Understanding Corporations’ High Leverage in China

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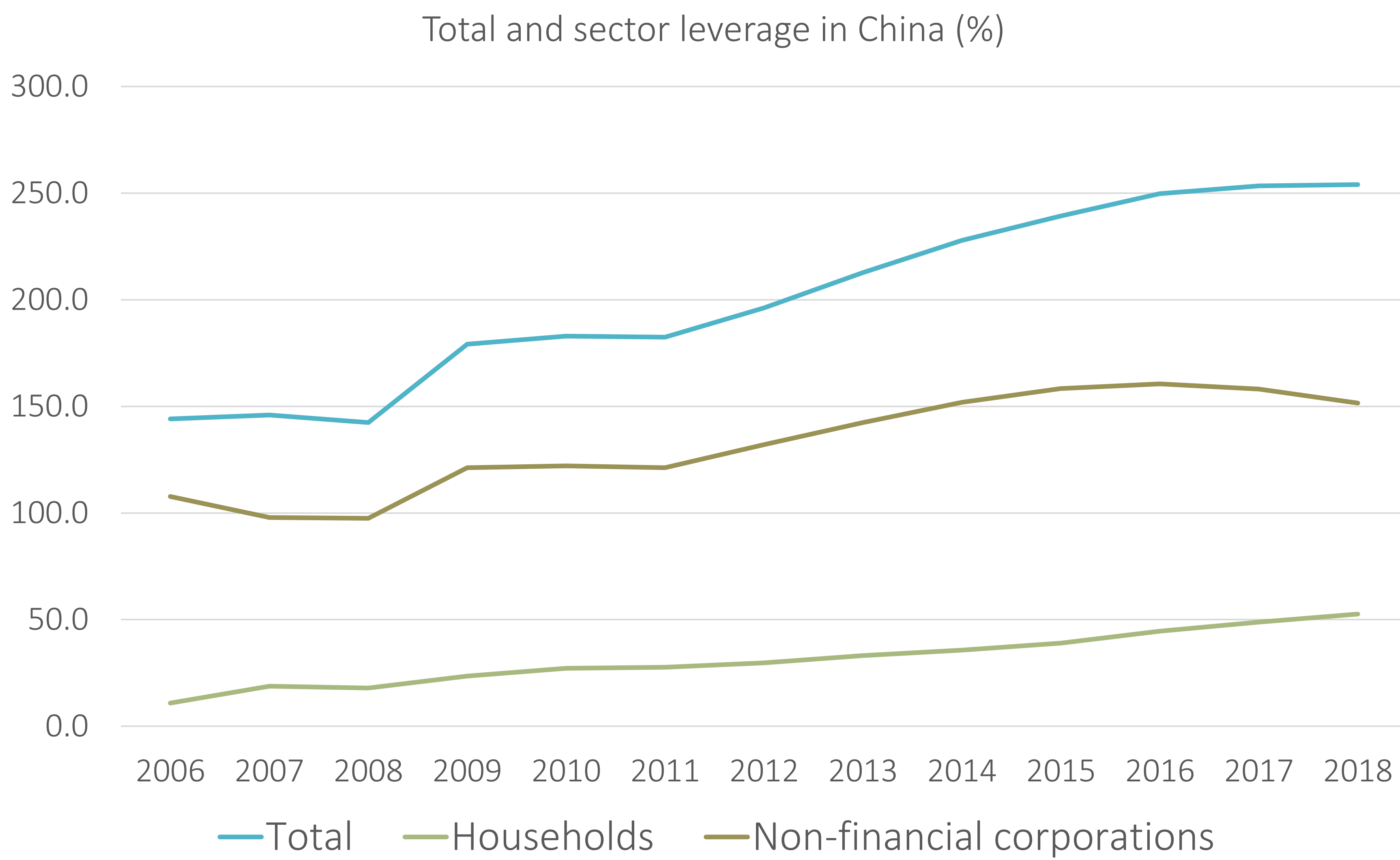
The leverage of China

After the 2008 financial crisis, the problem of high and fast-growing leverage of China has become a hot topic.

