LOCAL GOVERNMENT FINANCING VEHICLES (LGFVS) – A LENS OF THE POTENTIAL FINANCIAL INSTABILITY IN CHINA

YIYANG ZENG
SRPING 2014

A thesis submitted in partial fulfillment of the requirements for baccalaureate degrees in economics and sociology with honors in economics

Reviewed and approved* by the following:

Ruilin Zhou
Associate Professor of Economics
Thesis Supervisor

Russell Chuderewicz
Senior Lecturer of Economics
Honors Adviser

* Signatures are on file in the Schreyer Honors College.
ABSTRACT

China has experienced rapid credit expansion since late 2008 as the result of its response to the 2007-2009 global financial crisis. The stimulus plan offered by the central government has significantly encouraged local governments’ borrowing and infrastructure spending. Due to the limited funding sources, the local governments have been heavily dependent on a peculiar financing form called the Local Government Financing Vehicle (LGFV) to help finance their investments. However, despite the short-term positive effects, the expansion of LGFVs has implanted critical risks and vulnerabilities in China’s economic system. The obscure and sophisticated relationships among the local governments, the LGFVs, the commercial banks and other financial institutions, and the investors are unsustainable in the long run. Without active policy reforms, the LGFV financing will bring unbearable debt burdens to local governments in a few years. As a result, measures have to be taken to prevent the financial position of the local governments from further deteriorating and to consolidate the safety of China’s financial system.

Keywords: Credit, local government, LGFV, debt, wealth management products, bond, financial crisis
# TABLE OF CONTENTS

List of Figures ........................................................................................................................................ iii

List of Tables ........................................................................................................................................ iv

I. Introduction ......................................................................................................................................................... 1
   (A) General Background ............................................................................................................................... 1
   (B) Local Government Financing .................................................................................................................. 6

II. Analysis of the Local Government Financing Vehicle (LGFV) .............................................................. 11
   (A) The History of LGFV ............................................................................................................................... 11
   (B) The Nature of LGFV and the Implicit Guarantees ................................................................................. 12
   (C) The Mechanism of LGFV ....................................................................................................................... 14
   (D) Shadow Banking in China and the Wealth Management Products ....................................................... 17
   (E) The LGFV Bonds .................................................................................................................................... 20

III. LGFV’s Implication to the Potential Financial Instability in China ....................................................... 24
   (A) Cases of Default on the WMPs ................................................................................................................. 24
   (B) The Sustainability of the LGFV Financing ............................................................................................. 25
   (C) The Implication to the Potential Financial Instability ........................................................................... 27

III. Conclusion ..................................................................................................................................................... 31
   (A) Summary ................................................................................................................................................ 31
   (B) Policy Implications ................................................................................................................................. 32

Bibliography ....................................................................................................................................................... 35
LIST OF FIGURES

Figure 1. Breakdown of China’s GDP.................................................................2
Figure 2. Private Consumption and investment.............................................3
Figure 3. China: Social Financing Stock...........................................................4
Figure 4. Net Domestic Credit and GDP per Capita.......................................5
Figure 5. Augmented Public Debt Level..........................................................6
Figure 6. Debt Estimate....................................................................................7
Figure 7. Debt Estimates.................................................................................7
Figure 8. Local Government Revenue and Expenditure....................................9
Figure 9. General Scheme of the LGFVs..........................................................15
Figure 10. Interest Rates of the WMPs and the Benchmark Deposite Rate........20
Figure 11. Outstanding of Bank WMPs..............................................................20
Figure 12. Issue of LGFV Bonds.......................................................................21
Figure 13. Yield of the AA LGFV Bonds............................................................22
Figure 14. Downgrades of LGFV Bonds...........................................................22
Figure 15. Expected Decline in Available Lands and Land Sales Revenues........29
Figure 16. LGFV Debt Burden Projection.........................................................30
LIST OF TABLES

Table 1. Return on equity of the LGFVs.................................................................26
Table 2. LGFV Debt as % of Local Government Revenue...................................27
Table 3. Land Sales Revenue in China: 2008-2013.............................................28
Chapter 1

Introduction

Since the economic reform in December 1978, the People’s Republic of China has experienced three decades of rapid economic growth. By 2012, China had surpassed Japan to become the world’s second largest economy based on the total size of Gross Domestic Product. China’s efforts of maintaining high-speed economic development have been the solid anchor for the recovery of the global economy from the 2007-2009 global financial crisis. However, as a coin always has two sides, China’s steady economy growth in recent years are also accompanied by considerable imbalance problems and looming financial instability. In this thesis, I will investigate the potential perils brought by China’s development policy during this period. Specifically, I will focus on China’s peculiar local government financing mechanism called the Local Government Financing Vehicle (LGFV) and its potential implications to China’s financial instability. The plan of this paper is organized as follows. In chapter 1, I describe the general background of China’s central and local government’s indebtedness. In chapter 2, I look into the history, nature, mechanism, and the collateral products of the LGFV. In chapter 3, I study LGFV’s implication to the potential financial instability in China. Chapter 4 concludes.

(A) General Background

To begin with, it must be noted that China’s strong economic growth during the past decade has been increasingly driven by the government-led investments.
Figure 1 shows that since the economic reform in 1978, consumption had been the primary driving force of China’s GDP growth while investment had played a secondary role until the early 2000s. Beginning in 2003, investment surpassed consumption to become the biggest component of China’s GDP growth and it is anticipated to grow even faster.

