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국제학석사 학위논문

Does China Have a Local Government Debt “Crisis”?

중국에 지방정부 채무위기가 있는가?

2013년 8월

서울대학교 국제대학원

국제학과 국제통상전공

WANG JING

중국에 지방정부 채무위기가 있는가?

지도교수 이영섭

이 논문을 석사학위논문으로 제출함

2013년 5월

서울대학교 국제대학원

국제통상전공

WANG JING

WANG JING의 석사학위논문을 인준함

2013년 7월

위 원장 안덕근



부위원장 조영남



위원 이영섭



Does China Have a Local Government Debt “Crisis”?

Academic advisor Rhee, Yeongseop

Submitting a master's thesis of International Commerce

May 2013

Graduate School of Seoul National University

International Commerce, Graduate School of International Studies

Wang Jing

Confirming the master's thesis written by Wang Jing

July 2013

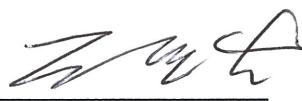
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Ahn, Dukgeun (Signature)



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Cho, Young-Nam (Signature)



Examiner

Rhee, Yeongseop (Signature)



Abstract

Concerns about the Chinese local government debt keep arising in the media as well as the academic world. To answer the question of whether China has a local government debt crisis, three sub questions were raised and three relevant checks – a Sustainability Check, a Liquidity Check and a Policy/Fact Check were conducted in this thesis.

For the Sustainability Check, in terms of the Euro Convergence Criterion for Government Debt-to-GDP Ratio, Chinese government debt in total is in the safe zone even though local government debt is based on various data. In addition, the Chinese government debt level is lower than a lot of other countries, including the USA, EU, Japan, Brazil and India. In terms of the Arithmetic of Deficit and Debt, the imbalance of Chinese government debt was small, about 1%, in the past three years. Therefore, sustainability is not a big problem for Chinese governments. As for Liquidity Check, in terms of the Calculation of Cash Flow Demand, there was a huge gap between cash flow needed and cash flow that local government can generate. In terms of the Case Studies, some LGFVs got into trouble and so did some lower level governments. Therefore, there was a liquidity problem. As for the Policy/Fact Check, even though there was a liquidity problem, it's widely believed that Chinese local government debt problem is under control because of four reasons. Besides, as the banking system remains the dominant lender, local governments can get new funds from the shadow banking system, and land transactions keep going, Chinese

governments are able to finance new projects as well as pay back old debt. Therefore, Chinese government policies are quite resilient. In summary, even though in certain cases local government debt is an issue, the probability of a severe or a systematic crisis like what happened to the USA and the EU is low. Therefore, China doesn't have a local government debt crisis.

However, a long-term agenda compromising of at least four aspects – to reallocate government revenues between central and local governments, to set up a more transparent system, to redefine the role of governments in economic development and to abandon the local governments' soft budget constraint should be taken into consideration, and studies about the disparities among the eastern, middle and western regions should be undertaken in the future.

Key words Local Government Debt Sustainability Check Liquidity Check Policy/Fact Check Long-term Agenda

Student ID Number: 2010-24190

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Chapter 1

Introduction

For years, concerns about Chinese local government financing vehicle (LGFVs) loans have spread in the media as well as the academic world. The first fire alarm came from Yunnan in 2011. According to Caixin (2011), a Beijing-based media business and financial news source, “[T]he LGFP Yunnan Highway Development Investment Limited informed its creditor banks that ‘With immediate effect, we will repay interest but not principal’”¹, after which a few more LGFVs in other places including Shanghai and Guangdong, announced their inability to pay back principal on short-term loans. Since then, media has been paying close attention to LGFVs and Chinese local government debt. There also have been concerns that Chinese local government debt may lead to a severe national financial crisis or another regional or global crisis, especially after the debate within the US Congress and White House on raising the debt ceiling after the subprime crisis, and Euro area’s burst of government debt crises. Fitch, Moody’s, Barclays and other foreign banks have expressed concerns about Chinese local government debt. According to Reuters (2013), Fitch Ratings has downgraded the long-term local currency IDR to ‘A+’ from ‘AA-’, “Fitch estimates LG debt reached CNY 12.85 trillion at end-2012 or 25.1% of GDP, up from 23.4% of GDP at end-2011. Fitch estimates China’s general government debt at 49.2% of GDP at end-2012, not far

¹ Staff reporters Wen Xiu, Zhang Yuzhe, Yu Ning, Zhang Fei. (June 29, 2011). Trouble on the Highway. *Caixinonline*. Retrieved October 3, 2012 from <http://english.caixin.com/2011-06-29/100274315.htm>.

below the ‘A’ range median of 51.2%”². Reuters (2013) also reported, Moody’s Investors Service “affirmed China’s government’s bond rating of Aa3 but cut the outlook to stable from positive”³. Barclays (2013) expressed the same concern, stating that “local governments’ liabilities, if left unchecked, could grow rapidly, posing significant fiscal and financial risks in the medium term”⁴.

Nevertheless, most of these reports and papers only saw part of the whole picture, only discussing the overall size of the Chinese local government debt in certain years, some troubled LGFVs cases or local government cases, or they only provided a few suggestions to tackle the local government debt problem. In other words, most previous works are not updated, not comprehensive and without a specific analytical framework. Therefore, first, I intend to show the brief timeline of the whole affair. Second, I would like to concisely discuss the reasons why this issue became an issue. And then I will mainly conduct three checks to answer the question of whether or not China has a local government debt crisis. The three checks are the Sustainability Check using the Euro Convergence Criteria for Government Debt-to-GDP Ratio (60%) and the Arithmetic of Deficit and Debt, the Liquidity Check using Calculation of Cash Flow Demand and a few case studies, and the Policy/Fact Check undertaken by checking policies and facts closely related to the Chinese local government debt issue.

² The statement was released by the rating agency. (April 9, 2013). RPT-Fitch Affirms China’s FC IDR at ‘A+’, Downgrades LC IDR to ‘A+’. *REUTERS*. Retrieved April 20, 2013 from <http://www.reuters.com/article/2013/04/09/fitch-affirms-chinas-fc-idr-at-a-downgra-idUSFit65422120130409>.

³ Reporting by Ian Chua and Pete Sweeney, Editing by Neil Fulllick. (April 16, 2013). Moody’s lowers China outlook after Fitch downgrade. *REUTERS*. Retrieved April 20, 2013 from <http://www.reuters.com/article/2013/04/16/us-china-moodys-ratings-idUSBRE93F05I20130416>.

⁴ Yiping Huang, Jian Chang, Steven Lingxiu Yang. (January 28, 2013).[PDF] China: Beyond the Miracle Part 8- Can China manage its fiscal risks? *Barclays Capital*.

Finally, based on the three checks, I can answer my research question of whether or not China has a local government debt crisis, and also propose long-term agenda and future study directions.

The remaining part of this thesis is organized as follows. In Section II, related reports and papers are reviewed. Section III presents my main and sub research questions. Section IV reveals the three checks - Sustainability Check, Liquidity Check and Policy/Fact check and the outcomes of the three checks. In the end, Section V comes to the conclusion that China doesn't have a local government debt crisis but the long-term agenda should be taken into consideration and future studies about disparity among the eastern, middle and western regions need to be done.

Chapter 2

Literature Review

2.1 Data Review

As concerns regarding China's LGFVs keep growing, various guesses about the total scale of local borrowing can be seen here and there. Victor Shih (2010) estimated “local investment entities’ borrowing between 2004 and the end of 2009 totals some USD 1.6 trillion (about CNY 11 trillion)⁵. Spokesman of People’s Bank of China (abbr. PBoC) (2011) said the LGFVs loans would be less than CNY 14 trillion⁶. An official from the China Banking Regulatory Commission (abbr. CBRC) (2011) responded during an interview that the CBRC assessment of LGFVs debt totaled about CNY 9.1 trillion at the end of November 2010⁷. The National Audit Office of the People’s Republic of China (abbr. CNAO) (2011) reported that the total local government debt was CNY 10.7 trillion⁸. Moody’s (2011) stated that the local debt

⁵ Victor Shih. (February 10, 2010). Looming Problem of Local Debt in China –1.6 Trillion Dollar and Rising. *Elite Chinese Politics and Political Economy*. Retrieved April 10, 2012 from <http://chinesepolitics.blogspot.kr/2010/02/looming-problem-of-local-debt-in-china.html>.

⁶ (July 11, 2011). 中国人民银行新闻发言人就地方政府融资平台贷款有关问题答记者问. *中国银行业网站*. Retrieved April 15, 2012 from http://www.pbc.gov.cn/publish/bangongting/83/2011/20110711230407998776940/20110711230407998776940_.html.

⁷ 刘永刚. (2011). 外资曲线“抄底”地方债. *中国经济周刊*. 2011 年 26 期. Retrieved from www.cnki.com.cn.

⁸ (June 27, 2011). 2011 年第 35 号: 全国地方政府性债务审计结果. *National Audit Office of the People’s Republic of China Website*. Retrieved April 21, 2012 from <http://www.audit.gov.cn/n1992130/n1992150/n1992500/2752208.html>.

should be CNY 14.2 trillion⁹. Former Premier Wen declared while speaking before Chinese and foreign reporters at the close of the National People's Congress in March 2012 that local government debt rose by CNY 300 million in 2011¹⁰, reflecting local government debt reached CNY 11 trillion. The CNAO (2013) announced the new changes regarding local debt in 36 local governments, illustrating their debt had a 12.94% increase from 2010 to 2012.¹¹ Consequently, the estimated number of total local government debt was CNY 12.08 trillion. Earlier in the two Conferences (the National People's Congress and the Chinese Political Consultative Conference), the Deputy Auditor-General of the CNAO (2013) claimed that the total amount of central and local government debt should be around CNY 15 trillion to 18 trillion.¹² The Deputy General Manager of China Cheng Xin International Co. Ltd (abbr. CCXI) (2013) considered the total local government debt in 2012-2013 to be from CNY 13 trillion to CNY 15 trillion.¹³ Barclays (2013) suggested that “there are no recent official data providing estimates of outstanding local government debt, although the debt likely rose to at least CNY 12 trillion at end-2012 (23% GDP)”¹⁴. Fitch (2013)

⁹ Reporting by Koh Gui Qing; Additional reporting by Kim Coghill in Singapor; Editing by Jacqueline Wong. (July 5, 2011). Chinese local debt understated by \$ 540 billion: Moody's. *Reuters*. Retrieved April 30, 2012 from <http://www.reuters.com/article/2011/07/05/us-china-debt-moodys-idUSTRE7640EN20110705>.

¹⁰ Dexter Roberts. (March 14, 2012). China's Local Debt Is No Problem, Wen Says. *BloombergBusinessweek*. Retrieved May 3, 2012 from <http://www.businessweek.com/articles/2012-03-14/chinas-local-debt-no-problem-wen-says>.

¹¹ (June 10, 2013). 2013 年第 24 号公告：36 个地方政府本级政府性债务审计结果. *National Audit Office of the People's Republic of China*. Retrieved June 13, 2013 from <http://www.audit.gov.cn/n1992130/n1992150/n1992500/3291665.html>.

¹² 王晔君. 中国各级政府负债不超 18 万亿 审计署称整体风险可控. *WWW.NEWS.CN*. Retrieved June 13, 2013 from http://news.xinhuanet.com/fortune/2013-03/06/c_124422242.htm. Originally from 北京商报.

¹³ 杨溢仁. IMF 再提中国债务风险 称地方政府债务已占 GDP 50%. www.people.com.cn. Retrieved June 14, 2013 from <http://finance.people.com.cn/n/2013/0603/c1004-21708311.html>. Originally from 新华网.

¹⁴ Yiping Huang, Jian Chang, Steven Lingxiu Yang. (January 28, 2013). [PDF] China: Beyond the Miracle

proposed that local government debt reached CNY 12.85 trillion at the end of 2012 (25.1% GDP), up from 23.4% of GDP at the end of 2011,¹⁵ and it also implied local government debt in 2011 was about CNY 11 trillion.

2.2 Case Review

There are also a lot of reports showing problems about local government debt in a specific area. Caixin (2011) paid close attention to a troubled LGFV -- Yunnan Highway Development Investment Limited. It reported the company had nearly CNY 100 billion in loans from banks, besides, “informed sources in Yunnan revealed that the government is still looking for a way for the company to shed its LGFP (i.e. LFGV) cover and allow projects cash flows” to cover the repayment, which demonstrated local governments’ willingness to back LGFVs when they ran into trouble.¹⁶ Yang Haiman etc (2011) took an example from Wenzhou and Suzhou City. Based on the statistics from Region A, B, C, the author made a comprehensive analysis about the debt risks for each region.¹⁷ The Jingan Branch of PBoC (2011) presented the local government debt situation of Jingan, and made suggestions on how to address the debt problem.

Part 8- Can China manage its fiscal risks? *Barclays Capital*.

¹⁵ Alexandra Ho, Fion Li. (April 10, 2013). Fitch Cuts China Yuan Debt Rating on Local Government. *Bloomberg*. Retrieved May 1, 2013 from <http://www.bloomberg.com/news/2013-04-09/fitch-cuts-china-yuan-debt-rating-on-local-government-borrowing.html>.

¹⁶ Staff reporters Wen Xiu, Zhang Yuzhe, Yu Ning, Zhang Fei. (June 29, 2011). Trouble on the Highway. *Caixinonline*. Retrieved October 3, 2012 from <http://english.caixin.com/2011-06-29/100274315.htm>.

¹⁷ 杨海曼等. (2010). 新形势下沿海较发达地区地方政府债务问题研究. *经济研究参考*. 2011 年第 10 期 (总第 2354 期). p. 18-28.

¹⁸Zhu Peinan (2012) came to a conclusion that the city and county levels' government debt situations were worse than the provincial levels based on Haishu Region's local government debt situation. ¹⁹Wang Yafen (2013) revealed Liaoning Province's local government debt situation.²⁰

2.3 Analytical Reports & Papers Review

Hu Yuexiao (2011) first argued that the Chinese local government debt relied too much on land sales and bank financing. Then she argued that the financial risk that local government debt imposed on the banking system was still controllable.²¹ Leo F. Goodstadt (2012) showed how the decision to rely on local governments to fund the 08 Stimulus Package reversed a decade of reform initiatives and the outcome was caused by failure to deal with local governments' autonomy.²² Barclays (2013) started the discussions about the local government debt problem with the current decentralized fiscal system. Barclays believed that local government debt would be the biggest medium-term risk, which was supported by revealing details in the 2011 NAO report, showing the figures of land finance as well as extra-budgetary revenues. Barclays also stated that trusts and LGFV bond issues became new channels of financing. There are

¹⁸ 卢春, 刘利清, 刘小莉, 帅萍. (2011). 地方政府债务与当地经济. 金融与经济. 2011.12. p.84-86.

¹⁹ 竺培楠. 关于化解县(区)级地方政府债务风险的思考. 财经界. p. 4-5.

²⁰ 王亚芬. (2013). 辽宁省地方政府债务问题成因与防范对策. 北方经贸. 2013年第1期. p.56-57.

²¹ 胡月晓. (April 10, 2011). [PDF]中国地方政府债务研究. 上海证券. 宏观专题研究.

²² Leo F. Goodstadt. (January 2012). [PDF]CHINA'S LGFV CRISIS 2011: THE CONFLICT BETWEEN LOCAL AUTONOMY, NATIONAL INTEREST AND FINANCIAL REFORMS. HONG KONG INSTITUTE FOR MONETARY RESEARCH. HKIMR Working Paper No. 03/2012.

also reports about policy suggestions.²³ HSBC (2011) suggested that “[i]ssuing municipal bonds looks [like] the best option”.²⁴ J.P. Morgan (2011) reported a few initiatives that have been undertaken, including issuing specific bonds by the central government which would be transferred to local governments, extending the maturity of the loans and loosening banking lending.²⁵

2.4 The Arithmetic of Deficit and Debt

In economics, the Arithmetic of Deficit and Debt is used to check whether government debt is sustainable. Government debt at the end of year t :

$$B_t = (1 + r)B_{t-1} + G_t - T_t$$

B_t : Government debt, G_t : Government spending per year, T_t : Tax revenue per year, r : Interest rate paid on the debt.

The equation can be rewritten by adding Y (i.e. GDP):

$$\frac{B_t}{Y_t} = (1 + r - g) \frac{B_{t-1}}{Y_{t-1}} + \frac{G_t - T_t}{Y_t}$$

²³ Yiping Huang, Jian Chang, Steven Lingxiu Yang. (January 28, 2013). [PDF] China: Beyond the Miracle Part 8- Can China manage its fiscal risks? *Barclays Capital*.

²⁴ Qu Hongbin, Ma Xiaoping. (July 8, 2011). [PDF] From the Horse's Mouth China begins muni bond trial. *HSBC Global Research*.

²⁵ (July 2011). [PDF] Market Focus – China’s Local Government Debt. *J.P Morgan. Asset Management*.

It can be rewritten by moving one item from the right side to the left side

$$\frac{B_t}{Y_t} - \frac{B_{t-1}}{Y_{t-1}} = (r - g) \frac{B_{t-1}}{Y_{t-1}} + \frac{G_t - T_t}{Y_t}$$

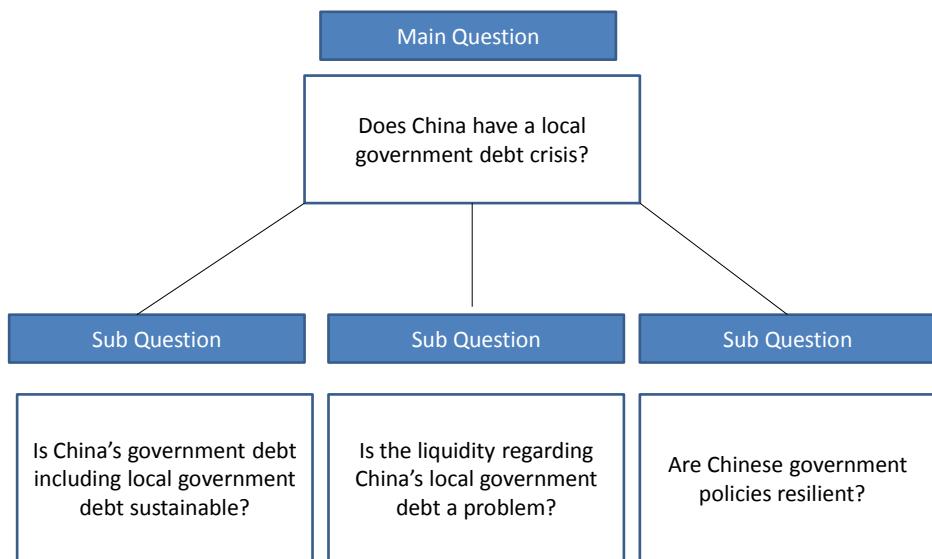
Convergence criteria are based on the differences between the interest rate and growth rate times the initial debt/GDP ratio as well as the ratio of primary deficit to GDP:
(G-T)/Y.

Chapter 3

Research Questions

My main research question is: “Does China have local government debt crisis?”

Generally speaking, to check the debt situation, two checks—the Sustainability Check and the Liquidity Check are usually conducted. Considering China’s case, related policies and facts need to be checked as well. Accordingly, to answer my main research question, I raise three sub questions: “Is China’s government debt including local government debt sustainable?”, “Is the liquidity regarding China’s local government debt a problem?”, “Are Chinese government policies resilient?”



Graph 1 Research Questions

Chapter 4

Methodology: Three Checks on Chinese Local Government Debt

4.1 Summary of the Whole Event

Before moving to do the three checks, I find it necessary to understand the sequence of the event as well as the cause and effect. Therefore, I summarize the whole event following the order of brief timeline, main reasons and three scenarios.

4.1.1 Brief Timeline

Granted concerns about this issue mainly started around 2010, the whole event dates back to a much earlier time, 1994, to be precise.

