Sustainable Local Public Finance in China: Are Muni Bonds the Structural Solution?

Ronald Anderson[1] and Lu Hua[2]

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Abstract

We assess the economic and institutional factors that have driven the growth of debt in China. We ask whether there is a clear strategy for managing the risk that such debt levels pose and assess the likelihood that policy actions will prove successful. In particular, we explain how much of the growth of debt is attributable to particular features of Chinese local public finance and why a program involving swapping municipal bonds for older city construction bonds has emerged as a crucial component of the Chinese strategy.

I. Introduction

In July 2017 the opening of the HK-Mainland Bond Connect program was announced with considerable fanfare as the latest in a series of steps to open the Chinese domestic bond market to foreign investors. When asked whether this was an important market development, a number of prominent international institutional investors responded by saying that the size of the Chinese economy means that such a policy change is automatically significant. However, they suggested that they did not expected a big rush of international bond investors into China because of fears that Chinese debt levels were unsustainable and that Chinese domestic debt markets were too opaque to allow the reasonable assessment of credit risks of Chinese issuers. This view was echoing warnings repeatedly made by the IMF suggesting that Chinese debt levels relative to GDP were extremely high for a country at its current stage of economic development. They urged China to proactively recognize losses, engage in corporate restructuring, harden budget constraints, and ease market entry (IMF, 2016). To date the China has been cautious in adopting these liberal, market-oriented remedies and have used court organized bankruptcies only for relatively small firms, preferring rather to restructure large firms through mergers and acquisitions and continuing to tolerate relatively high levels of leverage generally.

In this paper we assess the economic and institutional factors that have driven the growth of debt in China. We ask whether there is a clear strategy for managing the risk that such debt levels pose and assess the likelihood that policy actions will prove successful. In particular, we explain how much of the growth of debt is attributable to particular features of Chinese local public finance and why a program involving swapping municipal bonds for older city construction bonds has emerged as a crucial component of the Chinese strategy.

The paper is organized as follows. In section II we describe the main features of China's debt markets, document the prominence of local state owned enterprises in rising debt levels, and argue

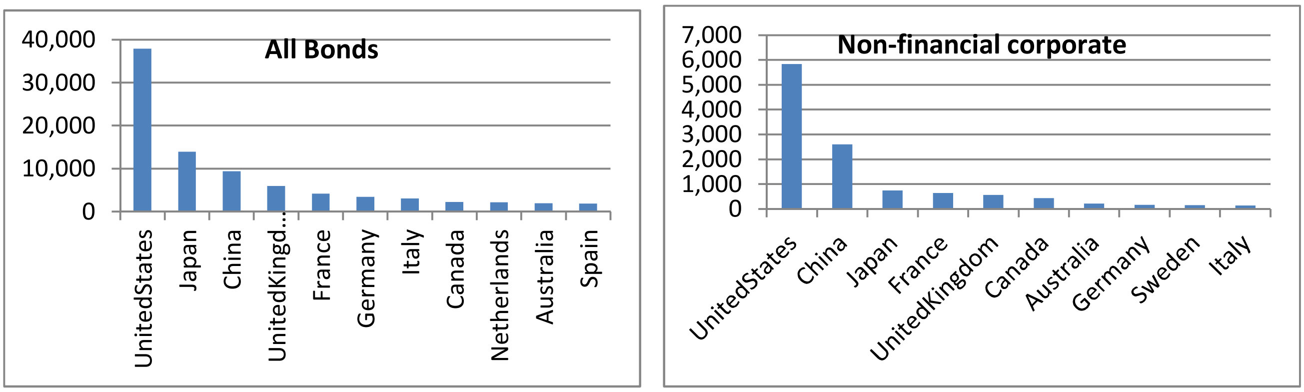
[1] Department of Finance, London School of Economics, r.w.anderson@lse.ac.uk. This research has been supported by ESRC-Newton Fund grant ES/P004237/1 and the ESRC grant ES/K002309/1.
[2] Institute for Financial Studies, Fudan University, luhua@fudan.edu.cn . This research has been supported the Chinese National Science Foundation.

that Chinese authorities' treatment of these enterprises will have a crucial impact both on the evolution of debt markets and on growth generally. In section III we outline the current approach to enterprise reform that necessarily will shape policy toward local SOE restructuring. In section IV we relate the restructuring of local SOE's to China's evolving public finances and land use policies. We then assess the strengths and potential pitfalls of China's mix of policies. Section V concludes.

II. What has driven the growth of Chinese domestic debt levels?

Until recently international fixed income investors paid relatively little attention to China's debt markets because they had little cause to look to China for investment opportunities. Instead, all the investment flows were in the opposite direction as the inevitable consequence of China's and persistent current account surplus. This picture began to change a few years ago as China's rising labor costs and the appreciation of the RMB began to shrink the trade surplus and as China's policy push toward international infrastructure investments as part of the Belt and Road initiative led it to prepare its markets for international business on a scale to rival New York, Tokyo and London. In fact, bond market development has been important part of its development strategy since the early days of the market oriented reforms in the 1980's. The central government began to issue treasury bonds in 1981. State owned enterprises (SOE's) began to issue enterprise bonds in 1983. Bankruptcy law for SOE's was introduced in 1986. The first Shanghai Pudong construction bond was issued in 1993 by the first of what later became known as local government funding vehicles (LGFV's). The 1998 law on securities created the framework of issuing corporate bonds and other fixed income paper. This was complemented by the 1999 Company Law, the 2006 Law on Creditors Rights and the revision of the bankruptcy code in 2007.[3]

Figure 1: Top Bond Markets, 2016 Q3 (billion USD)



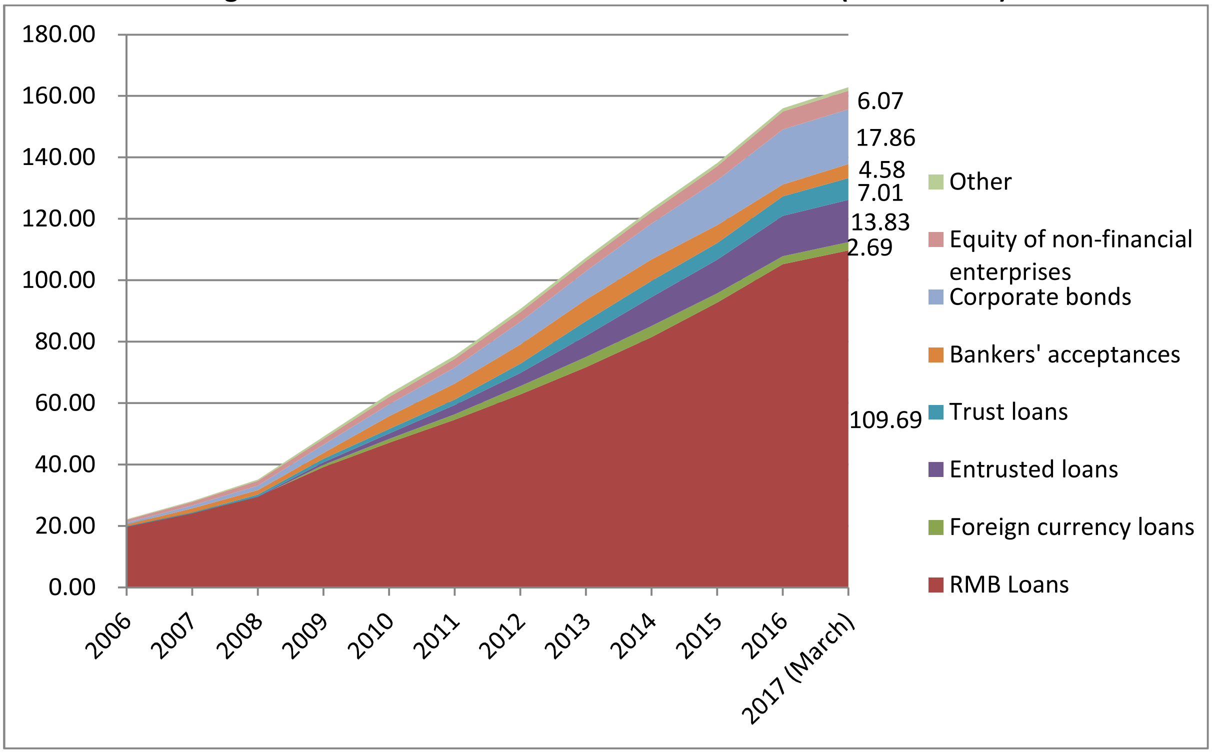
Source: BIS

All these institutional developments mean that China's bond markets are relatively sophisticated in most dimensions. Furthermore, they are large on a global scale. As seen in Figure 1 China stands third behind the US and Japan in terms of total amount of debt outstanding. Even more striking is the right panel of Figure 1 which shows that China is number 2 worldwide in amount of non-financial corporate paper outstanding. This is a surprising finding given the perception that China's markets

[3] For a description of the major feature of China's bond markets see, Anderson (2017).

are very opaque and credit risk evaluation is difficult.[4] As we will discuss below, unlike the US where the large corporate bond market is a reflection of the heavy reliance of private corporations upon corporate bonds to finance their real investments in plant and equipment, issues of corporate paper in China are dominated by state owned enterprises and are destined to support infrastructure investments to a large degree. Understanding how this has come about is an essential step in clearly understanding how the Chinese financial markets work.

Figure 2: China's Domestic Non-Governmental Debt (Trillion RMB)



Source: Wind

While Chinese bond markets are very large on a global scale, in part this is a reflection of the fact that China has the second largest economy in the world. The Chinese financial system is one that is still heavily reliant upon bank finance. This is clear from Figure 2 which reports the evolution of Total Social Financing since 2006. As of March 2017, total corporate bonds and related securities issues stood at 17.86 trillion RMB as compared to 109.69 trillion RMB bank loans outstanding.