![Figure 1: Breakdown of China's GDP](image)

Source: CEIC: National Bureau of Statistics

Furthermore, China’s investment to consumption ratio is very high compared to the rest of the world. Figure 2 illustrates the gross fixed capital formation as % of GDP of the major industrial countries and emerging markets from 2006 to 2012. The figure indicates that China remained an outlier, with investment much higher and consumption much lower than most of the other major economies.
China’s growing pattern in the past decade, to some extent, made its response to the 2008 financial crisis unavoidable. As Zhou (2008) points out, from mid-2008, fears grew that a world slump would weaken China’s ability to maintain high speed growth through continued expansion of its overseas markets. Consequently, in November 2008, the government took dramatic steps to counter potential slowdown, including a $586 billion economic stimulus package (Goodstadt 2012). One of the most significant consequences of the Chinese government’s stimulus plan was the huge and rapid credit expansion within China’s economy. Figure 3 shows that as of Q4 2008, China’s social financing scale was merely 129% of its GDP. Nevertheless, by Q1 2013, this number already climbed up to 195% of GDP. More specifically, from Q4 2008 to Q1 2013, the proportion of social financing related to entrusted loans, trust loans, bank acceptance and net corporate bond financing had risen from 15% to 46% of GDP. Meanwhile, the social financing related to bank loans had also
increased from 109% to 139% of GDP. It is important to notice that these two considerably increased sources of social financing are both very closely related to the LGFVs introduced by the Chinese local governments, which is the focus of this paper.

As indicated above, from a historical perspective, China has been experiencing rapid credit expansion since Q4 2008. Figure 4 shows that compared to some of the advanced economies, China’s domestic credit was still comparatively mild from 2007 to 2011. However, it is more important to notice that during the same period, China’s domestic credit is the highest among countries with a similar level of GDP per capita.
One biggest component of China’s rapid credit expansion is in the area of government (mostly local) infrastructure spending that effectively pushed up the level of public debt. This was one of the main pillars of China’s investment-driven model in the past decade. Figure 5 shows China’s public debt level has increased considerably since 2008. Aside from the significant growth of bank loans, of which a large portion has gone to the LGFVs, the corporate bonds have also become an important form of debt financing. The proportion of the total public debts, in the form of corporate bonds, had increased from the tiny amounts several years ago, to a considerable scale as of 2012. More importantly, most of these corporate bonds are issued by the LGFVs, which are often non-transparent and risky. Again, these issues will be discussed in more detail later.
(B) Local Government Financing

As mentioned earlier, the stimulus plan offered by the Chinese central government has significantly encouraged the local government’s borrowing and infrastructure spending. As the result, the local government debts have become the largest and most troublesome part of China’s public debts. Figure 6 shows the local government debt estimated by Xiang Huaicheng, a Chinese economist and former minister of finance of China. It shows that the local government debts have skyrocketed since 2009 and become the biggest component of the public debts in China.
Figure 7 shows different estimates of China’s public debts by different scholars, organizations, research institutions, and investment banks. Most of them find the magnitude of the local government debt no less than 30% of China’s GDP. In fact, the size of the local government debts is so difficult to estimate that even the Chinese central government did not have a precise picture of the exact number. As the
concerns over the debt burden of the local government intensifies, in July 2013, the Chinese central government again sent out an audit group to investigate the size of the local government debt. According to the report from Caijing, an independent Chinese magazine focusing on economic and political affairs, the local government debt reached ¥14 trillion ($2.3 trillion), with 9.7 trillion bank loans, 892.2 billion bonds, 2.2 trillion trust loans, and 1.4 trillion urban construction and investment bonds. However, these numbers still fall on the lower side of the range estimated by various institutions. According to Standard Chartered Bank, the Chinese local government debts are estimated to be between ¥21.9 to ¥24.4 trillion. The estimates from CLSA, UBS, and Goldman Sachs are ¥18 trillion, ¥16.5 trillion, and ¥15 trillion respectively.

One critical explanation of the expansion of local government’s borrowing lies within the stimulus plan offered by the Chinese central government itself. According to the plan, the central government would only provide less than 30% of the funding for the $586 billion economic stimulus package, and the local governments were called on to finance most of the balance (Goodstadt 2012). Meanwhile, though carrying on heavy financing duties, the local governments’ funding sources are often limited. After the reform of the tax allocation system in 1994, many of the previous local government’s taxation rights were turned over to the central government. According to the study carried out by Man (2011), local governments spending accounts for 79% of the overall government expenditure but its revenue is only 47% of the overall government revenue. Figure 8 shows that the imbalance between local
government revenue and expenditure sharply widened in 1994 as the result of the tax allocation reform. It also shows that the gap between revenue and expenditure has remained large since then.

Figure 8: Local Government Revenue and Expenditure

In addition, the Chinese central government did not authorize the local governments to issue provincial bonds until October 2011. Even after October 2011, the issuance of the provincial bonds by local government still requires approval by the central government (Goodstadt 2012). Consequently, the local governments had very limited funding sources. To fill the vast expenditure-revenue gap, they developed a special mechanism called the Local Government Financing Vehicle (LGFV). As elaborated by the IMF Country Report (2013), “Beginning in 2009–10, local governments expanded market borrowing through the use of Local Government Financing Vehicles (LGFVs)……Hence local governments largely channeled their
borrowings through LGFVs and other government-related entities that typically borrow from policy banks, commercial banks, and more recently from trust companies and the corporate bond market.”