In 1994, there was a taxation reform that redefined the revenue and expenditure allocation between China's central government and local governments. After that, revenue available to local governments declined sharply but local governments were still responsible for a lot of costly projects.²⁶ Moreover, according to China's laws that regulate local governments' behaviors, local governments are not allowed to issue their

²⁶ See Yiping Huang, Jian Chang, Steven Lingxiu Yang. (January 28, 2013). [PDF] China: Beyond the Miracle Part 8- Can China manage its fiscal risks? *Barclays Capital*.

own bonds or to run budget deficits.²⁷ To fulfill their responsibilities, local governments have to find their own resources to get money.

Then the 2007-2008 Global Financial Crisis occurred. To pump up the economy, the Chinese central government launched the 2008 Stimulus Package, investing CNY 4 trillion (about USD 586 billion) to expand domestic demand.²⁸ The policy required Chinese local governments to raise money to accomplish the investment mission, and it also encouraged local governments to borrow money from banks by relieving a few restrictions that previously prevented local governments from borrowing.²⁹ Hence, the concerns regarding local government debt peaked during 2010-2011 when there was massive media coverage about bank defaults resulting from local government debt. At that time, the Chinese central government stepped in, the CNAO conducted a nationwide audit and announced that the total local government debt was CNY 10.7 trillion.³⁰ The CBRC prohibited banks from making new loans to LGFVs.³¹

However, because of several reasons including Chinese economy's slowdown, difficulties paying back old debt, ongoing eagerness to borrow more money, restrictions to borrowing from banks and so on, a lot of local governments turned to the

²⁷ See Dong Dasheng. (September 2011). [PDF] The Positive Role of Audit in Public Debt Management in China, (for the 1st ASOSAI-EUROSAI Joint Conference).

²⁸ See (November 9, 2008). 温家宝主持国务院常务会 确定扩大内需十项措施. 新华网. Retrieved April 10, 2012 from http://news.xinhuanet.com/newscenter/2008-11/09/content_10331258_1.htm.

²⁹ See Leo F. Goodstadt. (January 2012). [PDF] CHINA'S LGFV CRISIS 2011: THE CONFLICT BETWEEN LOCAL AUTONOMY, NATIONAL INTEREST AND FINANCIAL REFORMS. HONG KONG INSTITUTE FOR MONETARY RESEARCH. HKIMR Working Paper No. 03/2012.

³⁰ (June 27, 2011). 2011 年第 35 号：全国地方政府性债务审计结果. National Audit Office of the People's Republic of China Website. Retrieved April 21, 2012 from <http://www.audit.gov.cn/n1992130/n1992150/n1992500/2752208.html>.

³¹ See [PDF]中国银监会关于切实做好 2011 年地方政府融资平台贷款风险监管工作的通知. 银监发 [2011] 34 号.

shadow banking system to borrow money. As a result, in 2012, concerns about shadow banking arose. Again, the Chinese central government stepped in. Chinese major regulative institutions -- PBoC, CBRC, MoF and NDRC made a joint statement admitting that there had been an increase in unauthorized fund raised by local governments, and the major regulative institutions imposed strict regulations to prevent borrowing from unauthorized funds including the shadow banking system.³²

After the shift of leadership, the remaining agenda from previous leadership, which included public housing, and the new agenda from the new leadership which comprises urbanization raise the pressure on local governments to find more money. The CNAO did another small-scale audit and found that accumulation of local government debt continued.³³ The recent outburst of money shortages involving Chinese commercial banks and the stock market reflected the ongoing local government debt situation, and the relatively negative reaction of the central bank gave a warning signal to banks, asking them to rethink expansionary credit especially with the shadow banking system since there is a cooperative relationship between commercial banks and the shadow banking system.³⁴

³² See (December 24, 2012). 财政部 发展改革委 人民银行 银监会关于制止地方政府违法违规融资行为的通知. 财预[2012]463 号.

³³ (June 10, 2013). 2013 年第 24 号公告: 36 个地方政府本级政府性债务审计结果. *National Audit Office of the People's Republic of China*. Retrieved June 13, 2013 from <http://www.audit.gov.cn/n1992130/n1992150/n1992500/3291665.html>.

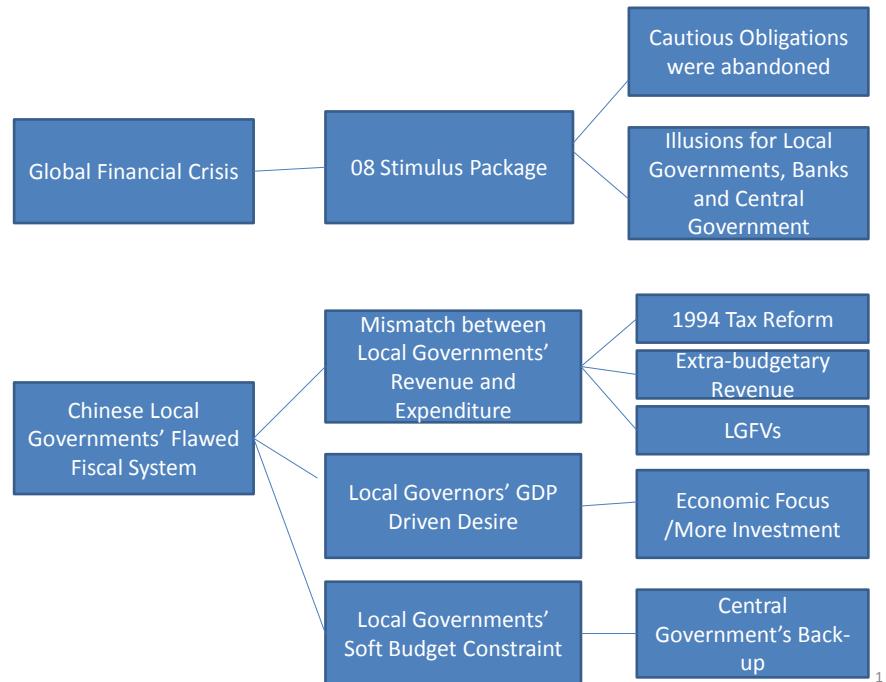
³⁴ See 田俊荣. (July 1, 2013). 人民日报金海观潮：“央妈”缘何变“后妈”？. [www.people.com.cn](http://www.people.com.cn/n/2013/0701/c1003-22027674.html). Retrieved July 5, 2013 from <http://opinion.people.com.cn/n/2013/0701/c1003-22027674.html>. Originally from 《人民日报》(2013 年 07 月 01 日 18 版) .



Graph 2 Brief Timeline

4.1.2 Main Reasons

From the brief timeline shown above, the main reasons why Chinese local government debt became such a big issue can be put into two categories: the first category is related to the 2007-2008 Global Financial Crisis, and the second is related to Chinese local governments' flawed fiscal system.



Graph 3 Main Reasons

For the first category, as the Global Financial Crisis became more severe, in November 2008, the Chinese central government launched a CNY 4 trillion (USD 568 billion) stimulus package aiming to counter the recession by simulating domestic consumer demand and increasing investment. The 08 Stimulus Package is also referred to as “10 Measures to Increase Domestic Demand”. And the mission to raise most of the funding (about 70%) was given to local governments, reported by Michael F. Martin (2012), “According to the stimulus plan, RMB (i.e. CNY) 1.2 trillion (USD 188 billion) of the funding would be provided by the central government; local governments would be

responsible for CNY 2.8 trillion (USD 440 billion)”.³⁵

1. Accelerate indemnificatory housing construction.
2. Accelerate infrastructure construction in rural areas.
3. Accelerate import infrastructure construction including railways, public roads, airport, etc.
4. Accelerate development of medical and health, culture and education.
5. Increase ecological environment construction.
6. Accelerate independent innovation and structural adjustment.
7. Accelerate post-disaster reconstruction in earthquake-stricken area.
8. Increase urban and rural residents' income.
9. Contact VAT reform in every area and industry.
10. Let finance support economic growth more efficiently.

Graph 4 10 Measures to Increase Domestic Demand

Source: translated from Wen Jiaobao's speech (2008)³⁶

However, the 2008 Stimulus Package also cost a lot. The authorities loosened the previous cautious measures for bank lending and ignored the risk of a rise in non-performing loans. Leo F. Goodstadt (2012) commented, “former restrictions on ministry and local government financial activities were suspended”, and this made the

³⁵ Michael F. Martin. (February 20, 2012). [PDF] China's Banking System: Issues for Congress. Congressional Research Service. 7-5700 www.crs.gov R42380.

³⁶ (November 9, 2008). 温家宝主持国务院常务会 确定扩大内需十项措施. 新华网. Retrieved April 10, 2012 from http://news.xinhuanet.com/newscenter/2008-11/09/content_10331258_1.htm.

local governments believe that “this was an unprecedented windfall of funding opportunities for all manner of pet local projects”, made the bankers believe that “the directives from the government and political leaders effectively eliminated all personal responsibility for the lending decision”, and also made the central government “seemed to have nothing to lose”, “the initial results of this ‘benign neglect’ proved ‘so widespread and powerful in terms of a double-digit real growth rate’ that the central authorities were ‘more likely to claim credit than to interfere’”.³⁷

For the second category, three factors contributed. The three factors are the mismatch between local governments’ revenue and expenditure, local governors’ GDP driven desire and local governments’ soft budget constraint, respectively. The first factor, the mismatch between local governments’ revenue and expenditure, can be explained by three sub factors: a) 1994 Tax Reform, b) Extra-budgetary Revenue and c) LGFVs.

Mismatch between Local Governments’ Revenue and Expenditure

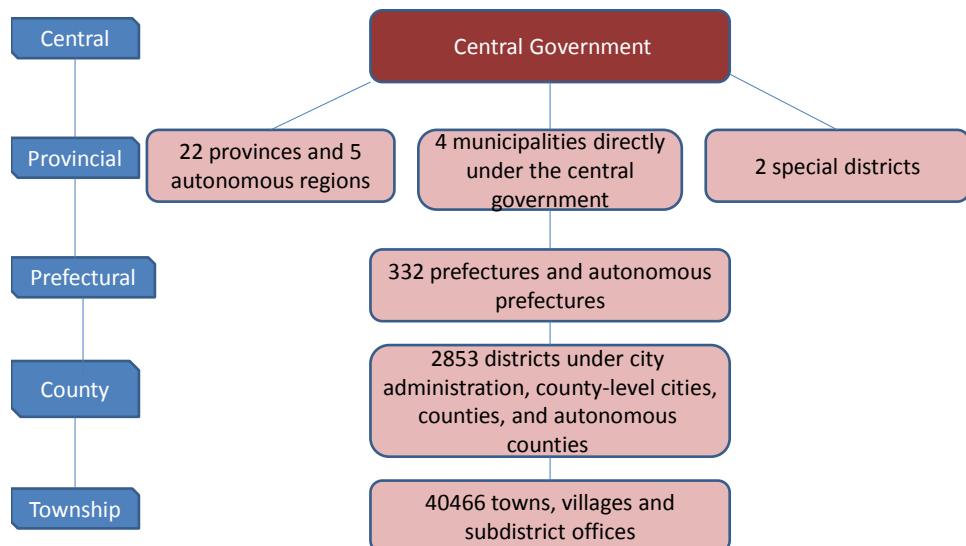
a) 1994 Tax Reform

China’s government revenue is shared by 5 levels of governments: central level, provincial level, prefectural level, county level and township level.³⁸ The 1994 tax reform laid the foundations for today’s local government debt situation. The national

³⁷ Leo F. Goodstadt. (January 2012). [PDF]CHINA’S LGFV CRISIS 2011: THE CONFLICT BETWEEN LOCAL AUTONOMY, NATIONAL INTEREST AND FINANCIAL REFORMS. HONG KONG INSTITUTE FOR MONETARY RESEARCH. HKIMR Working Paper No. 03/2012.

³⁸ See 全国行政区划（2011年底）. 中国统计年鉴. Retrieved April 3, 2013 from <http://www.stats.gov.cn/tjsj/ndsj/2012/indexch.htm>.

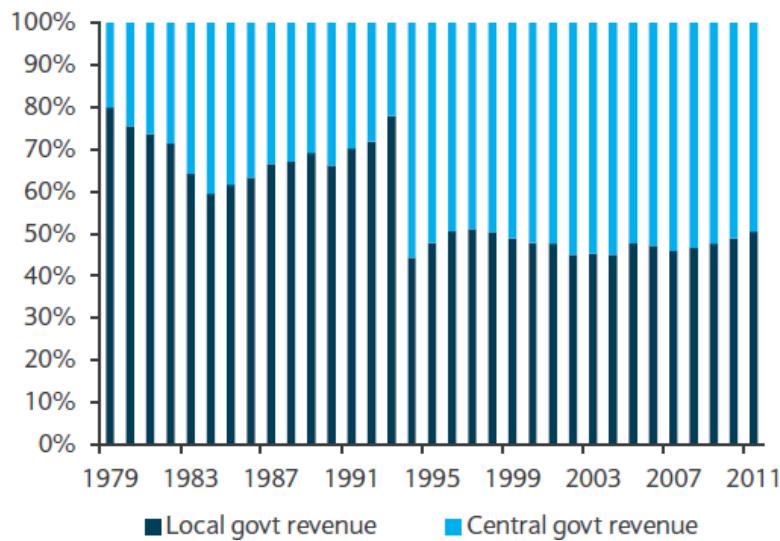
government changed the revenue collection process, dividing tax into central government tax, which is paid directly to the central government; local government tax, which is paid directly to local governments; and central-local shared tax, which is shared by the central and local governments, and there is also a central-to-local fiscal transfer system.



Graph 5 Structure of Chinese Governments

Source: China Statistical Yearbook 2012

The 1994 tax reform changed the revenue split between central and local governments.

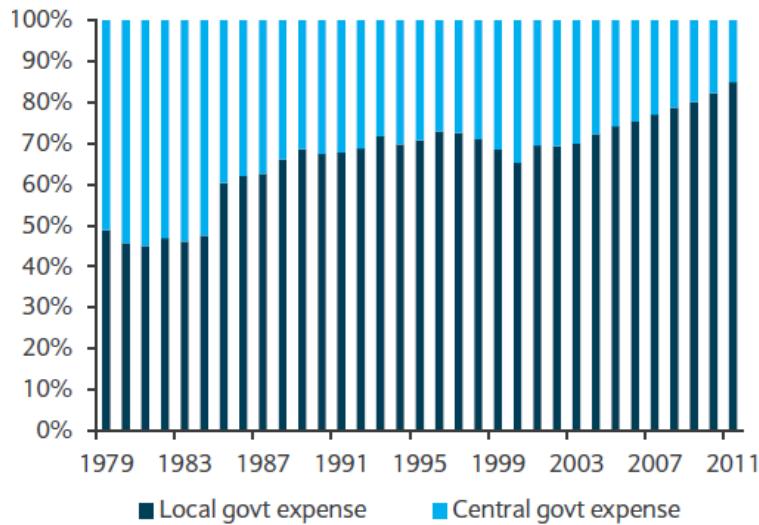


Graph 6 Revenue Split of the Central and Local Governments

Source: Barclays³⁹

The 1994 tax reform also changed the expenditure split between central and local governments, but the change was reversed.

³⁹ Yiping Huang, Jian Chang, Steven Lingxiu Yang. (January 28, 2013). [PDF] China: Beyond the Miracle Part 8- Can China manage its fiscal risks? *Barclays Capital*.



Graph 7 Expenditure Split of the Central and Local Governments

Source: Barclays⁴⁰

The 1994 tax reform decreased local governments' revenue share but increased their expenditure share. According to Barclays (2013), "The central government now gets about 50% of total revenue, but is responsible for about 30% of total expenditure. The local government gets less than 20% of their total revenues from local taxes and 30% from shared tax, but need to fund to 70-80 % of total expenditure".⁴¹

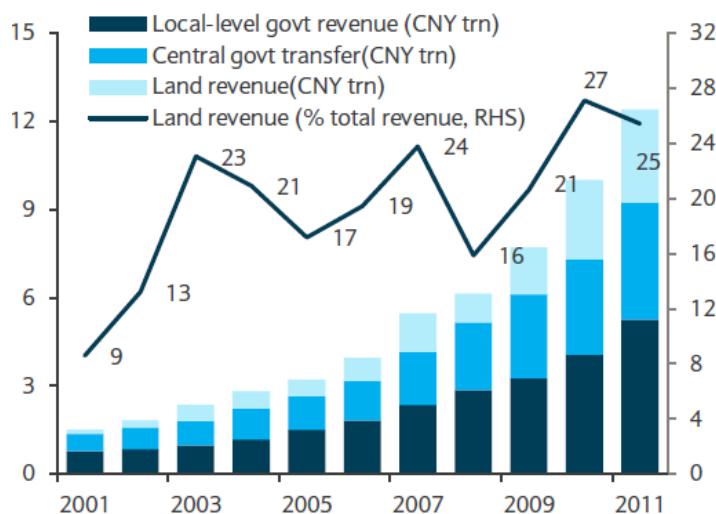
b) Extra-budgetary Revenue

To make up shortfalls resulting from the mismatch between revenue and expenditure, local governments have been relying heavily on extra-budgetary revenue, first on fee

⁴⁰ Yiping Huang, Jian Chang, Steven Lingxiu Yang. (January 28, 2013). [PDF] China: Beyond the Miracle Part 8- Can China manage its fiscal risks? *Barclays Capital*.

⁴¹ Yiping Huang, Jian Chang, Steven Lingxiu Yang. (January 28, 2013). [PDF] China: Beyond the Miracle Part 8- Can China manage its fiscal risks? *Barclays Capital*.

collection, then on land sales. According to Leo F. Goodstadt (2012), China's local governments' financial arrangements came from the Soviet Union's which relied heavily on extra-budgetary resources "derived from a host of fees and user charges, enterprise profits and other activities to finance the lower levels of the administration".⁴² According to Barclays (2013), land sales increased a lot in the past ten years and have become an important source of local governments' total income, accounting for around 20% of local governments' total income.⁴³



Graph 8 Local Governments' Total Income

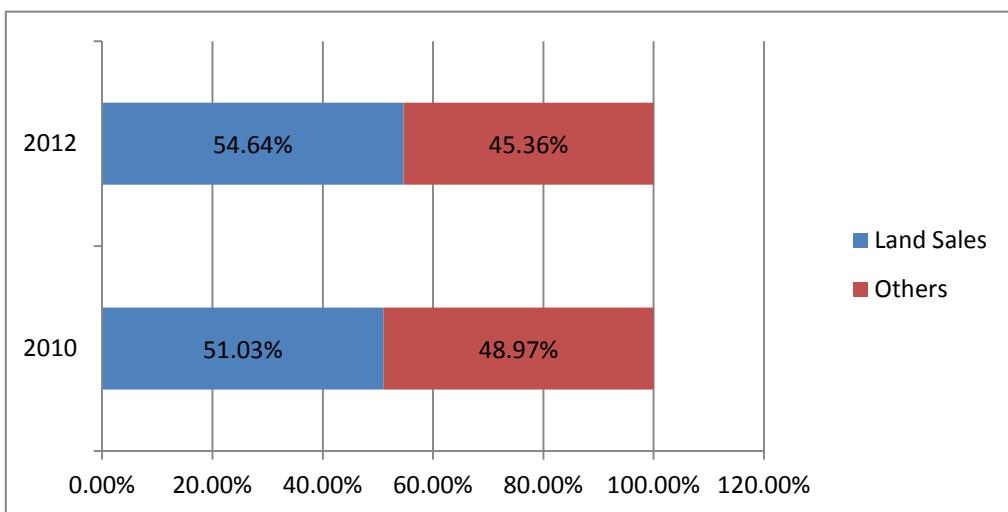
Source: Barclays⁴⁴

⁴² Leo F. Goodstadt. (January 2012). [PDF] CHINA'S LGFV CRISIS 2011: THE CONFLICT BETWEEN LOCAL AUTONOMY, NATIONAL INTEREST AND FINANCIAL REFORMS. HONG KONG INSTITUTE FOR MONETARY RESEARCH. HKIMR Working Paper No. 03/2012.

⁴³ Yiping Huang, Jian Chang, Steven Lingxiu Yang. (January 28, 2013). [PDF] China: Beyond the Miracle Part 8- Can China manage its fiscal risks? *Barclays Capital*.

⁴⁴ Yiping Huang, Jian Chang, Steven Lingxiu Yang. (January 28, 2013). [PDF] China: Beyond the Miracle Part 8- Can China manage its fiscal risks? *Barclays Capital*.