According to BIS (Bank of International Settlement), by the end of 2018, the total national leverage has reached 254%.

Of which, the debt problem of non-financial corporations is most serious.


Total and sector leverage in China (%)
300.0
250.0
200.0
150.0
100.0
50.0
0.0
2006
2007
2008
2009
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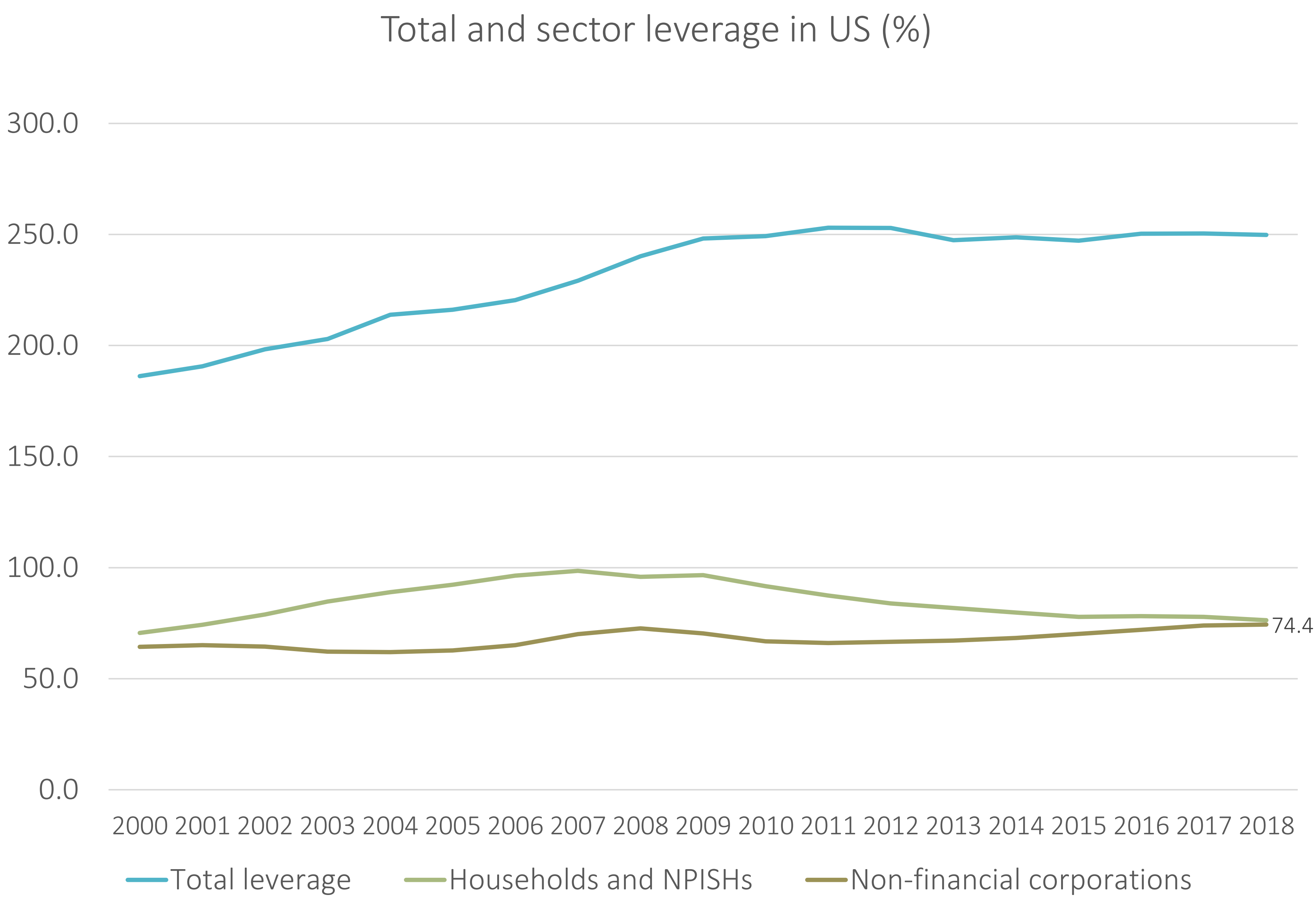
2011
2012
2013
2014
2015
2016
2017
2018
Total
Households
Non-financial corporations



