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The Chinese Municipal Debt Crisis and Central Government Response

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Abstract:

Over the past few decades China’s subnational governments (SNGs) have issued prodigious amounts of debt in order to fund the massive urbanization and industrialization movements that have taken place in the country. The central government has recently attempted to address this problem by creating a municipal bond market in the hopes of creating more transparent and efficient borrowing. However, there is a chance that the current levels of debt are unsustainable and that many SNGs will ask the central government for debt assistance via a bailout. If forced to make this decision, it is likely that the Xi Jinping administration would grant the bailout in order to meet development goals. Unfortunately, this would be counter to the optimal strategy of letting the SNGs default and will delay the creation of a functioning municipal bond market.

I. INTRODUCTION

Municipal government is a fundamental aspect of economic development in emerging economies where subnational governments (SNGs) often have a responsibility for building infrastructure and providing services for citizens, which is the case for the People's Republic of China. In China, SNGs are responsible for building much of the infrastructure that is required for the economy to function and grow. Over the course of the past six decades, China has seen massive economic growth and development as prodigious levels of urban migration have created hubs of economic activity that have powered the growth of the nation (Wong 2012). However, this migration has also necessitated a large number of capital expenditures in order to build the infrastructure to support the large movement from rural areas of the country to cities and spur economic output (Wong 2012). Due to financial restrictions placed on debt accessible to SNGs, Chinese cities were forced to utilize alternative financing vehicles to hide the debt that it assumed (Wong 2000). Over the decades, these cities have taken on large levels of debt, causing greater concern for the central government and the future economic outlook of these cities.

Recently, under the Xi Jinping administration, the Chinese central government has attempted to address this debt crisis by creating a municipal bond market and corresponding debt-for-bond swap program that would relieve Chinese commercial banks of the risk and shift that to the bond market, where the risk would be diversified among other domestic and international financial institutions (Wildau 2015). Clearly, the central government is concerned about the rise of debt and may be forced to make tough choices regarding bailing out or assisting SNGs buried with too much debt.

In this paper I hope to examine four fundamental aspects of this crisis. First, I will investigate what led to the rise of this debt crisis and the creation of the current problems that

China is facing as it addresses this debt. Second, I will try to examine the current levels of debt and recent policy decisions that the central government has made to address the problem. Third, I will examine whether or not the central government will bailout these SNGs. Lastly, I will use existing frameworks to determine the most optimal central government response to the crisis.

II. THE CREATION OF THE CRISIS

The current debt crisis that Chinese SNGs are facing is a byproduct of years of capital spending, fueled by debt issued through alternative financing vehicles and driven by the central government's industrialization and economic production goals.

In the 1950s, China initiated efforts to industrialize their economy, creating a massive migration from the rural areas of the nation to the cities. Between 1950 and 1960, over 69 million people made the migration to the urban areas of the nation that were quickly industrializing (Wong 2012). This migration was so rapid and significant, that the central government was forced to introduce a household registration system—the hukou system—limiting the number of individuals that could migrate to the city and receive government services (Chan and Zhang 1999). In 1958, the National People's Congress passed legislation creating the registration system. However, the registration system was largely ignored since it was passed during Mao Zedong's Great Leap Forward, which prioritized industrialization. In 1960, upon the failure of the Great Leap Forward, the central government was forced to enforce the hukou system in order to address the poverty and famine that was created (Chan and Zhang 1999).

This policy move was significant for two reasons. First, it showed that Chinese cities were significantly underprepared for the massive industrialization goals of the central government, causing need to rapidly increased the urban infrastructure throughout the country. Second, it left many Chinese people without services in urban areas after moving. Increased poverty often increases indirect costs for cities; for example, cities with higher levels of poverty often have to spend more on services related to public safety and education (Gyourko and Summers 1998). Thus, these cities faced even larger costs with the massive and sudden urban migration.

