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Land Financing-Led Urbanization in China: Evolution, Scale and Lessons

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Abstract

The role of land financing in China's rapid urbanization and economic development in recent decades has been much debated. This paper reviews and discusses the emergence and evolution of land financing both as a source of revenue and as a financing vehicle for local governments in China, and the contribution it makes to rapid urbanization in the country through its impact on the real estate sector. Urbanization as a possible independent driver for a country's economic development is also discussed, using China's case as a concrete example. The paper further touches on the possible reference value of the Chinese case to other countries, taking into account both the preconditions for a successful land financing strategy, and inherent risks with such a strategy. The contribution of land financing to local governments' debt burden in China, which has recently been an international concern, is also discussed.

Keywords: land financing, urbanization, China

1. Introduction

The role of land financing in China's rapid urbanization and economic development in recent decades has been much debated (Cao et al., 2008; Lou & Wang, 2013; Wang & Ye, 2016; Liu, 2019; Chiang et al., 2021; Wang et al., 2021; Zhang et al., 2022). At one level, it raises issues whether urbanization itself could be an exogenous force for economic development of a country. Traditional thinking tends to assume that it could not, and that it merely reflects and accompanies processes of industrialization and economic structural change of the country. At another level, if urbanization can indeed be exogenous and play an independent role, what then are the conditions for this role to be a sustainable positive force for, rather than a temporary aberration to, the otherwise normal process of economic development? Thirdly, at the policy level, to what extent and in what way may a country independently--i.e. independent of the processes of industrialization and economic structural transformation--promote urbanization as an exogenous force for economic development?

The level-one and level-two questions listed above are really issues about general models of economic development. There is no pretension that this paper can address these issues in any adequate way, but merely to set out a broad framework within which to interpret and understand the meaning and significance of China's experience (or lesson) of land financing, and its role in promoting urbanization in the country. If China's experience is to go beyond its borders as a useful reference case for other developing countries, including African countries, to study and to draw upon in policy making, then this would appear to be the right framework in which to interpret its meaning, significance and relevance.

Below, Section 2 provides further discussion and delineation of the above mentioned level-one and level-two questions, again without meaning in any way to provide firm answers to them. The rest of the paper then introduces and discusses China's experience in land financing and urbanization. Section 3 briefly reviews the key factors behind the emergence of land financing as a key source of revenue for local governments, and how it later also evolved into an important local government financing vehicle (LGFV). This is then followed by a short discussion in Section 4 of how land financing contributed to the real estate sector development and urbanization in China, and how these then contributed to economic structural transformation in the country--perhaps as concrete case of how urbanization may, indeed, independently lead the development process of a country.

Section 5 concludes the paper by pointing to some key limitations of the Chinese case as a reference for other countries, the risks involved if one tried the same strategy, and the huge challenges for China itself in the coming years and decades as local governments adjust to reduce their reliance on land financing.

2. Urbanization and Economic Development

The dominant traditional model on economic development of a developing country has been that by Lewis (1954), where he interprets economic development as a process whereby increasingly more and more labor of the country is transferred from its traditional lower-productivity sectors such as agriculture to new higher-productivity sectors such as industry. Economic development is accomplished only when the labor force of that country is so transferred that labor productivities are more or less equalized across the sectors.

Clearly, by this conception of economic development, economic structural transformation becomes its defining feature. Industrialization proceeds structural transformation to the extent that it typically serves as the engine of the latter, at least in most developing countries. And to the extent that the processes of industrialization and economic structural transformation are inevitably accompanied by large scales of movement of people from rural areas to existing or new urban centers--that is, accompanied by urbanization--industrialization and economic structural change are processes that drive urbanization.

This unidirectional conception of the three key facets of modern economic development--i.e. industrialization, economic structural transformation and urbanization--is diagrammatically illustrated in Figure 1. It is very much present in the writings of earlier thinkers on development, e.g. Lewis (1954), Ranis and Fei (1961), etc., even though often only implicitly. Reverse causations may sometimes be entertained, but the dominant lines of thinking are that they are unidirectional as portrayed in Figure 1.

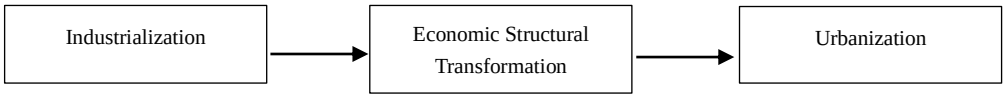

Figure 1. Three facets of economic development: traditional model

Some of the earlier experiences of development appear to lend support to this unidirectional conception, when rural-urban migrations of people outpaced the processes of industrialization and economic structural transformation in some countries, resulting in extensive urban sector unemployment, overgrowth of peri-urban informal sectors and, indeed, urban slums. Indeed, in many countries, these have almost become a fixated feature of their economic development process.