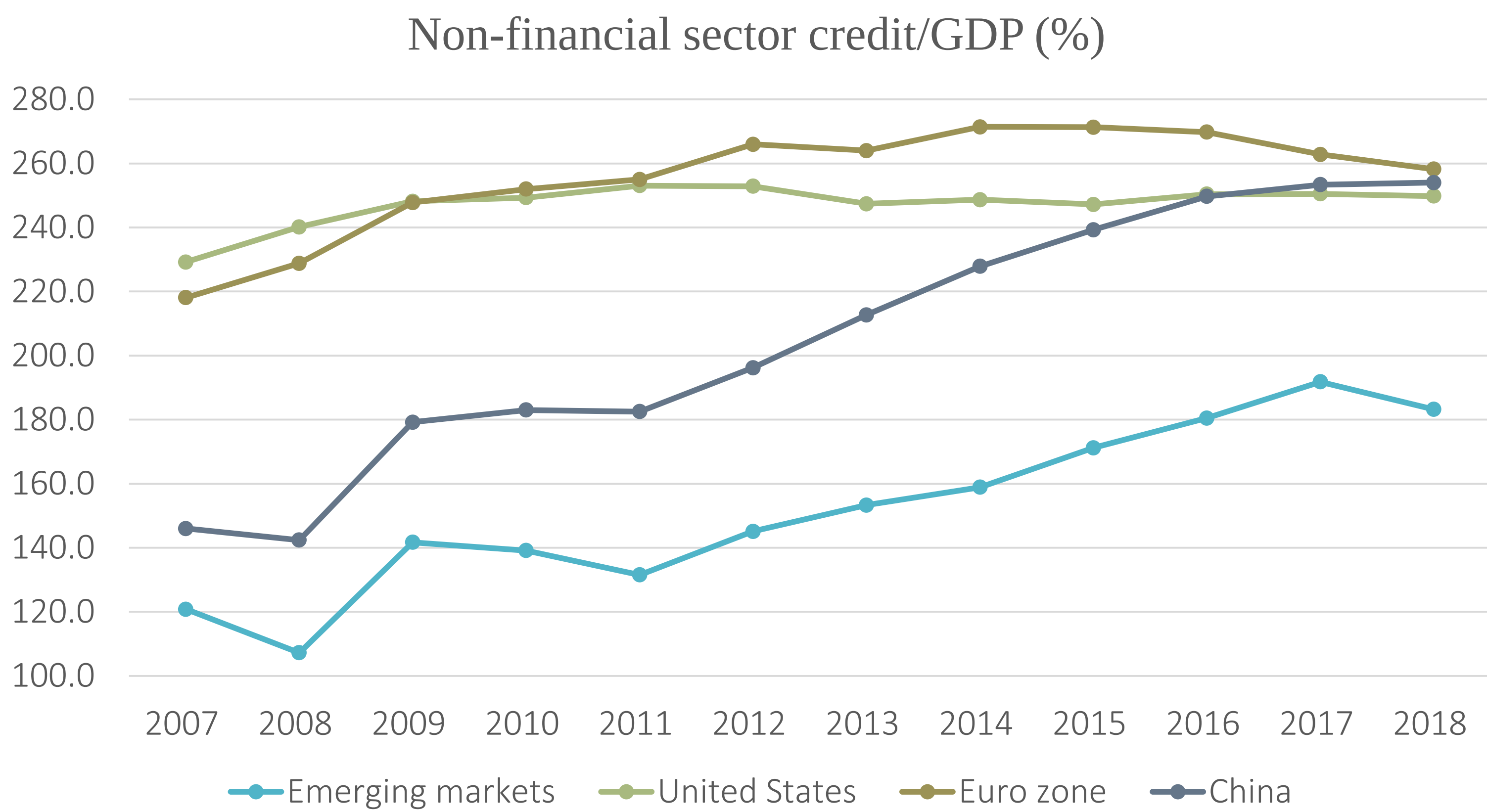
Total and sector leverage in US (%)
300.0
250.0
200.0
150.0
100.0
50.0
0.0
74.4
2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018
Total leverage
Households and NPISHs
Non-financial corporations

Some economists take the high leverage as the evidence that Chinese economy is at the edge of collapse.