Particularly, local governments rely heavily on land sales to pay back their debt. CNAO's 2013 audit report demonstrated that in 2010, 51.03% of the total local government debt was promised to be paid back with the money from land sales, and in 2012, the ratio of 36 local governments increased to 54.64%.⁴⁵



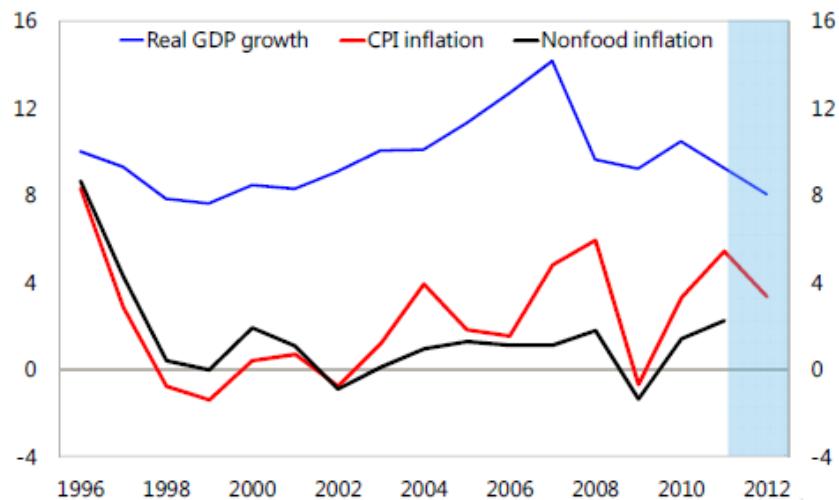
Graph 9 Gurantees for Paying back the Debt

Source: CNAO⁴⁶

However, after the 2008 Stimulus Package, the expansion of credit caused inflation and rising housing prices. Residential property price ascended sharply, which raised concerns about property bubbles and social tensions, especially in large cities.

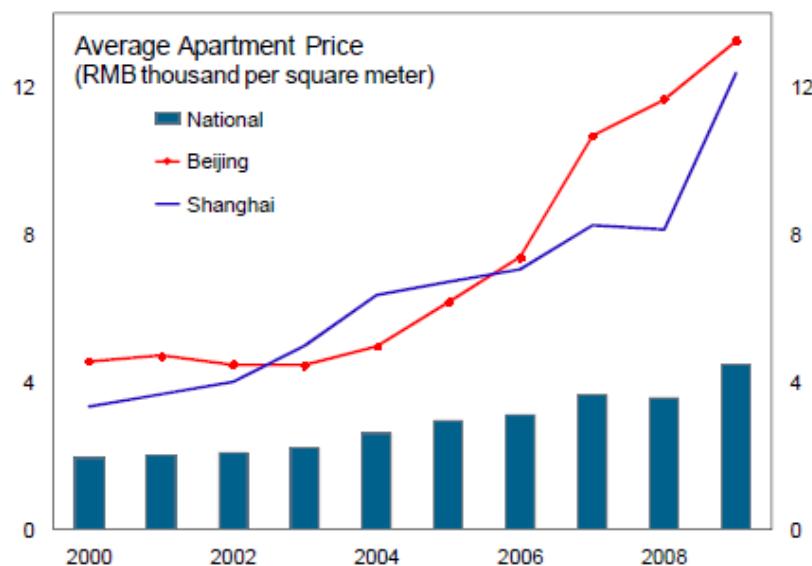
⁴⁵ (June 10, 2013). 2013 年第 24 号公告：36 个地方政府本级政府性债务审计结果. *National Audit Office of the People's Republic of China*. Retrieved June 13, 2013 from <http://www.audit.gov.cn/n1992130/n1992150/n1992500/3291665.html>.

⁴⁶ (June 10, 2013). 2013 年第 24 号公告：36 个地方政府本级政府性债务审计结果. *National Audit Office of the People's Republic of China*. Retrieved June 13, 2013 from <http://www.audit.gov.cn/n1992130/n1992150/n1992500/3291665.html>.



Graph 10 CPI Inflation

Source: IMF⁴⁷

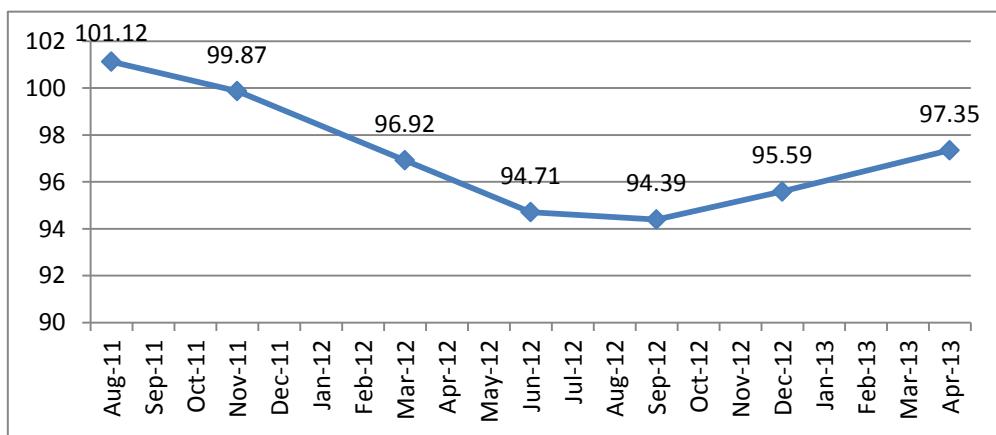


Graph 11 Rising House Price in Large Cities

Source: IMF⁴⁸

⁴⁷ (July 6, 2012). [PDF] PEOPLE'S REPUBLIC OF CHINA STAFF REPORT FOR THE 2012 ARTICLE IV CONSULTATION. IMF.

Central governments implemented several policies to subdue the rising housing prices. Land sales therefore suffered. It's widely known that income from land sales declined in 2011~2012 and probably will continue declining.



Graph 12 Real Estate Climate Index

Source: CFC⁴⁹

c) LGFVs

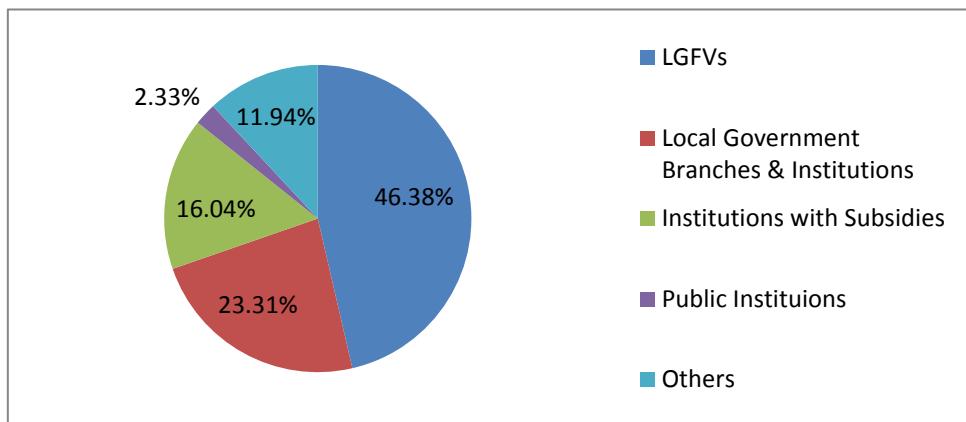
It's been common practice for local governments to establish Local Government Financing Vehicles (LGFVs) which are capitalized by transfers of money, land and other government assets and are used by local governments to borrow in an indirect way, addressed by IMF (2010), LGFVs “regularly receive implicit or explicit guarantees from the local government to underwrite their borrowing”⁵⁰. As is

⁴⁸ (July 6, 2012). [PDF] PEOPLE'S REPUBLIC OF CHINA STAFF REPORT FOR THE 2012 ARTICLE IV CONSULTATION. IMF.

⁴⁹ Based on data from China Finance Corporation <http://dc.xinhua08.com/81/>.

⁵⁰ (July 9, 2010). [PDF] PEOPLE'S REPUBLIC OF CHINA Staff Report for the 2010 Article IV

mentioned above, after the 2008 Stimulus Package, cautious obligations were abandoned, causing illusions about expanding credit for local governments, banks and even the central government. Local governments significantly increased their borrowing, especially borrowing through LGFVs. As a result, 46.38% of debt was financed through LGFVs, according to CNAO (2011).⁵¹



Graph 13 Local Government Debt by Borrower Type⁵²

Source: CNAO⁵³

Still 45.67% of the debt was financed through LGFVs, according to CNAO's 2013 audit report.⁵⁴

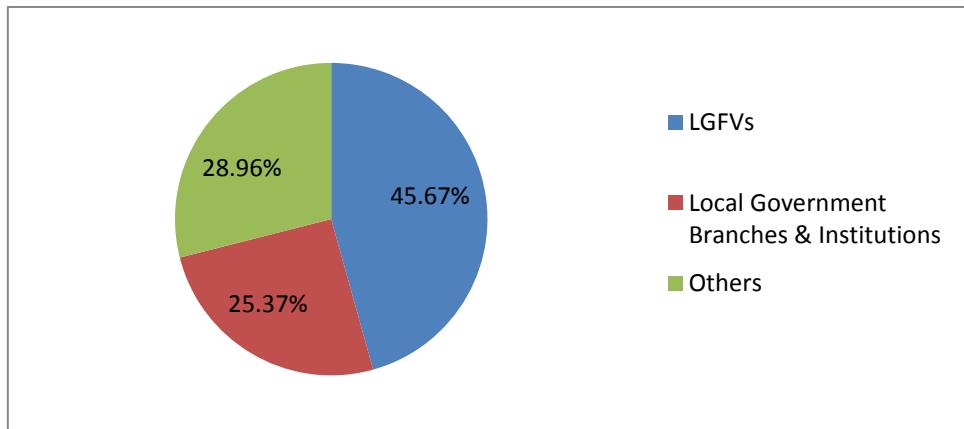
Consultation Prepared by the Staff Representatives for the 2010 Article IV Consultation with the People's Republic of China. IMF.

⁵¹ (June 27, 2011). 2011 年第 35 号：全国地方政府性债务审计结果. *National Audit Office of the People's Republic of China Website*. Retrieved April 21, 2012 from <http://www.audit.gov.cn/n1992130/n1992150/n1992500/2752208.html>.

⁵² For b/w, rotation of this chart pie is clockwise.

⁵³ (June 27, 2011). 2011 年第 35 号：全国地方政府性债务审计结果. *National Audit Office of the People's Republic of China Website*. Retrieved April 21, 2012 from <http://www.audit.gov.cn/n1992130/n1992150/n1992500/2752208.html>.

⁵⁴ (June 10, 2013). 2013 年第 24 号公告：36 个地方政府本级政府性债务审计结果. *National Audit*



Graph 14 Debt of 36 Local Governments by Borrower Type⁵⁵

Source: CNAO⁵⁶

However, a lot of LGFVs, such as Yunnan Highway Development Investment Limited and some in Shanghai and Guangdong, announced their inability to pay back principal on short-term loans. Detailed information about Yunnan Highway Development Investment Limited is provided in the later part.

Back to the other two factors in the second category.

Local Governors' GDP Driven Desire

In China's political system, the chance for local government officials to get promoted

Office of the People's Republic of China. Retrieved June 13, 2013 from <http://www.audit.gov.cn/n1992130/n1992150/n1992500/3291665.html>.

⁵⁵ For b/w, rotation of this chart pie is clockwise.

⁵⁶ (June 10, 2013). 2013 年第 24 号公告：36 个地方政府本级政府性债务审计结果. *National Audit Office of the People's Republic of China.* Retrieved June 13, 2013 from <http://www.audit.gov.cn/n1992130/n1992150/n1992500/3291665.html>.

is directly linked to their political achievements, especially their achievements in GDP growth.

Wang Yafen (2013) asserted that China had been using the GDP and GDP growth rate as assessment criteria for local government officials, which set wrong goals for local government officials. Consequently, local government officials were quite shortsighted and eager to increase the GDP numbers on the books, ignoring the costs and risks. Some local government officials had been keen on launching projects designed to build their own images by borrowing a lot of money to accelerate development without regard to its practicality.⁵⁷

Zhang Wenjun (2011) maintained that the current evaluation system for local government offices had created three consequences: “first, promotional practice tempts local government officials into focusing too much on vanity projects; second, information asymmetry between the superior and the subordinate results in local government officials showing their achievements mainly in resource-intensive projects; third, the promotion system for local government officials is an elimination system, local government officials should work themselves up step by step along the government ladder, and if they can’t get promoted at certain level, they will lose the opportunity for advancement.”⁵⁸

Yang Guoying (2013) held the idea that local governments’ investment incentives were

⁵⁷ 王亚芬. (2013). 辽宁省地方政府债务问题成因与防范对策. *北方经贸*. 2013年第1期. p.56-57.

⁵⁸ 张文君. (2011). 晋升博弈、政绩考核与地方政府债务扩张. *上海金融学院学报 Journal of Shanghai Finance University*. 2011年第5期 总第107期. p. 72-77.

not only related to the vanity projects, but also related to some local government officials' personal interests. The commentator further explained that as local governments' fiscal budgetary systems were still defective and public bidding was still nontransparent, local government officials, by borrowing money to invest, could not only make more vanity projects, but also provide opportunities for themselves to accept bribes.⁵⁹

Ding Maozhan (2013) pointed out that some local governors' risk awareness was quite weak, they only thought about the current track records and ignored the future risks. Especially for those who could get promoted in a short period of time, they would borrow money with no scruples. Hence, problems regarding GDP, urbanization, and image projects existed everywhere.⁶⁰

Local Governments' Soft Budget Constraint

Chinese local Governments' soft budget constraint implies not only commercial banks like to lend loans to local governments as commercial banks are the supporters of soft budget constraint, but also when local government debt is too huge to be paid back by local governments themselves, as there is no local government bankruptcy system, the Chinese central government will take over the liability created by local governments.

⁵⁹ 杨国英. (May 25, 2013). 杨国英:地方举债难控的四大原因. 腾讯财经. Retrieved June 5, 2013 from <http://finance.qq.com/a/20130525/000257.html>.

⁶⁰ 赵鹏飞. (June 12, 2013). 【海外版】地方政府债多一身轻的霸气哪里来的? 人民日报海外版. Retrieved June 30, 2013 from <http://china.haiwainet.cn/GB/n/2013/0612/c345646-18848462.html>.

⁶¹This regulation no doubt encourages local governments to borrow money. Local governments' soft budget constraint, together with the defective budgetary system as well as undefined duties for local government officials, proposes a "safe" prospect for local government officials who have borrowed money as well as those who are willing to borrow money.

4.1.3 Three Scenarios

There are three scenarios concerning the Chinese local government debt crisis. The first scenario shows that the local debt problem is serious enough to become a severe crisis, a case which was convincingly presented by Hong Kong economist, Professor Lang Hsien Ping, announcing "the official outbreak of Chinese debt crisis" with his Weibo account, basically the Chinese version of Twitter.⁶².

The second scenario indicates that Chinese local government debt is no problem, which was strongly supported by Chinese government officials, especially the former Chinese Premier Wen Jiaobao, saying that "the government debt level is under control, and is safe" at the close of the National Peoples' Congress on March 14, 2012.⁶³

⁶¹ 王叙果, 张广婷, 沈红波. (2012). 财政分权、晋升激励与预算软约束. *财经研究*. 2012年第3期. p.10-15.

⁶² (December 22, 2011). 郎咸平称中国债务危机爆发 被批危言耸听. *凤凰网财经*. Retrieved April 20, 2012 from <http://finance.ifeng.com/news/macro/20111222/5316768.shtml>.

⁶³ Dexter Roberts. (March 14, 2012). China's Local Debt Is No Problem, Wen Says. *BloombergBusinessweek*. Retrieved May 3, 2012 from <http://www.businessweek.com/articles/2012-03-14/chinas-local-debt-no-problem-wen-says>.

Between the two scenarios, there is a middle one, which was agreed upon by many media and financial service companies. They argued that the Chinese local government debt problem was manageable, but there were some problems that needed to be addressed. For example, HSBC (2011) noted “the scale of local debt is still manageable...”, “[b]ut there is a liquidity problem...”, “Issuing municipal bonds looks like the best option”.⁶⁴ J.P. Morgan (2011) also stressed that local government debt “poses very little risk to China’s growth story and the fortunes of Chinese equities...”, “[T]he very tight liquidity situation...” “...is a matter that needs to be addressed in the medium term”.⁶⁵ Barclay (2013) claimed “although we think the probability of a debt crisis in China is low, the risk is real.”⁶⁶ Hu Yuexiao (2011) argued the financial risk that local government debt imposed on the bank system was still controllable, 2012 would be critical for the liquidity problem, but local governments were able to solve the problem.⁶⁷

⁶⁴ Qu Hongbin, Ma Xiaoping. (July 8, 2011). [PDF] From the Horse’s Mouth China begins muni bond trial. *HSBC Global Research*.

⁶⁵ (July 2011). [PDF] Market Focus – China’s Local Government Debt. *J.P Morgan. Asset Management*.

⁶⁶ Yiping Huang, Jian Chang, Steven Lingxiu Yang. (January 28, 2013). [PDF] China: Beyond the Miracle Part 8- Can China manage its fiscal risks? *Barclays Capital*.

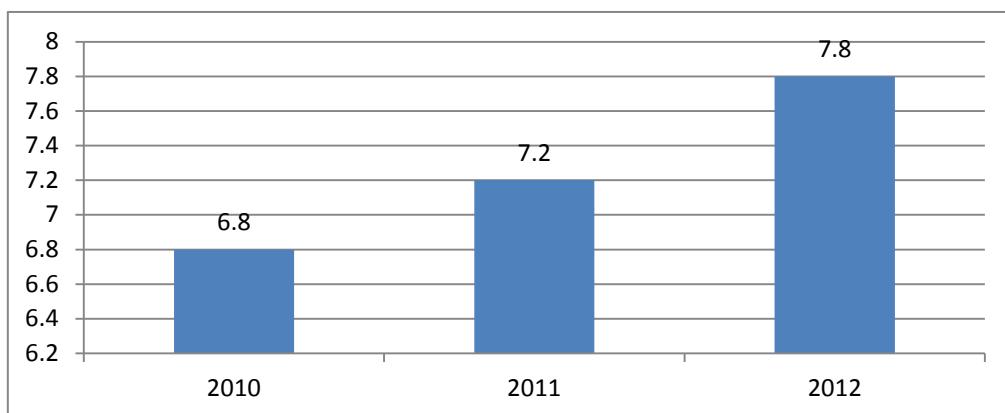
⁶⁷胡月晓. (April 10, 2011). [PDF]中国地方政府债务研究. 上海证券. 宏观专题研究.

4.2 Three Checks: Sustainability Check, Liquidity Check, Policy/Fact Check

4.2.1 Sustainability Check: the Euro Convergence Criterion for Government Debt-to-GDP Ratio and the Arithmetic of Deficit and Debt

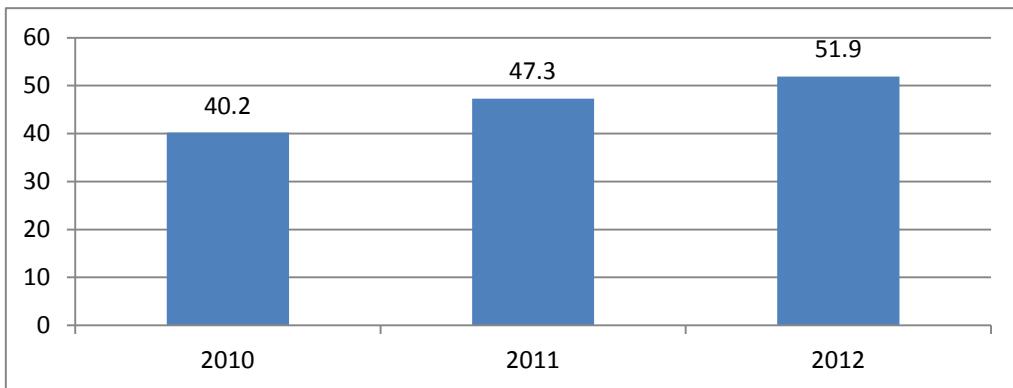
The Euro Convergence Criterion for Government Debt-to-GDP Ratio

As one of the five (or four) main Euro Convergence Criteria, the Government Debt-to-GDP Ratio requires member countries' ratio of gross government debt relative to GDP not to exceed 60% at the end of the year. It's widely used to check the status of certain country's government debt. In China's case, the figures of central government debt and China's GDP in 2010-2012 are shown below.



