



## **An Invisible Arm of Chinese Government: Why State-Owned Commercial Banks Pushed Reflation?**

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Recently Bernanke Ben, the current Chairman of the U.S. Federal Reserve Bank reviewed the debt deflation theory. The debt deflation theory was originally created by Irving Fisher, who was at first a subscriber to general equilibrium but realized later that in certain circumstances over-indebtedness can result in default<sup>1</sup> and disturb the market with the help of deflation.

Tracing back to 2000 the research group of macroeconomics led by Dr. Yi Gang, the current deputy governor of China's central bank-the People's Bank of China has also discovered the suitability of Irving Fisher's debt deflation theory to Chinese economy and used the theory to interpret the deflation during the period from 1998 to 2000. Fisher's theory can help us better penetrate the economical and political purpose of Chinese government in dealing with the tsunami of financial crisis with unprecedented measures since its establishment.

History: In front of the emergent wave of the tsunami of financial crisis, the resolute reaction of Chinese government was so swift that the world was left wondering how and why the Chinese government resolved to commit to such exceptional package of investment plan to rescue the freezing economy, which suffered from external shock of demand freefall and internal lack of consumption. By the end of December 2009, the balance of loans denominated by both foreign and domestic currencies amounted to RMB 42.56 trillion<sup>2</sup>, and 44.79 trillion at the end of February 2010. Even the official economical institutions inferred their anxiousness for the sustainment of the plan and the long term inflation, though they are largely in favor of the investment plan in the context of the gathering fear in the market. To understand the situation we need to trace back to the Irving Fisher's theory of debt deflation theory and entangle the covered drive of Chinese government to intervene the market. At the beginning, I would like to use the financial report data from the four main state-owned banks to help understand when and why they expand their credit aggressively in the center of the financial crisis.

### **I. Clues given by the Annual Report of State-Owned Commercial Banks**

Figure 1, (attached in the appendix) denotes the CFA published research of the Chinese government in the state banks. As you can see, the state-ownership of the Chinese government indicated above is the key premise of following analysis. The analysis of four major state-owned commercial banks (Bank of Communication was not drawn because of its relative short history of being included as major state-owned banks by the statistics published central bank of China) are summarized below and useful data are listed to be drawn on in latter analysis, including Industrial and Commercial Bank of China, Bank of China, Agricultural Bank of China, and China

Construction Bank from the website of Shanghai Stock Exchange<sup>3,4,5,6,7</sup>. See Figure 2, 3, and 4. in the Appendix.

The huge jump of the asset value itself indicates the amount of loan increment happened in the year 2008. Now China has four commercial banks with no less than 1 trillion RMB value for each. Do not be concealed by the apparent adequacy of capital indicated by the capital adequacy ratio. The capital requirement is somehow manipulated by holding stocks of other banks held by the government and issuing long-term subordinate debt, which is counted as capital in Basel II agreement. (Note that all the related parties mentioned in the Figure 1 except the renowned international banks are all state-owned as well) The drop in revenue/cost ratios, which show the operational profitability and could hardly be manipulated, substantiate my speculation with the exception of ABC because of its successful reshuffle with huge injection of capital and dramatic deprivation of bad debt with the help of the government and People's Bank of China- the central bank.

You may wonder why the Bad Debts ratio looks good and profitability increases in every one of these banks during 2008. Are they cheating? Of course not, but the superficial boom is backed by unwarranted loan expansion which could fatally detriment the health of the bank once the economy dropped again and even temperate fluctuation could result in astonishing bad debt and write-downs on the balance sheet of these commercial banks and the gaps have to be filled with newly issued currency. Generally, no bank would like to take the risk except distressed banks but why they dare cross the line and together conceal part of the risk from the public, thereby pushing an unparalleled credit surge in the storm of credit crunch. We should understand Fisher's model first, which is the core of all the published theories developed by the current deputy governor of the central bank of China-G. Yi.

## **II. Models, Concepts and Equation Needed**

### *A. Irving Fisher's Debt Deflation Theory*

In the book *Prosperity and Recession* by Irving Fisher, the theory of debt deflation theory was drawn to explain the recession and owed the responsibility of the recession to the amounting debt of corporations. In this theory, the debt and deflation are the most important factors involved. The subordinated factors include the speed of circulation of currency, profits, trade, commercial confidence, and interest rate. Only when the overdraft of credit was combined with the deflation could over-indebtedness cause significant influences to the overall economy. While at first Fisher was a subscriber of general analysis "In order to apply this to financial markets, which involve transactions across time in the form of debt – receiving money now in exchange for something in future – he made two further assumptions: (A) The market must be cleared—and cleared with respect to every interval of time. (B) The debts

must be paid. (Fisher 1930, p.495) However, he soon realized that recession cannot be regarded normally. So, he developed following reasoning.