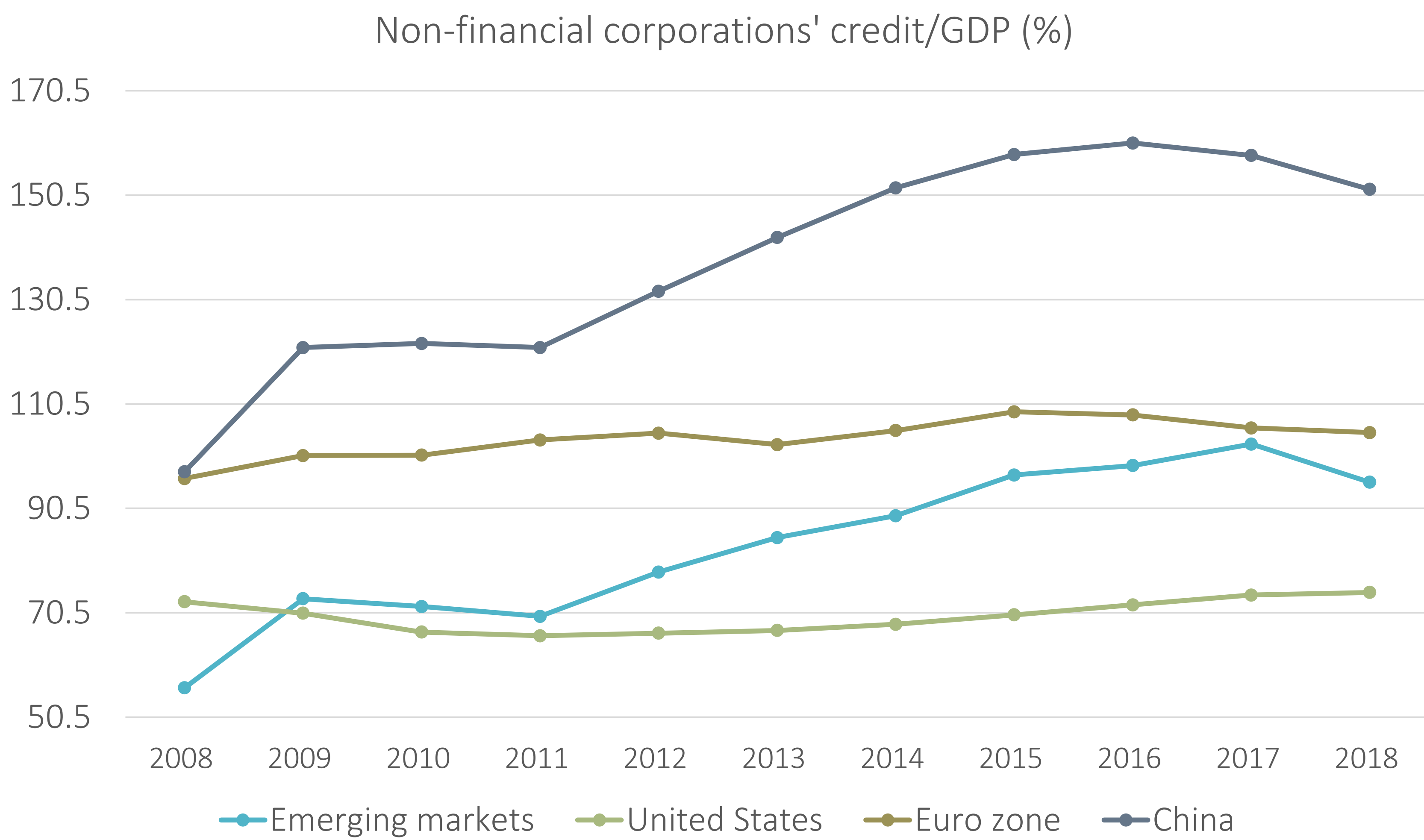
Reducing the leverage has become one of the main objectives of the Chinese government.