The LGFVs are often set up through an obscure process. According to the IMF Country Report, the common practice for a number of years had been for local governments to establish corporate entities capitalized by local governments’ funds, land, or other government assets. They then used to borrow substantial sums, often with the implicit guarantees from the local government, to engage in infrastructure investments. LGFVs are also often associated with the Wealth Management Products (WMPs), which account for a large portion of the current shadow banking behaviors in China. In chapter 2, I will study the history, nature, and the mechanism of the LGFV in detail. I will also look into the collaterals of the LGFVs such as the WMPs and the LGFV bonds, which will be connected to the discussions of the potential financial instability in China in chapter 3.
Chapter 2

Analysis of the Local Government Financing Vehicle (LGFV)

(A) The History of LGFV

Despite its over-two-decade existence, the LGFV did not experience rapid development until the recent years. Dong and Wang (2009) categorize the history of LGFV into four phases of evolvement: the budding phase, the initiating phase, the promotional phase, and the rapid development phase.

The budding phase lasted from the 1980s to 1994, during which the first LGFV, called the Shanghai Chengtou Corporation, was established in Shanghai. The utilization of LGFV, however, was extremely rare until 1994.

The initiating phase started in 1994 and continued until 1997. The key incident that marked the beginning of this phase was the reform of the tax allocation system led by the former premier Zhu Rongji. As discussed earlier, under the new tax allocation system, many of the local governments’ previous taxation rights were turned over to the central government. At the same time, the local governments were granted more autonomy in terms of local authorities. As the result, an increasing number of the LGFVs were set up as a way to raise money to relieve the local governments’ financial pressures.

The promotional phase ran from 1997 to 2008. To cope with the influence of the East Asian Financial Crisis in 1997, the Chinese government took a series of active economic policies to stimulate the economy. The stimulus plan, however, was
largely concentrated on the infrastructure investments. As the result, the local
governments were encouraged to utilize the LGFVs to meet the financing needs of
infrastructure constructions, and an increased number of LGFVs were set up.

The current phase is called the rapid development phase, and it started in 2008. As discussed earlier, in November 2008, the local governments were called on to finance close to 70% of a $586 billion economic stimulus package, to counter the potential economic slowdown due to the fierce global recession (Goodstadt 2012). The number of LGFVs set up to make ends meet grew exponentially since the end of 2008. Despite some occasional warnings from the central government, such as the “Announcement of Managing the Local Government Financing Vehicles” in 2010, the expansion of the LGFVs nevertheless persists. According to the South China Finance, a Chinese state-owned finance magazine, there were approximately 2600 LGFVs before the 2007-2009 global financial crisis. By 2012, the number of LGFVs estimated by the National Audit Office, the People’s Bank of China, and the Banking Regulatory Commission, were 6576, more than 10000, and more than 9000 respectively (Goodstadt 2012).

(B) The Nature of LGFV and the Implicit Guarantees

As discussed earlier, the Local Government Financing Vehicles (LGFVs) are commonly set up through the local governments’ fiscal appropriations or local governments’ transfer of assets such as lands, bonds or stock rights. However, as
Goldstadt (2012) emphasizes, it is worthwhile to note that these appropriations or transfer of assets do not require strict process of registration for publication. As a result, while the local governments have more flexibility through setting up the LGFVs, the inherent perils are planted in the very first step of this financing mechanism due to the lack of transparency and regulations. Also, although an LGFV is officially acknowledged as an independent legal entity and is often categorized as a solely state-owned company, in reality, its nature is usually largely distorted. As reported by the Economic Information News, a state-owned news agency of China, there are five major distortions of the LGFV’s nature as an independent legal and business entity. First of all, LGFVs do not have the control rights to their assets or properties in practice. Second, their investments are usually under direct or indirect controls of the local governments. Third, the senior management positions in these companies are usually occupied by some local government officials. Fourth, the investments of these companies are usually implicitly guaranteed by the local governments. Last but not the least, instead of pursuing profits as any other legal business entities would do, these companies usually spend most of their investments on infrastructure constructions, which usually yield very limited returns in the short run and even in the long run.

Despite the artificial distortions and manipulations of the LGFV’s nature, from many local governments’ point of view, the opaque legal identity of the LGFVs brings them great convenience and flexibility. As independent legal entities, LGFVs’ debts will not be on the local governments’ balance sheets. Also, although the current
Chinese laws prohibit government agencies from becoming the guarantors of any of these companies, there exists many loopholes that enable the local governments to provide implicit guarantees to the LGFVs. According to the report from the Economic Information News, there are three major channels of implicit guarantees from the local governments. First, the local governments usually provide the LGFVs with a special “commitment letter” or “comfort letter” to indicate the government’s position as the last resort for the LGFVs. These various forms of letters, however, are not legal documents. Second, the local governments often grant the LGFVs various rights to be used as guarantees to get loans from banks and other financial Institutions. For example, LGFVs may be given the privileges of charging highway toll fees, the right of management of the local land transfers, and the managerial authority of certain goods and services and so on. This is a convenient strategy for the LGFVs and the local governments because the current Chinese laws do not regulate over the guaranty of most of these rights. Lastly, some local governments provide the LGFVs with franchise agreements through legislative efforts. In some rare instances, the boundary between legal and illegal guaranty documents becomes even vaguer. At the end of the day, in the event of potential failure, it is expected that the local governments will bail out the LGFVs in most cases regardless of the forms of their implicit guarantees.

(C) The Mechanism of LGFV

There are a number of critical questions regarding the operation and development of LGFVs. What is the concrete allocation of the LGFVs’ investment spending? Where does the major sustainable funding of the LGFV come from? Why
would the banks and other financial institutions continue to lend a LGFV money whenever its ownership is opaque? Who is carrying the stakes by the end of the day? Would the expansion of the LGFVs continue and/or even augment? To answer these questions and to further explore the potential perils with the LGFVs, it is important to understand the mechanism and the rationales of this peculiar financing form.