The beginning of his analysis is the state of over-indebtedness, which leads to the following:

1. Debt liquidation leads to distress selling
2. Contractions of deposit currency, as bank loans are paid off, and to a slowing down of velocity of circulation. This contraction of deposits and of their velocity, precipitated by distress selling, causes
3. A fall in the level of prices, in other words, a swelling of the dollar. Assuming, as above stated, that this fall of prices is not interfered with by reflation or otherwise, there must be
4. A still greater fall in the net worth of businesses, precipitating bankruptcies and
5. A likely fall in profits, which in a "capitalistic," that is, a private-profit society, leads the concerns which are running at a loss to make
6. A reduction in output, in trade and in employment of labor. These losses, bankruptcies and unemployment, lead to
7. pessimism and loss of confidence, which in turn lead to
8. Hoarding and slowing down the velocity of circulation even more.
9. The above eight changes cause complicated disturbances in the rates of interest, in particular, a fall in the nominal, or money, rates and a rise in the real, or commodity, rates of interest.<sup>8,9</sup>
10. A process depicted vividly and simply with Figure 5 in the end.

Then, the situation worsens if the economy experiences deflation- the fall of price and credit overdraft during the boom period. As Fisher said, "I fancy that over-confidence seldom does any great harm except when, as, and if, it beguiles its victims into debt." The self-aggravating process could strength itself if no reflation or intervention interfered. Fisher said, In the absence of reflation, he predicted an end only after "needless and cruel bankruptcy, unemployment, and starvation", followed by "an new boom-depression sequence."<sup>10</sup> And the economy may suffer from "unnecessary and cruel bankruptcy, unemployment and starvation." This view towards the crisis lends the Post-Keynesian scholars the ground to further the proposal of the government intervention, which prevails in the current joint effort to combat the crisis. The epidemic of this crisis unfortunately is the biggest export market of China and thus dragged China into the crisis though the latter holds limited sub-prime

mortgage backed or any kind of structured asset backed securities. Again, the export-oriented enterprises are mainly small and medium firms that are vulnerable to the drain of financial resources. The long lasting effects can be detrimental to the labor intensive country where social stability depends on jobs created but jobs created rely on GDP.

In conclusion, without the artificial reflation(which is in fact intentional inflation manipulated by the governments and currency issuing agents), the Chinese economy could never sustain the recent trend of rapid growth and fall in the “vicious spiral” ,in which individuals repay the debt and only leave themselves with more debt to pay. Then we have obtained a powerful tool to understand the angle from which the high-rank officials leaded by Dr. Yi Gang and his group and on this basis we could clarify decision making procedure covered by the seemingly mystery halo.

*B. On the supple side: Austrian tradition also has its influence on the decision makers*

As a complementary approach, based on the supply side analysis, the Austrian business cycle theory generally agreed with Fisher’s theory upon the importance of the debt as the cause of crisis. But the Austrian tradition insists that the mal-investment and low efficiency of the boom before the crisis should be “worked out” and this conclusion parallels the result of the book *A Research About How to Prevent Deflation and Maintain Economic Growth*(2005)<sup>11</sup> published by the research group headed by Dr. Yi Gang. However, this approach has had no chance to prove itself in this crisis as Keynes’s followers dominate the worlds decision making process in how to fight against the crisis- “the enemy of all nations “. So, though overproduction remains the main problem in China and in many manufacture countries and it seems to be more reasonable to expect that the more frequent used remedy for the crisis is to create demand by stipulating the consumption and astonishing government expenses in investment, leaving record-breaking deficiency behind. Good news for China is that the armory of fiscal weapon has not depleted as the balance amount of 1050 billion debt issued amounts to no more than 20% of the GDP of China and looks relatively healthy compared with most developed countries thanks to its relatively shorter history of issuance of government debt, which justifies the huge investment somehow.<sup>12</sup> However, this prevailing light-hearted analysis over-simplifies the problem impeding the recovery of Chinese economy and overlooks a distinctive contributing factor of the quick recovery of Chinese economy-commercial banks, especially the state-owned commercial banks. Then, what’s the position of Chinese state-owned banks in the current financial crisis in Chinese economy?