It is worth studying Figure 2 in some detail as these data are the source of the IMF's and most other analyses about Chinese debt. TSF is a measure of the stock of debt owed by non-governmental, non-financial individuals and legal entities in China. It measures gross debt liabilities as opposed to net (i.e., liabilities minus corresponding debt assets) outstanding. Debts of separate legal entities are counted separately, i.e., there is no attempt to consolidate debt of entities that may be part of the same group. The TSF data are broken down by type of debt product. In addition to bank loans and corporate paper, there are significant amounts of entrusted loans, trust loans and bankers' acceptances outstanding. These are the principal instruments that make up China's "shadow

[4] The fact that Chinese financial markets have thrived in the apparent absence of institutional features that are often considered essential in western markets is recurrent theme in the study of the Chinese economy. See Allen and Qian (2014).

banking sector." A careful reading of Figure 2 reveals that issues of bankers' acceptances grew rapidly after about 2010 and continued until about 2015 and have been in retreat since then. Similarly, trust loans grew rapidly between 2010 and 2015 after which issuance levelled off. These patterns tell us something about the Chinese authorities' attitude toward non-bank credit creation outside of formal securities markets. At times these were regarded as legitimate financial innovations that were tolerated and even encouraged as means of getting credit to flow to worthwhile investment opportunities that might not otherwise have access to finance. However, later after the markets in these instruments became heated and certain fraudulent or abusive practices came to light, the authorities cracked down and many players exited from these markets. So far entrusted loans (that is, company to company loan contracts for which banks serve as agent) have not been brought into disrepute by widespread abuses, and they have been allowed to grow in pace with credit markets overall.

Table 1 provides an alternative look at Chinese debt markets by reporting the amount of corporate securities issues outstanding broken down by type of issuer. The main thing to note in this table is the high proportion of debt issued by state owned enterprises. Furthermore, it is not the large central SOE's that predominate but rather local SOE's. Some 62% of the market is accounted for by local SOE's. This compares to 9% of the market issued by private companies. This tells us something important about the Chinese economy. Despite the strong emergence of the private enterprise and the market economy, the state has maintained its control over a significant proportion of productive assets, but this is done in a highly decentralized fashion. Local governments (provinces, municipalities, and counties) play a very big role in giving a direction to economic activities in their region, and one manifestation of this is their sponsorship of a large number of enterprises.

Table 1: Corporate bonds and equivalent outstanding by issuer type, March 2017

Company type	Number	Amount Outstanding (Billion CNY)
Central SOE	1,764	4,330
Collective Company	54	34
Foreign Company	328	408
Local SOE	12,229	11,477
Other Company	73	72
Private Company	1,981	1,715
Public Company	111	137
Sino-Foreign Joint Venture	167	171
Not Disclosed	471	134
Total	17,178	18,478

Source: WIND

To understand the prominence of local SOE's in the Chinese economy it is necessary to appreciate the extent to which important economic and social choices are decentralized in the Chinese system. The origins of these features can be traced back at least to organization of the Communist Party of China (CPC) in the 1930's and were already reflected in the organization of Chinese planning during the time of Mao Tse-Tung. Chenggang Xu has characterised this system as the Regionally Decentralised Authoritarian system (Xu, 2011). Under this system, control rights over key issues of economic and social policy are retained by the country's leaders operating largely (but not exclusively) within the structures of the CPC. Some of these rights are exercised centrally, that is, at the national level. In the economic sphere these tend to be activities where economies of scale are largest. However, most activities are decentralised regionally to smaller units. For state owned enterprises there are some that depend directly on national authorities. These are the central SOE's. In contrast the local SOE's depend on authorities that are at the provincial, municipal or even lower levels within the hierarchy. Control rights thus are delegated regionally. However, the underlying authority for these are retained by the center which can intervene directly in regional decisions as it deems necessary and at short notice.

The complicated interaction between broad policy objectives formulated by central authorities and implementation of those policies regionally is crucial to understanding the strong growth of debt in China in the last ten years. It is not coincidental that Chinese debt began to grow sharply from 2008, the start of the global financial crisis. On the contrary, in the face of the emerging crisis the Chinese State Council in November 2008 announced that it proposed to counteract the likely downturn in global trade with a 4 trillion RMB stimulus package that would be devoted in large part to infrastructure investment spending. As documented by Bai *et al* (2016) this gave rise to a burst of investment spending (rising from 42% of GDP in 2007 to 48% in 2010) that was concentrated in non-residential structures including infrastructure. By their nature many infrastructure projects are important assets of a regional economy (e.g., bridges, subway systems, water purification…). Thus implementation of the stimulus program largely took place at the local level. As we have already mentioned starting with Shanghai Pudong in 1993, new sorts of local SOE's called local government funding vehicles (LGFV's) began to be introduced by municipalities and provinces as a means of providing finance for infrastructure investments. The numbers of LGFV's grew relatively slowly in the following ten years as the spread of the innovation was tolerated by central authorities without becoming a central component of national policy. This changed with the 2008 fiscal stimulus which made a rapid increase in infrastructure investment a national priority. The numbers of these entities grew rapidly as judged by the fact that the numbers of such entities which issued bonds rose from 600 in 2008 to 1600 by 2012 (Bai *et al,* 2016).

The consequences of this bulge of infrastructure investments being channelled through local SOE's has been a major driver of events in Chinese financial markets for the last ten years. Initially, the funding for the increased investments by these entities came in large part in the form of bank loans. However, the tenor of typical banks loans is generally much less than the horizon over which infrastructure projects will generate revenues either directly in the form of user fees or indirectly as the assets stimulate and support economics growth. Thus, as discussed in detail by Chen *et al* (2017) as maturing bank loans extended to LGFV's came due this gave rise to pressures to rollover the debts in 2010 and 2011. By that time, the central bank had taken steps to restrain the expansion of bank credit so that LGFV's had to look to alternative sources of funding in order to repay their maturing bank loans. Increasingly they turned to issuance of debt securities for that purpose. This was not only due to rising costs or quantity limits on bank loans. In addition, a variety of steps were taken by regulatory authorities to facilitate bond issuance for infrastructure purposes (Lu, 2017a). The securities issued in this new framework have come to be known as city construction bonds. While issuance of city construction bonds grew rapidly in 2011 and 2012, this is not the only way that

LGFV's have attempted to deal with rollover pressures. Chen *et al* (2017) make the case that these pressures have driven the growth of China's shadow banking sector, notably through the growth of trust loans between 2010 and 2015 and indirectly as the so-called "wealth management products" issued by banks invested heavily in city construction bonds.

It is also reasonable to expect that the mismatch between the maturity of the debt used to finance infrastructure and the arrival of revenue streams produced by their assets has led LGFV's to search for alternative revenue streams. It is widely recognized that many LGFV's have branched out into a variety of activities that are not directly related to building and operating infrastructure assets. Commercial and residential real estate development is one notable example (Bai *et al,* 2016). The logic behind this evolution of the nature of the LGFV's is clear. Instead of waiting for private sector development to follow infrastructure investments and then subsequently to produce pubic revenue streams through VAT proceeds and otherwise, the LGFV's might be able to short-cut the process by taking the commercial and residential developments in-house. Undoubtedly there were many other strategies that were developed by local officials seeking to use the new LGFV's to what they perceived as the most desired ends. However, the net result of all this decentralized innovation has been to transform this new category of local SOE's into mixed-use enterprises where at times commercial activities may take priority over the original public purpose that justified their coming into existence.

The emergence of City Construction Bonds and the use of LGFV's as a fundamental means of financing local public goods represents an unresolved structural problem for China. As we will discuss in detail below, LGFV's originally grew up as a response to changes in public finance which transferred a variety of pubic revenues away from local governments and toward the central budget. What was developed as a short-term expedient in some locals became a permanent feature of regional economies generally as most local governments found they regularly faced revenue short-falls. The structural imbalance implicit in this has become very obvious only after China's fiscal response to the financial crisis led to an enormous increase in LGFV's indebtedness which served to bring attention to the risks the imbalances pose for the Chinese economy as a whole.

While the underlying problem is structural, it is the pressing need in the short-run to find a means of rolling over maturing debts of LGFV's that has forced authorities to act. As a response to this problem the authorities have turned to muni bond /construction bond swaps. This involves a local government issuing a bond and transferring the proceeds to its LGFV which then is able to pay down its maturing debt. In developing this solution the central authorities have had to allow exceptions to a long-standing rule that local governments are not allowed to directly issue debt. Therefore the muni bond/ construction bond swap program has opened the door to a potential permanent reform of local government finance. If local governments were given committed, future revenue sources rather than tied, special funds, this could place local government finance on a sustainable, balanced basis.

However, if this were to become a permanent change that is applied generally throughout the country, it would rob the LGFVs of their raison d'être. Therefore, it would pose a corresponding structural issue—what should be done with the LGFVs?

LGFVs are state owned enterprises where formal property rights are typically held by state custodians on behalf of the Chinese people generally. However, effective control rights are exercised by a mix of stake-holders reflecting a range of local interests which have been empowered through specific circumstances of the locality and the organizational form introduced by local authorities. Therefore, the reform of LGFVs poses a thorny problem for the central authorities. In the absence of strong reform impetus from Beijing the LGFVs could prove to be a persistent problem of underperformance and a drag on productivity growth. However, the steps required to reform the LGFVs will likely vary greatly on a case by case basis, and Beijing lacks the detailed knowledge needed to deal with all these specific situations. Therefore, it will need to take a decentralized approach to addressing the problem. Furthermore, the problems of LGFVs will need to found within framework used for SOE reform more generally.