Figure 9: General Scheme of the LGFVs, Source: IIMA, Sohu Finance and Economics, Sina Finance and Economics, Author’s Compilation

Figure 9 illustrates an overview of the mechanism of the LGFVs. Starting from the initial appropriations from the local government, a LGFV is established to play the role as a shell company to help finance a series of infrastructure projects. A successful campaign of the infrastructure projects would often be counted toward a local official’s political achievements, which would largely increase his or her chances to be promoted to a higher level of governmental office. In other words, the potential political achievements work as a huge incentive for the local governments to use the LGFVs to carry out the infrastructure constructions. According to a study conducted
by Zhao (2011), the infrastructure constructions for “public welfares” such as roads, squares, and parks generally account for 70% - 80% of the investment flows. These kind of investments, however, generally result in limited or no profit. Another 10% - 20% of the investments generally go to some quasi-operational projects such as the sewage treatment plants, waste treatment plants, and so on. Despite the potential return of this part of investments, its payoff period is usually expected to be very long. Lastly, about 8% - 10% of the total funding are used as the interest payment for loans. And most of the time, the initial appropriations from the local government are merely enough to cover this portion of funding. Therefore, the funding sources of the LGFVs have become a major issue for both of the LGFVs and the local governments. Although in recent years, the LGFVs have been increasingly relying on the corporate bonds issuance to help finance their investments, which is partially reflected in Figure 5, bank loans still remained the main funding source of the LGFVs financing. However, in spite of the implicit guarantees by the local governments, it would still be irrational for the commercial banks to consistently lend enormous amounts to the LGFVs voluntarily given the low return and high risk of the LGFVs’ projects. Goodstadt (2012) offers a partial explanation in his paper, claiming that “at the bank branch level, the real masters traditionally were the leading officials from the local Chinese Communist Party branch……Managers in local branches were jointly appointed by the head office and the local CPC committee. Inevitably, the branch managers were primarily oriented towards cultivating good relations with the local Communist Party committees”. Goodstadt further asserts that the “policy-based
lending” and the “relationship-based lending” have been particularly prevalent at the local levels. While the policy lending compels banks to follow state directives and planning targets in making loans and to ignore the borrowers’ credit standing, the relationship-based lending refers to a borrower’s official or party status as the overriding factor in making loan decisions. However reasonable, this view does not address the major incentive of the banks’ continuous and substantial lending, which is the Wealth Management Products (WMPs) derived from an investment portfolio that includes a considerable amount of LGFV-related investments.

(D) Shadow Banking in China and the Wealth Management Products

The Financial Institute of the Chinese Academy of Social Science (CASS) defines shadow banking in China as the “off-balance business of banks and activities of financial institutions other than banks”. According to the reports from the Institute for International Monetary Affairs (IIMA), the Wealth Management Products (WMPs) have been sold by the shadow banks to the individual investors and a large amount of money raised through these products has been channeled to the LGFVs (Gomi & Ueda 2013). According to the study by Mao (2013), only one third of the WMPs are recorded on the banks’ balance sheets, while others are independent from the banks’ balance sheets. Mao further claims that the investment portfolio of off-balance-sheet WMPs mainly includes five assets, including the trust plan (33%+), securities (22.2%), equities (21.7%), loans issued directly by WMPs (10%), and repos with financial institutions (7%). Although the proportion of the LGFV-related
investments in these five assets remains unclear, it is reasonable to infer that a considerable amount of them are involved with the trust plans, securities, and the loans issued directly by WMPs. More specifically, a substantial portion of the WMPs might include the trust plans that make loans to the LGFVs, the LGFV bonds, and the loans directly issued by the WMPs to the LGFVs. The maturities of the WMPs are usually short. According to Mao (2013), more than half of the money raised by off-balance-sheet WMPs was raised by products with maturity less than one month. Nearly 30 percent was raised by those with maturity between one to three months. And the long-term products constituted 16.6 percent of the total funds raised. Overall, by Q1 2013, the amount of bank WMPs reach ¥8.2 trillion, accounting for 15.8% of China’s GDP.

Figure 9 shows that there are two major types of WMPs circulating in the market. On the one hand, some WMPs are developed by the trust companies, insurance companies and brokerage firms, and sold through the “bank selling platforms” to the investors. In this case, the trust companies, insurance companies and brokerage firms provide lending to the LGFVs and invest in the LGFV bonds and other products. They then package these LGFV-related investments with other investments into WMPs, and sell them through the bank selling platforms since the investors generally trust the commercial banks more. The commercial banks receive commissions from the trust companies, insurance companies and brokerage firms while collecting WMP payments from the investors. According to the estimate from the IIMA, this kind of WMPs account for more than 30% of the total WMPs. On the
other hand, more than half of the WMPs are the “Funding Pool WMPs” solely developed and sold by the commercial banks. These WMPs are also packaged products. According to the IIMA, a considerable amount of these funds flows to the risky investments such as the LGFV bonds and the loans to the LGFVs to secure higher yields (Gomi & Ueda 2013). The banks then collect WMP payments from the investors and continue to provide lending to the LGFVs.