Graph 15 China's Central Government Debt (CNY, trillion)

Source: Based on data from MoF



Graph 16 China's GDP (CNY, trillion)

Source: Based on data from National Bureau of Statistic of China

Then I calculated to find out China's debt-to GDP ratio with the data shown in the data review section as well as right above:

CNAO (2010): [CNY 10.7 trillion + CNY 6.8 trillion (Central Government Debt in 2010)]/CNY 40.2 trillion (GDP in 2010) = 43.53%

Moody's (2010): [CNY 14.2 trillion + CNY 6.8 trillion (Central Government Debt in 2010)]/CNY 40.2 trillion (GDP in 2010) = 52.24%

Primer Wen (2012): [CNY 11 trillion + CNY 7.2 trillion (Central Government Debt in 2011)]/CNY 47.3 trillion (GDP in 2011) = 38.48%

CNAO (2013) (estimated): [CNY 12.08 trillion + CNY 7.8 trillion (Central Government Debt in 2012)]/CNY 51.9 trillion (GDP in 2012) = 38.30%

CNAO (2013) (Deputy Auditor-General): [CNY 15~18 trillion]/CNY 51.9 trillion (GDP in 2012) = 28.90%~34.68%

CCXI (2013): [CNY 13~15 trillion + CNY 7.8 trillion (Central Government Debt in 2012)]/CNY 51.9 trillion (GDP in 2012) = 40.08%~43.93%

Barclays (2013): [CNY 12 trillion + CNY 7.8 trillion (Central Government Debt in 2012)]/CNY 51.9 trillion (GDP in 2012) = 38.15%

Fitch (2013): [CNY 12.85 trillion + CNY 7.8 trillion (Central Government Debt in 2012)]/CNY 51.9 trillion (GDP in 2012) = 39.79%

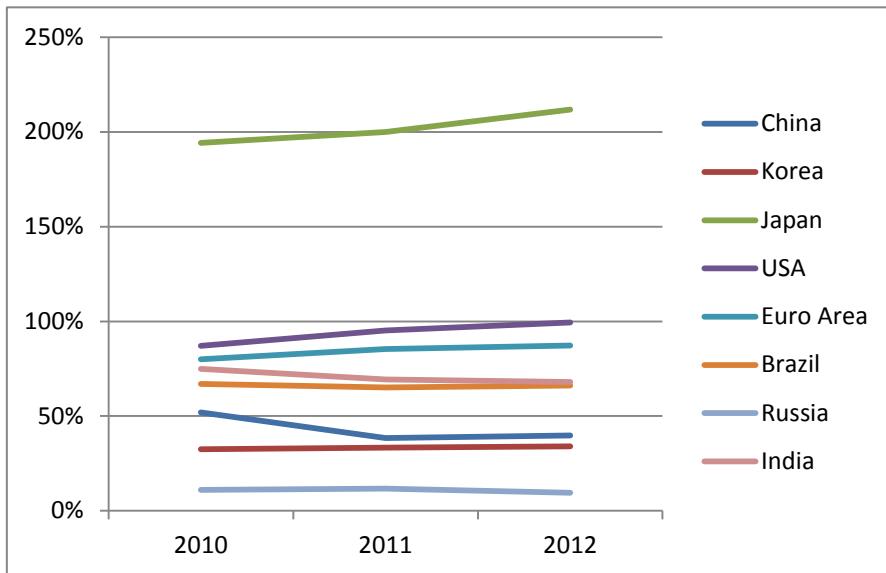
Summary of the calculations:

	2010 Local	2010 Total	2010 D/G	2011 Local	2011 Total	2011 D/G	2012 Local	2012 Total	2012 D/G
CNAO (2011)	10.7	17.5	43.53%						
Moody's	14.2	18.8	52.24%						
Wen				11	18.2	38.48%			
CNAO (2013)							12.08	19.88 15~18	38.30% 28.90%~ 34.68%
CCXI							13~15	20.8~ 22.8	40.08%~ 43.93%
Barclays							12	19.8	38.15%
Fitch							12.85	20.65	39.79%

Graph 17 Debt-to-GDP Ratio

The range of these figures is from 28.90% to 52.24%, all below 60%. According to the Euro Convergence Criterion for Government Debt-to-GDP Ratio, China's government debt is still at safe level.

What's more, China's debt-to-GDP ratio is not only lower than the Euro Convergence Criterion for Government Debt-to-GDP Ratio, but also lower than a lot of countries' debt-to-GDP ratio. In comparison with its neighboring countries, such as South Korea, Japan, the most developed countries or areas, such as the US, the EU, and the other three countries in BRIC, China's debt-to-GDP ratio is lower than most of these countries, except for South Korea and Russia.



Graph 18 Debt-to-GDP by Countries

Source: Based on date from Trading Economics

The Arithmetic of Deficit and Debt

The conventional Arithmetic of Deficit and Debt is often used to check the sustainability of government debt. As is shown in the literature review section, the Arithmetic of Deficit and Debt is as follows:

$$\frac{B_t}{Y_t} = (1 + r - g) \frac{B_{t-1}}{Y_{t-1}} + \frac{G_t - T_t}{Y_t}$$

Where B_t : Government debt, G_t : Government spending per year, T_t : Tax revenue per year, r : interest rate paid on the debt.

It can be rewritten as:

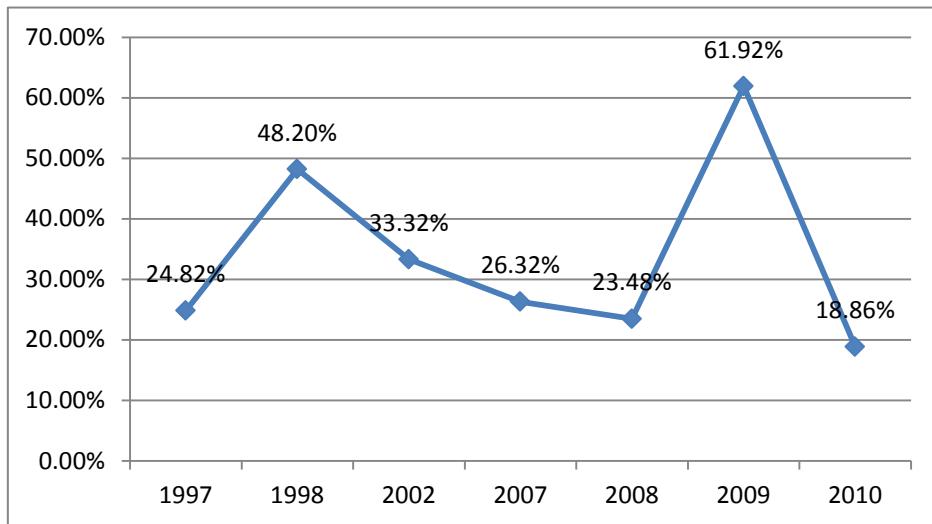
$$\frac{B_t}{Y_t} - \frac{B_{t-1}}{Y_{t-1}} = (r - g) \frac{B_{t-1}}{Y_{t-1}} + \frac{G_t - T_t}{Y_t}$$

From the equation, we can tell that the change in the debt ratio over time is related to two terms:

- The first term is the difference between the interest rate and the growth rate times the initial debt ratio.
- The second term is the ratio of the primary deficit to GDP.

To be more specific, the increase in the ratio of debt to GDP will be larger with higher rate, lower growth rate, higher initial debt ratio and higher ratio of the primary deficit to GDP.

There have been two jumps in accumulation of Chinese local government debt since 1997, and the current Chinese Local Government Debt Crisis resulted from the more recent one that began in the year 2008.



Graph 19 Growth Rate of Chinese Local Government Debt

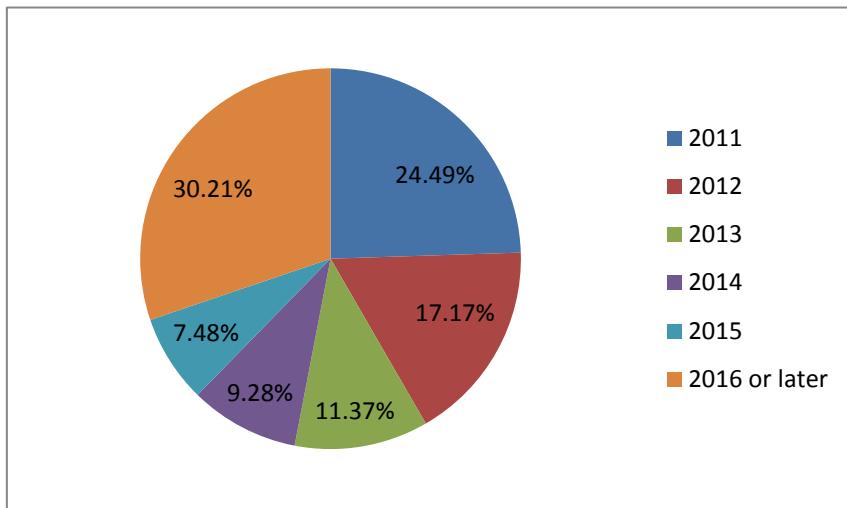
Source: CNAO⁶⁸

As there are no details about the interest rates of the local government loans, estimations based on average of interest rates in major Chinese banks are made in this thesis.

The local government debt is basically short-term debt, according to CNAO's 2011 report, around 50% of debt is due by 2013 and 70% is due by 2015.⁶⁹

⁶⁸ (June 27, 2011). 2011 年第 35 号：全国地方政府性债务审计结果. *National Audit Office of the People's Republic of China Website*. Retrieved April 21, 2012 from <http://www.audit.gov.cn/n1992130/n1992150/n1992500/2752208.html>.

⁶⁹ (June 27, 2011). 2011 年第 35 号：全国地方政府性债务审计结果. *National Audit Office of the People's Republic of China Website*. Retrieved April 21, 2012 from <http://www.audit.gov.cn/n1992130/n1992150/n1992500/2752208.html>.



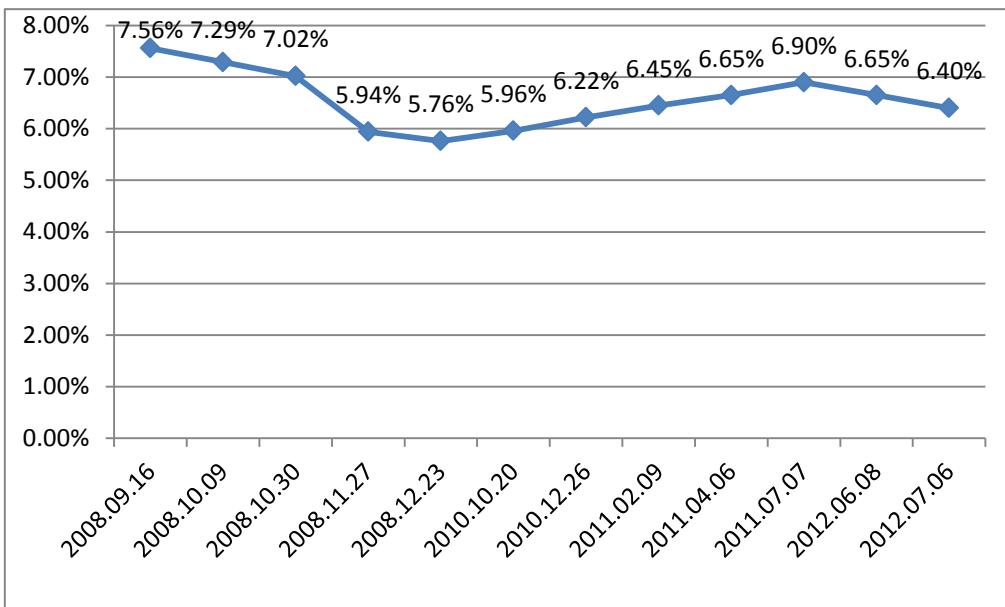
Graph 20 The Maturity Time of Local Government Debt⁷⁰

Source: CNAO⁷¹

For a CNY loan in major Chinese banks, there are six types of loans based on the maturity: within 6 months, 6 months to 1 year, 1 year to 3 years, 3 years to 5 years and more than 5 years. According to CNAO's 2011 report, the majority of loans were most likely to be loans with maturity of 3 years to 5 years. In 2008, the interest rates were changed five times. In 2009, the interest rates stayed the same as that at the end of 2008. In 2010, the interest rates were changed twice. The interest rates for a CNY loan with maturity of 3 years to 5 years in major Chinese banks from 2008 to 2012 are as follows:

⁷⁰ For b/w, rotation of this chart pie is clockwise.

⁷¹ (June 27, 2011). 2011 年第 35 号：全国地方政府性债务审计结果. *National Audit Office of the People's Republic of China Website*. Retrieved April 21, 2012 from <http://www.audit.gov.cn/n1992130/n1992150/n1992500/2752208.html>.

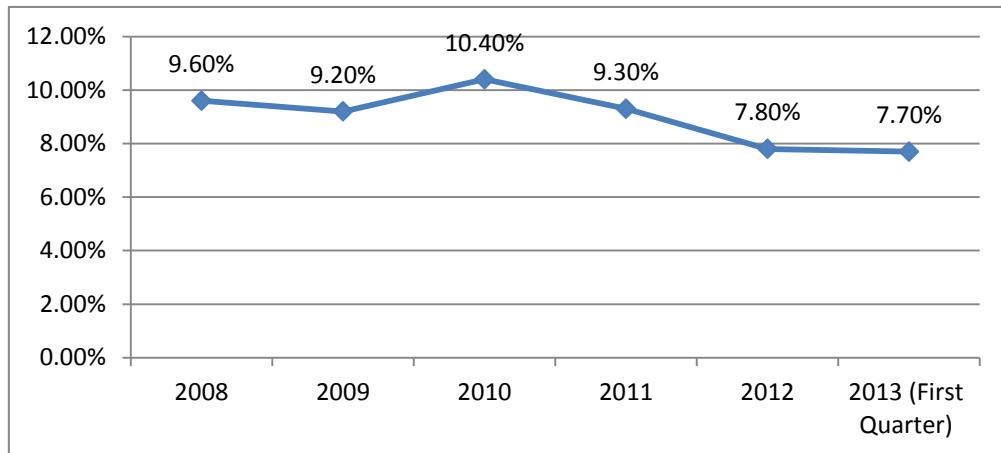


Graph 21 Interest Rates (3~5 years)

Source: Based on data from Bank of China, China Construction Bank, Industrial and Commercial Bank of China, Agriculture Bank of China

As the rapid accumulation of Chinese local government debt happened after the launch of the 2008 Stimulus Package, the range of the 3 to 5 year lending rate narrows down to 5.94% (Nov 23, 2008) ~ 6.22% (Dec 26, 2010) and the average is 5.97% for 2008~2010, the average for 2011 is 6.67%, the average for 2012 is 6.53%, and interest rate with 3~5 years' maturity remains 6.40% for 2013.

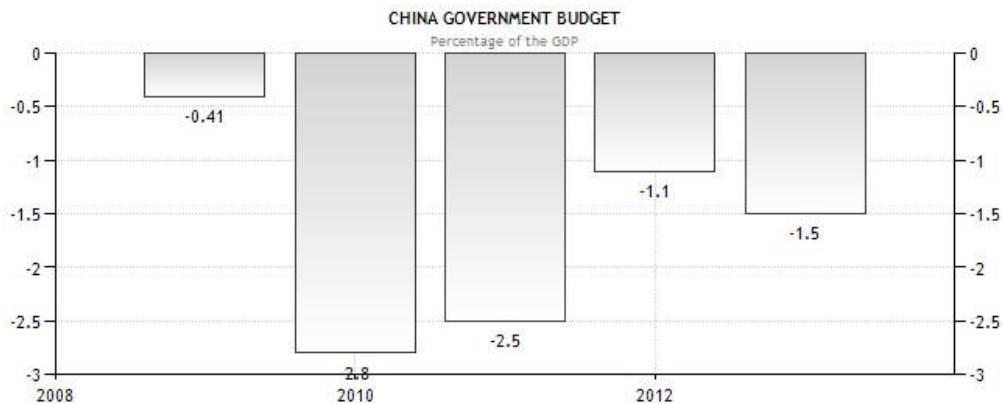
China's GDP growth rate in 2010 was 10.40%, in 2011 was 9.30%, and in 2012 was 7.80%. And according to National Bureau of Statistic of China, the year-on-year growth rate for the first quarter of 2013 is 7.7%.



Graph 22 China's GDP Growth Rate

Source: Based on data from National Bureau of Statistic of China

The fluctuations of the Chinese government budget are shown below:



Graph 23 Chinese Government Budget

Source: Trading Economics

<http://www.tradingeconomics.com/china/government-budget>

Putting the interest rate, GDP growth rate, and debt-to-GDP ratio into the equation, the

right sides of the equation are as follows:

For the year 2011,

$$\text{CNAO: } (6.67\% - 9.30\%) * 43.53\% + 2.5\% = 1.36\%$$

$$\text{Moody's: } (6.67\% - 9.30\%) * 52.24\% + 2.5\% = 1.13\%$$

For the year 2012,

$$\text{Premier Wen: } (6.53\% - 7.80\%) * 38.48\% + 1.1\% = 0.61\%$$

For the year 2013,

$$\text{CNAO (estimated): } (6.40\% - 7.70\%) * 38.30\% + 1.5\% = 1\%$$

$$\text{CNAO (Deputy Auditor-General): } (6.40\% - 7.70\%) * (28.90\% \sim 34.68\%) + 1.5\% = 1.05\% \sim 1.12\%$$

$$\text{CCXI: } (6.40\% - 7.70\%) * (40.08\% \sim 43.93\%) + 1.5\% = 0.93\% \sim 0.98\%$$

$$\text{Barclays: } (6.40\% - 7.70\%) * 38.15\% + 1.5\% = 1\%$$

$$\text{Fitch: } (6.40\% - 7.70\%) * 39.79\% + 1.5\% = 0.98\%$$

Summary of the calculations above:

	2011 (r-g)* B/Y	2011 (r-g)* B/Y+ (G-T)/Y	2012 (r-g)* B/Y	2012 (r-g)* B/Y+ (G-T)/Y	2013 (r-g)* B/Y	2013 (r-g)* B/Y+ (G-T)/Y
CNAO	-1.14%	1.36%				
Moody's	-1.37%	1.13%				
Wen			-0.49%	0.61%		
CNAO (2013)					-0.50% -0.38%~ -0.45%	1.00% 1.05%~1.12%
CCXI					-0.52%~ -0.57%	0.93%~0.98%
Barclays					-0.50%	1.00%
Fitch					-0.52%	0.98%

Graph 24 The Arithmetic of Deficit and Debt

The Arithmetic of Deficit and Debt was unbalanced in the past three years, but only slightly unbalanced, about 1%.

4.2.2 Liquidity Check: Calculation of Cash Flow Demand and LGFVs/Lower Level Case Studies

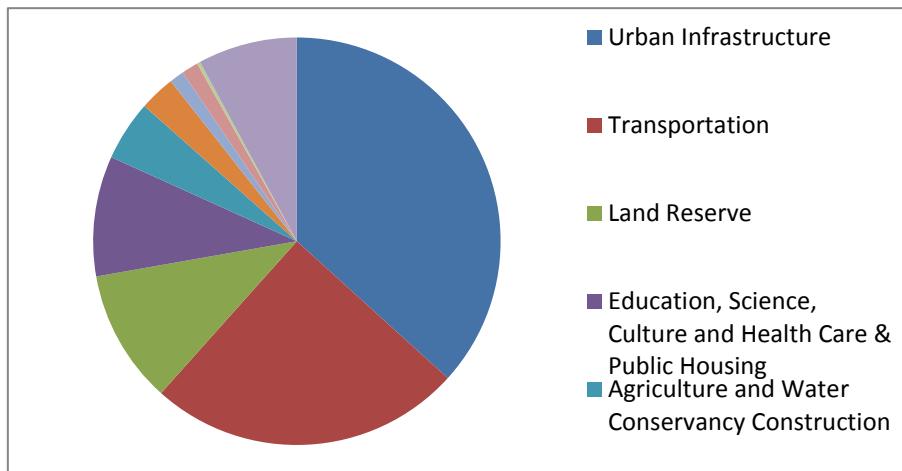
As is shown above, the sustainability of Chinese local government debt is not a serious problem. The liquidity check is usually done along with the sustainability check. Besides, China's case has its unique features. To be specific, first of all, most of China's local government debt is short-term debt while it is used to invest in long-term and low-return projects. Secondly, local government debt in certain areas, such as certain LGFVs and some geographic regions, is more severe than others.