In the next section, we give a review of the current thinking on state enterprise reform in China and then explore what this may mean for dealing with LGFVs.

III. Summary of state owned asset reform

The management of state owned assets conforms to the framework for economic and social organization that applies generally in China which as discussed in Section II can be thought of as a regionally decentralized authoritarian system. Control rights over key issues of economic and social policy are retained by the central authorities. Some of these rights are exercised centrally, that is, at the national level. However, more often control over important decision is delegated to the provincial or municipal level or even lower. In the context of enterprise reform this means that general principles have been set out in guidelines of the State Council or in statements of senior leaders. The implementation of these guidelines is then carried out by central governmental entities for central SOE's. However, implementation for local SOE's is the responsibility of local governmental authorities.

Since the late 1970's a series of reforms have expanded greatly the scope of the market in the allocation of resources. However, unlike the reforms in the former Soviet Union, these reforms have never placed mass privatisation of state owned enterprises as their central operating priority. Instead, private enterprises of various forms have been given greater freedom to operate with the result that they have progressively displaced the state sector as the main driver of growth.[5]

One part of this gradualist approach toward reforming state owned enterprises involves the adoption of corporate organizational forms. Initially the state's productive assets were held as state owned enterprises (国有企业) under the direct control of government ministry at the central or local level. However, progressively the legal form of many enterprises has been transformed into stock holding companies (国有控股企业) in which the state is the dominant shareholder. This process is sometimes referred to as corporatisation or securitisation although the latter term should not be confused with the transfer of financial claims into special purpose vehicles as widely practiced in the US and Europe. The stated owned stock holding companies may be either limited liability companies or joint stock companies. Many of the latter, including some of the biggest enterprises

[5] For a good brief summary of some of the main steps in the reform of Chinese state owned enterprise see Lardy, N. (2014), *Markets over Mao: The Rise of Private Business in China,* Peterson Institute for International Economics, www.piie.com .

in China, have subsequently been listed either in the mainland in the Shanghai or Shenzhen stock markets or offshore in Hong Kong, New York or elsewhere. This has changed the governance of these enterprises significantly in that they need to meet exchange requirements for appointing outside directors and for corporate reporting. In some cases state controlled assets have remained unlisted but have adopted a mixed ownership form with private companies taking a minority stake in the firm. Shares of state owned companies may be held directly by a responsible ministry or government department either at the national or local level. However, since 2003 many state enterprises have been held centrally by the State Asset Supervisory and Administration Commission (SASAC) or locally by provincial SASAC's.

The over-riding objective of the reform of state owned assets has been to promote the use of these assets for benefit of the Chinese people, broadly construed. In most cases control of these enterprises has been retained by the state. However, privatisation has been sometimes employed when this is deemed the best way forward. This was the case notably between about 1998 and 2002 when a large number of poorly performing enterprises were converted to collective ownership firms after having their outstanding debts written off by their creditors, generally state-owned banks. Subsequently, many of these firms were converted to private enterprises typically with senior managers buying out the stakes of other employees. However, still others proved non-viable on a stand-alone basis and were either sold or wound up through bankruptcy.[6] Overall, the number of state-owned enterprises fell from 127,600 in 1996 to 34,280 in 2003 (Lardy, 2014). Another estimate by Arthur Kroeber, suggests that the number of SOEs fell from 262,000 in 1997 to 110,000 in 2008, by consolidation, privatization, and bankruptcy (Kroeber, 2015).

Corporatisation has been an important step the reform process because it makes explicit legal claims on the assets of the enterprise. These establish claims on a share of the cash flows generated by the enterprise. But they also establish control rights which can give direction to the management of the enterprise. How these rights are exercised by shareholders and bond holders is shaped by laws and regulations. An important step in clarifying investors property rights was 1998 Law on Securities which established the People's Bank of China (PBOC), the Insurance Regulatory Commission of China and the Chinese Securities Regulatory Commission (CSRC) as supervisors of commercial banks, insurance companies and securities markets and dealers respectively (Cai, 1999).[7] While China did introduce in 1986 a bankruptcy law to deal with failing state owned enterprises (SOEs), formal company law came into force only at the end of 1999. An important step toward clarifying creditor rights was taken in 2006 with the adoption of a revised bankruptcy code which enter into force in 2007.

For productive assets that have remained in state hands the objective has been to improve their efficiency where profitability has been one of the main ways to measure performance. Starting with the reforms of 2003 which introduced SASAC, the operational means aimed at achieving this end have been articulated in a series of directives and guidelines articulated by the State Council, SASAC and National Development and Reform Commission (NDRC). This last body has inherited many of

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[7] See, E.S. Cai, (1999) "Financial supervision in China: framework, methods and current issues," BIS Policy Paper No. 7.

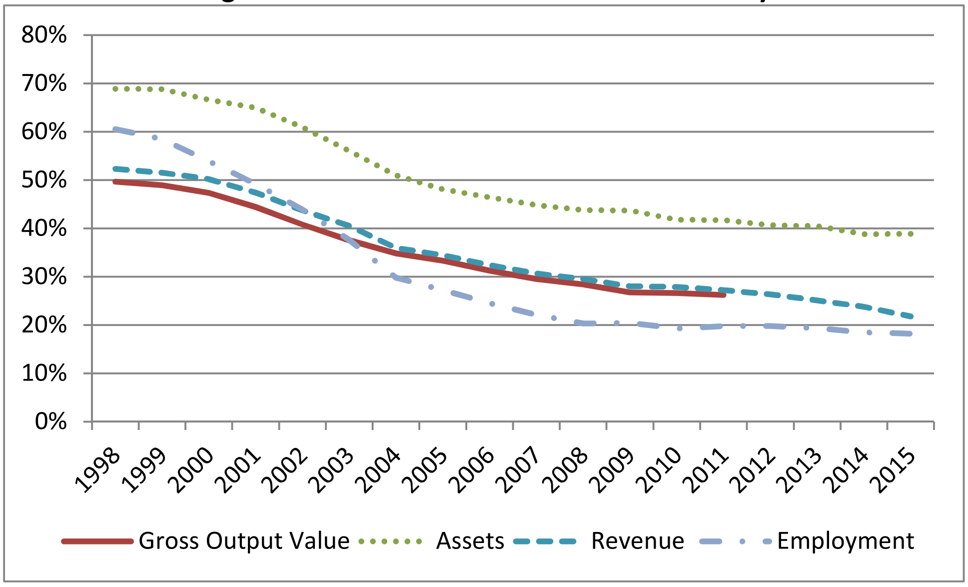
the powers and some of the practices of the former central planning process. It continues to have a considerable degree of influence on major investment priorities which arguably may influence credit decisions of state owned and possibly other banks. Some of the policy directions taken by SASAC and the NDRC have emphasized mergers of smaller firms to form much larger entities and priority given to investments in key sectors thought to be crucial to promoting growth. These policies are often characterised as providing support for "national champions" and have been accused of undermining the growth of the private economy.[8] In particular, it is sometimes argued that some important sectors large state enterprises hold dominant positions in product markets and may benefit as well from cheap finance both through a privileged access to bank credit and through an ability to retain a high proportion of profits within the firm.

Anecdotal evidence gives some support for the view that the authorities' policy for managing state assets has created dominant state firms with an unassailable competitive advantage in their markets. For example, in mobile telephone service provision, the market is dominated by China Telecom and China Unicom both of which are state-owned. However, aggregative statistical analysis shows that despite any advantages enjoyed by SOE's they have not been sufficient to stop the rise of private enterprise in the economy.

Figure 3 depicts the evolution of the state owned as a fraction of the total (state-owned and other) enterprises in the industrial sector using various measures of activity. This shows a decline in the SOE share between 1998 and 2015. This holds for total assets, total employment, and total revenues. It also applies to the total output series; although this series was suspended after 2011. These measures suggest that China's gradualist approach to enterprise reform has effectively brought about a clear reorientation of the economy by giving a greater role to private enterprises. However, in reading this graph it is important to keep in mind that this is a period when China has been growing rapidly, and that the down-trend may be driven mostly by the strong growth of the private enterprises. Also, it may be noted that downward trend of the state sector appears to be strongest through 2008 and that afterwards the state share in industrial activity has tended to level off with the onset of the global financial crisis.

[8] See, McGregor, James. 2012. No Ancient Wisdom, No Followers: The Challenges of Chinese Authoritarian Capitalism. Westport, CT: Prospecta Press.