Even though the registration system restricted services that individuals could receive, massive urbanization continued to occur throughout the next few decades. Throughout the 1980s, the urban population grew by 110 million people, aided by the elimination of agriculture collectives (Wong 2012). Throughout the 1990s, 157 million more people left the rural communities of China to the quickly industrializing cities (Wong 2012). This massive increase in urban population was coupled with large increases in infrastructure—currently China ranks among the highest scorers under the World Bank's Logistics Performance Index (LPI) infrastructure ranking, which surveys foreign trading partners regarding the ease of operating within the country's infrastructure, showing that China has invested significantly more than comparable countries. In 2014, China had the 23rd best score for infrastructure (World Bank 2015). China's infrastructure rating of 3.67 far exceeds the infrastructure ratings of neighboring countries in the region who average a rating of 2.74 and of other upper middle income countries that average a rating of 2.67 (World Bank 2015). These large infrastructure scores for such a young economy display the emphasis that the Chinese government has placed on the development of infrastructure. The Chinese SNGs have played a large role in developing this economy through their capital development projects.

However, in 1994, the central government passed legislation that significantly prevented SNGs from borrowing. Worried about the rise in infrastructure spending and the debt that cities would accumulate in order to meet their development goals, the legislation sought to centralize spending. The reform hoped to “raise the two ratios”—it sought to increase both the central-government revenue to GDP ratio and central-government revenue to local-government revenue ratio—by limiting the ability for the local governments to raise revenue and issue debt (Wong 2000). The law reformed the revenue sharing agreement between the central government and SNGs and had SNGs self-report their revenue collection, resulting in improper financial accounting and reporting, as SNGs wanted to keep their revenues off book in order to share less with the central government (Wong 2000).

Even though SNGs did not have the ability to directly issue debt and were constrained by the amount of revenue they could generate via taxation, they still needed to build infrastructure in order to attract businesses and residents and meet central government development goals. In order to do this the SNGs still had to spend money and did so by utilizing local government financing vehicles (LGFVs) that allowed them to borrow money off book (Ueda and Gomi 2013). LGFVs are structured as municipal state-owned enterprises where local governments provide a small portion of cash and land shares that serve as collateral, enabling the LGFV to receive bank loans from domestic Chinese commercial banks (Lu 2013). With the loaned money, LGFVs are then able to fund public infrastructure projects, most of which generate cash flow (such as affordable housing or toll bridges) that is used to repay the debt provided by banks (Lu 2013). These alternative financing vehicles allow municipalities to finance infrastructure projects without recording the debt on the SNGs financial statements and thus stay in compliance with the 1994 tax reform (Ueda and Gomi 2013).

Much of the urban development was powered by these financial vehicles which empowered the SNGs to meet the demands set forth by the central government. In 2008, the demands increased, with the central government creating a stimulus package in the face of the

Great Recession in order to help the country continue to meet economic development goals even while facing the global credit crisis (Lu 2013). The stimulus gave more aid to municipalities that invested more into infrastructure projects that could help prevent a rise in unemployment (Lu 2013). Thus, the stimulus package "triggered an explosion in local government debt" as SNGs invested in capital projects to satiate central government desires (Miura 2015).

Many central government officials have since become concerned with this debt after the Global Economic Recession; President Xi Jinping's administration identified addressing it as one of its top priorities. The concerns arise with (1) the quality of collateral the SNGs provide to the LGFVs and (2) the exposure that banks have to these assets. The most common source of collateral that SNGs are able to provide is land, which is concerning given the cyclicality of the real estate market and the resulting volatility in the value of land (Lu 2013). Since the real estate market has faced recent periods of turmoil in China, the central government is worried that a significant decline in real estate prices may lower the value of the collateral the SNGs are able to provide Chinese banks, increasing the risk exposure of these banks greatly (Lu 2013). This is incredibly concerning given the exposure that banks have to this SNG debt—the IMF estimated that the approximately $608 million in LGFV loans in 2010 represented approximately 15 percent of commercial banks total loan activities (Lu 2013). Defaults by SNGs to repay this debt would cause significant concerns of financial crisis as the banks would absorb significant losses, which would be passed on to the individuals and corporations that have trusted the banks with their money. While a financial crisis in unlikely to be created by this default, defaults will certainly have a cost to the economy and will be discussed in Section V of this paper.