But need the three key facets of economic development be related only in this unidirectional way? Could, e.g. urbanization, itself be an engine of economic growth and structural transformation? Indeed, in a more general conception, could the arrows of causation be pointing in both directions between any pair of the three processes, as illustrated in Figure 2? It may be true that the dominant channels of causation are indeed as portrayed by the earlier thinkers but it would be useful to know what possible reverse causations there could be, conceivably as well as in practice.

The richer framework illustrated in Figure 2 raises many issues previously not posed, or not thought deeply about. But it is important to pose them, to evaluate what possible answers there could be to them, and under what conditions these answers would be valid, at the level of both theory and practice. A good understanding of these can greatly help policy making in developing countries, by widening the available policy space to the government.

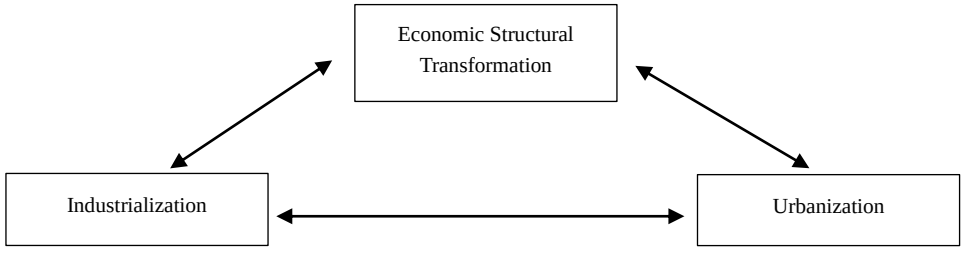

Figure 2. Three facets of economic development: New model

However, here is not the place to engage in hypothetical speculations. A good understanding of these issues may take years if not decades to accomplish, through both cogent theoretical enquiry and dedicated mining of empirical facts. But it is useful to open up the questions. These questions also appear to form the right framework for interpreting the meaning and significance of the Chinese case of land financing-led urbanization, as is attempted in Section 4 below.

3. Evolution of Land Financing in China

"Land financing" has been a term widely used in China, generally to refer to a practice whereby a local government leases the land it owns/controls to an economic agent in need of the land for a fee, which the government then uses to help finance its various activities, including the provision of various public services and investment in various local infrastructures, just as it uses any other part of its revenue. A closely related term is "land investment", or "land management", whereby a local government makes certain necessary prior investment in the land it has set for lease, before actually leasing it. In the case of a green field site, this would typically include building the necessary road and communication systems, providing access to electricity, water and sewage, etc. Where the land has existing residents or economic units on it, the investment would in addition include re-locating and re-settling the incumbent users, providing them with compensations, and so on.

3.1 Public Ownership of Land

The history of land financing in China is short, but its roots have been there for some time. Naturally, a precondition for it to be viable is for the local government to be in ownership or in control of the use of the land. Constitutionally, all land in China is either "state owned" or "collectively owned". The former covers most of the urban land, and the latter most of rural land. In theory, where land is "state owned", the representative owner ought to be the central government. In practice, it is the local government--often county or prefectural government--with jurisdiction over the land in question that exercises that right. In theory, the ownership of a piece of collectively owned land belongs to all the members of the rural collective in question. In practice, the local government involved is inevitably in control of the use of land, with the authority to lease out the land, if it so chooses.

In China, all urban land became "state owned" almost immediately after the founding of the People's Republic in 1949. Rural land had stayed as privately owned for a little longer, until roughly the collectivization and subsequently communization movements in the late 1950s. Thereafter, it has been collectively owned throughout. The rural reform that took place in the late 1970s and early 1980s did distribute the use rights of rural land to farmers, but did not change the collective ownership of the land as such. Similarly, beginning in the late 1980s, a piece of land might be "sold" or leased to a user for a fee. But what is transferred is only the use right of that land, usually for 70 years (Note 1). Legal ownership of any land would still remain with the state or collective in question. In what follows, whether state-owned or collectively owned, we shall refer to all land in China as, simply, "publicly owned".