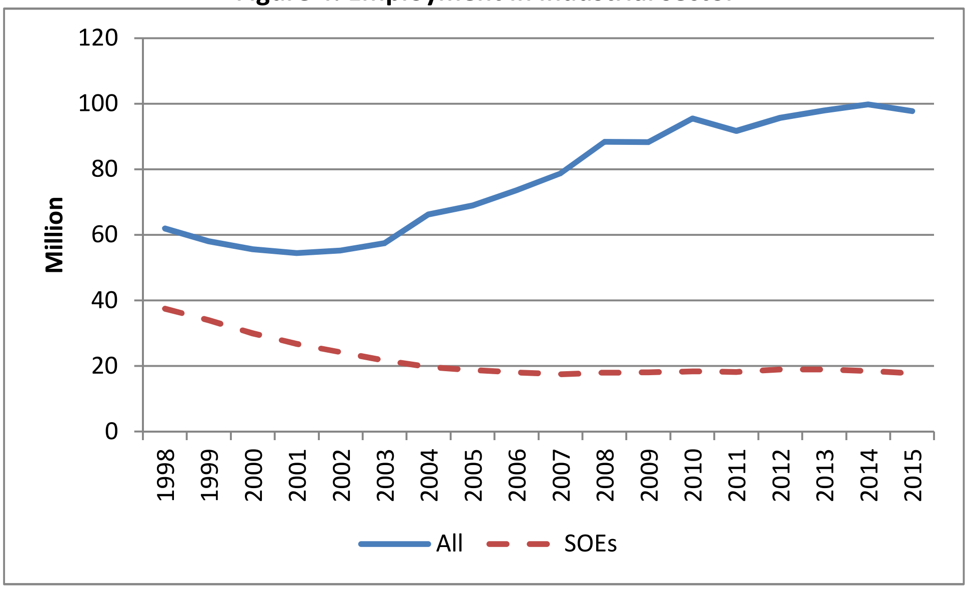
Figure 3: SOE share in industrial sector activity



Source: China Statistical Yearbooks, 2012, 2014, 2016

Figure 4 sheds some light on the comparative growth rates of the private and state sectors. It presents the evolution of employment in the industrial enterprises between 1998 and 2015. For the industrial sector as a whole employment in this sector has risen from 60 million to 100 million during this period. However, employment in industrial SOEs fell from 40 million to 20 million. In fact these data probably underestimate rise in private enterprises' share of industrial employment. The reason is that the data only cover firms with annual revenues that exceeded a threshold (set at 5 million RMB between 1998 and 2010 and at 20 million RMB since 2011). As a result it excludes employment in most new entrants which have been outside the state subsector. It is noticeable however that the major decline in industrial SOE employment occurred between 1998 and 2005. Since then it has been relatively static at 20 million. This is sometimes used to support the claim that the momentum of reform of the state sector slowed under the leadership of Hu Jintao and Wen Jiabao.

Figure 4: Employment in industrial sector

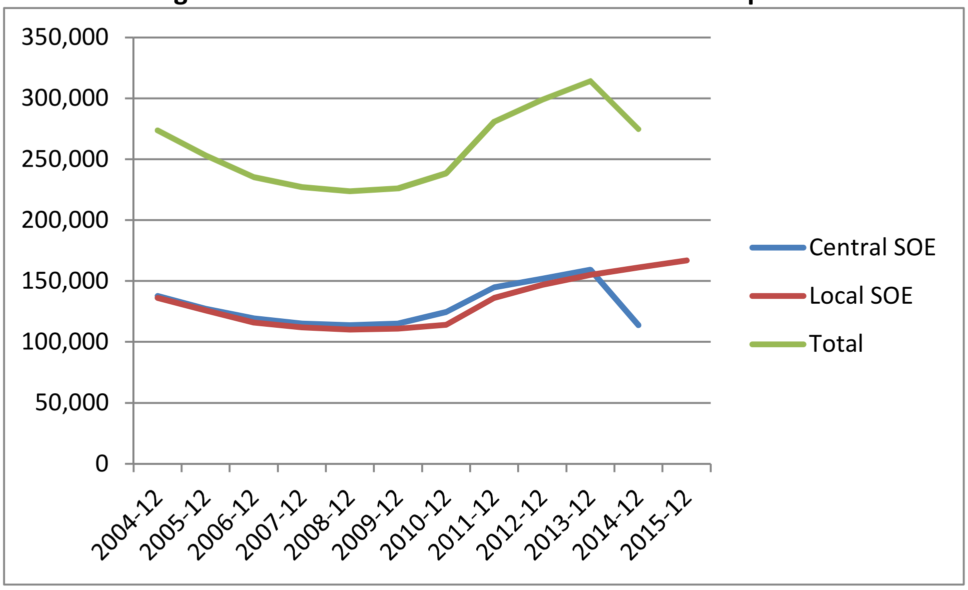


Source: China Statistical Yearbook, 2012, 2014, 2016

The statistics reported so far relate to the industrial sector and leave off services and agriculture. Furthermore, they do not distinguish between central SOEs and local SOEs. Figure 5 sheds some additional light on the evolution of the state enterprises overall and broken down between central and local SOEs. It presents the evolution of the number of SOE's between 2004 and 2014. For both central and local SOE's we see that there was a decline in the absolute number of SOE's between 2004 and 2008. However, starting from 2009 there was an increase in the total number of central and local SOE's a trend that gained momentum between 2010 and 2013. Subsequently, the number of central SOE's fell between 2013 and 2014, while the number of local SOE's continued to rise sharply.

The decline in numbers of SOE's between is consistent with the view that after the creation of SASAC China did indeed pursue a reform strategy emphasizing consolidation of the state sector through mergers of smaller units in the pursuit of greater economies of scale and the creation of national champions. However, following the onset of the world financial crisis in 2008, authorities undertook strong measures to provide stimulus to the Chinese economy and to avoid a too-sharp deceleration of Chinese growth rates. One instrument of this policy of stimulus was to permit the expansion of the SOE sector through the creation of new SOE's sponsored both centrally and locally. Among the latter were included the LGFV's. Eventually, when authorities began to realise that the stimulus to the economy required moderation, this was translated into reduction of numbers of central SOE's. However, the continuing growth of local SOE's suggests that the pressure to reduce stimulus was not being passed down to the local level.

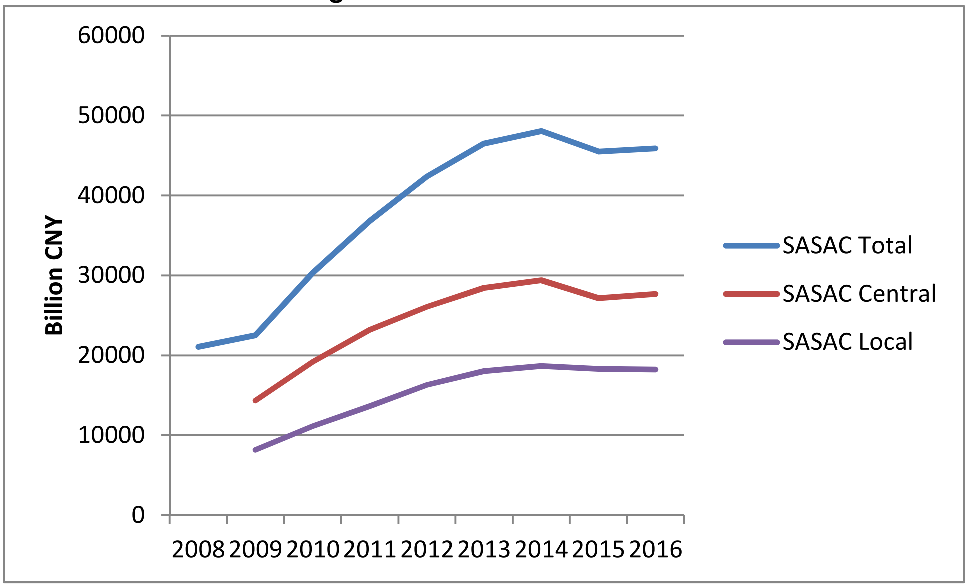
Figure 5: Numbers of Chinese State Owned Enterprises



Source: Wind and Chinese National Bureau of Statistics

We can also learn something about the relative size of activities of central and local using the total revenue statistics that SASAC has begun to report for the SOE sector as a whole including services and agriculture as well as the industrial sector. Figure 6 gives the total revenues of the SOE's sector as reported by SASAC since 2008. Total revenues of SASAC reported SOE's grew sharply between 2009 and 2014. This was true both for central SOE's and for local SOE's. However, the percentage growth rate over the five years ending in 2014 was relatively stronger for local SOE's (129%) as compared to central SOE's (105%). Subsequently, revenues declined for SOE's overall with a particularly sharp decline for central SOE's in 2015. Again, this is consistent with the view that any efforts after 2014 to rein-in the expansion of the state enterprise sector after the fiscal expansion mandated in 2008 was most effective with respect to central SOE's but significantly less so for local SOE's.

Figure 6: SOE Total Revenues



Source: WIND

The rapid growth of local SOE's relative to central SOE's has suggested for some that the ability of central authorities to give a direction to the development of the state enterprise sector may have been eroded over the years since the major enterprise reforms of the 1990's. This appears to have been one of the major motivations of the new set of reforms that were first outlined after the 18th party congress in 2013.[9]

As in the 1990's reforms the overall theme of the more recent reforms has been to deal with poor enterprise performance by strengthening effective control by central authorities. Parts of the proposed new wave of reforms are similar to past reform measures. In particular, there is a call to redouble efforts to corporatize those segments of the state sector that have not already undergone this transformation. In this way the state as the main shareholder would assert its explicit control right. However, in some ways there are new elements to these reforms. One aim is to shift the focus from maximization of *asset value* to the maximization of *capital value or shareholder value.* Furthermore, the 2013 guidelines calls for increasing the share of return on equity turned over to fiscal authorities to 30%, which would amount to a *de facto* corporate income tax. A further object of reforms is to classify the functions of the enterprise either as public service provision or as commercial activity. If the main activity is commercial, it is to be further categorized as either competitive or operating in a sector of national or strategic importance.

[9] These guidelines were set out in "The Decision of the Central Committee of the CPC on Some Important Issues of Deepening the Reform in an All-round Way," November 2013. For a detailed review of steps in enterprise reform between 2013 and 2016 see Lu Hua, 2017b, "State-owned Capital Operation," working paper School of Economics, Fudan University (in Chinese).

