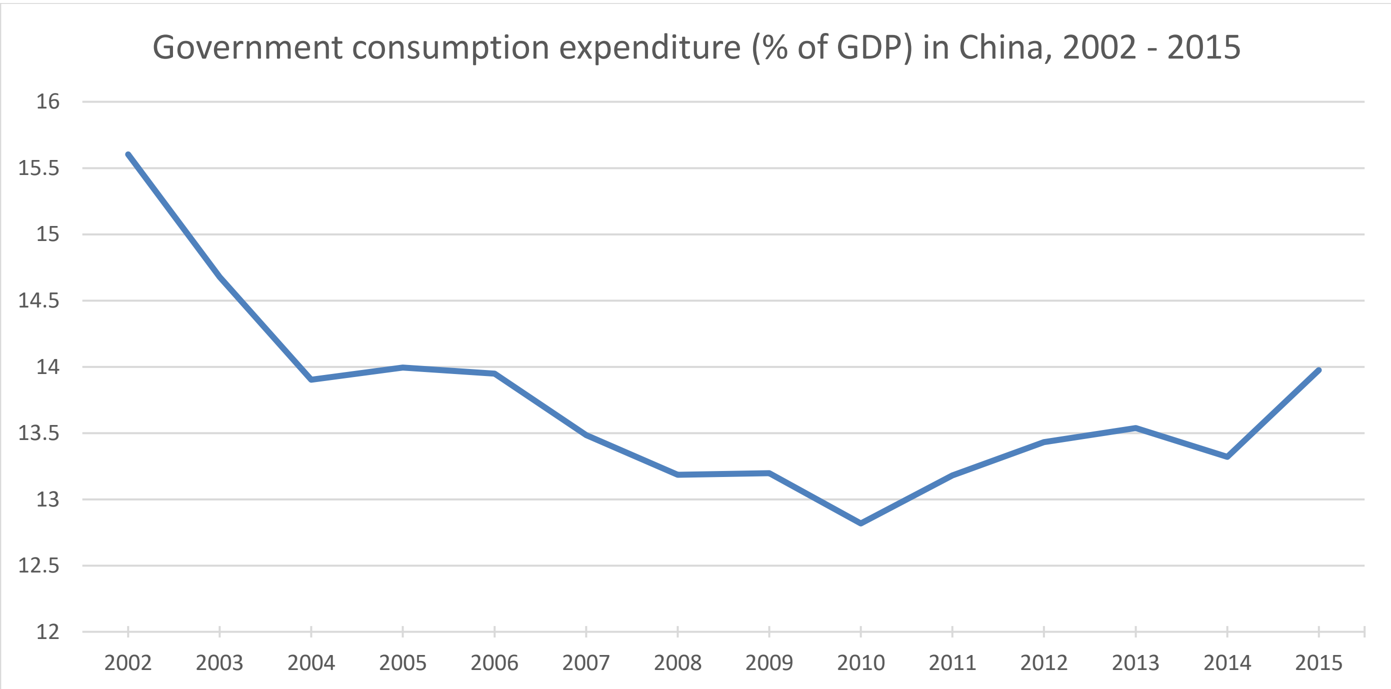

Figure 10. Government final consumption expenditures as % of GDP. Source: World Bank

Figure 11. Net financing of corporate bonds in million Yuans. Source: People's Bank of China

Appendix II: The Credit Impulse

The *credit impulse*, or the flow of credit argument was presented by Biggs, Mayer and Pick (2010). They argue that in cases where domestic demand is credit financed, GDP will be a function of new borrowing, measured as the flow of credit. This applies especially to recovery periods, where the stock of credit is usually depressed, but it is also shown to react to downturns earlier than the growth of credit. This is most likely related to the fact that new borrowing, or the credit impulse, is more likely to reveal a turning point in the trend of debt stock, when it is either low (recession) or high (end of an expansion).

We use standard way to calculate the credit impulse, which consists of analyzing the GDP normalized growth rate of credit over a period of a year. Formally:

$$CI_t = 100\left(\frac{D_t - D_{t-1}}{Y_t} - \frac{D_{t-4} - D_{t-5}}{Y_{t-4}}\right),$$

where CI_t is the credit impulse at time t, D_t is the debt stock at time t and Y_t is the nominal GDP at time t.

REFERENCES:

Biggs, M., T. Mayer and A. Pick (2010). Credit and economic recovery: demystifying Phoenix miracles. SSRN working paper no. 1595980.

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 September 2017.

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