3.2 The Zhaopaigua Mechanism

Before 1979, the state (central or local government) had allocated or transferred land to a user entirely for free. There was no land use or lease fee to be paid by a user. The first introduction of a user fee took place in 1979, when public land needed to be allocated to newly permitted foreign-funded enterprises then mushrooming in China. But in this very first phase, after obtaining the use right of any land, the new acquirer of that right could not then transfer that right to any other user with compensation. Thus there was not yet any "market for land transfer" in any true sense of the term. This situation was changed in 1987, when a revision to China's Constitution was passed that legalized such transfers. Soon thereafter, a set of rules and regulations was put in force that governed all aspects of land transfer, from initial primary transfer (i.e. from public to some private agents) to subsequent secondary transfers (among economic agents, including when the land is being used as collateral), and finally to cession of the lease.

Subsequently, much of the policy making was directed at the governance of the initial process of primary transfer. Right until 2002, that process was non-transparent, and was often entirely at the discretion of the local government in question or, indeed, the officials involved. Understandably, that provided enormous scopes for favoritism, bribery and kickback, which undermined public land lease as an effective source of public revenue, and contributed to the erosion of the former, generally clean culture of government which China had had up to that time.

Beginning in 2002, a number of key regulations were passed by the central government which required local governments to adopt a process of public bidding, auction or listing (in Chinese, these are called zhaobiao,

paimai, guapai, which are shortened to zhaopaigua) when leasing public land. Moreover, local governments were instructed to follow a set of technical protocols, procedures and parameters when undertaking these processes. On 31 August 2004, in compliance with these new regulations, all other forms of public land leasing were completely phased out. At the same time, all jurisdictional restrictions were removed to allow real estate developers to enter into these processes on a national scale, that is, they can lease in land anywhere in the country. A competitive national market for land leasing and land transfer was thus formed in China.

The institution of the zhaopaigua process or mechanism for public land leasing had a major effect on land prices. It meant that, largely speaking, only those real estate developers that offered the highest land transfer prices could obtain the land, and that the local government in question could receive the highest level of revenue per unit of land so leased out. Indeed, it was no coincidence that shortly after the institution of this process, both the land and house prices in many parts of the country began to assume a sharply rising trend, and that this trend was going to continue without major interruptions right until today. Moreover, it has more or less spread to the entire country.

But to attribute these subsequent developments to the institution of the zhaopaigua process only would be a mistake. One also has to enquire why local governments have had a strong incentive to increase its revenue through the leasing of public land.

3.3 Fiscal Pressures and Incentives for Land Financing

The answer is to be found in last fiscal system reform that took place in the country in 1993-4. The Chinese fiscal system has undergone several major changes since 1949 (see Figure 3). In the years preceding 1993-4, the division of fiscal revenue and spending responsibilities between the central and local governments was very much in favor of the latter, leaving the central government severely short of resources. The reform that was unfolded in 1993 and completed in 1994 strongly reversed that, leaving only less than half of the total fiscal revenue of the country for the local governments, while they had to should over 70% of the spending responsibilities (Figure 4). In subsequent years, the ratios may have fluctuated a bit, but the basic situation remained: a severe mismatch of the level of revenue and spending responsibilities for local governments (Note 2).

A provision existed in the new fiscal system that would require the central government to transfer part of its revenue to local governments to cover their spending, but usually on a project-by-project or program-by-program basis. Non-earmarked transfers do exist but are usually extremely limited in scale. In either case, these transfers can only be secured after intense negotiations with the central government. A transfer-inclusive division of the fiscal revenue and spending responsibilities is given in Figure 4 for the late 1990s and subsequent years.