The aims of the reforms were further clarified in 2015.[10] The new guidelines call for a clear separation of the role of the state as an owner of assets and as a regulator. For state owned assets held at the central level it is proposed to transfer assets from SASAC to one of several state owned asset management companies. The stated intent is for the asset management companies to acquire increased managerial capacity that would enable them to restructure state assets (e.g., through mergers, acquisitions and other capital market operations) or intervene directly in high level management decisions on an on-going basis. For SOE's transferred to the asset management companies, the role of SASAC would be limited to a regulatory function. For local SOE's the 2015 guidelines call for an introduction of mixed ownership in which private investors would take a stake in the SOE.

As of 2016, enterprise reform plans had been formulated by a number of local governments. A comparison of these gives an insight into the important regional differences in the sectoral specialisation and in the way that local authorities propose to proceed with reform implementation (see, Lu, 2017b). In Shanghai the state enterprise sector already is rather advanced along the path intended by the enterprise reforms between 1993 and 2006. Most SOE's already have been corporatized. A large fraction of assets are held in large groups, reflecting past successful consolidations. Local authorities have set goals for implementation of further reforms: (a) the creation of 2 or 3 asset management companies that meet international standards, (b) the further development 5 to 8 groups to achieve genuinely global business scope, (c) to pursue mixed ownership as a priority, and (d) to introduce stock market listing of SOE's at the whole group level as opposed to second tier listings of operating companies.

In the case of Guangdong province, despite the fact that it ranks third behind Shanghai and Tianjin in terms of total assets held by local SOE's, only about 21 per cent of those assets are held in corporatized firms. Furthermore, here there are a very large number of relatively small enterprises focussed in commercial activities (electronic equipment, logistics, metal smelting, foreign trade, etc.) without any direct role in public service provision. The profitability of these firms has been relatively poor. This description suggests that this sector might be ripe for consolidation. In spite of this, the plans formulated so far have concentrated on large SOE's and those held at the provincial level. For these, the objectives are (a) to form about 15 groups with a minimum size of 100 billion RMB in total assets, (b) pursue mixed ownership, (c) concentrate state assets in key industries, (d) allow market selection in competitive industries, and (e) create asset management companies. If pursued aggressively for all SOE's in Guangdong, this plan would seem to be a recipe for a massive consolidation of industry with associated significant asset and job losses. Perhaps for this reason, at this stage the plan is to experiment with pilot projects involving selected groups of firms which are thought to be able to undergo consolidation and emerge as profitable firms with good market prospects.

Chongqing is one of four major municipalities (along with Beijing, Shanghai, and Tianjin) that are at the same administrative level as provinces such as Guangdong. It has also prepared guidelines for implementing reforms as part of the program initiated in 2013. Chongqing ranks fourth in the country in terms of total state assets under its local control. In contrast with Shanghai and even

[10] In the "Guiding Opinions of the CPC Central Committee and State Council on the Deepening the Reform of State-owned enterprises," September 2015.

Guangdong, only a small fraction, 8.65%, of state assets had been corporatized as of 2015. The goals of the next wave of reform are (a) transform 2/3 of local SOE assets into mixed ownership form, (b) create 3 to 5 capital management companies to exercise control rights in local SOE's, (c) consolidate assets so as to create 10 groups that would stand among the top 500 in China by total assets, and (d) rebalance its portfolio of state assets to concentrate on public service provision. As part of its plans it states explicitly that it considers the LGFV's in Chongqing to be temporary solutions to the problems of infrastructure finance and that it will seek to address the problem using public-private partnerships (PPP).

It should be noted that the latest wave of reform directives call for further efforts on corporatisation, that is, to create transferable claims on assets. This could facilitate structuring through sales on liquid markets (e.g., on stock markets). However, it could as well be a means of reshaping control rights. The guidelines do not restrict the interest to one solution, e.g., to creating a single class of shareholders with equal voting rights (one share-one vote) and then listing the enterprise shares on a stock market. Indeed, they explicitly invite consideration of experimentation with different classes of shareholders. The reasons for this are not clear. One possible motivation is to maximize firm valuations. This seems plausible given the recent successful listings and high valuations of some high tech firms with multiple classes of shareholders, e.g., Alibaba.

It is also notable that the latest reforms urge the use of mixed ownership in which private companies would take stakes in enterprises that were formerly fully state-owned. The motivation for this are not set out in detail. In part, it may be that authorities are hoping to instil modern management practices in state owned enterprise while still retaining overall say crucial strategic decisions of these firms. It may be that mixed ownership could be an intermediate step toward full privatisation. A further reason may be that introducing private stakeholders into the firm is a means of funding necessary investments to modernise firms. Some of the same remarks may apply to the interest in PPP solutions at the regional level. There the link to funding seems clearer than in mixed ownership generally because in the most common PPP detail a firm is asked to take on the burden of repaying outstanding debt of a local SOE in return for taking an equity stake.

From the comparison of the approaches of Shanghai, Guangdong and Chongqing we see a clear example of the Chinese model of administration. Central authorities set the direction for policy with general guidelines and the lower authorities are left to interpret these in the local context. This gives rise to variations across localities in the way policies are implemented. It can also give rise to experimentation, as reflected in Guangdong's proposal to use pilot projects before rolling out reforms more generally. But this may also raise concerns that localities may resist the ends that central policies are meant to achieve.

This thinking may be reflected in the statement made during the 19th party congress in October 2017 and in some of the further statements which followed. In particular, in December the meeting of the Central Economic Work Conference reviewed progress made in recent years on achieving high quality growth, which can be interpreted as the overriding objective of enterprise reform. The CEWC closing statement attributed this progress since 2013 Xi Jinping Thought on Socialist Economy with Chinese Characteristics for a New Era". This has the effect of investing central guidelines as firm directions that local authorities need to respect scrupulously. In the context of enterprise reforms, it suggests that any ambivalence that may have been reflected in the plans formulated at the provincial level in 2016 will need to give way more definite actions in implementation.[11]

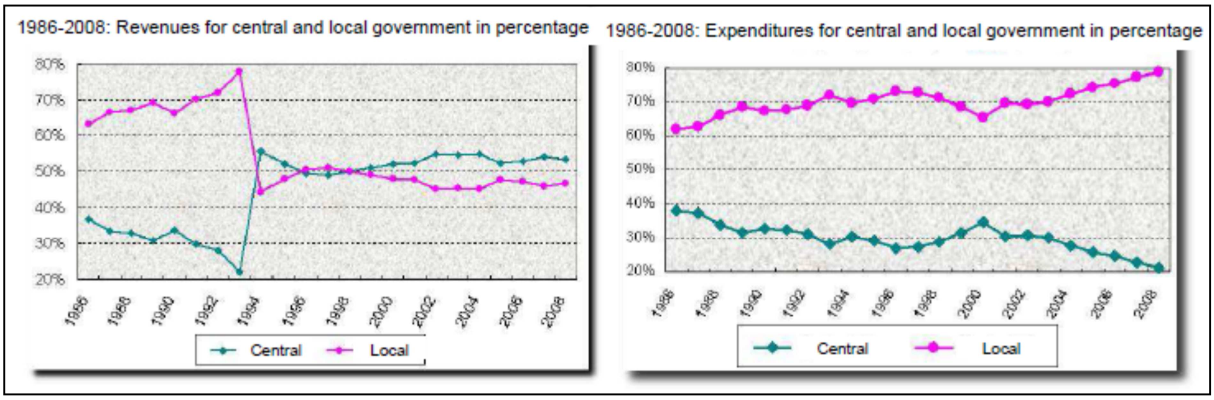
IV. Reform of Local Public Finance and the City Construction Bond-Muni Bond Swap

We now turn to the second major component of the unresolved structural problem that has given rise to the enormous growth of debt carried by local SOEs in China. This debt is the consequence of a feature of public finance which left local governments with a fundamental fiscal deficit on a routine basis. The budget law of 1994 introduced a system of tax sharing which redirected a number of public revenue sources toward the central coffers. At the same time the budget law did not call for a corresponding reallocation of the responsibilities for service provision toward the centre. The effects of this are clearly visible in Figure 7 which presents the shares of public revenues and expenditures of the central government and the local governments between 1986 and 2006. For example, in 1992 just prior to the reformed Budget Law local government accounted for about 70% of the government expenditures, and local taxes accounted for about 72% of total public receipts. In fact the local share of taxes had been rising steadily since the mid-1980s, a trend that accelerated sharply in 1993. This led to concerns that as the market based economy developed the central authorities were losing control over the direction of the reforms. The 1994 Budget Law was clearly motivated at redressing the balance in favour of the central authorities.

The effects of the law were immediate, large and enduring. As seen in Figure 7, local government shares of fiscal revenues dropped to about 50% and were kept roughly at that level subsequently. However, the local share of expenditures remained high, exceeding 70% of total public expenditures in most years. The short-fall of revenues versus expenditures was meant to be made up through fiscal transfers granted by central authorities. However, these typically took the form of programmes for specific purposes that were sometimes difficult to use in meeting the demand for public good provision as perceived by local authorities. Furthermore, part of the motivation for the 1994 fiscal reform was to redistribute revenues to correct some of the regional disparities that were becoming apparent as the market economy took-off in Special Economic Zones and other coastal areas. As a result, local authorities in the fast growing areas were put under strong pressure from their local stakeholders to find ways finance expenditures using alternative methods.

[11] The actions in late 2017 and early 2018 of the central authorities to maintain a tighter control of lending practices of non-bank financial intermediaries are consistent with this view. See, C.Long, "China In 2018: Continuity and Centralization," Gavekal Dragonomics, January 3, 2018 and C. Long, "The Regulatory Storm Continues, " Gavekal Dragonomics, January 16, 2018.