In general, the majority of the WMPs do not make their fund flows available to the investors. Many of the WMPs do not guarantee the return of principle. However, due to the higher interest rates offered by the WMPs, these products have been attracting increasing amount of funds from the general public in recent years. Figure 10 shows the comparison between the WMPs interest rates and the benchmark deposit rates. It shows that the benchmark deposit rates declined sharply at the end of 2008 as part of the Chinese government’s efforts to boost the economy. They have remained comparatively low since then. In the meantime, the WMPs were introduced to the market and have offered consistently higher interest rates than the benchmark deposit rates. Figure 11 shows the outstanding of bank WMPs from 2008 to Q1 2013. It demonstrates that the amount of WMPs have increased dramatically since the end of 2008.
(E) The LGFV Bonds

Beginning in 2008, the LGFVs have been issuing rapidly increasing amount of corporate bonds to help finance their investments. According to a report by the CASS,
by 2012, LGFV bonds accounted for 80% of the total corporate bonds issued in China and had an average maturity of 5.7 years (Gomi & Ueda 2013). Figure 12 shows that prior to 2008, both of the outstanding amount and the amount of issue of the LGFV bonds were very limited. However, The LGFVs bonds have skyrocketed since then. In 2012, the LGFVs issued ¥1.2 trillion bonds and the outstanding amount of LGFV bonds reached ¥2.3 trillion.

As discussed earlier, it is exactly these bonds that a considerable portion of WMPs has invested in to pursue higher returns. The LGFVs bonds generally offer considerably higher returns than the Chinese government bonds. Specifically, Figure 13 shows that the yields of the LGFV bonds with AA ratings are consistently twice as much as the yields of the Chinese government bonds.
**Figure 13: Yield of the AA LGFV Bonds**

![Graph showing the yield of the AA LGFV Bonds from December 2009 to June 2013.](image)

*Source: Bloomberg, BofA Merrill Lynch Global Research*

**Figure 14: Downgrades of LGFV Bonds**

<table>
<thead>
<tr>
<th>Issuer</th>
<th>Type of downgrading</th>
<th>Latest rating (previous rating)</th>
<th>Rating agency</th>
<th>Date of downgrading</th>
<th>Reasons for downgrading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xingsheng Investment &amp; Development Group</td>
<td>Issuer rating &amp; bond rating</td>
<td>AA (AA+)</td>
<td>Dagong Global</td>
<td>February 2013</td>
<td>Without bondholders' permission, the shareholdings of the subordinate companies were taken out from the Group, affecting the Group's financial strength significantly.</td>
</tr>
<tr>
<td>Inner Mongolia Hi-tech Holdings Co.</td>
<td>Issuer rating &amp; bond rating</td>
<td>AA (AA+)</td>
<td>Shanghai Brilliance</td>
<td>June 2013</td>
<td>Size of maturing debt is huge; asset liquidity is low; fiscal subsidy may be weakened; profitability fell significantly in 2012.</td>
</tr>
<tr>
<td>Chongqing Transportation and Tourism Investment Co.</td>
<td>Issuer rating</td>
<td>AA- (AA+)</td>
<td>Shanghai Brilliance</td>
<td>June 2013</td>
<td>Refinancing pressure is huge; majority of land reserves are not liquid.</td>
</tr>
<tr>
<td>Xiangyang Construction &amp; Investment Co.</td>
<td>Bond rating</td>
<td>AA (AA+)</td>
<td>Dagong Global</td>
<td>June 2013</td>
<td>The local government failed to pay the company in time for a large infrastructure project that the company is in charge of. This weakened the effectiveness of credit enhancement using receivables accounts as collaterals.</td>
</tr>
<tr>
<td>Jiuxiang Construction &amp; Investment Co.</td>
<td>Bond rating</td>
<td>AA (AA+)</td>
<td>Dagong Global</td>
<td>June 2013</td>
<td>The pledged payment fund to receivables accounts that were used as collaterals were not transferred to the supervised account in 2012, weakened the effectiveness of credit enhancement.</td>
</tr>
<tr>
<td>Guangzhou Construction &amp; Investment Co.</td>
<td>Issuer rating</td>
<td>AA (AA+)</td>
<td>China Lianhe</td>
<td>July 2013</td>
<td>Profitability of main business continues to decline; profitability and debt servicing heavily depend on fiscal subsidies; investment in subordinated companies was taken out of the company without proper compensation.</td>
</tr>
<tr>
<td>Changchun City Development Group</td>
<td>Bond rating</td>
<td>AA+ (AAA)</td>
<td>Dagong Global</td>
<td>July 2013</td>
<td>The local government failed to pay the company in time for a large infrastructure project that the company is in charge of. This weakened the effectiveness of credit enhancement using receivables accounts as collaterals.</td>
</tr>
</tbody>
</table>

*Source: China Chengxin International Credit Rating (2013), various rating agencies' reports and Nomura Global Economics*
The higher promised returns are largely an outcome of higher risk. Figure 14 shows that during the first seven months in 2013, there had been seven ratings downgrades due to various reasons by different Chinese rating agencies. Zhang (2013) points out that rising concerns in the market over LGFV bonds are illustrated by these downgrades of LGFV bond credit ratings. This was a very rare occurrence before, signaling that financial conditions have deteriorated rapidly and investors are increasingly worried. These downgrades will lead to higher financing costs, making it more difficult for LGFVs to sustain their level of borrowing given the relatively short maturity of these bonds. Moreover, many of these bonds could still be overrated due to the consistent support from the local governments. Nomura group estimates that without local government support, over half of LGFV debt would have been at risk of default in 2012. In the case of a liquidity crisis, that number could easily go up to 70%.
Chapter 3