*C. A clue to financial accelerator mechanism*

Classical economics indicates the government expenses will trigger the multiplier effect and magnify the GDP growth. Yet, during the crisis the financial

market in China similar to their counterparties in America froze overnight. At this moment, the financial accelerator mechanism (which I will discuss below) counteracted the multiplier effect and nullified the government's effort. After the Chinese government realized the commercial banks' reluctance to expand credit to the market, the Chinese government deployed their unique influence on the state-owned banks to invert the effect of financial accelerator mechanism, thereby combining the multiplier effect and financial accelerator mechanism together to combat the shrinking demand and the slump economy.

If you notice the jump in the loan asset of state-owned commercial banks at the end of 2008 and the soaring trend in 2009, you will realize that the 4 trillion investment package is just one of the arms of the Chinese government to overturn the downward sliding economy. And the hidden right arm is truly unprecedented credit expansion thanks to the mechanism of centralization and the state-ownership of the commercial banks. (Surprising as it is politically, this makes economic sense according to Fisher's theory.) Graph 1 demonstrates this mechanism at the end.

The government investment plan could not, however, match the crucial and far-reaching influence of facilitating credit policy during the crisis. However, another crucial vehicle that is still under water is the financial accelerator mechanism. The financial accelerator mechanism is the mechanical trend for financial institutes—commercial banks in particular in China, which take up the absolute majority of the Chinese financial market, to magnify the economic fluctuations. I will post two arguments from the perspective of profitability and the angle of prudent operation and supervision respectively to decode how the state-owned banks are able to appear robust in the crisis and the government is able to manipulate the financial accelerator mechanism and invert its negative effects during recession period.

*D. the surging return of individual asset*

The political intention can be interpreted better if we understand the supervision of commercial banks. The figure 6 is the formula used in Basel II protocol to decide the loan interest rate and suits the stand-alone situations, where corporations request only loan service from the commercial bank. As a typical example, we can translate the individual behavior of commercial banks into the overall operational principles of financial industry and thus decode by what mechanism the financial industry was functioning in the “vicious circle” of the sudden dive of Chinese economy in 2008.

Equation(1)

$$R_i = \frac{1}{1 - E \left[ R(1 - k_i) + \frac{d}{1 - d} (R - R_D) + R_k k_i + C_i^* \right]}$$

where  $R_i$  = return on asset  $i$

$E = 1/e$  where  $e$  = elasticity of demand for asset  $i$

$R$  = cost of deposits

$d$  = reserve requirement as % of total assets

$R_D$  = return paid on required reserves

$k_i$  = capital requirement for asset  $i$

$R_k$  = cost of capital

$C_i^*$  = marginal (non - funding) cost of asset  $i$

How should we interpret the formula in daily operation of commercial banks? To simplify the formula we regard the series of factors in the parentheses into one factor. We can then use the equation to infer the logic of granting credit flexibility of commercial banks and therefore offer a perspective of understanding the willingness of commercial banks to behave in an anti-business-circle way, offering a base to understand the financial accelerator mechanism and interpreting the seemingly impressive ROA(Return On Asset) ratio in the previous session about analysis of the denominator can be regarded as profits. In the context of financial crisis, the cost of deposits nearly remains the same, the requirement as percentage of the total asset increased,  $R$  and  $R_D$  can be supposed to be constant since this is not unknown to bankers and commercial banks have little control over, the marginal cost of asset and the capital requirement of the asset, which are also the indicators of the confidence in the market as they are much lower in prosperous economy than in desperate situation, however, increase less dramatically than  $e$ (which is just the reciprocal of  $E$  in the formula) because in this crisis as the financial market nearly experienced free-fall dive overnight and the market is filled with desperate lenders who are cry for liquidity. To sum up, the strike of financial crisis seriously disturbed the normal return on the individual asset and made it more profitable to seal a deal than usual. We can explain the seemingly tempting return on the asset in a very vivid but non-scientific way by saying that higher profitability performance of those banks is never an indicator of better management but brutal leaning of the desperate lenders, let alone the central bank actually further aid these banks by lowering the reserve requirement.