Figure 7: Local and Central Government Revenues and Expenditures



Source: Lu Hua (2017a)

A solution to this problem was developed by the Shanghai Pudong Development District in 1993. This is an example of regional experimentation that was tolerated and sometimes encouraged by Beijing. The Shanghai Pudong solution was to channel some local expenditures, notably infrastructure investments, through a special purpose vehicle (SPV) that was organized as state owned enterprise. This allowed the remaining public expenditures to be paid through available fiscal resources. The infrastructure expenditures were financed by borrowing. But since local governments themselves were prohibited by the Budget Law from issuing bonds directly, the borrowing was done by the SPV. In order to secure loans the local governments made a capital contribution to the SPV of land use rights over which local authorities had effective control. The SPV's debt was to be repaid with future cash flows coming from fees and charges generated by the operation of the SPV's asset or by future subsidies from its local government sponsor.

This Shanghai-Pudong model has been imitated with variations by local governments throughout the country. The SPV's that have been created are now generally known as Local Government Funding Vehicles (LGFV's) although this terminology is rather loose. Most of these organizations take the legal form of a local SOE with shares being held by a local SASAC. However, there are exceptions to this. Furthermore, there is no single, official designation of LGFV's. The Ministry of Finance, the NDRC, and the CBRC all regulate some of the activities of these local government SPV's and all have published partially overlapping lists of entities they consider to be LGFV's.

The borrowing of the LGFV's can take the form of bank loans, and these are often provided either by policy banks or by local state-owned banks. Alternatively, the LGFV can issue bonds or other securities including enterprise bonds, corporate bonds, and private placement notes. Securities issued by LGFV's used to finance investment projects are often called city construction bonds.

There have several attempts to quantify the size of LGFV debt. This is not a straight forward exercise for a number of reasons. First, there is not a single agreed list of LGFV's in part because local governments may support and own, either partially or wholly, enterprises for reasons other than funding infrastructure investments. Second, LGFV's may be organized in a variety of forms, and some large ones may be groups that are made up of a number of legal entities some of which are clearly set up for investing in and running infrastructure (e.g., building and/or operating a subway systems) whereas others are for more clearly intended for commercial purposes (e.g., real estate development). Depending upon the methodology adopted, debts of the latter may be excluded. One possible justification for doing so is that debts incurred for infrastructure investments may be judged to carry the full backing of the government sponsors whereas purely commercial ventures do not. A third reason is that, while data on entities receiving bank loans or issuing listed securities can be matched with lists of LFGV's this is not the case for financing arranged through other categories of debt (e.g., entrusted loans or trust loans).

One of the first serious attempts to quantify LGFV debt was contained in reports of the National Audit Office (NAO) issued in 2011 and 2013. The NAO is a ministerial level body that reports directly to the State Council, and these audit reports are evidence that the growth of LGFV debt after 2009 had begun to attract high level scrutiny in China.

Table 2
Total Local Government Debt including Funding Vehicles
June 30, 2013 (trillion RMB)

	Government Responsibility to Repay	Government Contingent Liability		Total
Creditor Classifications		Full	Partial	
Bank Loan	5.53	1.91	2.68	10.12
Build-Transfer (BT) Projects	1.21	0.05	0.22	1.48
Bonds issuance, among which:	1.17	0.17	0.51	1.85
Local Government Bonds	0.61	0.05	0.00	0.66
Enterprise Bonds	0.46	0.08	0.34	0.88
Medium Term Notes	0.06	0.03	0.10	0.19
Short-term Financing Bonds	0.01	0.00	0.02	0.03
Accounts Payable	0.79	0.00	0.07	0.86
Trust Financing	0.76	0.25	0.41	1.42
Other Institutions and persons	0.67	0.06	0.16	0.89
Construction Advances and Deferred Payments	0.33	0.00	0.05	0.38
Non-bank financial intermediaries	0.20	0.03	0.11	0.34
Central government transfers	0.13	0.17	0.00	0.30
Financial Leasing	0.08	0.02	0.14	0.24
Fund Raising	0.04	0.00	0.04	0.08
Total	10.89	2.67	4.34	17.90

Source: Chinese National Accounting Office, 2013

The results of the audit for June 2013 are presented in Table 2. This sets the total debt outstanding for local governments at about 17.9 trillion RMB. It is important to understand that this estimate of the total amount of debt for which the local governments were considered to have a legal responsibility to repay at least under certain conditions. It states that local governments have an unconditional obligation to repay debts that amounted to 10.80 trillion RMB. For another 2.67 trillion RMB the NAO considered local governments were responsible for the full face value if certain contingencies were satisfied. For a third category there were other debts with a face value of 4.34 trillion RMG for which local governments had responsibility to pay a fraction of the debt if conditions were met.

It should be noted that the NAO's estimate of local governments overall are considerably larger than the direct obligations of the LGVF's which according to the NAO's calculation amounted to 6.98 trillion in 2013.

The NAO data were used by Chen, He and Liu (2017) as the starting point to extrapolate the growth of local government debt subsequently. They estimate that total local government obligations grew from about 18 trillion RMB in June 2013 to about 26 trillion RMB at the end of 2016. (See Chen et al 2017, Figure 4). At the same time local government debt in the form of bank loans fell from 10 trillion RMB to approximately 5 trillion RMB. Effectively, short-term bank loans were rolled over into non-bank forms of debt. In 2014 and 2015 most of the growth in non-bank debt was in the form of city contrstruction bonds issued by LGFV's. But starting in 2016 there was greater reliance upon what Chen *et al* call municipal bonds issued either by the Ministry of Finance on behalf of local governments or by a few selected municipalitites which had been authorised in 2014 to issue bonds directly. During the same period the use of trust loans by local governments grew only moderately. Their main conclusion from this analysis is that the growth of bank loans following the introduction of the 4 trillion RMB stimulus programme in 2008 subsequently gave rise to a sharp increase in non-bank credit when a variety of instruments, initially trust loans, then city construction bonds, and ultimately municipal bonds were used to fund bank loan repayments as well as fresh investments.

Alternative estimates of local government debt (both direct and indirect through LGFV's) have arrived at higher estimates of total local government debt. In particular, Bai, Hsieh and Song (2016) produced estimates that suggest that the sharp increase in numbers of LGFV's between 2008 and 2012 has given rise to a subsequent sharp rise in debt of LGFV's for purposes other than infrastructure investment. Their methodology involves more non-verifiable assumptions than the estimates those we have just reviewed implying that they may be regarded as somewhat speculative. In particular, they start with a list of LGFV's that have issued listed securities as reported by the commercial data provider WIND. For these they are able to obtain financial statements which report total assets and total liabilities. For 2013 there were 1701 LGFV's in WIND data set as compared to 7170 included in the NAO audit for 2013. They then use a statistical model of the size distribution of enterprise total debt in order to extrapolate total debt (both guaranteed and without guarantee) for the whole of the NAO sample. (For details see the appendix to their paper). In this manner they estimate that total debt of entities covered in the NAO survey in 2013 stood at approximately 28 trillion RMB as compared to 18 trillion RMB of guaranteed debt reported in the NAO survey. When extended to the year 2014 using their model they estimate that guaranteed debt of local governments grew by 1 trillion in RMB whereas non-guaranteed debt grew by 6 trillion RMB. They take this to be evidence that the new LGFV's created following the stimulus had increasingly expanded into commercial activities rather unrelated to the original infrastructure investment activities that justified their creation. While their methodology involved a fair amount of guess work, their assumptions are not implausible. So we view their qualitative conclusion as being reasonable.

To summarize, in response to the financial crisis of 2008, China has relied on local governments to carry out major investment projects which were intended to sustain the pace of economic growth and to this end a number of expendients were found to get around prohibition of borrowing by local governments which had been in place since 1994. These involved important structural changes first in allowing local governments to sponsor a new category of SOE whose main purpose was to fund investments for infrastructure in the first instance and then for commercial activities subsequently. A second, more recent development is that the central authorities have supported local government debt financing using municipal bonds either issued by the Ministry of Finance on behalf of local governments or by selected local governments directly.

We now turn to the issue contained our title which is the main focus our paper: is the system of local public finance that has come to prevail in recent recent years sustainable in its current form? And if it is not clearly sustainable what further structural changes would suffice to make it so?

In approaching these questions we start by making a simple observation. The literature we have just surveyed and indeed much of the discussion of the evolution of Chinese debt one sees in policy analyses and in the press focusses entirely on the growth of the liabilities of local governments and the SOE's they have sponsored. There has been very little discussion of their assets. However, one simple way of thinking about sustainability would take into account of the evolution of both assets and liabilities.

One attempt to do exactly this is reported in Table 3 which reports estimates of the aggregate balance sheet of local governments in China. This is reported on a consolidated basis including official debts of LGFV's .

Total of Borrowed Funds and Bond is about 18 tillion RMB in 2013 very close to the amount reported by the NAO in their audit of local government finance. In that year there were almost 10 trillion RMB in additional liabilities (including estimated pension liabilities) to arrive at total liabilities of about 28 trillion. Turning to the asset side of the ledger it is notable that it was reported that local governments and the SOE's they support held more than 24 trillion RMB in overseas assets. What exactly those assets are is not specified but almost by definition they cannot be local infrastructure investments. However, the most noteworthy point is that by far the biggest asset entered on the local governments' balance sheets is land. This amounted to 62 trillion RMB in 2013 or about 60% of total assets. Finally, comparing total assets with total liabilities we find that the net asset position of local government is hugely positive standing at some 70% of total assets.