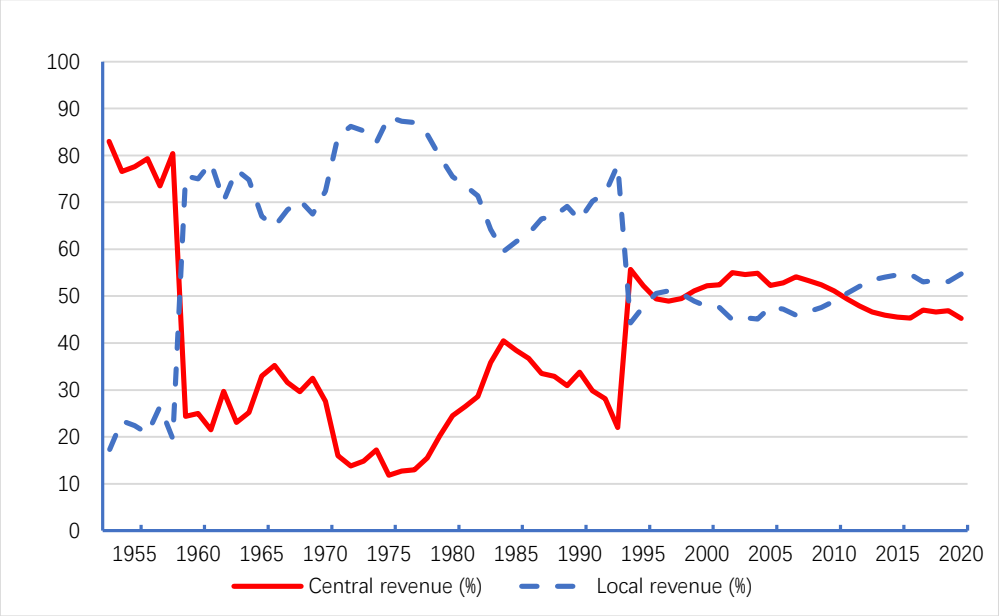

Figure 3. Share of Central and Local Governments of Total Fiscal Revenue in China, 1955-2020

Data source: China's National Bureau of Statistics.

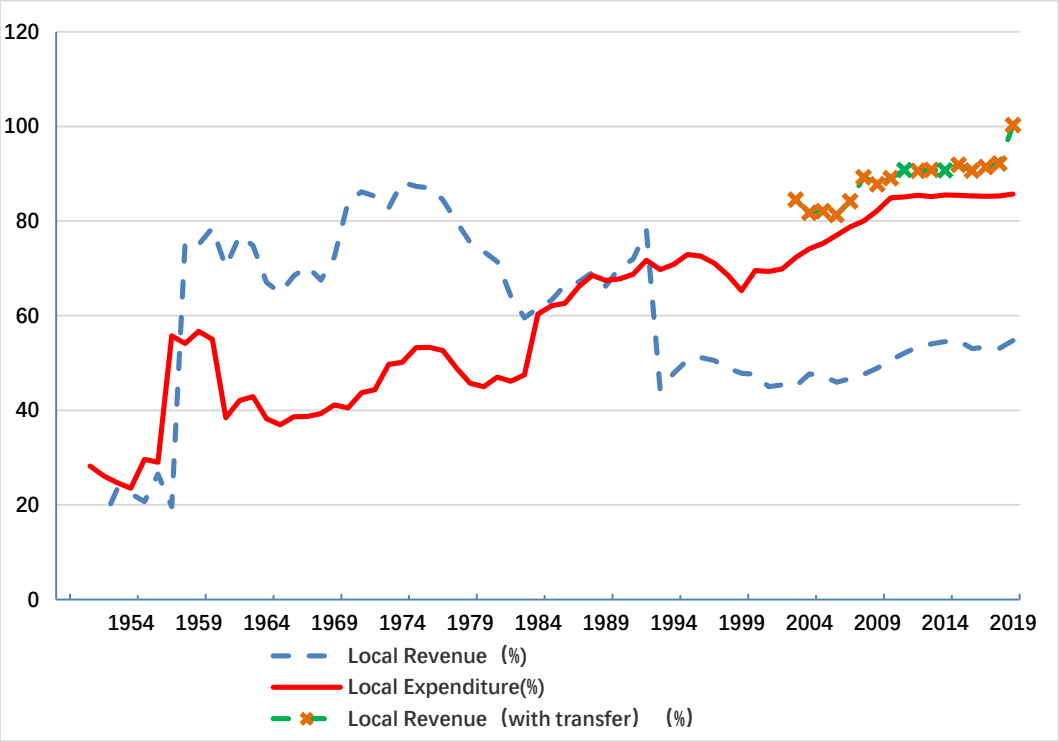

Figure 4. Share of Local Government Revenue and Expenditure with and without Central Transfer, 1950-2019

Data source: China's National Bureau of Statistics.

In a real sense, the 1993-4 fiscal reform was at least partly aimed to strengthen the guiding role of the central government in deciding how the fiscal resources of the country are going to be spent. And it would seem that under this new fiscal system, without the central government's fiscal support, local governments would not have the resources to do much by way of taking their own initiatives, on their own plans and following their own ideas.

But that was not to be the case, at least not entirely. The central government, as part of the 1993-4 fiscal system reform, also opened the door for local governments to engage in land financing. Indeed, to encourage the local governments to do so, it gave up all claims to land transfer proceeds. These proceeds had previously been shared between local and central governments, but after the reform it would entirely go to the local governments. This gave local governments strong incentives to practice land financing and, indeed, to push for higher and higher land prices.