III. CURRENT DEBT LEVELS AND RECENT REFORM EFFORTS

The current amount of SNG debt throughout the country of China is largely unknown due to the difficulty in tracking the SNGs debt existing under LGFVs. In 2013, amid pressure to understand how much debt exists among municipalities and the consequences for the Chinese economy, the Chinese National Accounting Office (NAO) completed a national audit of all SNGs to determine the amount debt existing. After completing the audit, the central government determined that SNGs, and their LGFVs, had approximately 17.9 trillion yuan ($2.89 trillion) of debt (Roberts 2014). This prodigious amount of debt accounted to be 26 percent of the nation's current GDP.[1]

However, many believe that these debt levels are not very accurate and that the actual existing value of debt is significantly higher. The British bank UBS predicts that the level of SNG debt at the end of 2014 was 30.3 percent of current GDP, roughly 24 trillion yuan ($3.4 trillion) ("Convert Debt," 2015).[2] The Japanese financial services firm Nomura projected that the amount was approximately 24 trillion yuan ($3.9 trillion), 34.8 percent of current GDP ("Convert Debt," 2015).[3] In mid-2015, the Japanese bank Mizuho released its projection that debt levels were actually closer to 25 trillion yuan ($4.1 trillion), representing a massive 36.6 percent of current GDP ("Convert Debt," 2015).[4] While the Chinese central government has not released statistics on the total amount of debt outstanding overtime, Wu estimates that the total local debt outstanding has increased from less than one trillion yuan to in 1997 to well over 20 trillion yuan in 2014, reflecting massive growth rates in local government debt (Wu 2015).

[1] Converted at currency rate on June 31, 2013.
[2] Converted at currency rate on December 31, 2014.
[3] Converted at currency rate on December 31, 2014.
[4] Converted at currency rate on June 1, 2015.

The total amount of debt is largely unknown due to the lack of understanding of the liabilities presented by the LGFV debt. Since all of this debt is off the books of the LGFV, it is challenging for the central government to measure the total existence of this debt. However, given the estimates that the NAO and financial institutions have calculated, it is clear that this total SNG debt is at least one third of the GDP and very likely larger. These are huge liabilities and significantly larger relative to the SNG debt in other countries as displayed in Figure 1.

Figure 1: Subnational Government Debt By GDP in 2013
Compared to other OECD countries, China's SNG have the third largest amount of debt relative to the size of the country's gross domestic property.

Country	**SNG Debt Percent of GDP**
Canada	59.14%
Japan	37.99%
China	**36.66%**
Germany	32.55%
Spain	27.35%
United States	23.9%
OECD	22.06%
Other Relevant Countries	
United Kingdom	6.37%
Korea	1.5%

SOURCE: OECD Data, Chinese data taken from Mizuho report.

Understanding the concerns of such high levels of SNG debt, the Xi Jinping administration has prioritized efforts to reduce the levels of debt and the creation of a municipal bond market that would allow SNGs to finance capital projects through bonds tradable on the market as opposed to negotiated commercial bank loans that are often of shorter term (Chang 2014). This move will force SNGs to face market pricing as opposed to the negotiated loan pricing, which likely created more favorable pricing for the SNGs who were able to utilize their close relationships with the Chinese commercial banks. The recent regulations set forth aim to increase the transparency, reduce the amount of commercial bank loans, and provide a foundation for a well-functioning municipal bond market that could give bond buyers greater transparency and liquidity (Chang 2014). The administration has issued regulations that prevent SNGs from utilizing LGFVs, forcing each individual SNG to issue debt (Miura 2015). Moreover, SNGs must clearly report the amount of debt in regular reports submitted to the central government (Miura 2015). Municipalities must issue debt through bonds, as opposed to taking loans from commercial banks. The debt must be either "general" debt tied to the normal operations and revenue collection of the SNGs, similar to general-obligation bonds in the U.S., or "special" debt, which is linked to revenue streams of specific cash-flow producing projects, such as toll bridges or toll roads, similar to revenue bonds in U.S. public financial markets (Miura 2015). Regardless of the type of bond, debt may only be issued for projects that have significant public interest or are used to refinance existing commercial bank debt into bonds (Miura 2015).