Calculation of Cash Flow Demand

As is shown previously, Chinese local government debt is basically short-term debt, according to CNAO's 2011 report, around 50% of debt is due by 2013 and 70% is due by 2015.

Conversely, most of the local government debt is used to invest in infrastructure construction projects which usually have low returns. According to CNAO's 2011 report, 86.54 % of local government debt is spent on municipal infrastructure, energy development, transportation, land purchase and reserve, services such as education, medical care, science and culture, low-income housing, agriculture, forestry and water conservancy construction, ecological development, and environment protection.⁷²

⁷² (June 27, 2011). 2011 年第 35 号：全国地方政府性债务审计结果. *National Audit Office of the People's Republic of China Website*. Retrieved April 21, 2012 from <http://www.audit.gov.cn/n1992130/n1992150/n1992500/2752208.html>.



Graph 25 Local Government Debt by Usage⁷³

Source: CNAO⁷⁴

Hu Yuexiao (2011) assessed that the profitability of the investment was questionable, only 12.2% of the investment's profitability was strong and 50.25% of the investment was non-profit.⁷⁵

⁷³ For b/w, rotation of this chart pie is clockwise.

⁷⁴ (June 27, 2011). 2011 年第 35 号：全国地方政府性债务审计结果. *National Audit Office of the People's Republic of China Website*. Retrieved April 21, 2012 from <http://www.audit.gov.cn/n1992130/n1992150/n1992500/2752208.html>.

⁷⁵ 胡月晓. (April 10, 2011). [PDF]中国地方政府债务研究. 上海证券. 宏观专题研究.

	Usage	Ratio	Total Number
Relatively Strong Profitability	Industry	1.33%	12.2%
	Energy	0.25%	
	Land Reserve	10.62%	
Weak Profitability	Transportation	24.89%	24.84%
Non-profit	Education, Science, Culture and Health Care & Public Housing	9.54%	50.25%
	Ecological Construction and Environmental Protection	2.84%	
	Urban Infrastructure	36.72%	
	Local Financial Risk Reduction	1.15%	

Graph 26 Profitability of Local Government Investment

Source: Hu Yuexiao, 2011⁷⁶

Furthermore, Hu Yuexiao (2011) assumed only 1/3 of the due debt needed to be paid back directly and the other 2/3 could be delayed into later years. The author indicated that in 2011, CNY 2.6 trillion was due, thus CNY 0.87 trillion needed to be paid back, this, together with the interest, CNY 0.62 trillion (based on benchmark one-year lending rate), made the total due debt in 2011 CNY 1.49 trillion. Likewise, in 2012,

⁷⁶胡月晓. (April 10, 2011). [PDF]中国地方政府债务研究. 上海证券. 宏观专题研究

CNY 1.8 trillion was due, thus CNY 0.6 trillion ($1/3 \times 1.8$), together with the debt from 2011, CNY 1.75 trillion ($2/3 \times 2.6$), and interest, CNY 0.65 trillion, made the total due debt in 2012 CNY 1.19 trillion. Similarly, in 2013, CNY 1.2 trillion was due, thus CNY 0.4 trillion ($1/3 \times 1.2$), together with the debt from 2011 and 2012, and interest, made the total due debt in 2013 CNY 1.77 trillion.⁷⁷

	2011	2012	2013	2014	2015	2016-
Due Debts	26246.49	18402.48	12194.94	9941.39	8012.26	32377.35
1/3 of Due Debts	8661.34	11875.92	11981.57	11308.32	10220.62	
Balance	98513.57	86637.65	74656.08	63347.77	53127.15	
6.56% Interest Payment	6226.86	6462.49	5683.43	4897.44	4155.62	3485.14
Cash Flow Demand	14888.20	18338.41	17665.00	16205.76	14376.23	

Graph 27 Cash Flow Demand for Local Government Debt (CNY, 100 billion)

Source: Hu Yuexiao, 2011⁷⁸

⁷⁷胡月晓. (April 10, 2011). [PDF]中国地方政府债务研究. 上海证券. 宏观专题研究.

⁷⁸胡月晓. (April 10, 2011). [PDF]中国地方政府债务研究. 上海证券. 宏观专题研究.

If local governments only rely on returns from these infrastructure projects to pay back the debt, it is reasonable to doubt that local governments will be in big trouble when their debt comes due. Admittedly, the former Premier Wen declared at the close of the National People's Congress that Chinese governments were going to adopt a “step by step” method to solve the problem⁷⁹, the mismatch between short/medium term maturity and the long-term and low-return projects with “step-by-step” solution could cause local governments’ default.

LGFVs/Lower Level Case Studies

LGFV Case Studies

As is shown in the previous “LGFVs” section, about half of the local government debt was financed through LGFVs, and a lot of these LGFVs got into trouble. It’s widely known that the first bell of the Chinese local government debt problem was sounded by a LGFV called “Yunnan Highway Development Investment Limited”.

⁷⁹ Dexter Roberts. (March 14, 2012). China’s Local Debt Is No Problem, Wen Says. *BloombergBusinessweek*. Retrieved May 3, 2012 from <http://www.businessweek.com/articles/2012-03-14/chinas-local-debt-no-problem-wen-says>.

LGFV Case Studies-Yunnan Highway Development Investment Limited
Note: Contents below were extracted from CaixinOnline

When forming the Yunnan Highway Development Investment Limited, the Yunnan provincial government stated that China Development Bank (CDB) policy based loans would be injected into the company's capital accounts every year. During the 11th Five-year Plan, the government pumped CNY 300 million into the company each year, from the provincial capital's construction budget. Internal data shows that in Yunnan Highway's half-decade of existence, it has managed to earn CNY 800 million in total profit, while racking up hundreds of billions in liabilities.

In 2010, the China Banking Regulatory Commission (CBRC) implemented a stricter system for loans, requiring that previous bank loans be paid back. In April 2010, the Yunnan Highway Development Investment Limited informed its creditor banks that "with immediate effect, we will repay interest but not principal."

The company had nearly CNY 100 billion in loans from a dozen banks including China Construction Bank (CCB), China Development Bank (CDB) and the Industrial and Commercial Bank of China (ICBC).

After days of negotiations, the Yunnan provincial government asked the Yunnan Highway to rescind the letter, and cancelled its promises to the company for increased funds, advances and subsidies to help the company through the crisis. Informed sources in Yunnan revealed that the government is still looking for a way for the company to shed its LGFP cover and allow project cash flow to "completely cover their repayment of principle and interest." In this scenario, financing platform loans would be rewritten as ordinary corporate loans, and the company could continuously borrow from banks.

Graph 28 LGFV Case Studies – Yunnan Highway Development Investment Limited

Source: Caixin⁸⁰

Lower Level Case Studies

Specific case studies showed that the hard-hit areas didn't fall in the provincial level but at lower levels: prefectural, county and township levels.

⁸⁰ Staff reporters Wen Xiu, Zhang Yuzhe, Yu Ning, Zhang Fei. (June 29, 2011). Trouble on the Highway. *Caixinonline*. Retrieved October 3, 2012 from <http://english.caixin.com/2011-06-29/100274315.htm>.

According to CNAO (2011), there were 78 cities and 99 counties whose governments were on the edge of bankruptcy at the end of 2010, with debt-to-revenue ratio in excess of 100%.⁸¹

Zhu Peinan (2011) presented that Zhejiang Province's debt-to-revenue ratio was 91.9%, but that of cities and counties in Zhejiang Province was 97.99%, higher than at the provincial level. Qingdao City's debt-to-revenue ratio was 42.96% for the urban district itself, but together with lower cities and counties, Qingdao City's debt-to-revenue ratio reached 81%.⁸²

Wang Yafen (2012) demonstrated that there were five cities and four counties which had a debt-to-revenue ratio higher than 100% in Liaoning Province.⁸³

At these lower level regions, even at the same level, studies showed that certain areas were worse than others. Yang Haiman (2011) took an example from Wenzhou and Suzhou City, based on the statistics from Region A, B, C, he reached the conclusion that the higher the income, the worse the local government debt situation.⁸⁴

In 2009, the GDP of Region A was about CNY 23.0 billion, Total Fiscal Revenue was CNY 2.8 billion, Local Fiscal Revenue was CNY 1.3 billion, and Local

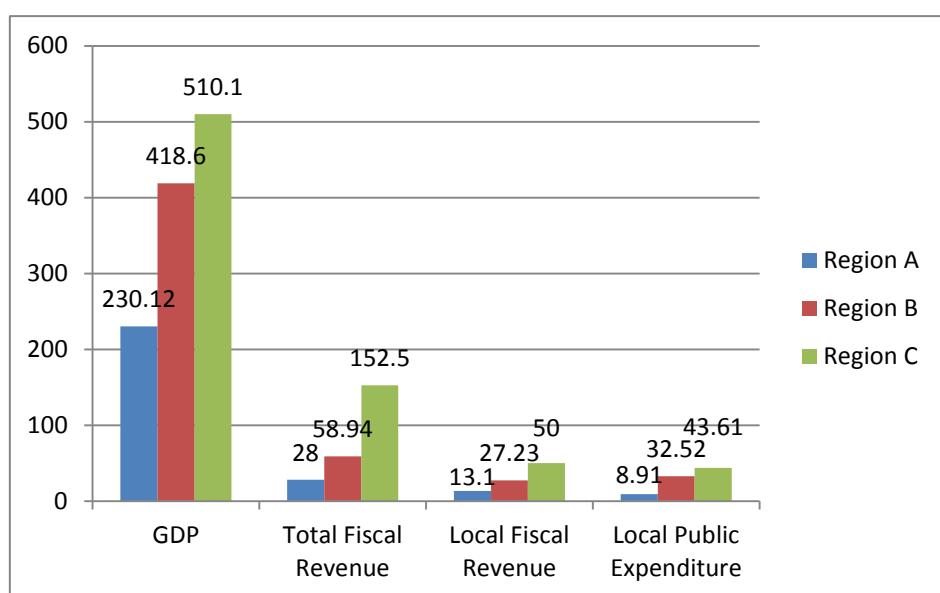
⁸¹ (June 27, 2011). 2011 年第 35 号：全国地方政府性债务审计结果. *National Audit Office of the People's Republic of China Website*. Retrieved April 21, 2012 from <http://www.audit.gov.cn/n1992130/n1992150/n1992500/2752208.html>.

⁸²竺培楠. 关于化解县（区）级地方政府债务风险的思考. 财经界. p. 4-5.

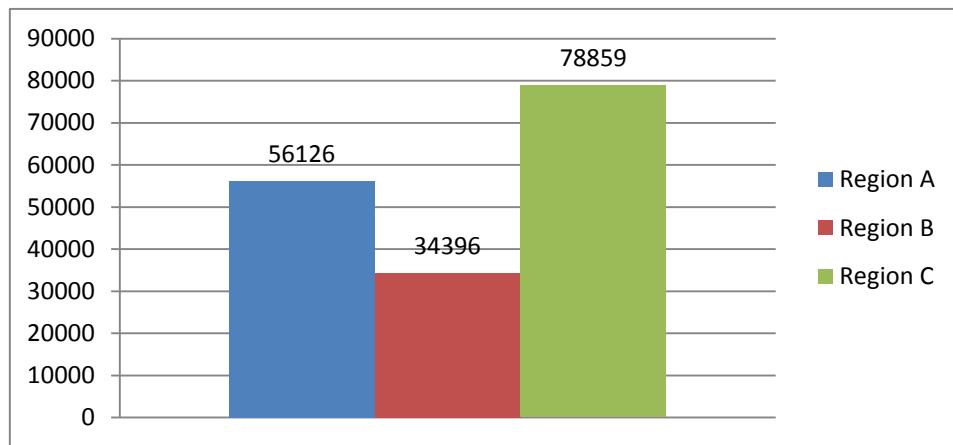
⁸³王亚芬. (2013) 辽宁省地方政府债务问题成因与防范对策. 北方经贸. 2013 年第 1 期. p.56-57.

⁸⁴杨海曼等. (2010). 新形势下沿海较发达地区地方政府债务问题研究. 经济研究参考. 2011 年第 10 期 (总第 2354 期). p. 18-28.

Public Expenditure was CNY 0.9 billion. The GDP of Region B was about CNY 41.9 billion, Total Fiscal Revenue was CNY 5.9 billion, Local Fiscal Revenue was CNY 2.7 billion, and Local Public Expenditure was CNY 3.3 billion. The GDP of Region C was about CNY 51.0 billion, Total Fiscal Revenue was CNY 15.3 billion, Local Fiscal Revenue was CNY 5 billion, and Local Public Expenditure was CNY 4.4 billion.



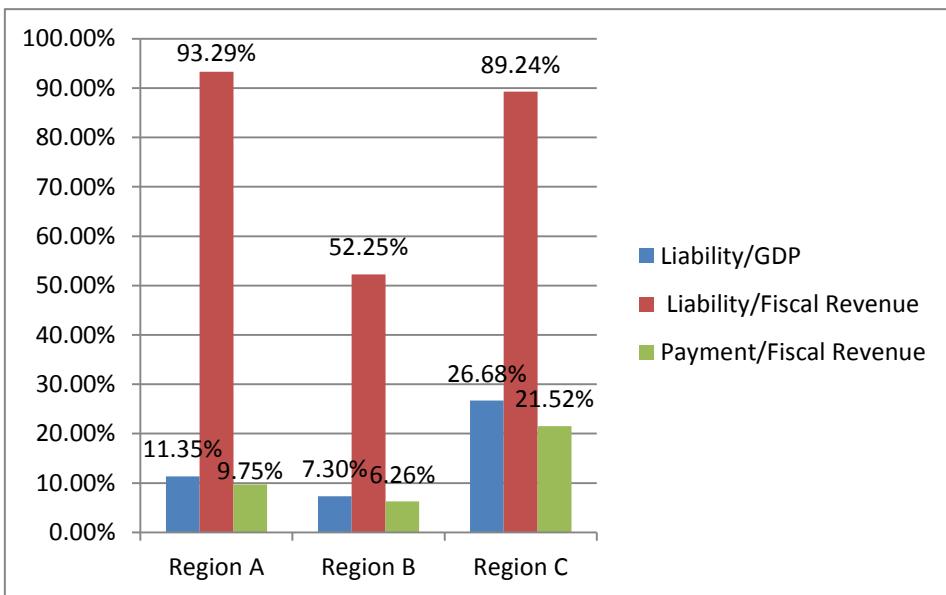
Graph 29 Basic Economic Indicators of Region A, Region B and Region C
(CNY, 100 million)



Graph 30 GDP per Capital of Region A, Region B and Region C (CNY)

From the diagram of Basic Economic Indicators and GDP Per Capital of Region A, Region B, Region C, the degree of development is like: Region C > Region A > Region B.

As for indicators of government debt, Region B's were the best among the three regions, and Region A's figures were slightly better than those of Region C.



Graph 31 Government Debt Indicators of Region A, Region B and Region C

The author also chose four indicators – liability-to-GDP ratio, liability-to-fiscal revenue ratio, payment-to-fiscal revenue ratio and new debt-to-fiscal expenditure ratio as reference indexes and designed a system using SPSS and multivariate statistics analysis to assess the local government debt situation in Region A, Region B and Region C. The outcomes of Region A, B and C were 0.476, 0.382 and 0.678. The higher the number, the riskier the local government debt was. So the order of debt situation in the three areas was: Region C > Region A > Region B.

The outcomes were also coherent with facts. Region C was in the process of urbanization, the local government borrowed a lot to invest in urban infrastructure construction, which resulted in the worst situation regarding local government

debt. Region C's government debt in the construction section was much more than those in Region A and Region B. Region A was like Region C, but slightly better. Region B's urbanization progress was slow because of large amount of impoverished counties and towns, which resulted in a relatively better situation regarding local government debt.

Statistics also revealed that in Wenzhou City, the debt scale in order was Ruan, Leqing, Cannan, Yongjia, Taishun, Wencheng, Dongtou, which is consistent with their economic development levels.⁸⁵

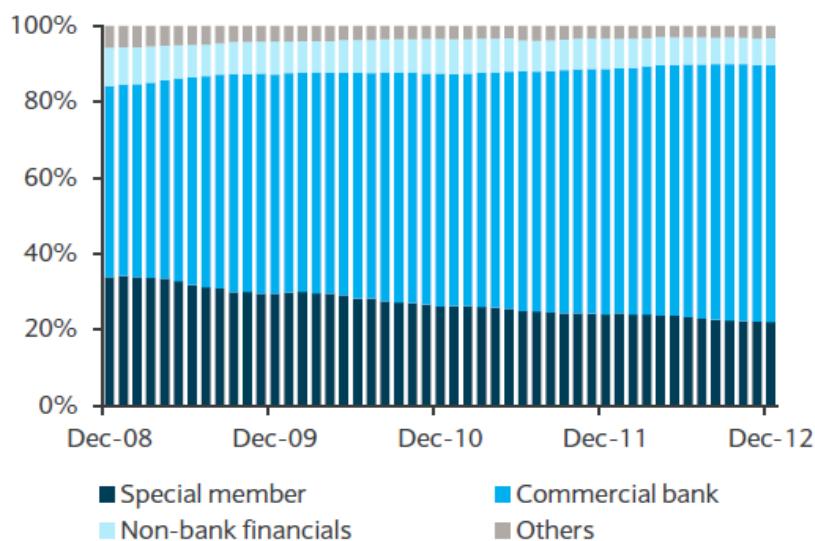
In summary, for the Liquidity Check, LGFVs did have problems, so did certain geographic areas. However, empirical evidence in the past few years hasn't shown any signs of severe crisis. Besides, it's also widely believed that even though the Chinese local government debt problem is worrisome, it's still under control and probably won't turn into a systematic crisis. There are four reasons to support this belief.

Firstly, China's public debt level is relatively low even with the huge local government debt, compared to other countries, which is shown in the previous section.

Second, Chinese government debt is mainly domestically owned. Barclays (2013) pointed out that China's government debt was owned by Chinese institutions and individuals. "This usually means that a government can enjoy relatively low borrowing

⁸⁵杨海曼等. (2010). 新形势下沿海较发达地区地方政府债务问题研究. 经济研究参考. 2011年第10期 (总第2354期). p. 18-28.

costs and is less vulnerable to changing global liquidity conditions".⁸⁶



Graph 32 Ownership of Chinese Government Debt

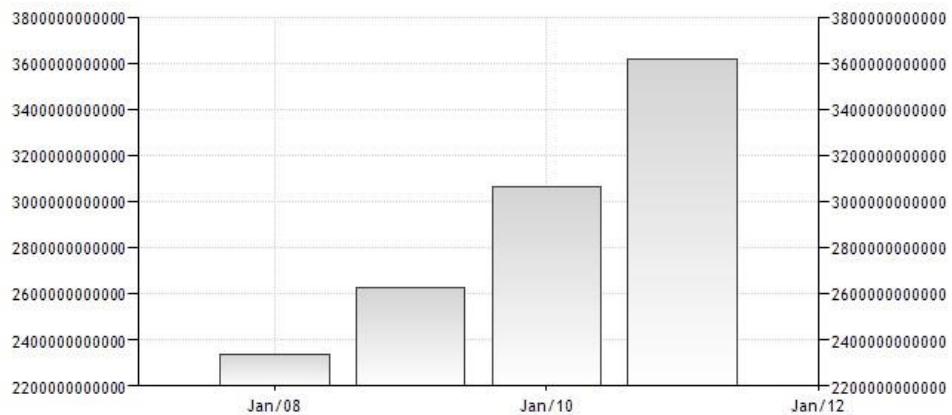
Source: Barclays⁸⁷

Thirdly, China's capital market is highly restricted, which ensures large domestic savings as well as easy borrowing from the domestic capital market. China's domestic savings were about CNY 25 trillion according to the President of PBoC, Zhou Xiaochuan (2013).⁸⁸

⁸⁶ Yiping Huang, Jian Chang, Steven Lingxiu Yang. (January 28, 2013). [PDF] China: Beyond the Miracle Part 8- Can China manage its fiscal risks? *Barclays Capital*.