So, beginning in 1994, Chinese local governments were under both strong fiscal pressures for and strong incentives to engage in land financing. However, because of the lack of a land market value finding mechanism, and of the extensive guanxi-based land leasing practices prevailing at the time, local governments did not appear to immediately seize the opportunity. In particular, they did not appear to push hard for ever higher land transfer prices, and, both as a precondition for and a consequence of higher land prices, higher house prices. The reason is that the guanxi-based leasing practices had inevitably been accompanied by large scale corruptions by public officials who prioritized personal motivations and interests over the fiscal pressures and incentives placed before the local governments. Consequently, land and house prices in China, although beginning to move up, did not do so sharply in the following decade.

However, when the zhaopaigua process was enforced in 2004, all the necessary pieces fell into place to push for ever rising land and house prices. Liu et al. (2009) explored the impelling linkages between the mutually reinforcing, sharply rising house and land prices in China, and identified both the fiscal pressures and incentives for local governments to practice land financing and the zhaopaigua process as two key factors that had fundamentally shaped the long-run trends in the post-2004 land and housing markets in China.

Table 1 presents the rise in the national average nominal land and house prices in China since 1994, compared with several comparable international cases. Note, first, that the sharpest rise in China in fact took place after 2004. Secondly, while other international cases showed both ups and downs in their prices, there have been only

price rises in China so far. Thirdly, the indicated size of the rise is only China's national average. In particular cities in China, such as Beijing, Shanghai and Shenzhen, the size of the rise could easily be many folds of this average, and could outperform any international comparator. It is important to bear in mind the sheer size of the country when using China national average in this as in other contexts.

Table 1. Real Estate Sector Boom and Bust, China and International Comparison

	Boom Period and Cumulative Price Rise		Period of Adjustment and Cumulative Price Fall	
	Boom Period	**Cumulative Price Rise (%)**	**Period of Adjustment**	**Cumulative Price Fall (%)**
Japan	1978-1991	145	1991-2009	46
US	1993-2006	159	2006-2011	30
HK, China	1985-1997	759	1997-2003	62
UK	1994-2007	226	2007-2009	9
S Korea	1975-1991	881	1991-1995	11
Switzerland	1979-1990	114	1990-1999	21
Canada	1985-1994	96	1994-1996	4
France	1998-2011	153	2011-2015	5
Denmark	1994-2007	216	2007-2009	17
Spain	1994-2007	235	2007-2013	35
China	1994-	383		

Source: Xingye Security Institute.

The sheer scale of land price rises has naturally helped to make land lease proceeds a key source of revenue for local governments. Figure 5 presents some estimates of the size of this source in both absolute RMB value and as a percentage of total local government revenue in China in 2010-2021. Note that the latter is only the national average share, and that in some places the reported share has been as high as 70% or above.

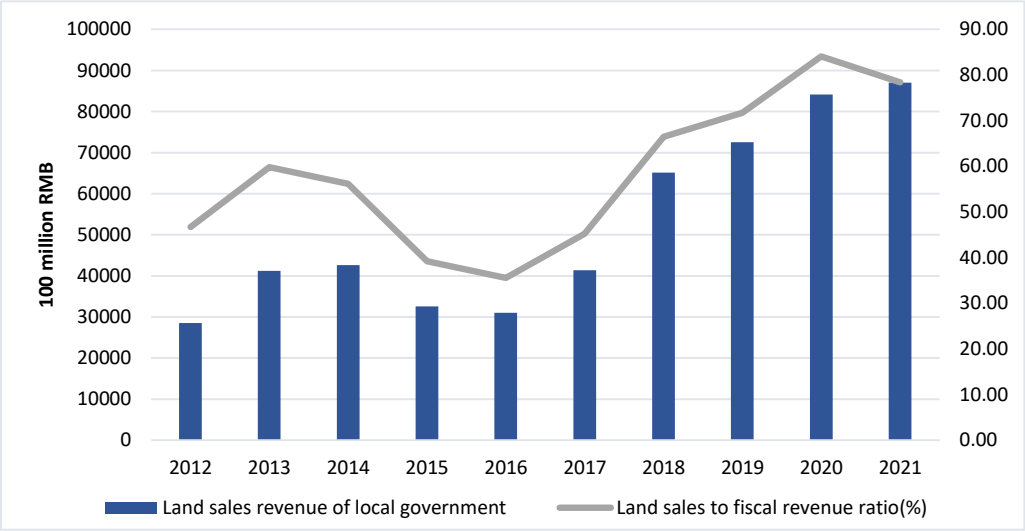

Figure 5. Share of Land Sales Revenue in Total Local Government Revenue

Source: National Bureau of Statistics of China.