The Xi Jinping administration also stressed that the central government would provide "no debt relief" for SNGs (Miura 2015). The administration has been adamant that they would not provide a bailout or any other form of assistance in order to scare SNGs into being more responsible (Miura 2015). However, in early 2015, the central government worked with Chinese commercial banks to start restructuring some of the existing LGFV debt into a municipal bonds backed by the SNG through a debt-bond swap (“Convert Debt,” 2015). Under this swap the SNGs assumed responsibility for the debt originally passed through the LGFV and restructured it into municipal bonds. In return, the bonds provide the SNGs with a cheaper source of debt. The commercial banks were willing to stomach the reduction in value of debt for two primary reasons. First, since the SNG directly issued these bonds and assumed the LGFV debt, there was no uncertainty of whether or not SNGs would stand by the debt of the off-book financing vehicle. Second, the commercial banks would be able to exit the investment be selling the bonds to other market buyers or, if they chose to keep them, utilize the bonds as collateral against central bank borrowing (Miura 2015).

With the goal of creating a well-functioning municipal bond market, the central government has permitted the initial wave of SNGs to issue municipal bonds, allowing qualified domestic financial institutions and select foreign investors (that are granted permission via the Qualified Foreign Institutional Investor Program) to invest (Huang 2015). However, initial indications appear to show that the markets are very concerned with the SNGs. For example, the Jiangsu Province was the first to issue bonds and was forced to delay the issuance since there were not enough interested buyers to purchase the bonds at the set rate. In order to generate enough interest, the central government decided to intervene by allowing financial institutions “to use municipal bonds as collateral for borrowing from the central bank” (Miura 2015). This increased the value of the bonds for the institution at the cost to the central bank that has a riskier source of collateral. Since banks were able to post these overvalued assets as collateral for borrowing against the central bank, the riskiness of the central banks lending increased without an adjustment to price that would balance the risk-reward tradeoff. Even with the central government intervention to cheapen the SNGs debt, the Jiangsu Province was unable to sell its desired 64.8 billion yuan in bonds, as the bond went undersubscribed with the province only issuing 52.2 billion yuan in bonds (Miura 2015). This was the first of many undersubscriptions in the newly launched bond market ("Auction Undersubscribed," 2015).

Since institutions are allowed to use these bonds as collateral against central banks borrowing, most of the bonds that have been issued, even for the riskiest provinces, are not trading with any premium for the increased risk of the bonds. For example, in June 2015, the province of Jinlin, one of the riskiest provinces because of its declining revenue, issued bonds at a 2.87 percent yield, equivalent to the sovereign rate of central government ("Riskiest Provincial Debt," 2015). The province of Zhejiang, which Nomura Securities rates as the province most likely to default, also sold their bonds at the sovereign rate ("Riskiest Provincial Debt," 2015). The markets are pricing these bonds at the country's risk-free rate since the central bank is posting them as collateral for borrowing from the central bank. Thus, the market is assuming the central government will stand by these debts and bailout SNGs in face of default.

IV. LIKELY CENTRAL GOVENRMENT RESPONSE TO BAILOUT REQUEST

The central government has asserted (and reiterated) that it has no intention to provide any debt relief ("Riskiest Provincial Debt," 2015). However, if an SNG requests a bailout, it is likely that the central government will assist the SNG with debt relief for five reasons.

Reason #1: Central Government Prioritization on Development

The central government continues to have prodigious goals of economic development and industrialization ("Interview with Chinese President," 2015). Paramount to these goals are healthy cities that are able to continue meet the needs of industry. If a SNG were to fail, the SNG would likely not be able to borrow from any lender for the foreseeable future. This will significantly impact the ability for the government to invest in capital projects that attract investment and assist industrial producers in their economic activity.

Given the central governments economic development goals and the political significance that it has placed on development, it is unlikely that the central government would let the SNG default as the massive development that has occurred will slow.

Reason #2: The Price of Current Bonds Will Be Shocked

As discussed, the current market perceives that the bonds of even some of the riskiest SNGs are riskless as they are trading at risk-free rates. Once an SNG defaults without central government assistance and the lenders realize that these are actually risky bonds, the value of all bonds will decrease since the interest rates do not reflect the now realized risk premium. Thus, financial institutions will have to book losses not only on the bonds from the defaulted SNG, but also on bonds for every other SNG that now faces an increased risk.