Table 3

Local government Balance Sheet (2012-2014)

in RMB trillions

	2012	2013	2014		2012	2013	2014
Cash	3.3	4.2	4.6	Borrowed funds	12.7	14.2	15
Treasuty deposits	1.3	1.9	2	Local funding vehicle	9.3	9.7	10
Oversea investment	16.1	19.8	24.6	Construction trust loans	1.7	2.6	2.8
State-owned companies	15.7	19.3	24.1	Construction insurance funds	0.2	0.3	0.4
National social security fund	0.2	0.2	0.2	Local sovereign debt	0.4	0.4	0.4
PP&E	5.6	6.1	6.7	Bonds	3.2	4.1	5
Construction in progress	0.02	1.4	1.9	Local government bonds	0.7	0.9	1.2
Inventory	0.2	0.3	0.4	Investment bonds	2.5	3.2	3.8
Account receivables and Prepaids	2.8	3.3	4	Account payables and Advances	3	3.4	4
Land	57.2	62	65.4	Secured debts	2.5	2.7	2.9
Intantible assets	0.06	0.08	0.1	Bank non-performing loans	0.6	0.6	0.6
Other assets	0.8	0.4	0.5	Implicit pension debts	2.5	2.5	2.5
				Other liabilities	0.02	0.06	0.08
				Total liabilities	24.52	27.56	30.08
				Net assets	61.56	70.02	77.92
Total assets	86.08	97.58	108.2	Total liabilities and net assets	86.08	97.58	108.20

Source: Li Yang et al, 2015

The conclusion that emerges from this high-level examination of the financial position of local governments taken as a whole is that local government assets are more than sufficient to meet the current level of local government liabilities. Of course, this broad conclusion is based on aggregative data. It is likely that regions without good prospects for further land development may be unable meet their debt obligations from their own resources. Thus in the absence of some means of making effective transfers across regions, there could emerge a localized debt crisis with associated write-downs of debt and which in the absence of sufficient mitigants could spill-over throughout the financial system.

A second *caveat* is that this conclusion takes as given the valuation of land as stated in Table 3. These values may be based on extrapolating past trends in land values that may not hold in the future. However, it should be noted that the methodology used is in line with established international practice for national income accounting (See, Li and Zhang, 2015).

Finally, the conclusion assumes that the local governments are able to mobilize untapped land resources as required to meet their obligations. This has been the case in the past under the prevailing policies on urbanization and land-use planning. However, it is an open question of whether this will continue to be the case in the future.

All these are legitimate points. However, they do not undermine the central insight that comes from looking at the issue of sustainability of China's local government debt burden as a question of solvency. On the assumption that China continues to grow at a reasonable pace and past patterns of urbanization and land development broadly continue, then the proceeds from that process should be sufficient to meet local government liabilities if they are allowed to be channelled to that end.

However, even if taken as a whole the local public finances are solvent and potentially stustainable, that still does not answer the question we have posed: is the institutional structure in its current form sustainable by which we mean sufficient to assure a relatively smooth financing of investments required of local governments in order to sustain growth and development.

For this question there are further legitimate worries, and the policies adopted as well the institutions that may be used to implement them should be chosen keeping in mind the ways in which regulatory reform objectives may be undermined.

First, the process of urbanization is intended to create value as land is converted into higher uses. However, the benefits of urbanization may not accrure in large measure to the entities that have undertaken required investments thus leaving the latter in a weak position to repay. This could be the result of poorly designed land sales or corruption.

Second, the institutions obtaining development rights may misallocate resources and achieve lower returns than those required to underpin continued growth and prosperity. That is, future urban development may not be able to replicate the high growth rates and returns that were achieved in past waves of urbanization. This is the prospect raised by some commentators who suggest that China may face a continued growth slow-down as rising wage levels are not off-set by increasing total factor productivity. In this view, this would be a particular risk if SOE's are given an unfair advantage relative to private capital. (See, Lardy, 2014, and Kroeber, 2015).

Third, the current system of property rights and governance of land-use may be challenged so that the value of land assets accruing to local governments will be reduced and leave them unable to repay current debts or to finance future required investments. One reason to think that future land use plans may not be so favourable toward local economic development as in the past is the heightened awareness by Chinese authorities of the environmental damage of past urbanization and industrialisation. Air pollution targets have been in place since 2013, and combatting polution has been featured as one of the "three key battles" (along with eliminating poverty by 2020 and controlling financial risk) at the 19th Party Congress in October 2017. Since then there have been indications that the central authorities are becoming more directive in pushing local governments to take these targets seriously. (See Long, 2018). Another possible challenge for Chinese urbanization is economic forces toward agglomeration will create unsustainable demands for development of mega-cities where demand for real estate development may outstrip the capacity of public authorities to provide the infrastructure required (see, Looney and Rithmere, 2017).

Since 2014 China's central authorities have made it clear that they recognize the future of urbanization is a key part of their strategy for promoting continued growth and reducing urban/rural income inequality. They have also shown an awareness of problems of urban sprawl, excessive congestion, poor environment quality and shoddy construction as experineced in some past urban developments. As a response they have called for a "new style urbanization" strategy, and the main elements of this have been set out in the 13th Plan (NDRC, 2015).

One of the key parts of the strategy is to focus on assuring a continued departure rural population toward urban employment but at a controlled rate. In line with long-standing practice in China's indicative planning process this is formulated in terms of a quantitative target which in this case is set at increasing the urban population between 2016 and 2020 by 100 million persons. China's population registration system is the principal means by which authorities are attempting to approach this goal. Under that system each person in China is registered to a location considered to be their long-term residence and these locations are categorized as urban and rural. In the reform era (since the 1980's) rural residents have been attracted to urban areas by the prospect of higher wages other benefits of urban life. Initially, these migrants had no right to reside in urban areas and often were pushed to live precariously in poor conditions. Eventually, the new arrivals from rural areas were granted temporary residency status upon proof of an employment contract and in this way they gained access to some more reasonable housing, e.g., factory dormitories. As of 2015 it was estimated that some 230 million people registered as long-term rural residents were living and working in cities under such temporary arrangements (Looney and Rithmire, 2017). Thus the 13th Plan's target of 100 million will involve some combination of granting urban residency status to some number of urban workers previously registered as rural residents. Furthermore, these workers are to be given increased rights to have their families join them in cities. Beyond this, some categories of new arrivals from rural areas will be allowed to acquire urban residency on a priority basis, e.g., university graduates and military.

A second part of the strategy is to lean against tendancies for mega-cities by favouring medium size cities and cluster developments. These involve new towns that will have good transport links to other towns and major urban concentrations. Part of the reason for this design is that this will permit a higher quality development by which it is meant that they will have better aesthetic and environmental quality. A related element of the strategy calls for incentivising migration from rural areas to relatively proximate cities. For this there is a priority on central and western regions. A notable example of this in recent times has been the phenomenal growth of Guiyang, the capital of Guizhou province which traditionally been among the poorest regions in China. Again an important policy tool in implementing this part of the strategy is the residential registration system—urban residency in small cities (less than 1 million) is meant to be easy, in medium cities (1 to 5 million) more difficult and large cities (over 5 million) hard.

Finally, the authorities have aimed at the clarification of property rights and in improvements in the real estate market. Weakness in the system of property rights have come to light with known cases of rural population being forced off the lands they were farming while receiving only derisory compensation. At the same time there is anecdotal evidence of lucky residents of urbanized lands who have been compensated handsomely and have effectively become a new rentier class in some regions. In order to establish a fairer system throughout China the plan calls for the completion of registration of rights over contracted land, rural homeland, housing, and collectively owned land (NDRC, 2015, ch. 12). Regarding the improvements of the property market the priorty is placed upon stimulating the housing rental market. This is to be achieved by putting in place systems of means-tested transfers to assure affordable housing and rental/purchase programmes. More recently, central authorities have called for steps that will discourage real estate speculation which is seen as having given rise to the widespread holding of vacant property by middle class savers who have seen housing as the safest means of obtaining a high return on their investment. In this regard the propect of a property tax was repeatedly raised by the former Minister of Finance, Lou Jiwei. However, for the time-being this is not stated as a clear intention of the State Council.

The conclusion that emerges from this discussion is that China remains firmly committed to a continuing a process of urbanization. The authorities are strengthening the administrative structure of the land use and residency planning in the hopes of guiding the urbanization away from mega-cities and coastal areas. However, they remain committed to the system that will use a significant portion of the land value created through industrial, commercial and residential developments in order to finance the infrastructure investments needed to undertake them.

Some analysts may remain sceptical and argue that the good intentions expressed in formal planning documents really are just ratioinalizations of a risky policy that is little more than gambling on the continuation of a real estate bubble. A simpler response to this sceptical view is to look at the case of Hong Kong which is not without similarities to what has been pursued in the mainland. There land-use sales has been the backbone of public finances. Even though there are frequent examples of imperfections in the system, the model has proved a viable basis for growth for many decades, and there is very little support for a radical fiscal reform that would scrap the land sale system.

If we take the land allocation model as given (i.e., we assume that problem 3 above does not arise), what are the steps that need to be taken to assure the efficient allocation of local resources (i.e., suffice to keep problems 1 and 2 under control)? We attempt to respond to this question by putting forward in general terms some steps that strike us a likely to widely shared by both Chinese and non-Chinese analysts. Then we ask whether these are achievable under the frameworks for enterprise and finanical reform that are currently in place.

a. Clearly define the core purpose of local SOE's as either commercial or the provision of a public good.

b. Adopt a legal form of organization and governance arrangement adapted to the commercial or public purpose of the enterprise. If the state retains ownership in commercial ventures, assure that the state's role in governance is in pursuit value maximization and thus is aligned with private shareholders if any.
c. Link funding of public infrastructure investments to committed sources of future revenues from either central transfers, local revenue sources including land sales, or from fees generated by the infrastructure asset. Limit public guarantees to these pre-committed levels. For local SOE's with a purely commercial purpose and serving a competitive market, then no public guarantee of debt should be provided and funding should proceed on a competitive basis in a level playing field with private firms.
d. Once an enterprise's core purpose is defined, an assessment should be made as to whether the benefits of the enterprise justify its costs for the firm in its current form. Firm's unable to meet this sustainability test should be faced with transformation through mergers, acquisitions, or bankruptcy.