3.4 Local Government Financing Vehicles (LGFVs)

Still further fuels were added to the already rapidly expanding and sharply rising land and house markets and prices, when in 2008 a massive 4 trillion RMB fiscal stimulus package was launched to shield China from the rippling, crippling impact of the International Financial Crisis. Of the total 4 trillion RMB, only 1.18 trillion was actually going to come from the central government; the remainder was to be financed by local governments. But most local governments had already had a difficult fiscal position, as noted previously, and China's budget law also prohibited local governments from borrowing directly from financial markets, whether in the form of banks loans or through direct issuance of local municipal bonds (Note 3). That being so, a practice was then

widely adopted, with the approval from the central government, to circumvent the Budget Law, whereby local governments set up purposely designed financing platforms in the form of a local SOE, and these then borrowed from the financial markets such as the banks on behalf of local governments. For this to work, local governments would first have to inject sufficient capital into these entities, often by transferring the use rights of some public land and other assets (such as roads and bridges), and sometimes by direct budgetary allocations. From 2009 onwards, a local government might also do so by issuing local municipal bonds through the MOF. With this capital, the purposely designed local SOEs can then borrow from the banks on behalf of their local governments. Figure 6 conceptually illustrates the working of a typical LGFV.

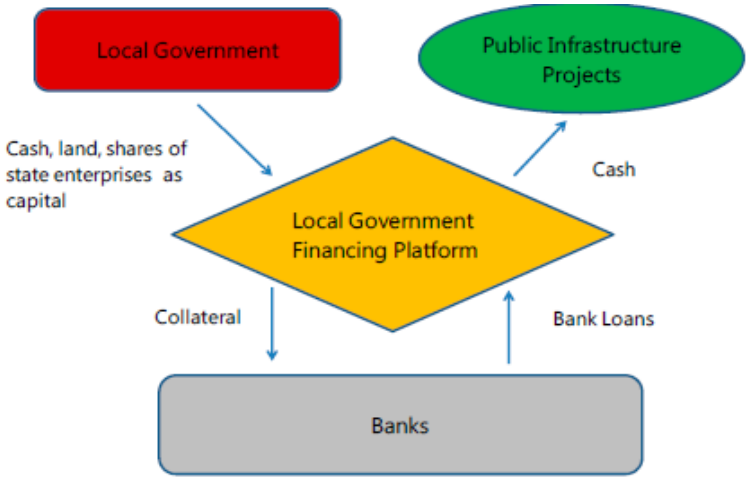

Figure 6. China's LGFV, a Conceptual Illustration

Source: Lu and Sun (2013).

Similar LGFVs had existed in China even before 2008, but had not been widespread. It was used by only a few local governments with a strong financing need and healthy long-term fiscal position, which meant only those local governments from economically relatively active and developed areas. They mushroomed and became widespread after 2008, as a result of the mounting financing needs placed by the central government on local governments. One major consequence of this has been the rapidly accumulation of local government debt. In most cases, the local governments in question directly bore the responsibility for repaying them; in other, they had acted only as a guarantor of repayment. In recent years, the rising local government public debt in China has become a major international concern. However, the truth may well be that although they have in recent years rapidly grown to worrying proportions, the total amount of the debt is nevertheless still within control of the Chinese government (Note 4).

4. Land Financing, Urbanization and Structural Transformation

China has just undergone a phase of rapid urbanization process, roughly in the last two decades. Figure 7 shows the rapid increases in the urban built-up areas, and Figure 8 the equally rapidly rising urban population shares in the country over roughly this period. The latter figure also relates China's rising urban population shares to its per capita GDP, and compares this relationship to that in other selected countries. As can be seen, it does not appear that China has deviated much from the international pattern. If anything, it has rather broadly followed that pattern. Given the stress placed on the restricting role of China's hukou system in rural-urban migration, and hence in urbanization, in the international literature, this finding is rather at odds with expectation (Note 5). On the other hand, it needs to be noted that countries have generally used their own criteria in defining urban population, so that their reported urban population shares may not be comparable. Be that as it may, it just does not appear that China has seriously underperformed in urbanization in relation to its per capita GDP. Perhaps while the hukou factor has played a negative role, other important, powerful factors have been at work pushing forward urbanization in the country.