Moreover, since the SNGs use this as collateral against central bank borrowing, they will have to increase the amount of other assets on their balance sheet that can be used as collateral for borrowing. This great value deterioration in the commercial bank’s collateral could cause a significant financial crisis. This would be politically problematic for the Xi Jinping administration, as it already faces many questions about it’s country’s financial markets. Thus, the central government will be more inclined to offer the bailout to avoid the chance of a financial crisis and the political fallout.

Reason #3: Cost of Future Issuances Will Increase

If a default were to occur, the municipalities would not be able to issue bonds at rates that do not account for a risk premium. Thus, they will have to increase the interest rate and cost of borrowing on all future issuances. While this may be beneficial for a well-functioning municipal bond market, it will certainly increase all SNGs cost of borrowing, which will significantly limit the amount of debt it can accumulate. Moreover, since many of these bonds are “special” debt, commonly referred to as a revenue bond, which is directly linked to a specific cash flow from the capital project that the bond is financing, the SNGs will not be able to get a cost of debt that is low enough to make the projects feasible.

The central government will face extreme political pressure from the leadership in the provinces and municipalities if they are unable to build these projects. Promotions in Chinese local government occur when officials oversee economic growth and social stability (Lu 2013). By letting the SNGs default, the central government will receive political pushback from officials within local governments. While this political pushback may not be the reason why the central government chooses to bailout the SNGs, it will certainly be weighed into the central governments decision calculus.

Reason #4: Provide Stability for SNGs

Since the current debt markets for SNGs are largely ignoring risk, assuming that the debt of SNGs is synonymous to the debt of the central government, there has been little scrutiny in the municipal bond market.

If the central government were to let the SNGs default, lenders would be forced to increase their scrutiny of each individual SNG in order to properly price the risk premium that equates to the likeliness of default. The underlying liabilities for the SNGs are already very difficult to calculate and understand given the challenges in understanding the alternative financing vehicles and how their liabilities are transferable to the SNG. Many lenders may be hesitant to buy SNG bonds if they are not able to understand all of the liabilities that exist.

The central government is already very worried about participation within municipal bond markets, as evident by the policy decision to allow lenders to use municipal bonds as collateral against central government borrowing. If not enough buyers exist in the municipal bond markets due to a concern over the unknown risk of default, SNGs would not be able to issue bonds. While the greater scrutiny on the credit worthiness of these bonds would be beneficial to the central government's long-term goal of establishing a healthy bond market, it would significantly slow the establishment of the bond market in the near term. Given that the Xi Jinping administration has announced creating this market as a central priority for the administration, the central government is more likely to bailout these SNGs to avoid the political risk of being perceived to have unsuccessfully met its goal of establishing a functioning bond market.

Reason #5: The Central Government Wants to Play Aggressive Role in Muni Market

It is clear the central government wants to be aggressive in the municipal bond market through the many policy changes that they have made to help create the market. The central governments move to allow municipal bonds to serve as collateral against central bank lending and the restructuring of the debt in the debt-bond swap is clear evidence of central government involvement and interference in the market. Moreover, there is little evidence that indicates this involvement will discontinue in the near future.

While the central government has stated multiple times that it will not provide any relief or forgiveness for SNG debt, it is clear that they have by making the debt cheaper through the permissibility of bonds as collateral and the swap program. It is likely that the statements in opposition to debt relief have been made solely to scare SNGs from spending more.

Thus, the central government has made it clear that its going to be very active in the public financial markets in an effort to establish the municipal bond market and continue to reach for its economic development goals.

V. OPTIMAL RESPONSE TO BAILOUT REQUEST: LET THE SNG DEFAULT

While it is likely that the central government would provide a bailout to SNGs in danger of default, as evident by its previous policy moves and the political pressure on the Xi Jinping administration to promote its policies, it would be an unwise action and would lead to inefficient economic outcomes and a weaker public financial market. Instead, the central government ought to let the SNGs default, even if the individual SNG is harmed and some marginal negative financial spillovers impact other regions of the country, in order to prevent large buildups of debt from occurring again.