We expect that many readers will view these principles as being aligned with the past recommentations of voiced by OECD (OECD 2017) and IMF (IMF 2016) but which in the view of many non-Chinese analysts are not being followed by China. However, in our view the principles are consistent with the reform frameworks that have been put into place for enterprises, financial regualtion and public finance which we have surveyed above. Furthermore, the many of the actions taken by central authorities may be viewed as steps toward implementing these these principles.

The 2013 and 2015 guidelines of the State Council on enterprise reform cited in Section III above emphasise that the structuring of SOE's proceeds from a first stage of classification of firm's around their core purpose. In particular, these make the clear distinction between commercial SOE's and public welfare SOE's and insist upon the importance of strictly limiting the scope of the latter to the core business (Lu 2017b p.3). Furthermore, as indicated in our summary of the three cases studies of enterprise reform, increasing the rate of corporatisation has been communicated to local authorities as a high priority of enterprise reform in regions where this has not already been implemented. This is intended as preparatory step on the way toward an eventual restructuring of many of these enterprises. Thus principles (a) and (b) are clearly reflected in guidelines currently maintained by China's central authorities.

Principle (c) has been promoted by both guidelines, actions, and further public statements by senior officials. The rationalisation of the system of central-local transfers is intended to simplify the mechanism of the transfers and to increase their transparency so that predictions of futures transfers can be made by both the government entities involved and private analysts. In a series of public statements and actions, senior officials have attempted to establish the principle that guarantees are restricted to funding for public purpose investments and do not extend to the commercial operations of SOE's. The active promotion of municipal bonds either issued by the Ministry of Finance on behalf of local governments or by the local governements authorised to issue directly establishes the principle that public service infrastructure will proceed under the authority of a public service entity. What is perhaps not so clear at this stage is that this will be a permanent arrangement in the future rather than a temporary policy that is intended to relieve funding pressure created by the overhang of expiring city construction bonds that needed to be refinanced. Furthermore, for muni bond issues to finance public infrastructure, what is not yet very clear is that there are limits to the extent of the guarantee. The clarification of this issue would require dealing with the prospect that a local governmental entity that has issued a bond could default and would face a resolution process that would determine who will bear the losses associated with the insolvency. To date there has been no instance of such a resolution and there have not been any official guideline on how this would proceed.

One possible reading of principle (d) might be to say that hard budget constraints should be enforced and that judicial bankruptcy procedings is the tool that can implement this. Given China's cautious introduction of bankruptcy in the past it seems unlikely that this is the path that central authorities wish to take as the main means of transforming LGFV's. Instead, the framework of enterprise reform that has been put forward since 2013 focusses on new financial enterprises which will actively manage the state's portfolio of productive assets so as to optimize not the growth of state assets but rather the return on its capital stake. (Lu 2017b, p.7). These new entities sometimes labelled "state-owned capital operation companies" might be thought of as the equivalent within the Chinese system of state capital of private equity companies in the sense that they are intended possess in-house a high-level management capability that will allow them to use a controlling stake in assets they acquire and implement changes in strategic direction and/or financial structure that will increase the value of their stake. The analogy to private equity might not be perfect because it is not clear that they will use leverage as a significant part of their strategy. Some statements by senior officials suggest that Temasek, Singapore's state asset management company, might be a model for what is intended. As part of this reorientation of state asset management, the role of SASAC is to be more clearly framed as a custodian for state shareholdings exercising a supervisory role in assuring operations of SOE's conform to established rules and regulations regarding operational procedures and reporting.

This review suggests that the guidelines set by central authorities for the local public finance, infrastructure investment, and the reform of LGFV's are very compatible with the principles (a)-(d) that we have set out above. Of course, this is not the end of the story. Senior officials are aware that these are not the only considerations in formulating policy in practice given the size and complexity of China. There are other government prioritities that need be respected. And given the highly decentralized nature of Chinese government administration and the fact that much of its economy is deeply embedded in a global market economy, central authorities are aware that their knowledge and their ability to guide implementation of policy both have their limits. Furthermore, while central guidelines are meant to emerge as a single clear voice of authories, in fact, they are the product of careful process of consensus building. Thus it is possible to identify other aspects of policy guidelines that might appear to send a mixed messages and may sit rather less comfortably with the principles set out above.

A prominent theme coming from Beijing in recent years is that SOE's will be encourage to take a lead in certain key sectors that are deemed as critical for promoting healthy rates of high quality growth in the future. This has meant that central SOE's have taken a prominent place in national networks such as telecomunications and airlines or in sectors of national strategic importance such as miliatry hardware. It is less clear what "key industries" mean at the provincial and local level. Nevertheless, the review of the 2015 provincial exercises in formulating plans for implementing enterprise shows that it is common that goals are formulated in terms of guiding enterprises toward developing their expertise in selected key industries. Whether these key industries are those with high return investment projects or those that will enhance total factor productivity remains to be seen.

In a similar vein, expressions of the view that increasing enterprise size is the way to achieve higher returns are widespread.   Very frequently enterprise restructuring appears to be equated with mergers and acquisitions with an emphasis on the latter. Of course, there may be real scale and scope economies that can be realised in some sectors. Steel and automobile manufacturing where many local SOE's are still active are often suggested as prime candidates for consolidation.   But it is equally possible that a merger strategy might be formulated by local authorities based more on a hope for productivity gains and implicitly a confidence that these strategies may put off the pain of asset write-downs and lay-offs.

Another important policy priorty has been the repeated call for local SOE's to be transformed into mixed ownership enterprises through the sale of shares to private enterprises. A positive interpretation of this is that by giving successful private entrepreneurs a voice in setting strategic direction in these firms the state can achieve a better return on its capital and other stakeholders, notably employees, can obtain better career prospects.   A negative interpretation is that the push for mixed ownership is means by which local governments can use their powers over local private enterprise to extract implicit taxes that will be used to subsidise otherwise failing local SOE's.

Similarly the current push for public-private partnerships can be given either a positive or negative interpretation. PPP has been put forward as a means of refinancing maturing city construction bonds issued by LGFV's. In the simplest case in return for assuming the burden repaying the maturing debt, a private partner acquires an equity stake in the firm and with this can begin to exercise control rights in the firm.   This may be a smart strategy for a LGFV which is currently operating both in providing public services and in other, purely commercial activities. The private partner who learns intimately about the operations of the firm may acquire an advantage in formulating a strategy for carving out the commercial activities and then spinning these off into a standalone enterprise owned and operated by the private partner. The remaining SOE's will then be concentrated around a core business of public service provision and adopt an organizational form appropriate for an operating utility.   However, the alternative interpretation is again that the partners are being strong-armed into this participation effectively because they are keen to cultivate good relations with the local governments because they require their cooperation in achieve ends that are important for the main commercial activities of the mother firm.

Finally, as ever in China's system with strong powers of the center being delegated regionally, there is the possibility that guidelines set out centrally will undergo a transformation in local implementation and that in the end they reforms may veer off course or bog down. The fact that the 19th party congress has reaffirmed controlling financial risk as one of the top policy priorities suggests that central authorities will be vigilent in seeing that reforms of local public finance are pushed ahead and that the LGFV's are eventually replaced with a more sustainable structure. There is a risk that this will stifle experimentation and good adaptation to local circumstances.   However, for now this appears to be a risk that the central authorities are willing to take.

V. Conclusion

China's debt capital markets present both domestic and international invertors with a number of significant challenges. Market access for international investors has been eased, but investors are being asked to find opportunities in unfamiliar instruments issued by unfamiliar entities without familiar tools of credit analysis just at the time when most analysts are arguing aggregate leverage levels are unsustainable. Domestic investors who have been starved of investments opportunities other than real estate or equity markets have been offered wealth management products carrying high return prospects only to discover belatedly that these products are heavily invested in city constructions bonds whose risks are difficult to assess given the lack of historical experience and the mixed messages they receive as to whether or not such bonds are covered by any government guarantees.

We have argued that understanding these issues requires an awareness of important structural features of China's mixed economy where the state has retained control of large segments of productive resources. Furthermore, market developments are shaped to high degree by a complicated dynamic by which general policy directions are set by central authorities but are implemented with a high degree of regional variation by local government units and the enterprises that they sponsor. We have focussed particularly on issues related to local state owned enterprises and local government funding vehicles in particular. We have argued that current features of the fiscal system and laws and regulations governing enterprises imply fundamental imbalances that are increasingly difficult to sustain and which are likely to drive structural changes in the near future. We have argued that these likely will require a revision in public finances and in restructuring of LGFV's through carve-outs and mergers into enterprises concentrated around a core business serving either a commercial or public purpose but not both. Public service enterprise will be reintegrated in local governments or will be organized as utilities. Their capital investments will increasingly be funded with municipal bonds. The state will progresssively take a more arm's length approach to its enterprises with a pure commercial purpose. While this may not give rise to large numbers of privatisations in the near future it is likely going to mean the reduction and eventual removal government guarantees of these enterprises' debt. And this in turn will open the door to increased usage of bankruptcy in order resolve insolvement state owned enterprises.

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