⁸⁷ Yiping Huang, Jian Chang, Steven Lingxiu Yang. (January 28, 2013). [PDF] China: Beyond the Miracle Part 8- Can China manage its fiscal risks? *Barclays Capital*.

⁸⁸ (June 28, 2013). 周小川：中国储蓄率近 GDP 一半 总量达 25 万亿. *新浪财经*. Retrieved July 2, 2013 from <http://finance.sina.com.cn/china/jrxw/20130628/102315951655.shtml>.

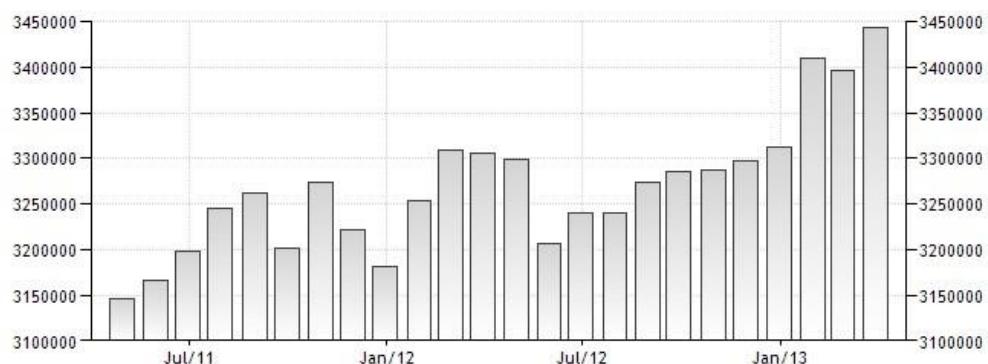


Graph 33 China's Domestic Savings (USD)

Source: Trading Economics

<http://www.tradingeconomics.com/china/gross-domestic-savings-us-dollar-wb-data.html>

Fourthly, China's economy develops rapidly with a strong GDP growth rate, more than twice of the USA's GDP growth rate, and more than a lot of other countries. In addition, China has a large amount of foreign exchange reserves.



Graph 34 China's Foreign Exchange Reserves

Source: Trading Economics

<http://www.tradingeconomics.com/china/foreign-exchange-reserves>

4.2.3 Policy/Fact Check: Banking System, Shadow Banking System and Land Sales

The Chinese Way of Flood Discharge

When there is an abnormal accumulation of rainwater, especially when the flow rate exceeds the capability of water bodies, a flood may happen. To prevent a flood from happening, people usually build sluice gates which are set in the sides of the waterway to control water levels and flow rate. When there is an overflow of water, people will pull up/lower the sluice gate so that water may flow under/spill over the sluice gate to complete flood discharge.

Chinese local government debt crisis is like a flood, there is an external condition-rain which refers to the global financial crisis, internal conditions-capacity of water bodies which refers to Chinese local governments' flawed fiscal system and people's reaction-flood discharge which refers to Chinese local governments' changes of financing under the leadership of Chinese central government.

The Chinese way of local government debt “flood” discharge has been conducted through three major flood-diversion zones – the Banking System, the Shadow Banking System, Land Sales, and several smaller flood-diversion zones including issuing bonds, selling state-owned assets and turning to private capital.

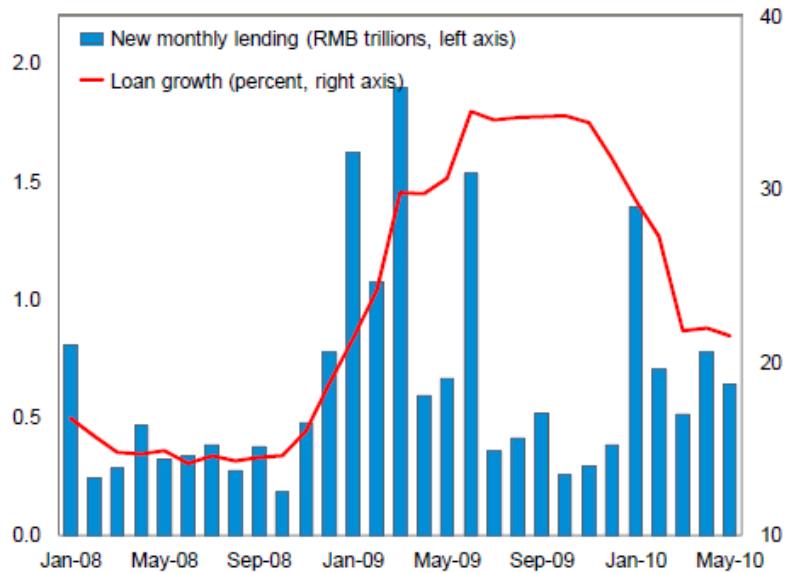
Major Flood-diversion Zone A – Banking System

Leo F. Goodstadt (2012) remarked, “‘policy lending’ which compelled banks to follow state directives and planning targets in making loans and to ignore the borrowers’ credit standing and ‘relationship-based lending’ which meant that a borrower’s official or Party status was the overriding factor in making loan decisions has been particularly prevalent at the local levels. The 2008 economic stimulus package was followed by a resurgence of both practices”⁸⁹

These banks loans accumulated in the past few years, there was a sharp jump in new bank lending during 2008~2010 according to IMF’s 2012 report.⁹⁰

⁸⁹ Leo F. Goodstadt. (January 2012). [PDF]CHINA’S LGFV CRISIS 2011: THE CONFLICT BETWEEN LOCAL AUTONOMY, NATIONAL INTEREST AND FINANCIAL REFORMS. *HONG KONG INSTITUTE FOR MONETARY RESEARCH. HKIMR Working Paper No. 03/2012.*

⁹⁰ (July 9, 2010). [PDF] PEOPLE’S REPUBLIC OF CHINA Staff Report for the 2010 Article IV Consultation Prepared by the Staff Representatives for the 2010 Article IV Consultation with the People’s Republic of China. *IMF*.



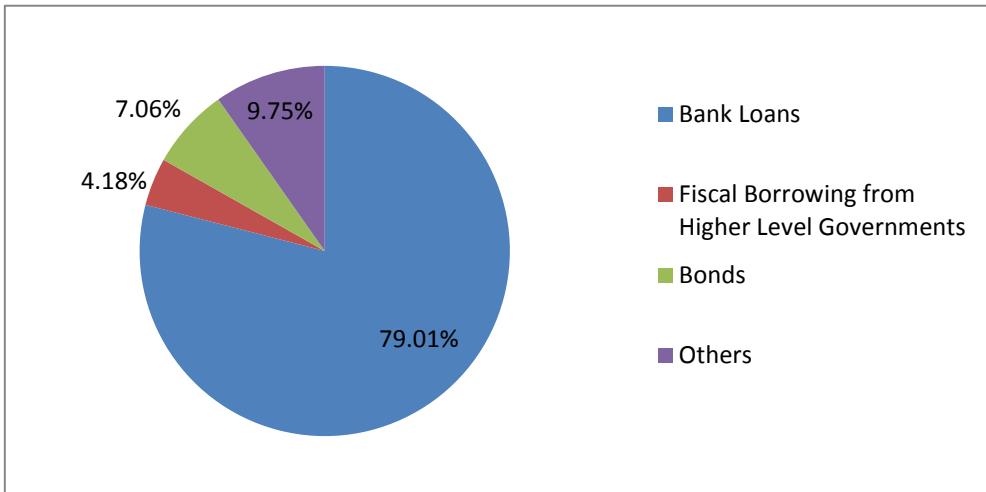
Graph 35 New Bank Lending

Source: IMF⁹¹

As for lenders of local government debt, the dominant one was bank loans, accounting for 79% of total loans.⁹² It suggested that banks were the dominant financing source for local governments.

⁹¹ (July 9, 2010). [PDF] PEOPLE'S REPUBLIC OF CHINA Staff Report for the 2010 Article IV Consultation Prepared by the Staff Representatives for the 2010 Article IV Consultation with the People's Republic of China. IMF.

⁹² See (June 27, 2011). 2011 年第 35 号：全国地方政府性债务审计结果. *National Audit Office of the People's Republic of China Website*. Retrieved April 21, 2012 from <http://www.audit.gov.cn/n1992130/n1992150/n1992500/2752208.html>.



Graph 36 Local Government Debt by Lender Type⁹³

Source: CNAO⁹⁴

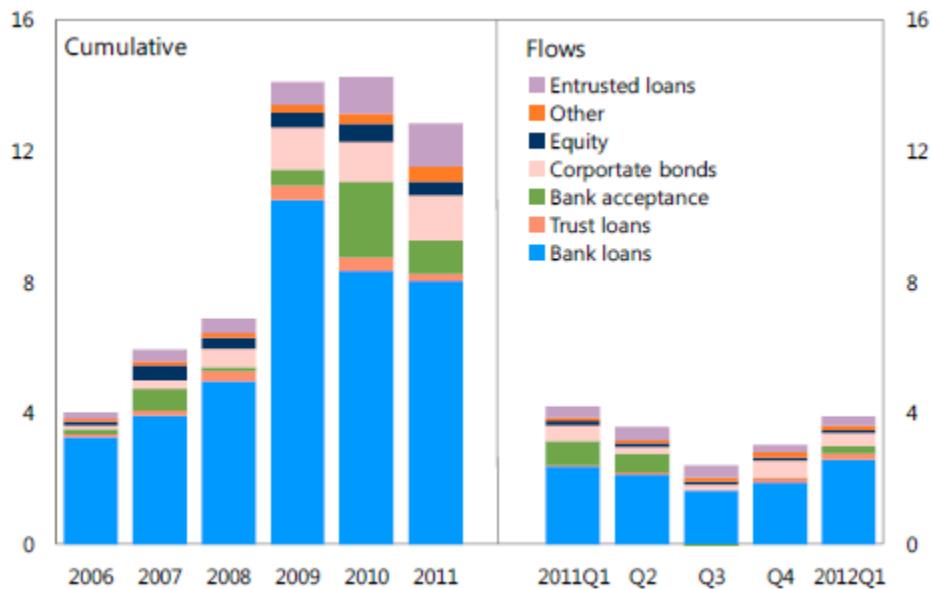
Bank loans' dominance resulted from the fact that 1) China's financial system is bank-centered; 2) there is strong relationship between banks and governments.

For the first reason, in general social financing, bank loans account for more than 50% according to IMF's 2012 report.⁹⁵

⁹³ For b/w, rotation of this chart pie is clockwise.

⁹⁴ (June 27, 2011). 2011 年第 35 号：全国地方政府性债务审计结果. *National Audit Office of the People's Republic of China Website*. Retrieved April 21, 2012 from <http://www.audit.gov.cn/n1992130/n1992150/n1992500/2752208.html>.

⁹⁵ (July 6, 2012). [PDF] PEOPLE'S REPUBLIC OF CHINA STAFF REPORT FOR THE 2012 ARTICLE IV CONSULTATION. *IMF*.



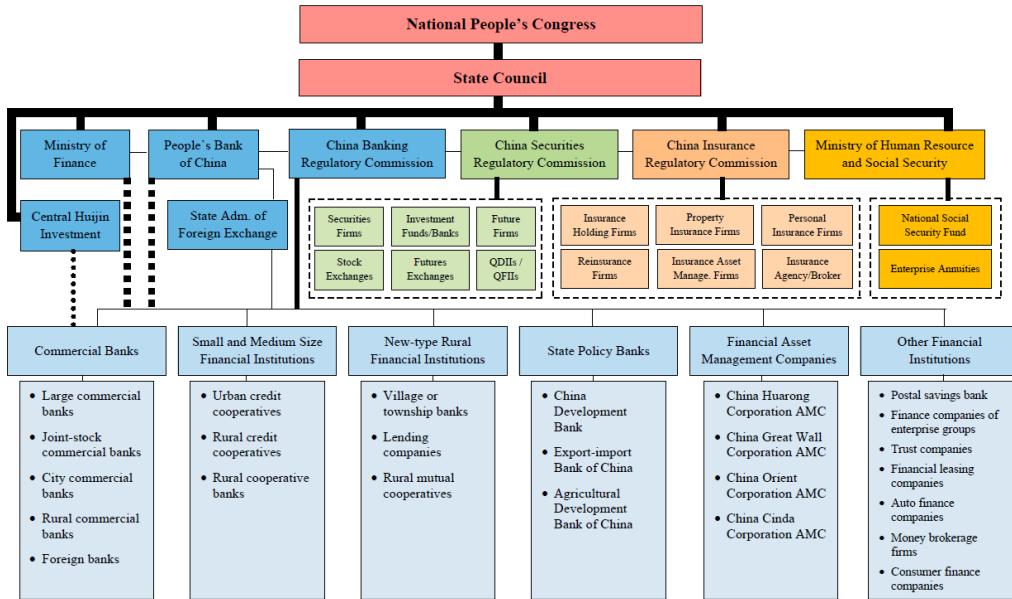
Graph 37 Social Financing

Source: IMF⁹⁶

For the second reason, David Shambaugh (2010) commented that the Chinese State acted as the “invisible hand” to dominate the economy through state banks, state assets, state ownership, state manipulated prices etc. He wrote “China’s central government continues to wield significant influence over the operation of many Chinese banks, primarily through the activities of the People’s Bank of China (PBOC), the China Banking Regulatory Commission (CBRC), and the Ministry of Finance (MOF)⁹⁷”.

⁹⁶ (July 6, 2012). [PDF] PEOPLE’S REPUBLIC OF CHINA STAFF REPORT FOR THE 2012 ARTICLE IV CONSULTATION. IMF.

⁹⁷ David Shambaugh. (March 1, 2010). David Shambaugh: Is there a Chinese model? *CHINADAILY*. Retrieved March 4, 2013 from http://www.chinadaily.com.cn/china/2010-03/01/content_9515478.htm.



Graph 38 China's Financial System Architecture

Source: IMF⁹⁸

There are different types of banks operating in China. The first type refers to wholly state-owned banks. The second type includes the so called “equitized” or “corporatized” commercial banks, which were previously wholly state-owned banks but then transformed into joint-stock companies with the Chinese government remaining the largest stockholder. The third type includes different kinds of local banks in which local governments usually are major stockholders. The fourth type includes the other joint-stock commercial banks and foreign banks.

⁹⁸ (June 24, 2011). [PDF] PEOPLE'S REPUBLIC OF CHINA Financial System Stability Assessment Prepared by the Monetary and Capital Markets and Asia and Pacific Departments. IMF.

Type of Bank	Asset Value	Market Share
Wholly State-owned Banks	7.652	8.0%
Equitized/Corporatized Banks	46.894	49.2%
Local Banks	18.511	19.4%
Other Joint-stock Commercial Banks, Foreign Banks, etc.	22.248	23.3%

Graph 39 Market Share of Different Types of Banks (CNY, trillion)

Source: Michael F. Martin, 2012⁹⁹

The total market share of those equitized/corporatized banks, called the Big Five, accounts for about half of the banking sector. In addition, for four of the Big Five, the majority of market shares are non-tradable shares held by the PBoC, the MoF and other government entities.¹⁰⁰

⁹⁹ Michael F. Martin. (February 20, 2012). [PDF] China's Banking System: Issues for Congress. Congressional Research Service. 7-5700 www.crs.gov R42380.

¹⁰⁰ Michael F. Martin. (February 20, 2012). [PDF] China's Banking System: Issues for Congress. Congressional Research Service. 7-5700 www.crs.gov R42380.

Bank	Market Capital	State Holdings of Outstanding Shares
Agricultural Bank of China (ABC)	6.450	83.13%
Bank of China (BOC)	6.862	67.53%
Bank of Communications	2.519	26.52%
China Construction Bank (CCB)	10.869	57.0%
Industrial and Commercial Bank of China (ICBC)	11.457	70.7%

Graph 40 Size and Ownership of the Big Five (CNY, trillion)

Source: Michael F. Martin, 2012¹⁰¹

Other types of banks, especially “city commercial banks” that are usually wholly-owned or partially-owned by the local governments and “joint-stock banks” where the local governments are often the largest shareholders, are also highly related to governments through shares.

Except for shares, bank senior officers are either from governments or related to them. According to Michael F. Martin (2012), each of the Big Five has a board of directors and senior officers, who are generally appointed by the Communist Party Organization Department and usually come from the central government or Party or other corporate banks, sometimes, the PBoC and CBRC apply direct pressure on bank officials to

¹⁰¹ Michael F. Martin. (February 20, 2012). [PDF] China’s Banking System: Issues for Congress. Congressional Research Service. 7-5700 www.crs.gov R42380.

make their practices accord with central government policy priorities. For the city bank level, board members and bank officers usually have experience working for banks or for local governments, and they are highly responsive to local governments.¹⁰²

Banks' profitability is strong and NPLs levels are low. Hence, at the beginning, when there were signs of economic slowdown, the central government used banks as a financing source to stimulate the economy. Also, strong profitability and low NPLs can help dissolve new bad loans.

Type of Bank	After-Tax Profit	Return on Assets	Value of NPLs	NPLs as Share of Total Loans
Equitized/ Corporatized Banks	515.1	1.1%	3125.5	1.3%
City Commercial Banks	77.0	1.0%	32.6	0.9%
Rural Commercial Banks	28.0	1.0%	27.1	1.9%
Joint-Stock Commercial Banks	135.8	0.9%	56.6	0.7%
Foreign Banks	7.8	0.4%	4.9	0.5%

Graph 41 Profitability and NPLs of Different Types of Banks (CNY, billion)

Source: Michael F. Martin, 2012¹⁰³

¹⁰² Michael F. Martin. (February 20, 2012). [PDF] China's Banking System: Issues for Congress. Congressional Research Service. 7-5700 www.crs.gov R42380.

¹⁰³ Michael F. Martin. (February 20, 2012). [PDF] China's Banking System: Issues for Congress.

Accordingly, when there are default concerns, because of the good condition of Chinese banks and the close relationship between banks and governments, banks are able to and willing to extend the due dates of loans. As Financial Times (2013) estimated, banks had extended at least three quarters of their due debt.¹⁰⁴ Indeed banks can restructure/ reclassify loans to roll over the due debt with the help or pressure of governments.

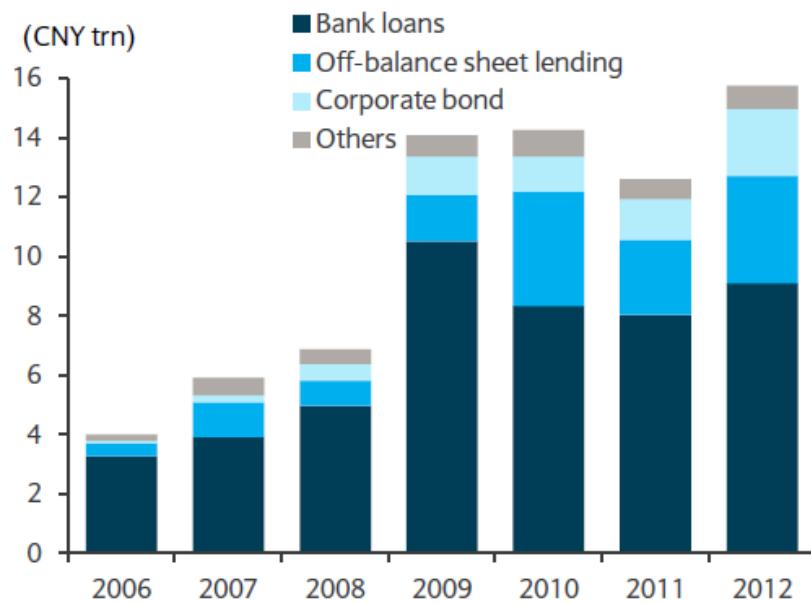
Yet the Banking System as a flood-diversion zone cannot take in all the rain water. Extensive concerns about bank defaults arose. The Chinese central government took measures to restrict new lending from the Banking System, which objectively promoted the rise of Shadow Banking System.