LGFV’s Implication to the Potential Financial Instability in China

(A) Cases of Default on the WMPs

Beginning in 2012, there has been an increasing, though not yet too many, number of WMP default conjunctures. The involved financial institutions include some major Chinese and foreign banks such as the Industrial and Commercial Bank of China, China Construction Bank, China Citic Bank, Hua Xia Bank, Ping An Bank, China Guangfa Bank, Standard Chartered Bank, and Bank of East Asia. Among these WMP default events, two cases particularly grasped people’s attention. The first one was relating to a WMP name “Zhongding” sold by the Hua Xia Bank, which claimed to offer an annualized return of 11%. However, in November 2012, the WMP was due and the Hua Xia Bank was unable to retrieve most of the WMP’s ¥100,000,000 investments to pay the investors. As the result, dozens of investors demonstrated in a Shanghai branch of Hua Xia Bank during late November to early December. The China Banking Regulatory Commission (CBRC) stepped in and accused Hua Xia Bank for “creating abominable social effects”. The relating customer managers in Hua Xia Bank were arrested and the bank finally promised to buy back the WMP at the principal price from the investors in January 2013, resolving the conjuncture.

The second event was about a ¥3,000,000,000 WMP named “Chengzhijinkai” with a promised annualized return of 10% due by the end of January 2014. This WMP was sold by the China Credit Trust, one of the biggest trust companies in China, through the bank selling platform of the Industrial and Commercial Bank of China.
(ICBC), the largest bank in China and the 2nd largest bank in the world. In mid-January, the fear of the default of this huge WMP grew over the market while the ICBC refused to take any responsibility for the potential outcomes. As the result, concerns had spread globally for the potential chain reactions to the ¥5,000,000,000,000 Chinese trust products due in 2014. It was widely estimated that up to trillions of non-performing loans would emerge in China’s financial system if this WMP were allowed to default (Barron 2014). On January 28, the China Credit Trust finally announced that an “undisclosed third party” agreed to purchase this WMP at the principal price, averting a potential financial crisis in China. The mysterious undisclosed third party, however, is widely speculated as the Shanxi provincial government, and the destructive perils of the shadow banking in China had been well illustrated in this critical event.

(B) The Sustainability of the LGFV Financing

As discussed earlier, the majority of the LGFV financing are circulating through the fund flows among the LGFVs, the commercial banks and other financial institutions, and the investors. From a simplified point of view, the LGFVs borrow from the banks and other financial institutions and issue bonds to finance their investment projects. The banks and other financial institutions provide loans to the LGFVs, create WMPs by packaging the LGFV-related investments and other investments together, and sell the WMPs to the investors. For this relationship to be sustainable in the long run, risk premiums must be provided. Therefore, for the
financing mechanism of the LGFVs to be sustainable, the following condition has to be met:

$$R(LGFV\ Investment) - R(LGFV\ Bond) > 0$$

To verify the validity of this condition, I utilize a dataset collected by Zhou (2012) from June 2009 to June 2011. The dataset contains a sample of 246 LGFVs, varying from the county/district level, city level, capital city level, provincial level, and direct-control municipality level. The main statistics include these LGFVs’ assets, returns, breakdown of debts, and the government subsidies. Table 1 here collects the return on equity of these 246 LGFVs.

Table 1: Return on equity of the LGFVs, Source: Huanfan Zhou

<table>
<thead>
<tr>
<th>Levels of LGFVs</th>
<th>Return on Equity (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>District/County</td>
<td>3.73</td>
</tr>
<tr>
<td>City</td>
<td>4.65</td>
</tr>
<tr>
<td>Capital City</td>
<td>4.63</td>
</tr>
<tr>
<td>Province</td>
<td>8.06</td>
</tr>
<tr>
<td>Direct-control Municipality</td>
<td>2.56</td>
</tr>
<tr>
<td>Overall</td>
<td>4.43</td>
</tr>
</tbody>
</table>

Table 1 shows that the average returns of the LGFV investments is 4.43%, which was lower than the yields of the LGFV bonds shown in Figure 13 during most of the period. Among these LGFVs, only those of the provincial level had returns higher than the LGFV bonds, offering an adequate risk premium. The rest of the LGFVs, however, failed to meet this criterion. Overall, this condition has not been met. Therefore the financing form of the LGFVs is not sustainable in the long run.
(C) The Implication to the Potential Financial Instability

To examine LGFVs’ implication for the future financial instability in China, I again employ Zhou’s (2012) dataset here. Table 2 includes the sample LGFVs’ total debt and current liability as shares of the corresponding local government revenue. Current liabilities are often defined as all liabilities of the business that are to be settled in cash within the fiscal year or the operating cycle of a given firm, whichever period is longer. In other words, it refers to the short-term debts of the LGFVs here. The table shows that on average the total debt and current liability of these LGFVs were 82.73% and 29.01% of the local government revenue. Among the different levels of LGFVs, the district/county level LGFVs had the worst financial position, with their total debts and current liability as 140.07% and 52.08% of the district/county government revenue.

Table 2: LGFV Debt as % of Local Government Revenue, Source: Huanfan Zhou

<table>
<thead>
<tr>
<th>LGFV</th>
<th>Debt as % of Local Government Revenue</th>
<th>Current Liability as % of Local Government Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>District/County</td>
<td>140.07%</td>
<td>52.08%</td>
</tr>
<tr>
<td>City</td>
<td>72.90%</td>
<td>24.20%</td>
</tr>
<tr>
<td>Capital City</td>
<td>46%</td>
<td>13.85%</td>
</tr>
<tr>
<td>Province</td>
<td>75.72%</td>
<td>35.16%</td>
</tr>
<tr>
<td>Direct-Control Municipality</td>
<td>70.11%</td>
<td>28.02%</td>
</tr>
<tr>
<td>Overall</td>
<td>82.73%</td>
<td>29.01%</td>
</tr>
</tbody>
</table>

It must also be noted that since the 2007-2009 global financial crisis, the Chinese local governments have been heavily relying on the revenue from land transfers. Table 3 collects the land sales revenue in China from 2008 to 2013. It shows
that the recent six-year average land sales revenue’s share of the total local
government revenue is 54%.