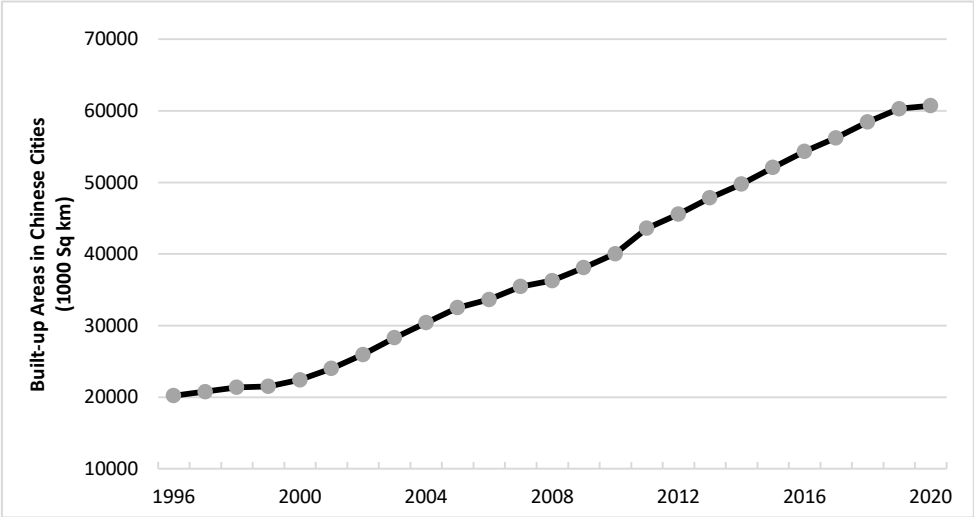

Figure 7. Built-up Areas in Chinese Cities (1000 Sq km), 1996-2020

Source: Ye and Wu (2014), updated by authors.

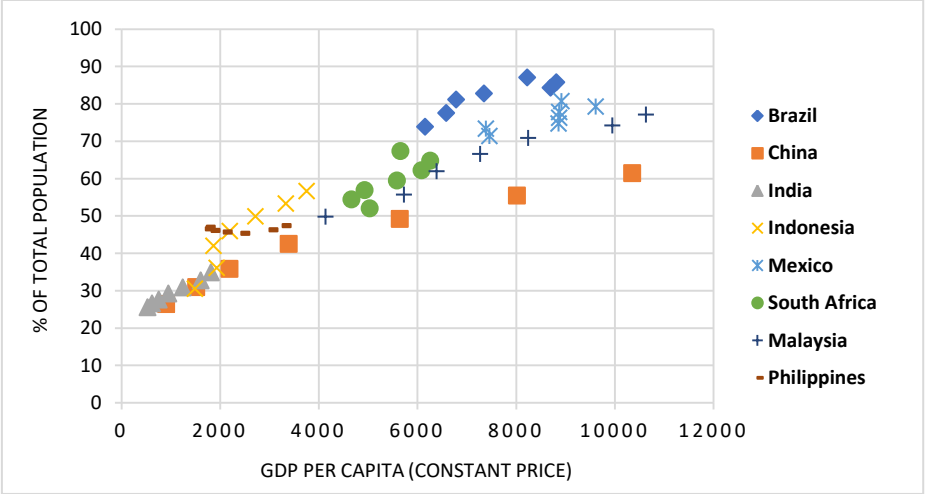

Figure 8. Share of Urban Population by Per Capita GDP, China and Selected Countries (Note 6)

Source: Updated from Liu (2011).

4.1 Land Financing and Urbanization

There is little doubt that land financing has been one of these important, powerful factors (Note 7), and it appears to have sped up urbanization in China in the following important ways (Ye & Wu, 2014; Ye et al., 2016). To begin with, as noted earlier in the paper, in order for land financing to work, local governments will first have to "invest" in the land it has set aside for lease. This means zoning up the area, ensuring adequate road access to local and national transport networks, and providing adequate telecommunication facilities, as well as access to local water, sewage and electricity systems. If the area is to become an industrial park, other facilities may have to be built and provided in terms of fencing, initial office and warehouse spaces, etc. If the area is to be residential, then apartment buildings will have to be erected, before selling them to willing buyers. Additionally, in both cases, appropriate amenities in the form of shops, restaurants, recreational facilities, and green spaces, will have to be built and provided. Clearly, all this immediately contributes to the urban built-up areas in China.

Needless to say, for this local government investment to pay off, and for land financing to work, the new industrial park facilities will have to be taken up by firms, and residential apartments will have to bought by residents, existing or new. Of the latter, some will have to be set aside to house the relocated and resettled residents, but most will have to be sold for proceeds. The key to the success of land financing is to generate enough demand, at the right prices, for both residential buildings and industrial park facilities.

In the case of industrial parks, expected financial returns to local governments usually, in fact, do not take the form of land transfer fees or facility rentals, but of the taxes local governments can collect on the revenue streams of potential firms using them. Demand for the use of these facilities typically depends on a booming local economy, local factor endowments and their prices, local market conditions, and the local governments' industrial policies. However, local governments industrial policies can be a double-edged sword. While they can help encourage the development of particular industries, they can also unwittingly attract inefficient firms. Clearly, the choice of which sectors to favor and subsidize, and the right level of subsidy, are all difficult issues, and a local government may or may be able to get them right.