In *Tranfers and Bailouts,* Inman outlines the dangers in fiscal cost shifting, which occurs when a SNG does not fully internalize the cost of the services that its current period residents receive (Inman 2003). This cost shifting can occur in one of three ways: (1) shifting the costs of services to nonresidents by implementing taxes on non-residents or seeking a transfer payment from the central government, (2) shifting the costs of services through deficit financing that the SNG refuses to repay forcing either lenders or national taxpayers, in the case of a bailout, to cover the cost, and (3) shifting the costs of services by using deficit financing then constantly rolling over the debt to future taxpayers so current tax payers do not pay the costs (Inman 2003).

All of these cost shifting strategies lead to inefficient outcomes due to the subsidy that current period residents of SNGs receive from nonresidents, the central government, lenders, or future-period residents. The disequilibrium in cost of services versus benefit of services leads to economic inefficiencies, as the SNGs are incentivized to provide more services due to the subsidy provided (Inman 2003). Thus, fiscal cost shifting must be avoided as it creates economically inefficient outcomes by imposing the cost of current-period services to any non-current-period resident.

When a central government is asked by a SNG for a bailout, it faces an incredibly difficult decision. If the central government allows the locality to default on its debts, there will be three negative spillovers that affect the entirety of the nation: (1) economic spillovers that reduce aggregate demand in not only the defaulting locality, but other localities who depend on the defaulting locality as a trading partner, (2) financial spillovers, caused by a reduction in the assets of lending banks who are not paid, that create a reduction in liquidity for all affected by the country's banking system, and (3) empathy spillovers that occur when nonresidents are forced to see residents of the SNG, especially vulnerable and underserved residents, suffer because of the default (Inman 2013).

When choosing to participate in fiscal cost shifting, SNGs are aware that the central government will be in a difficult position to allow them to default. This creates a soft budget constraint, where the SNG realizes that the central government will face a lot of pressure to bailout the SNG and avoid the spillovers created by the default in the future period, even if the central government promises not to bailout SNGs in the current period (Kornai 1986). The SNG knows that it puts the central government in a bind where it is advantageous for the central government to offer the bailout to avoid the spillovers.

However, as Inman proves in the Default-Bailout Game, in which he sets up a prisoner's dilemma game, it is efficient in the long run for the central government to establish SNG disciple and let the SNGs default rather than bail them out, as this prisoner’s dilemma becomes a repeated game (Inman 2003). In order to discourage SNGs from making the choice to participate in fiscal cost shifting, in which they often assume the central government will bail them out to avoid the costs of spillovers created by default, the central government ought to set a pattern of letting SNGs default.

This will force the SNG to incur the costs of default and will encourage the SNG to internalize the cost of all current period services and avoid fiscal cost shifting that creates economic inefficiencies. The central government will be able to save the present value of the discounted costs of future negative spillovers that would occur with future defaults and bailouts.

While this policy decision will create detrimental financial spillovers that hurt the entirety of the country, not just the defaulting SNG, it is imperative that the Chinese central government sets a clear and strong standard of not bailing out SNGs who have overspent and are participating in cost-shifting. In letting the default occur, the central government will strengthen its municipal bond market and incentivize more efficient borrowing.

In the 1840s, the United States experienced a similar challenge when eight states were facing default. While legislative leaders of these states made requests for bailouts, arguing that the larger United States would face negative economic spillovers from default, the United States Congress refused to offer relief (Inman 2003). In the 1920s, many suburban cities’ populations grew due to the increased mobility provided by automobiles. These cities issued debt with the hope of property values rising to cover their general obligation bonds; unfortunately, the Great Depression occurred, drastically reducing property value and forcing many of the municipalities into default (Inman 2003). Knowing that defaulting would hurt their own municipalities and would create spillovers for others, leaders of these municipalities asked for bailouts (Inman

2003). While the federal government offered more assistance to state and local government to aid in the recovery efforts, there was nothing offered to bailout these localities or assist with debt payment (Inman 2003) The United States has a clear policy of not bailing out SNGs, which has created more efficient outcomes, as fewer SNGs have attempted to transfer costs.

The Chinese central government should look to the United States decisions against bailouts as an ideal policy model as it looks to build a well-functioning municipal bond market. While negative spillovers will occur, as discussed in the five reasons analyzing why the Chinese government will likely grant a bailout request, it will be much more advantageous for the Chinese government to incentivize their SNGs to internalize their expenditures.