This view, however, derived from what we observe from the annual reports of the state-owned banks is generally new angle from which we can figure out a new explanation of the banks' willingness to offer credits during the crisis period if they can earn unlimited credit enhancement from the Chinese government and thus

overturn the freezing financial market. In order to help you understand the normal fashion prevailing in complete market like America, I present the following mainstream cognition about what should commercial banks normally do in financial crisis, upon which the financial accelerator mechanism was functioning. If you have know about the mechanism, you can simply jump it. Or simply consider it as a vehicle advanced by regulation requirement but act in the opposite way as the regulation primarily intended.

*E. Pressure from supervision and prudent operation*

The drive of financial accelerator mechanism is the capital supervision mechanism specified by Basel II Accords. As this mechanism is accepted industrial standard ,there is no need for redundant analysis. The Basel II Accords posts the rule of computing the capital adequacy as capital divided by the risk weighted asset and the risk factors used to convert the book value of the commercial banks are computed according to price indexes which are highly positive related with the business circle and therefore bend the policy of commercial banks into lending more when the economy is hot and less in the gloom, therefore exaggerating the business circle even more drastically.<sup>13</sup> So, the financial accelerator mechanism safely now-it is a vehicle magnifying the amplitude of business circle by the behaviors of financial institutes in the crisis to fulfill regulation requirements. (Other explanations are also given but the regulation was generally agreed upon as the main reason) But, if a government can afford all the regulation cost and exert absolute influence on the strategy of commercial banks, then the financial accelerator can be inverted. Yet, the Chinese government achieves all these unique features.

Then we can understand the Chinese government's intention well now with more clarity and understand the abnormal financial report data appears in commercial banks in China. I believe analysis here can help to better understand other commercial banks as well.

**III. Conclusion**

In the context of China in this crisis, I conclude that the fundamental goal of the astonishing credit expansion all serves to offer the reflation in order to buck up the economy and avoid ruining the sustained growth these years, postponing the hazards such as huge shortage of social security fund, deteriorating environmental quality, low efficiency of industries and unemployment accumulated by the superficial boom recent years, which have to be loaded on a more developed economy but not what it is now,. Otherwise, the nation accommodating a population of 1.3 billion will sink into indefinite turmoil. That explains why the conservative Chinese government could astonish the world when it released its package of rescue plan worth 4 trillion RMB and more importantly use their political arms over state-owned commercial banks which showed their reluctance to lend in the beginning of the crisis. As a result, the economy still grew strongly in contrast of the slow recovery worldwide.

As an indication from my analysis, I believe the most profound issue I want to unveil to you is that at the heart of the quick rebound of China lies the strong control of Chinese government over the state-owned commercial banks. It seems that the centralization of power this time save the Chinese economy from the verge of corruption despite the mechanism has been long criticized.

#### IV. Appendix

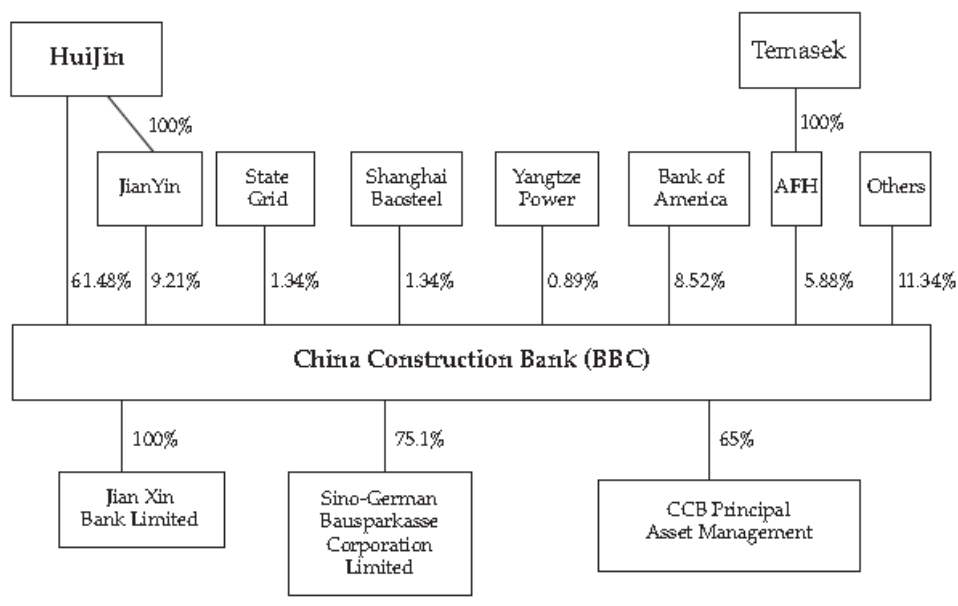


Figure 1

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ICBC=Industrial and Commercial Bank of China