For example, China's State Council has announced measures to reduce companies' leverage by encouraging mergers and acquisitions and through debt-for-equity swaps.

How High is China’s leverage



According to BIS, the percentage of Non-financial sector credit in GDP of China in 2018 reached 254%, higher than that of United states and Euro zone when the subprime crisis and debt crisis happened.



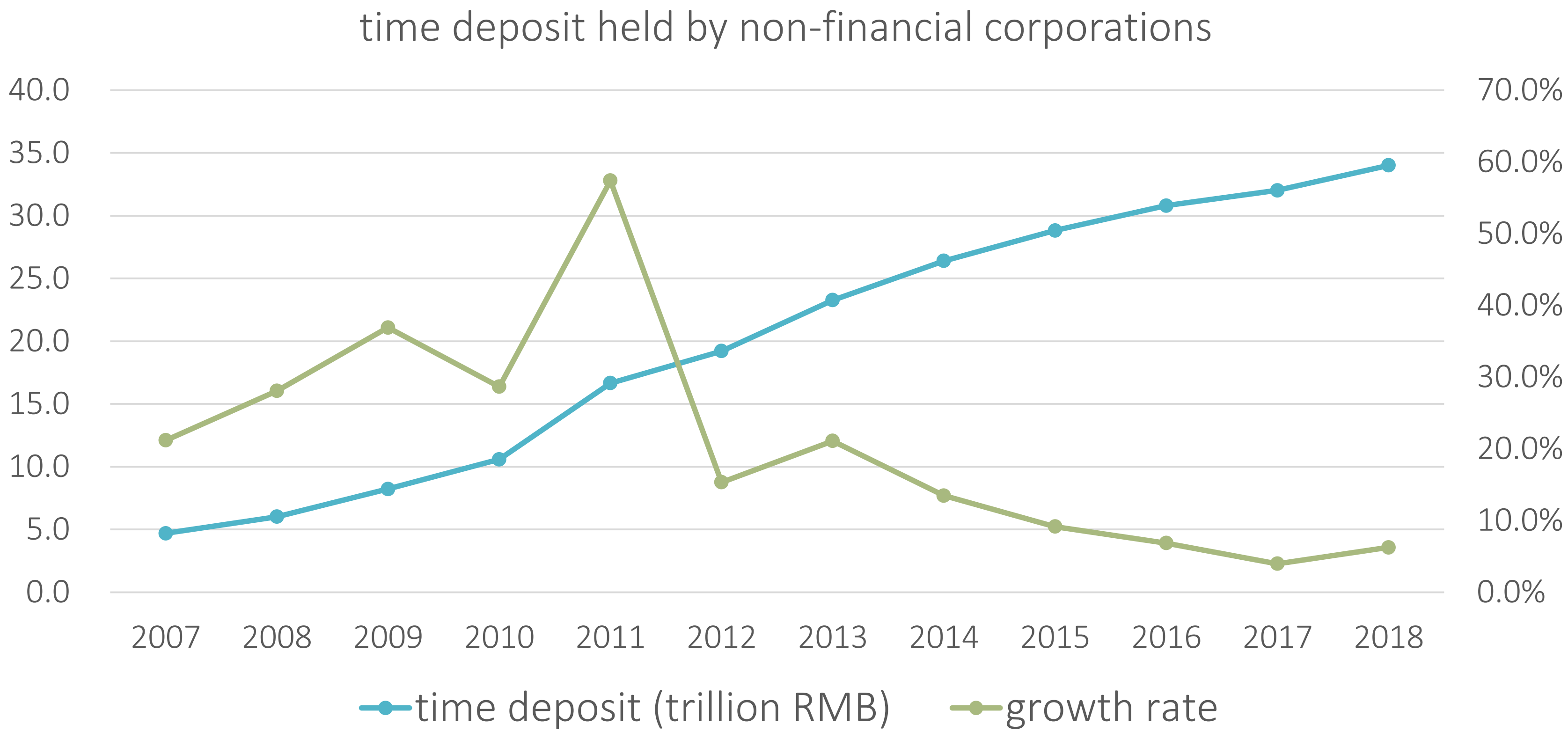
The situation for Chinese non-financial corporation sector leverage is even worse. According to BIS, the percentage of Non-financial corporation credit in GDP at the end of 2018 reached 151.6%, much higher than that of the United states and Euro zone. Will the debt crisis happen in China soon?