Table 3: Land Sales Revenue in China: 2008-2013, Source: International
 Cooperation Center of China, CEIC, Nomura, Author’s Compilation

<table>
<thead>
<tr>
<th>Year</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land Sales Revenue (In CNY Trillions)</td>
<td>1.03</td>
<td>1.72</td>
<td>2.75</td>
<td>3.15</td>
<td>2.69</td>
<td>4.1</td>
<td>2.57</td>
</tr>
<tr>
<td>Land Sales Revenue as % of Local Government Budgetary Revenue</td>
<td>35%</td>
<td>58%</td>
<td>67%</td>
<td>60%</td>
<td>45%</td>
<td>60%</td>
<td>54%</td>
</tr>
</tbody>
</table>

However, the land availability is finite and so is the leftover land sales revenue for the local governments. Figure 15 shows that the leftover land sales revenue is relatively stable in the upcoming years. Nevertheless, beginning in mid-2017, the local governments are expected to suffer from rapid drops in land sales revenue. By mid-2018, the leftover sales revenue is expected to drop by 25%. By late 2019, half of the leftover sales revenue will drain. By mid-2021, all of the available land for sale will finally exhaust. Therefore, ceteris paribus, the local government revenue is expected to drop in a few years.
Assuming that the debts of all different levels of LGFVs will grow at a consistent rate based on the recent pattern, and the local governments will continue to rely on the land sales in the next several years, we can then project the trend of the LGFV debt burden in the near future through the data in Table 2, Table 3, and Figure 15. For example, ceteris paribus, when half of the available land drains in late 2019, based on the six-year average land sales revenue as % of local government revenue in Table 3, the local government revenue is estimated to drop by $0.5 \times 54\% = 27\%$. Based on the LGFV debt as % of local government revenue in Table 2, the overall LGFV debt is estimated to be $82.73\% / (1-27\%) = 113.33\%$ of the local government revenue. Figure 16 shows the projection of the LGFV debt burden. It shows that if the Chinese government sticks to the current developing strategy, by mid-2021, the total and short-term LGFV debts will reach 179.85% and 63.07% of the local government
revenue respectively, creating heavy financial burden for the local governments. Furthermore, the total and short-term district/county LGFV debts will climb to 304.5% and 113.22% of the district/county government revenue, making the financial position of the district/county governments unbearable. Therefore, without major policy adjustments, the continuous expansion of LGFVs is likely to bring China potential financial instability in just a few years.

Figure 16: LGFV Debt Burden Projection

*The definition of “short-term” here is based on the maturity of the current liability, which is usually one fiscal year.
Chapter 4

Conclusion

(A) Summary

This paper examines the outcome of China’s loose economic policies in response to the 2007-2009 global financial crisis. It is shown that China has been going through rapid credit expansion since late 2008. Specifically, the stimulus plan offered by the Chinese central government has significantly encouraged the local government’s borrowing and infrastructure spending. Due to the limited funding sources under the current Chinese laws and regulations, the local governments have utilized a peculiar financing form called the Local Government Financing Vehicle (LGFV) to help finance their infrastructure investments. However, despite the short-term effects of helping maintain high-speed economic development during the 2007-2009 global financial crisis, the invention and expansion of the LGFVs have actually implanted critical risks and vulnerabilities in China’s economic system. It is discussed that the LGFVs are closely linked to the Wealth Management Products (WMPs) and the shadow banking in China. The analyses above show that the obscure and sophisticated relationships among the local governments, the LGFVs, the banks and other financial institutions, and the investors are unsustainable in the long run. It is projected that without corresponding policy reforms, the LGFV financing will place heavy debt burdens on the local governments in the next several years. In particular, it is estimated that the district/county government will suffer the most from the expansion of LGFVs. By mid-2021, the short-term debts of the district/county
level LGFVs could exceed 100% of the district/county government revenue, making their financing positions unbearable and potentially triggering further financial volatility in China.

Due to the lack of available data of the LGFVs, the local governments, and the related financial institutions, the estimates made in this paper are admittedly over-simplified and relying on some strong assumptions. Nevertheless, the overall outlook of the local government financing are relatively clear and requires urgent attention from the policy makers. In another words, the policy-makers in China should implement corresponding policy reforms to adjust the current financing forms in order to prevent the local government financial positions from further deteriorating.

(B) Policy implications

Despite of the deteriorating financial positions and the increasing risks and vulnerabilities, the Chinese government should still have adequate options of policy reforms to take control of the situation. Below are some main policy suggestions based on the analyses presented in this paper.

First of all, the central government should accelerate the bond issuance reform and encourage qualified local governments to independently issue bonds in order to reduce their dependence on the non-transparent, risky, and costly LGFVs. This seems to be the most convenient and feasible way to strengthen the local governments’ financing ability and transparency. By implementing such reforms, the funding sources of the local governments will increase and become more regulatable. In
addition, this will also help weaken the moral hazard from the implicit government guarantees and reduce some financing costs of setting up the LGFVs. The Chinese government seems to realize the viability of this measure. During the 2014 Chinese government work report on March 5, 2014, Li Keqiang, the Chinese Premier, asserted that “we will establish a standard financing mechanism for local governments to issue bonds and place local government debt under budgetary management”. However, the details of his promise are yet to be revealed and implemented.