ABC=Agricultural Bank of China

BC=Bank of China

CCB=China Construction Bank

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Figure 2

2007		ICBC	ABC	BC	CCB
Total asset value	(1=1 million RMB)	8,684,288	5,305,506	5,995,553	6,164,758
Capital adequacy ration	(percentage)	13.09	NA	13.34	12.58%
bad debts ratio	(percentage)	2.74	23.57	3.12	2.6
revenue/cost ratio[1]		34.84	33.52	35.59	35.92
Weighted average net return on asset[2]		15.92	NA	13.34	19.43

NA=not applicable

[1]=operational revenue/ operational cost

[2]=after the deduction of abnormal items and amortization

This figure shows the original state of these typical four banks before the financial crisis.(Note that the Agricultural Bank of China experienced restructure in 2008 and the nearly broken bank was revived thanks to the aid from the Chinese government)

**Figure 3**

2008		ICBC	ABC	BC	CCB
Total asset value	(1=1 million RMB)	9,757,654	7,014,351	6,955,694	7,052,191
Capital adequacy ration	(percentage)	13.06	9.41	13.43	12.16%
bad debts ratio	(percentage)	2.29	4.32	2.65	2.21
revenue/cost ratio[1]		29.54	44.71	33.55	30.71
Weighted average net return on asset[2]		19.33	17.72	13.43	21.4

[1]=operational revenue/ operational cost

[2]=after the deduction of abnormal items and amortization

**Figure 4**

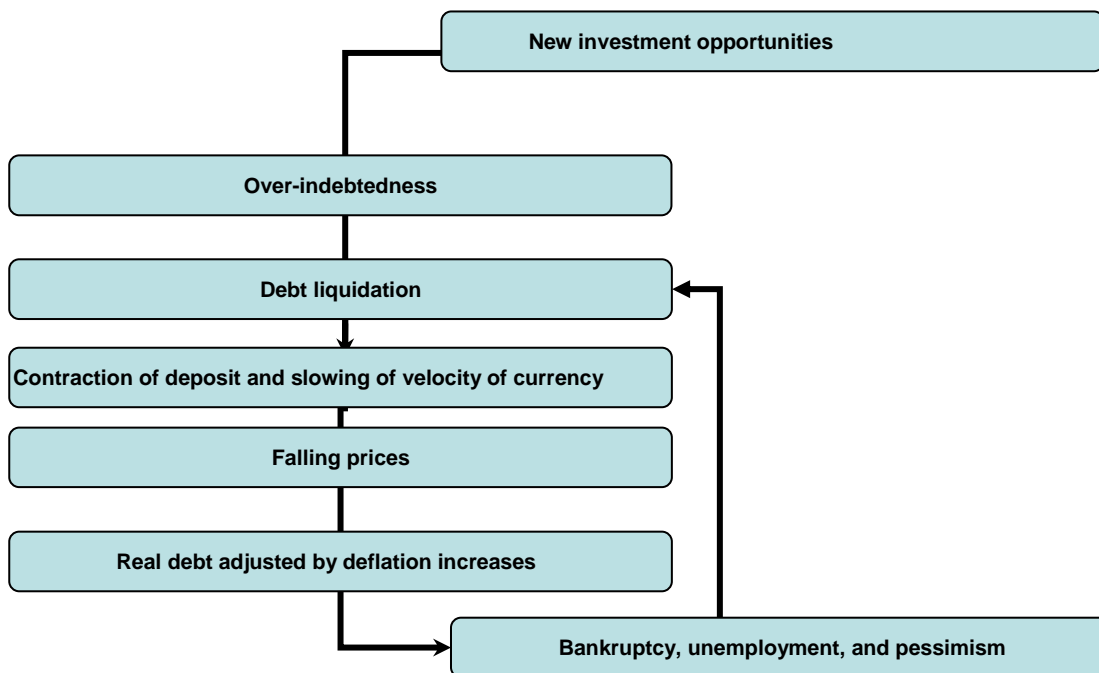


Figure 5

$$R_i = \frac{1}{1 - E \left[ R(1 - k_i) + \frac{d}{1 - d} (R - R_D) + R_k k_i + C_i^* \right]}$$