Major Flood-diversion Zone B – Shadow Banking System

After the Chinese central government launched a bunch of obligations to restrict bank loans, there was a decline in the bank loan share in local government funding sources.

Congressional Research Service. 7-5700 www.crs.gov R42380.

¹⁰⁴ Simon Rabinovitch. (January 29, 2013). China averts local government defaults. *Financial Times*. Retrieved April 30, 2013 from <http://www.ft.com/intl/cms/s/0/35bb9e50-6a13-11e2-a7d2-00144feab49a.html#axzz2ZfphaiTU>.



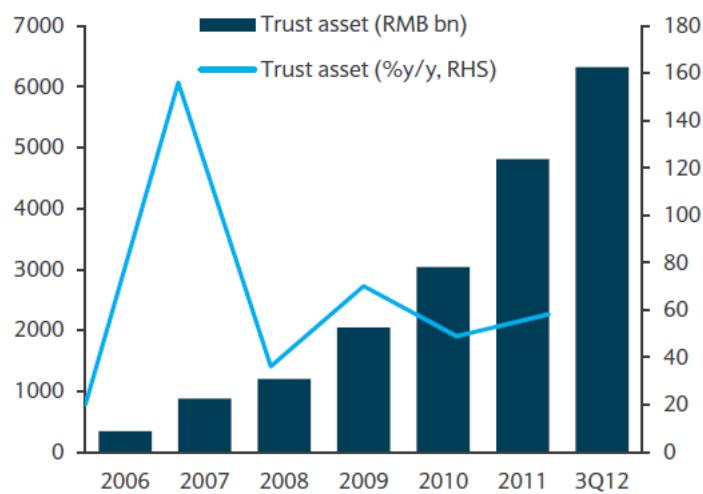
Graph 42 Changes of Local Government Funding Sources

Source: Barclays¹⁰⁵

On the contrary, the Shadow Banking System expanded excessively. However, because of the Shadow Banking System's characteristics, it's hard to track how much money went to Chinese local governments through the Shadow Banking System. Various studies together have shown that many shadow banking funds, particularly WMPs and trust loans, went to the property sector which is related to local government's extra-budgetary revenue and LGFVs. In addition, part of the money borrowed through the capital market was repacked and went to local governments through the Shadow Banking System.

¹⁰⁵ Yiping Huang, Jian Chang, Steven Lingxiu Yang. (January 28, 2013). [PDF] China: Beyond the Miracle Part 8- Can China manage its fiscal risks? *Barclays Capital*.

Barclays (2013) conveyed that local governments had borrowed heavily through trust financing in 2011-12. It reported that more than 35% of trust assets went to fund infrastructure and real estate, which local governments probably had been involved with, based on data provided by China Trust Association. In particular, trusts that were directly for local government financing have been increasing faster than overall trust products since Q1 2012, especially in the infrastructure sector.¹⁰⁶

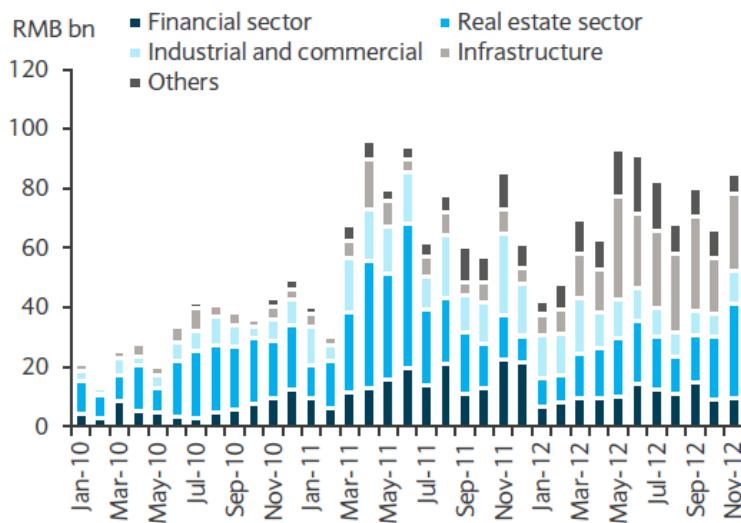


Graph 43 Trust Sector (Barclays)

Source: Barclays¹⁰⁷

¹⁰⁶ Yiping Huang, Jian Chang, Steven Lingxiu Yang. (January 28, 2013). [PDF] China: Beyond the Miracle Part 8- Can China manage its fiscal risks? *Barclays Capital*.

¹⁰⁷ Yiping Huang, Jian Chang, Steven Lingxiu Yang. (January 28, 2013). [PDF] China: Beyond the Miracle Part 8- Can China manage its fiscal risks? *Barclays Capital*.



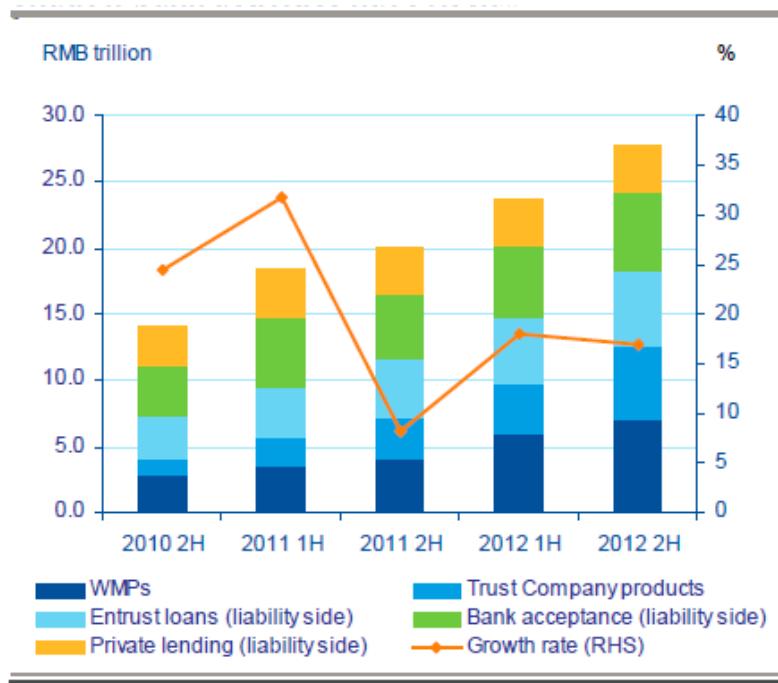
Graph 44 Division of Trust Sector

Source: Barclays¹⁰⁸

BBVA (2013) also affirmed that the central authorities tried to promote infrastructure spending, much of which was financed by local governments through borrowing by LGFVs from the Shadow Banking System.¹⁰⁹

¹⁰⁸ Yiping Huang, Jian Chang, Steven Lingxiu Yang. (January 28, 2013). [PDF] China: Beyond the Miracle Part 8- Can China manage its fiscal risks? *Barclays Capital*.

¹⁰⁹ Le Xia, Stephen Schwartz, Alicia Garcia Herrero. (March 8, 2013). [PDF] An update on China's shadow banking activity: have the risks increased? *BBVA RESEARCH. Banking Watch. Hong Kong*.



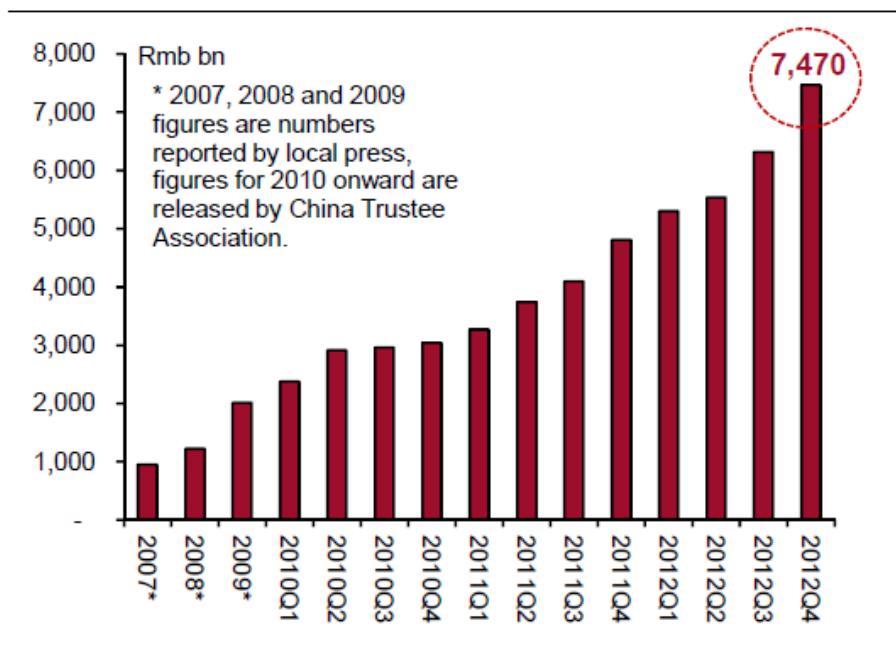
Graph 45 Shadow Banking Sector

Source: BBVA¹¹⁰

Credit Suisse (2013) revealed that the central government's policies made banks drive out developers and local governments, so that those developers and local governments turned to the trust sector. It reported that the trust sector reached CNY 5.8 trillion in 2012, which was almost 8 times of 5 years ago.¹¹¹

¹¹⁰ Le Xia, Stephen Schwartz, Alicia Garcia Herrero. (March 8, 2013). [PDF] An update on China's shadow banking activity: have the risks increased? *BBVA RESEARCH. Banking Watch. Hong Kong*.

¹¹¹ Dong Tao, Weishen Deng. (February 22, 2013). [PDF] China: Shadow banking-Road to heightened risks. *CREDIT SUISSE*.

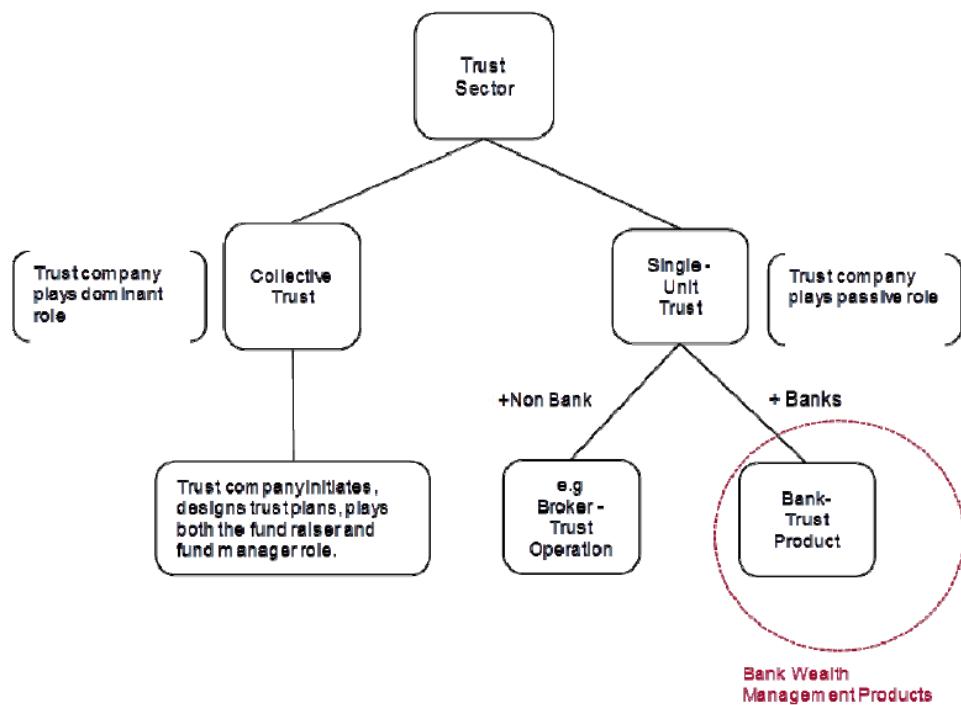


Graph 46 Trust Sector (Credit Suisse)

Source: Credit Suisse¹¹²

In addition, Credit Suisse divided the trust sector into several parts and presented how these parts were related to local government debt.

¹¹² Dong Tao, Weishen Deng. (February 22, 2013). [PDF] China: Shadow banking-Road to heightened risks. *CREDIT SUISSE*.



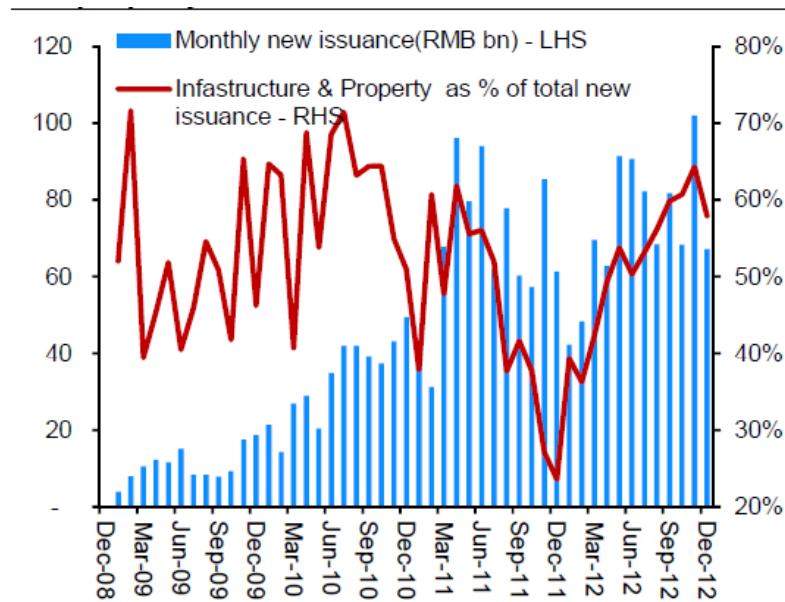
Graph 47 The Basic Structure of the Trust Sector

Resource: Credit Suisse¹¹³

Credit Suisse explained that trust companies co-operated with commercial banks and produced the Bank Wealth Management Products (WMPs). Commercial banks used trust companies to raise funds in the form of trust loans instead of their own official loan quota which could be seen on banks' balance sheets. Therefore, commercial banks had turned their WMPs into a secondary loan for borrowers that found it hard to obtain credit, such as real estate developers. Meanwhile, collective-trust expanded more than four-fold in the past 2~3 years, and about half of the funds went into the infrastructure

¹¹³ Dong Tao, Weishen Deng. (February 22, 2013). [PDF] China: Shadow banking-Road to heightened risks. *CREDIT SUISSE*.

and property sector.¹¹⁴



Graph 48 Collective-trust Products

Source: Credit Suisse¹¹⁵

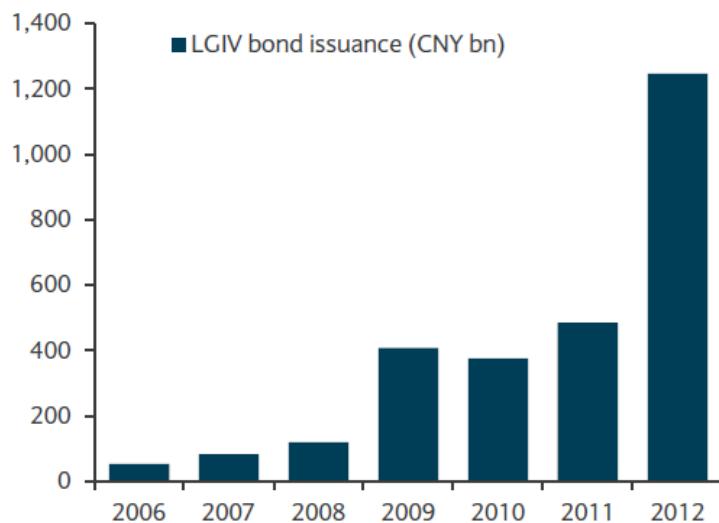
As for bonds issued by LGFVs, which resulted in a big increase in the Chinese bond market, BBVA (2013) believed that financial institutions bought these LGFV bonds and repacked them into WMPs which went through the shadow banking system as well, and also some trust companies worked with LGFVs and issued trust products including LGFV debt obligations.¹¹⁶ Thus, even the money taken from the capital market

¹¹⁴ Dong Tao, Weishen Deng. (February 22, 2013). [PDF] China: Shadow banking-Road to heightened risks. *CREDIT SUISSE*.

¹¹⁵ Dong Tao, Weishen Deng. (February 22, 2013). [PDF] China: Shadow banking-Road to heightened risks. *CREDIT SUISSE*.

¹¹⁶ Le Xia, Stephen Schwartz, Alicia Garcia Herrero. (March 8, 2013). [PDF] An update on China's shadow banking activity: have the risks increased? *BBVA RESEARCH. Banking Watch. Hong Kong*.

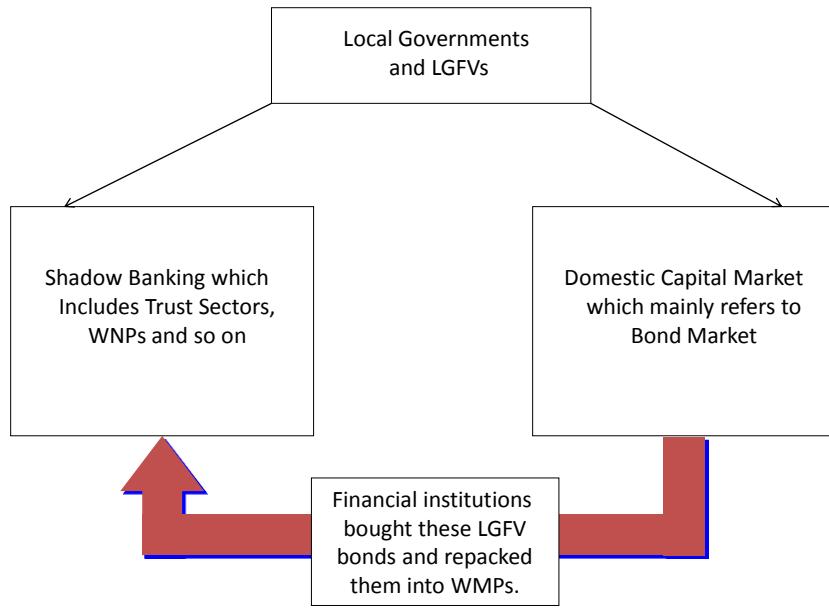
eventually went into the shadow banking system.



Graph 49 LGFV Bonds Issuance

Source: Barclays¹¹⁷

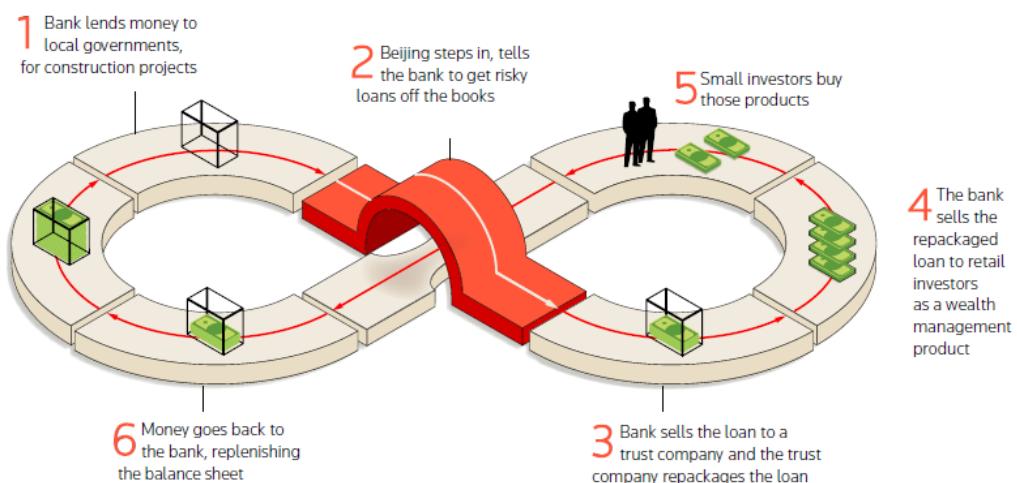
¹¹⁷ Yiping Huang, Jian Chang, Steven Lingxiu Yang. (January 28, 2013). [PDF] China: Beyond the Miracle Part 8- Can China manage its fiscal risks? *Barclays Capital*.