What’s more, the central government should take measures to reduce the imbalance between the local government revenue and expenditure. One way to materialize such a direction is to transfer some of the taxation rights back to the local governments. However, such a measure is likely to face strong political resistance and is unlikely to be implemented in a short term. Another way to reduce the imbalance is to start levying property taxes to reduce the local governments’ dependence on land sales. By doing so, the local government will have more stable fiscal revenue even though the land availability is expected to shrink and eventually exhaust in mid-2021. Nevertheless, such a measure is likely to transfer some of the local governments’ burdens to the general public and lower the standard of living of the Chinese people.

While strengthening the local governments’ financing ability and transparency, the Chinese government should also reinforce the regulations on shadow banking. Meanwhile, the Chinese government might also consider allowing certain WMPs, trust products, and LGFV bonds to default to reduce the moral hazard from the implicit government guarantees. This will also encourage the market to reevaluate the
credibility of such products, which will help consolidate the health of China’s financial system in the long term. However, such measures might cause short-term volatility in the system and should be taken with caution. In addition, China should accelerate the establishment of deposit insurance to strengthen its financial safety under the potential financial conjunctures in the future.

In the long run, the policy makers in China should downplay the importance of GDP and encourage a more sustainable approach of development. The Chinese government should also strive to transform the economy from the investment-driven mode to a more consumption-driven pattern. China still has huge financial reserves, viable options, and adequate time to prevent the risks and vulnerabilities induced by its loose economic policies and unreasonable economic structure from materializing. However, urgent attention and strong measures must be taken to consolidate the safety of the system before the financial position of the local governments further deteriorates and triggers a comprehensive financial crisis.
Bibliography


Ueda, K and Gomi, Y, (2013). *Shadow Banking in China and Expanding Debts of Local Governments*. Institute for International Monetary Affairs, No. 23


Academic Vita
Yiyang Zeng
Apartment 609, 215 West Fairmount Avenue, State College, PA 16801
www.linkedin.com/in/yiyangzeng • (617)850-5655 • zeng.pennstate@gmail.com

Education
The Pennsylvania State University, University Park, PA May 2014
Bachelor of Arts in Economics with module in theory and quantitative methods and module in macroeconomics, money and banking; Bachelor of Arts in Sociology
Schreyer Honors College
Thesis Title: Local Government Financing Vehicles (LGFVs) – A Lens of the Potential Financial Instability in China
Thesis Supervisor: Professor Ruilin Zhou

Honors and Awards
• Dean’s list: 2010-2014
• College of the Liberal Arts Recognition of Superior Academic Achievement
• Schreyer Honors College Summer Grant
• College of the Liberal Arts Enrichment Funds Award

Professional Experience
Market Research Intern Summer 2013
Systemtek Technologies, LLC, Naperville, IL, USA
• Interpreted and evaluated over 15 economic impact analyses of the EB-5 Immigration Investment Program
• Oversaw and conducted a variety of research projects to target specific market segments in Greater Chicago Area
• Researched and developed marketing strategy via executing programs including SEO, SEM and email marketing

Undergraduate Teaching Assistant, Money and Banking (Economics 351) Fall 2012
The Pennsylvania State University, Department of Economics, University Park, PA, USA
• Managed miscellaneous administrative duties and tasks to facilitate the professor throughout the semester
• Appraised and graded exams and assignments for over 170 students while maintaining their confidentiality

Summer Statistical Analyst Summer 2012
Lixiu Chemical Engineering Co., Ltd., Guangzhou (Canton), China
• Oversaw and cooperated with the assigned groups in collecting, sorting, analyzing and summarizing market data via Excel and STATA, and estimated company and industry outlooks based on the summarized statistical report
• Assisted the general manager by individually and collaboratively implementing miscellaneous research projects

Individual Investor
June 2010-August 2012
Zeng Family Investments, Guangzhou (Canton), China
• Directly managed over $5000 funds in both long-term and short-term investment in China’s stock market and achieved a 10% return during the two-year consecutive bear market period

Information Coordinator Intern
Summer 2011
Public Health Bureau of Huadu, Guangzhou (Canton), China
• Classified, organized, analyzed and visualized over 8000 healthcare data of the Huadu District through Excel and maintained the internal database of the Public Health Bureau on a daily basis

Leadership Activities
Leadership Assessment Participant
February 2013
PNC Leadership Assessment Center, University Park, PA, USA
• Executed five hours of individual and collaborative work activities, which are all part of an integrated business simulation focusing on the challenges and decisions that students will face as leaders in various organizations
• Performed better than approximately 95% of the comparison group in interpreting data, examining information generating ideas, developing strategies, providing insights, developing expertise, and seizing opportunities
• Performed better than approximately 90% of the comparison group in making decisions, taking actions, adopting practical approaches, exploring possibilities, pursuing goals and inviting feedback

Volunteer Teacher and Student Counselor
May 2011
Bangdong Junior High School, Bangdong County, Guizhou Province, China
• Performed duties of teacher and counselor as one of the two nationwide representatives in the 2nd poorest province in P.R. China, providing free mentoring and tutoring service to 11-14 years old students and their families

Skills
• Working knowledge of STATA, SPSS, SQL and HTML
• Adept skills in Excel, Word, PowerPoint and Outlook
• Experienced user of Google Docs, Google Analytics, Google Adwords, Constant Contact and Wordpress
• Fully fluent in English, Cantonese and Mandarin; skilled reader of Classical Chinese; basic knowledge of German