The neglected factor behind the high leverage

Since China's non-financial corporations have the highest leverage in the world, some people believe that the debt crisis in China is just around the corner.

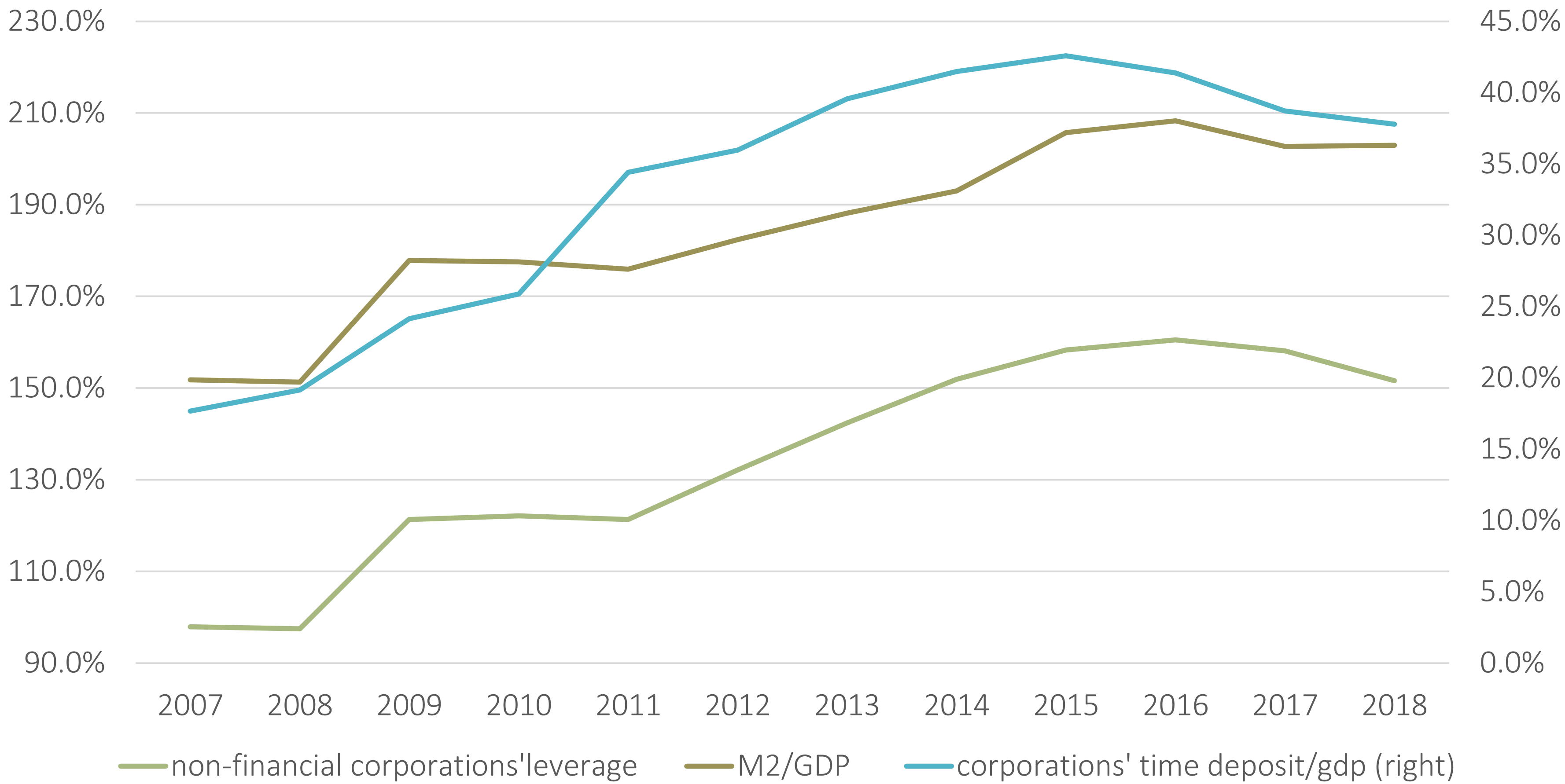
And the collapse of China's non-financial corporations' debt will be the black swan for the next round of financial crisis in the world.