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Graph 50 Combination of Shadow Banking System and Bond Market (Capital Market)

The Shadow Banking System as a flood-diversion zone is not sustainable, same with the Banking System. The Shadow Banking System involves with a lot of risks. From the risks recycling diagram we can see how those risks are passed through China's financial system.



Graph 51 Recycling of Risks

Source: Reuters¹¹⁸

As for LGFV bonds, risks exist as well. According to Credit Suisse, LGFV bonds are often issued with higher yields and lower ratings because there is not much information about local governments' financial situations. The diagram below also illustrates the low credit ratings of LGFVs bonds.

(CNY bn)	Issuance amount						As % of total issuance amount					
	2007	2008	2009	2010	2011	2012	2007	2008	2009	2010	2011	2012
AAA	40.1	30.5	181.2	76.5	78.5	117.3	48.8%	26%	44%	20%	16%	9%
AA+	–	27.8	134.1	137.5	161.9	320.8	0.0%	24%	33%	37%	34%	26%
AA	–	10.6	45.9	85.6	151.2	605.7	0.0%	9%	11%	23%	31%	49%
AA-	–	–	1.2	1.5	7.5	26.1	0.0%	0%	0%	0%	2%	2%
A-1	42.1	49.3	45.1	75.0	69.4	136.4	51.2%	42%	11%	20%	14%	11%
Non-rated	–	0.5	–	14.0	39.6	–	0.0%	0%	0%	0%	3%	3%
Total	82.1	118.2	408.0	376.1	482.4	1,245.9	100%	100%	100%	100%	100%	100%

Graph 52 Bond Issued by LGFVs by Credit Ratings

Source: Barclays¹¹⁹

¹¹⁸ Kelvin Soh, Michael Flaherty. (August 6, 2012). [PDF] China's subprime shadow. *Reuters*. SPECIAL REPORT.

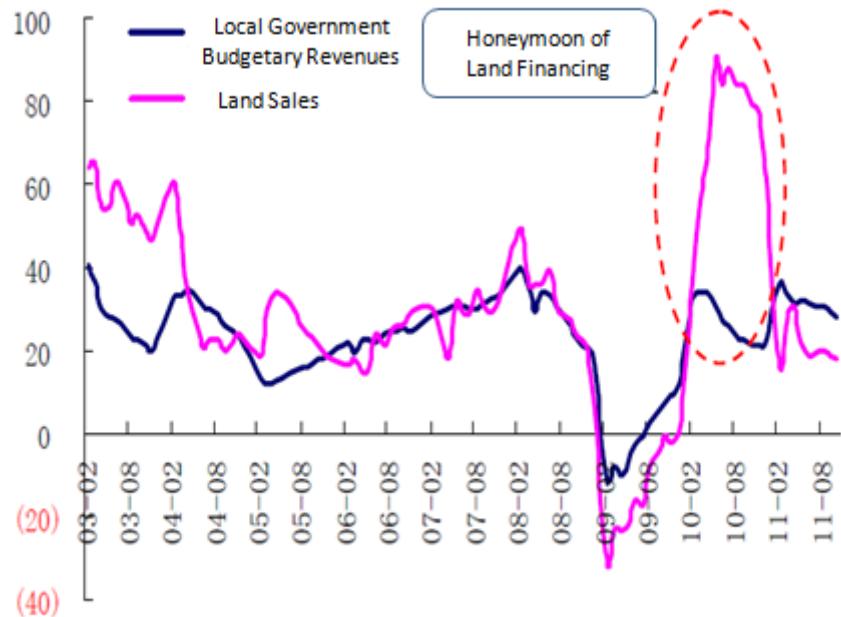
China's central government has noticed the potential risks within the Shadow Banking System and launched numerous rules to regulate the system. It's widely believed that the Shadow Banking System is still expanding readily. The central government, accordingly, is also trying to keep the Shadow Banking System under control. Its recent negative reaction towards the Money Shortage Crisis that happened between May to June, 2013 was interpreted as an effort to correct the overheated credit market including the Shadow Banking System.¹²⁰

Major Flood-diversion Zone C – Land Sales

Unlike the Banking System and the Shadow Banking System, Land Sales is not borrowing money. Instead, it's generating revenue to finance local governments. Because of the mismatch between local governments' revenue and expenditure, local governments rely heavily on extra-budgetary revenue, first on fee collection, then on land sales. As is revealed in the previous section, land sales accounted for around 20% of local governments' total income. Especially after the 2008 stimulus package, land-related transactions significantly increased.

¹¹⁹ Yiping Huang, Jian Chang, Steven Lingxiu Yang. (January 28, 2013). [PDF] China: Beyond the Miracle Part 8- Can China manage its fiscal risks? *Barclays Capital*.

¹²⁰ 罗宇凡, 华晔迪. (June 23, 2012). 中国式“钱荒”: 不是没钱 而是放错了地方. *新华网*. Retrieved July 5, 2013 from http://news.xinhuanet.com/fortune/2013-06/23/c_116252201.htm.

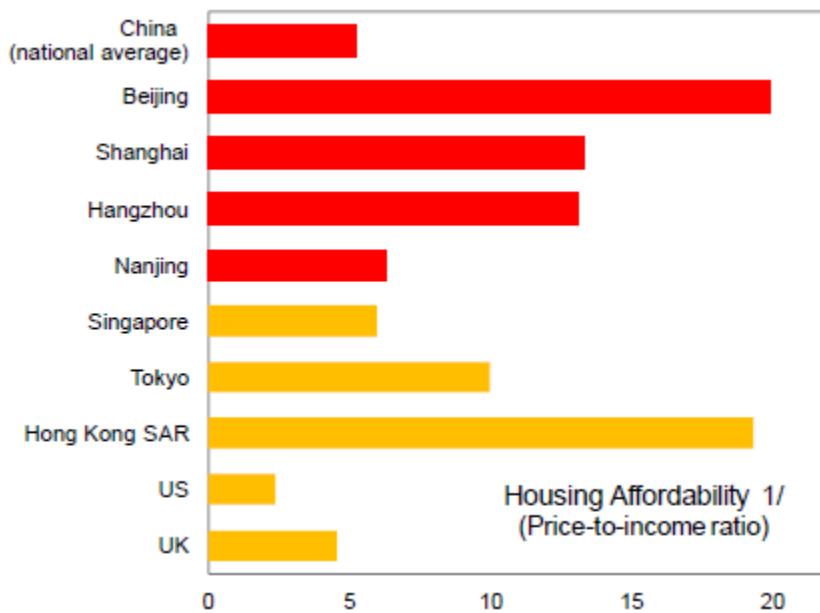


Graph 53 Local Government Budgetary Revenues and Land Sales

Source: Hu Yuexiao, 2011¹²¹

However, overheated land sales caused other problems like inflation, especially property inflation, and concerns about the sufficiency of land sales because of fluctuation of land transactions. The diagram below reflects the big rise of property price, especially in big cities. Chinese big cities in terms of housing affordability now top the rankings as some of the most expensive.

¹²¹胡月晓. (April 10, 2011). [PDF]中国地方政府债务研究. 上海证券. 宏观专题研究.



Graph 54 Housing Affordability

Source: IMF¹²²

After widespread concerns about soaring housing prices and the real estate bubble, the central government made some efforts to suppress the real estate market, which in return caused the fluctuation of land transactions. Decline in land sales made it hard for local governments to generate new revenue not to mention to pay back old debt. Hence, local governments have incentives to promote land transactions and real estate markets. As was mentioned before, still more than 50% the local government debt was guaranteed by land sales.

¹²² (July 9, 2010). [PDF] PEOPLE'S REPUBLIC OF CHINA Staff Report for the 2010 Article IV Consultation Prepared by the Staff Representatives for the 2010 Article IV Consultation with the People's Republic of China. *IMF*.

*Small Flood-diversion Zones – Local Governments Bonds, Selling State-owned Assets,
Turning to Private Capital*

Issuing bonds

Chinese local government bonds are mostly issued and guaranteed by the central government. Recently, some local governments have been experiencing better fiscal conditions. For example, Zhejiang, Guangdong and so on were reported to have been chosen as experimental cases, allowed to issue their own bonds.¹²³

Selling State-owned Assets

Except for land, another important state-owned asset that can generate large profits is state-owned enterprise. According to the former Chief of CNAO Qiu Xiaohua (2013), Chinese governments now have CNY 100 trillion in financial assets, and more than CNY 30 trillion in central- government-owned enterprise assets, Chinese governments are in good shape to solve the local government debt problem.¹²⁴ Hence, to sell state-owned enterprises might open another door for local government financing. This option includes the listing of state-owned enterprises and selling of state-owned enterprises' bonds.

¹²³ (July 5, 2013). 地方债试点扩容 专家称中央财政“兜底”应渐取消. 新华网. Retrieved July 15, 2013 from http://news.xinhuanet.com/fortune/2013-07/05/c_124960259.htm. Originally from 新京报.

¹²⁴ (November 17, 2011). 国家统计局原局长邱晓华：政府适当减持国有资产可解决地方债务. 财经网. Retrieved July 16, 2013 from <http://economy.caijing.com.cn/2011-11-17/111417343.html>.

Turning to Private Capital

According to China Daily (2013), a lot of local governments are now turning to the private sector to raise money for their new urbanization projects. “Local government officials are approaching us on a daily basis seeking cooperation,” said Yan Jiehe, chairman of China Pacific Construction Group, one of the largest private investors in domestic infrastructure construction.” He also explained how this kind of private financing can benefit both parties, “The government doesn’t have to pay a cent for the project at the beginning. We could let it to the government at a proper price when the project is finished, otherwise we could rent it out on our own.”¹²⁵

4.3 Outcomes of the Three Checks

For the Sustainability Check, in terms of the Euro Convergence Criterion for Government Debt-to-GDP Ratio, China’s government debt is under the safe level even when considering diverse statistics, and China’s government debt level is lower than a lot of other countries, including the US, EU, Japan, Brazil and India. In terms of the Arithmetic of Deficit and Debt, the equation is slightly unbalanced, about 1%. Therefore, there is no big problem with the Sustainability Check.

¹²⁵ Wei Tian. (April 18, 2013). Private capital cited as ‘desirable’ in urbanization. *China Daily*. Retrieved April 29, 2013 from http://www.chinadaily.com.cn/cndy/2013-04/18/content_16417191.htm.

As for the Liquidity Check, in terms of the Calculation of Cash Flow Demand, there is a huge gap between cash flow needed and cash flow that the local government can generate. In terms of Case Studies, some LGFVs got into trouble and so did some lower level governments. Therefore, there is a liquidity problem for local government debt.

As for the Policy/Fact Check, although liquidity is a problem in certain cases, it is widely believed that the Chinese local government debt problem is under control because of four reasons. Particularly, since the banking system is the dominant lender, local government can get new funds from the shadow banking system, land transactions can keep going, and as these three sectors are closely interrelated with Chinese governments and implicitly or explicitly following government policies, Chinese governments are able to raise funds to finance new projects and pay back old debt. Therefore, Chinese government policies are quite resilient.

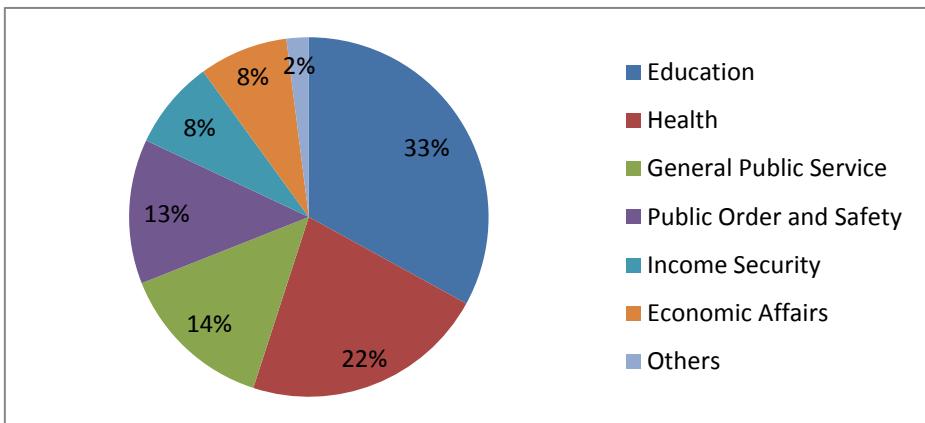
In summary, the local government debt issue doesn't look optimistic in certain cases, the probability of a severe and systematic crisis like what happened to the US and EU is low. Therefore, China doesn't have a local government debt crisis.

4.4 Long-term Agenda

Now concerns regarding new government's urbanization agenda have emerged, since

the new leadership has repeatedly stressed the importance of urbanization in driving future growth, and investment in urbanization could translate to further local government debt. And in the future a lot more local government responsibilities that need to be financed will emerge. Accordingly, how to finance local governments' duties in the long run should be put on the agenda. What's more, as China hopes to make its currency fully convertible and struggles with when and how to open up its financial market, measures favoring free-market environment need to be taken.

The long-term agenda should be comprised of at least four aspects. The first one is to reallocate government revenue, especially tax revenue between the central government and local governments to fix the mismatch of local governments' public spending responsibilities and their limited financial funding sources. This needs to be done along with other political reforms. The second one is to set up a more transparent system so that accurate information can be transmitted to outer world. The third one is to rethink the role of government in economic development and to lessen government intervention in economic activities and give the market more freedom. In comparison with other governments, for example, the American government, the Chinese government is involved with too much economic development related work instead of public service related work.



Graph 55 American Local Government Expenditure¹²⁶

Source: GAO analysis of historical data from the Bureau of Economic Analysis's
National Income and Product accounts

<http://www.gao.gov/special.pubs/longterm/state/fiscalconditionsfaq.html>

The fourth one is to abandon the soft budget constraint and introduce government bankruptcy. When some governments can't pay back their debt, the central government should not back them up, but let them go bankrupt.

¹²⁶ For b/w, rotation of this chart pie is clockwise.

Chapter 5

Concluding Remarks

The Chinese local government debt issue has drawn a lot of attention and concerns about a severe and systematic crisis arising from this issue. The Chinese local government debt issue was caused by the recent Global Financial Crisis which led to the 08 Stimulus Package and Chinese local governments' flawed fiscal system consisting of a mismatch between local governments' revenue and expenditure, local governors' GDP driven desire and local governments' soft budget constraint. To answer the main research question which is "Does China have a local government debt crisis?", three sub questions: "Is China's government debt including local government debt sustainable?", "Is the liquidity of China's local government debt a problem?", "Are Chinese government policies resilient?" are raised and three relevant checks – Sustainability Check, Liquidity Check and Policy/Fact Check are conducted in this thesis.

For the Sustainability Check, in terms of the Euro Convergence Criterion for Government Debt-to-GDP Ratio, China's government debt is at a safe level even when considering diverse statistics, and China's government debt level is lower than a lot of other countries, including the US, EU, Japan, Brazil and India. In terms of the Arithmetic of Deficit and Debt, the equation is slightly unbalanced, about 1%. Therefore, there is no big problem with the Sustainability Check. As for the Liquidity

Check, in terms of the Calculation of Cash Flow Demand, there is a huge gap between cash flow needed and cash flow that local government can generate. In terms of Case Studies, some LGFVs got into trouble and so did some lower level governments. Therefore, there is a liquidity problem for local government debt. As for the Policy/Fact Check, although liquidity is a problem in certain cases, it is widely believed that the Chinese local government debt problem is under control due to four reasons. Particularly, since the banking system is the dominant lender, local governments can get new funds from the shadow banking system, land transactions can keep going, and because of all these three sectors are closely interrelated with Chinese governments and implicitly or explicitly following government policies, Chinese governments are able to raise funds to finance new projects and pay back old debt. Therefore, Chinese government policies are quite resilient. In summary, admittedly, the local government debt issue doesn't look optimistic in certain cases, the probability of a severe and systematic crisis like what happened to the US and the EU is low. Therefore, China doesn't have a local government debt crisis.

However, as new projects are longing for investment, and China hopes to make its currency fully convertible and struggles with when and how to open up its financial market, long-term agenda compromising of at least four aspects – to reallocate government revenues between central and local governments, to set up a more transparent system, to redefine the role of government in economic development and to abandon the local governments' soft budget constraint should be taken into consideration.

Since information and data vacuum exist, studies about disparity among the eastern, middle and western regions are hard to undertake. However, as more issues related to the three regions' difference emerge, region-specific studies about local government debt situations are becoming increasingly important, and such studies should be done in the future.

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국문초록

중국의 지방채 증가에 따른 우려는 대중 매체뿐만 아니라 학계에서도 점차 증가하고 있다. 중국의 지방채가 위기를 맞고 있는 지에 대한 물음을 답하기 위해서 세 가지 하위 질문들과 관련된 검증사항이 제시되는데, 이 논문에서는 지속가능성 검증, 유동성 검증과 정책/사실 검증이 시행되었다.

지속가능성 점검을 유로 컨버전스 기준의 GDP 대비 부채 비율에 따라 계산했을 시, 중국의 지방채가 여러 가지 데이터에 기반함에도 불구하고 총 정부 부채는 세이프 존(safe zone)에 속했다. 또한, 중국의 국채비율은 미국, 유럽연합, 일본, 브라질, 인도 등의 다른 많은 나라들보다 낮은 수준이다. 적자와 부채를 산술적으로 계산했을 때 지난 3년 간 중국의 국채 불균형성은 1% 정도로 낮았다. 따라서, 지속가능성 검증으로는 중국 정부가 특별한 어려움을 겪고 있지 않는다는 결과가 나왔다. 두 번째로 유동성을 검증했을 시, 현금 흐름의 수요를 계산해보면, 지방 정부가 필요로 하는 현금 흐름과 실제로 만들어낼 수 있는 현금 흐름 간 큰 격차를 보였다. 사례연구 면에서는 지방 정부 자금 조달 기구 (LGFV)들은 큰 어려움에 직면하였고 이는 몇몇 하위 정보 조직에서도 마찬가지였다. 이에 따라, 중국

지방채가 유동성 문제를 겪고 있는 것으로 나타났다. 그럼에도 불구하고 정책/사실 검증 면에서는 중국의 지방채가 다음과 같은 네 가지의 이유로 통제 가능한 것으로 널리 믿어지고 있다. 게다가, 은행 시스템이 여전히 지배적인 대출 기관으로 남아있고 지방 정부들이 그림자 금융 시스템(Shadow Banking System)으로부터 새로운 자금을 얻을 수 있는데다 토지거래가 지속되는 한 중국 정부는 새로운 프로젝트를 경제적으로 지지할 수 있을 뿐만 아니라 이전의 부채도 상환할 수 있을 것으로 보인다. 그러므로 중국 정부의 정책은 웬만큼 회복력이 있어 보인다. 요컨대, 몇몇 특정한 사례들의 경우에는 지방채로 인해 어려움에 직면했음에도 불구하고, 미국과 유럽연합의 금융 위기와 같은 심각한 구조적인 위기가 발생할 가능성은 낮기에, 중국은 지방채 위기를 겪고 있지 않다고 결론지을 수 있다.

한편, 적어도 네 가지 면에서 중국 정부는 장기적인 과제에 직면한다. 중앙 정부와 지방 정부 간 정부 수익을 재분배하는 것과 더 투명한 시스템을 구축하는 것, 또한 경제 발전에 있어 정부의 역할을 재정의하고 지방 정부들의 연성예산제약을 포기하는 것, 그리고 앞으로 동부 지역, 중앙 지역, 서쪽 지역 간 불균형에 관한 연구를 지속하는 것이다.

키워드: 중국에 지방정부 채무, 지속가능성 검증, 유동성 검증, 정책/사실
검증, 장기적인 과제

학번: 2010-24190