Moreover, a default would actually help the long-term municipal bond market develop. Since the markets are pricing recent municipal bond issuances at or very near the sovereign rate, assuming a central bailout would occur given default, a default would force lenders to price the risk premium into the bonds. This will make debt for SNGs much more expensive and less available, but will help create a well-functioning bond market where prices are reflective of relative risk. It will encourage SNGs to borrow efficiently and also be transparent about their debts, as they will be forced to prove to creditors that they are less risky as a method to get cheaper rates of borrowing. While this will be painful in the short term, it will be beneficial in the long term as China hopes to create a viable municipal bond market that can allow for more efficient SNG spending outcomes. While this will hurt the central government reach some of its long term development goals, it may prove to be a good opportunity for the central government to take responsibility for capital projects that align with its goals and not necessarily the goals of the SNGs who have raised debt to fund the projects.

Obviously, the largest concern of letting the SNGs default is the effect the losses have on the commercial banks that loaned the SNGs money and the citizens and businesses that have put money in these banks. Since these loans have represented a significant portion of these bank's lending businesses, this is a reasonable concern. If the banks were unable to recover the losses of all loans, the potential for a financial crisis would likely be very great. However, most of these banks would have enough collateral to minimize these losses as many LGFVs "are profitable and have operating income" to support their repayments or at least minimize creditor losses (Lu 2013). More likely than not, the banks will experience losses from the worst performing SNG, which may be significant, but likely not enough to cause a widespread financial crisis. These loses could be larger if the real estate market were to collapse, causing a loss in value of the collateral that the commercial banks control. However, since the Chinese commercial banking sector is underexposed to the real estate sector, many believe that they would be well positioned to cover these loses (Viñals and Singh 2011). Financial spillovers will be significant, but likely not crippling to the corporate banking institutions, their depositors, or the central government that utilizes these bonds as collateral.

Failure to let the SNGs default, will show the defaulting SNG and all other SNGs that the central government will cover their debts, encouraging fiscal cost transfers. While facing the spillovers that default creates will be difficult, it is imperative for the Chinese central government to stand tough against bailouts in order to reach optimal outcomes in this repeated game.

VI. MOVING FORWARD WITH ECONOMIC DEVELOPMENT AFTER DEFAULT

Once the first SNG defaults, the defaulting SNG will be unable to take out loans to fund municipal projects and lenders will be much more critical of the credit worthiness of all SNGs, as they will be worried about repeat defaults. The SNG will face higher taxes and more austerity as it tries to re-establish its credit overtime (Inman 2013). Moreover, this will prevent many SNGs from pursuing infrastructure and public works projects that may be beneficial to the SNG and the central government's economic development goals.

The central government should use this as an opportunity to redesign the method it uses to encourage economic development projects. Currently, local government officials are promoted by their track record in economic development, incentivizing the local leaders to build public infrastructure that may help economic development efforts, or at least appear to accelerate it (Lu 2013). The government should stop incentivizing SNG officials from building public works that may help the central government reach its economic development goals. Instead, the central government should take responsibility for investing in economic development projects that benefit the entire nation. If the projects create substantial benefit for the national government, they could be shared with the national taxpayers; however, if these projects do not create national value, the central government should neither invest in them nor incentivize local government officials to invest in the projects (Inman 2003). Essentially, the central government should pursue some of the goals found in the 1994 reform, while continuing to outlaw the use of LGFVs.

VII. CONCLUSION

The Chinese SNGs have taken on large amounts of debt in order to finance the massive urban expansion that has occurred over the past half century. While it is difficult to determine whether or not these SNGs will default on their debt, since much of this debt exists under off-the-book alternative financing vehicles, it is imperative that the Chinese central government does not relieve SNGs of their debt.

Unfortunately, it is likely that the Chinese central government will offer a bailout to avoid the spillovers that a default would occur as the default would negatively affect (1) China's economic development goals, (2) the value of current municipal bonds, (3) the cost of SNG debt in the future, (4) the amount of institutions willing to lend to SNGs, and (5) current policy transactions that have promoted the quick development of the bond market.

However, the Chinese central government would be wise to let the SNGs default. While the above spillovers will not be comfortable, it is important to show all SNGs in the country that they should not make the decision to overspend in an attempt to shift the costs onto non-residents.

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