But something is neglected…



Researchers realize that Chinese enterprises have the highest leverage in the world, but most of them neglect that the amount of time deposit held by these enterprises is also very big.

By the end of 2018, the amount of time deposit held by non-financial corporations has reached 34 trillion RMB.



	M2/GDP	corporations' time deposit/gdp	non-financial corporations'leverage
2007	152%	18%	98%
2018	203%	38%	152%
frim 2007-2018	51%	20%	54%

Why Chinese non-financial corporations keep so much time deposit?

Taking time deposit/GDP in 2007 as the benchmark (18% of Normal GDP, 26.6 trillion RMB), by the end of 2018 (38% of Normal GDP, 90.0 trillion RMB), Chinese non- financial corporations have over-kept about 18 trillion RMB time deposit.

In academic literature, Time deposit is often called “dead money”. Why do Chinese non-financial corporations keep so much time deposit when they are in such heavy debt?

The answer may lie in the distortion in china’s credit market.

- To get the credit, the corporations are often required to keep part of the credit they obtained as deposit in banks.
- This phenomenon is called “converting the loan to the deposit, CLTD ” in China.
  - *Although the operation is illegal, it is prevalent in the market, according report by media.*
- Through the CLTD operation, the banks can expand its asset size for more profit, raise the deposit/credit ratio to meet the regulation and lower the bad debt ratio.

A Micro Model for the CTLD Operation

In a competitive monopolistic credit market , the demand of firm i for the loan of a firm is a basket of loan from all the banks, defined ad $\left[\int_0^1 (X_t(i,j)^{\ \varepsilon^l - 1/\varepsilon^l})\, dj\right]^{\varepsilon^l/\varepsilon^l - 1}$, which is requied over certain level $X_t(i.,)$, $X_t(i,j)$ is the demand of firm *i* to bank *j*.

$$\left[\int_0^1 (X_t(i,j)^{\ \varepsilon^l - 1/\varepsilon^l})\, dj\right]^{\varepsilon^l/\varepsilon^l - 1} \geq X_t(i.,)$$

When the firm get credit from the bank, it is required to deposit η part of its loan into the bank.

We can prove that If their market power is strong enough (ε^l *is close enough to* 1), commercial banks can enlarge their contract loan $\frac{X_t(i,j)}{1-\eta(i)}$, by increasing its CLTD rate $\eta(i)$.

A Macro Model for the CTLD Effect

We set a typical NK DSGE model with working capital constraint and CLTD operation in the credit market.