where  $R_i$  = return on asset  $i$

$E = 1/e$  where  $e$  = elasticity of demand for asset  $i$

$R$  = cost of deposits

$d$  = reserve requirement as % of total assets

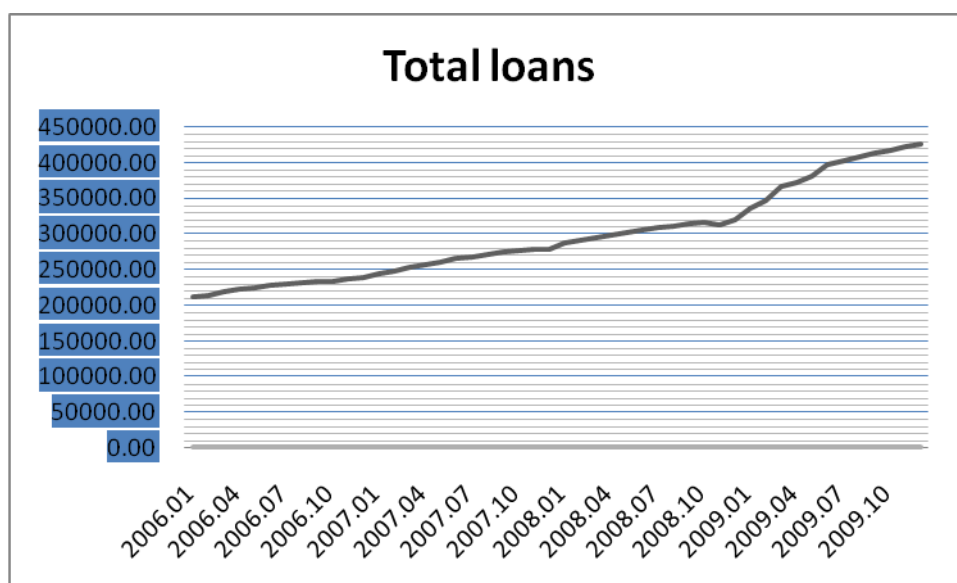
$R_D$  = return paid on required reserves

$k_i$  = capital requirement for asset  $i$

$R_k$  = cost of capital

$C_i^*$  = marginal (non - funding) cost of asset  $i$

Figure 6



**Graph 1**

*The vertical axis is denominated in 100 millions RMB*

*Data source: website of the People’s Bank of China<sup>14</sup>*

## V. References

<sup>1</sup> “It is as absurd to assume that, for any long period of time, the variables in the economic organization, or any part of them, will stay put, in perfect equilibrium, as to assume that the Atlantic Ocean can ever be without a wave.” “It is as absurd to assume that, for any long period of time, the variables in the economic organization, or any part of them, will stay put, in perfect equilibrium, as to assume that the Atlantic Ocean can ever be without a wave.”; Irving Fisher, 1933

<sup>2</sup> The website of the People’s Bank of China,2009,“Banking Survey”;

<sup>3</sup> The annual reports are released at the next year according to Chinese law so I found the reports released in the following year, Please don’t confuse the data above and the year in which it is released as noted in the endnote.

<sup>4</sup> Bank of China,2009,“Annual report”

<sup>5</sup> Agricultural Bank of China,2009,“Annual report”

<sup>6</sup> China Construction Bank,2009,“Annual report”

<sup>7</sup> Industrial and Commercial Bank of China,2009,“Annual report”

<sup>8</sup> Fisher, Irving (1933), "The Debt-Deflation Theory of Great Depressions", *Econometrica*, <http://fraser.stlouisfed.org/docs/meltzer/fisdeb33.pdf>

<sup>9</sup> Fisher Irving ,1933,"The Debt-Deflation Theory of Great Depressions",  
Econometrica

<sup>10</sup> Brian Griffin, November 05, 2008,“Irving Fisher on Debt, Deflation, and  
Depression”, Seeking Alpha

<sup>11</sup> The Chinese name of the book is 预防通货紧缩和保持经济较快增长研究 and the  
translation above is by the author of this article. The Chinese CIP of the book is  
ISBN-301-09792-1

<sup>12</sup> Yi Gang, October 4, 2009,“Statement of International Monetary and Financial  
Committee”(twentieth meeting)

<sup>13</sup> Bank for International Settlement,2003,“Overview of The New Basel Capital  
Accord”;

<sup>14</sup> the website of the People’s Bank of China,2009,“Sources And Uses of Credit Funds  
of Financial Institutions”