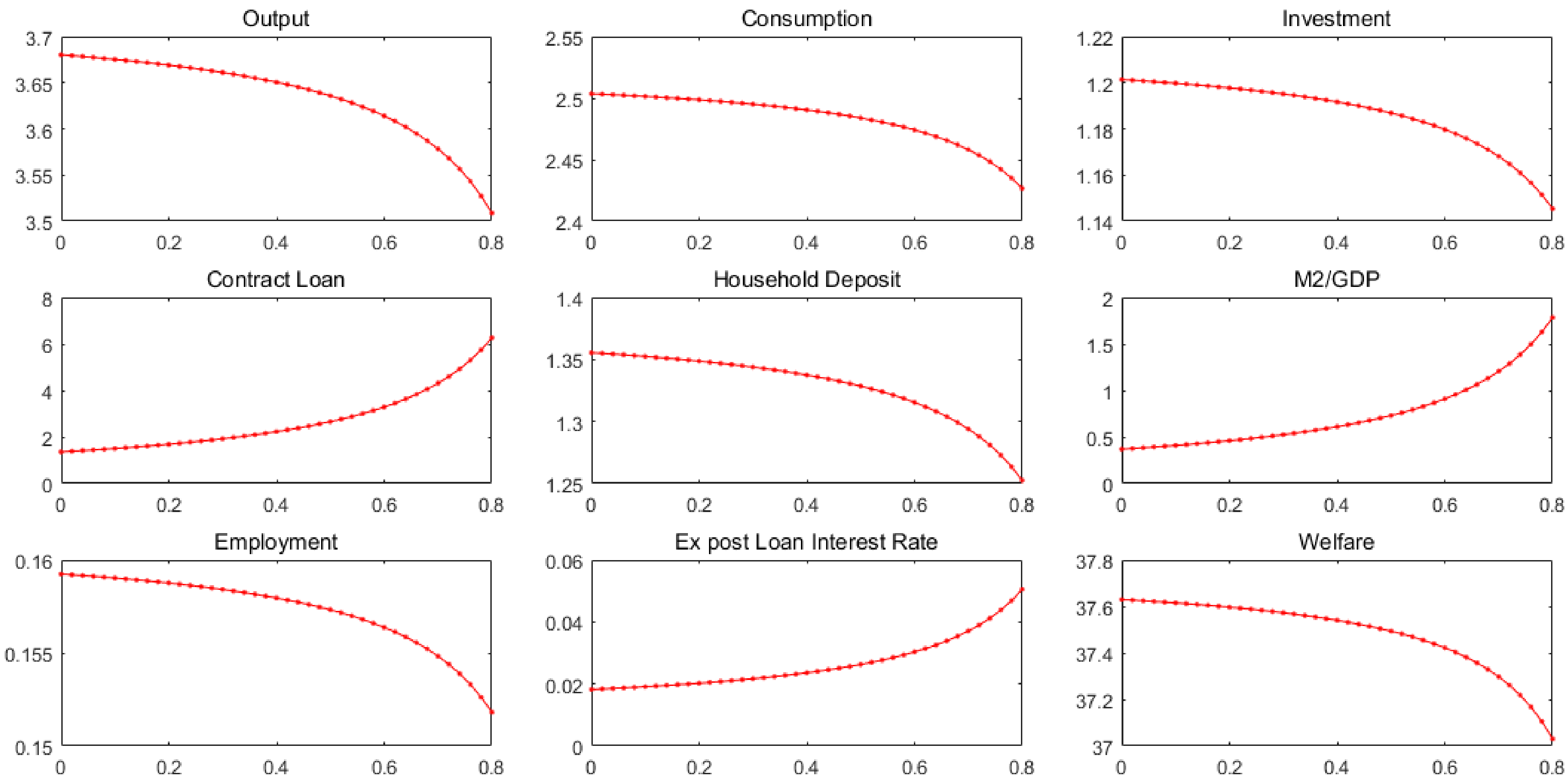
- The agents include the households, firms (intermediate and final goods producers), banks and the central bank (in charge of regulation and monetary policy)

We find that with the CLTD ratio increase, the banks' total loans and firms' deposit increases, making the financial market looks prosperous.

- The higher the CLTD ratio is, the less the household's deposit is, not only its absolute quantity, but also its share in the banks' total deposit.

The CLTD practice drives up the ex-post cost of available loans for firms and leads to a decline in the loan actually used by firms, and also a decline in the aggregate real variables, such as output, consumption, investment and employment.

Comparative static analysis



A counterfactual analysis

The ratio of corporates' time deposit to GDP in 2018 was 38%.

If the ratio had been kept at the level of 2007 (18%), 18 trillion RMB would have been over-kept by corporations.

If the corporations had used the over-kept time deposit to repay the debt:

- the leverage of corporate sector would have been reduced to 130% (by BIS criteria);
- The corporations would have saved 0.77 trillion interest payment, nearly 10% of the total profit of the all industry corporations in China;
- But the bad debt ratio of the bank will increase.

Conclusion

Because of the collusion between banks and corporations, the leverage of Chinese non-financial corporations is overestimated.

So Chinese high leverage is really a problem, but not so serious as it seems to be.

Thank You