Below, we shall principally address the residential building sector, potentially the most lucrative source of revenue for local governments.

In the case of residential buildings, China's house and real estate markets have experienced a few rounds of very sharp, consistent price rises in the last two decades, and especially since 2004. In many cities, price easily doubled within a matter of 2-3 years. The first-tier cities such as Beijing, Shanghai, Shenzhen, Guangzhou, etc., have led the process. Remarkably, these sharp price rises have not dampened demand, but have rather helped to generate demand. The reason is two-fold. First, these consistent price rises have given rise to huge investment demand--people buy houses or apartments not in order to live in them, but as a form of investment in anticipation of future price rises. Secondly, it does require people to have the money to buy them. One possible source of this money is bank loans, or mortgages, although banks will usually require a buyer to pay off a percentage beforehand. So a second source must be one's own savings. Fortunately, with a booming economy, rising personal incomes, and also price hikes on properties one bought before, this second source of money is often not a problem for many.

Much of the rise in China's house prices has been engineered by local governments. As made clear previously, the incentives are obviously there for local governments to do so. Strictly speaking, local governments would only be interested in land prices or land price rises, but most will realize that only with house price rises can land prices also rise. At the same time, the zhaopaigua mechanism is there to help local governments ensure that real estate developers, to whom they lease out the land in the first instance, will pay the highest market price for the land. And with the strong backing from local governments for such price rises, most potential house buyers would believe that house prices will only rise. In any case, there may not have had any prior instance of significant price falls either locally or nationally to suggest otherwise. Liu et al. (2009) explores these issues in further detail.

Of the potential buyers, many can be rural migrants. This may not be a frequent occurrence in the first- or even second- and third-tier cities (except for former sub-urban rural areas of these cities which were later turned into urban built-up areas), but can be common in other lower-tier cities in China (Note 8). Indeed, land financing-led urbanization in these cities has often taken the inclusive form of inviting local rural residents to become property owners in these cities. A booming local economy may also mean many former rural residents have left their villages to work and live in these cities, and in that capacity become potential property buyers in those cities.

To return to the supply side, increased land prices also mean increased revenues for local governments to spend on many things, including making further investment in land, still more land leases, and more land financing. As noted previously also, since 2008, many local governments went even further to use land under their control to leverage for bank loans or to issue municipal bonds, thereby further significantly increasing the level of funds in their command, at the cost of a significantly increased debt burden, resulting in widespread international concerns over the size of China's total government debt.

While in most cities and areas in China, supply of the newly built apartments and other residential properties has so far been broadly matched by demand, large scale new ghost cities and towns have occasionally been reported, suggesting that not all local governments have been able to successfully matching the two sides. Many factors might have contributed to this, of which a key one must be that the local governments in question failed to correctly forecast local demand, and the prices that people can afford, at least at the time.

4.2 Urbanization, the Real Estate Sector and Structural Transformation

Section 2 pointed to a possible reinterpretation of the binary relationships between the three key facets of economic development: industrialization, structural transformation and urbanization. In particular, it noted that reverse causations--that is, contrary to those conceptualized in the traditional model--may be possible. As pointed out there also, the present paper is not the place to explore such reverse binary relationships in any detail. Nevertheless, one may briefly consider one concrete instance of such reverse causation in the context of China, namely, the effect of urbanization on economic structural transformation in the country, especially since, as has

been noted, urbanization in China has been very much pushed through the official policy of land financing, rather than as a straightforward consequence of prior industrialization and structural transformation.

Thanks to land financing, the boom of the real estate sector in China has not only sped up the urbanization process, but also, in so doing, contributed to the country's structural transformation. Thus, according to available data on fixed asset investments by different sectors from China's National Bureau of Statistics, in 2020, the real estate sector accounted for a massive 26.70%, increasing 7.0% than in 2019, comparing with -2.2% for the manufacturing sector. While questions may be raised over the long-term desirability of this level of investment into the sector, the economic dynamism of the sector is for all to see, thanks to land financing. Given the enormous investment, profit and income opportunities that this sector offers to house buyers, private developers and local governments, this dynamism is understandable.

In terms of its direct contribution to national GDP, according to statistic data from China's National Bureau of Statistics, the real estate sector directly accounted for 6.78% in 2021, dropping from 8.25% in 2020. However, if one also includes all upstream and downstream products and industries, the sector's contribution would rise substantially. Studies of the employment effect of the sector indicate that a 1% rise in this sector's investment will not only raise direct employment in this sector by 0.4%, but also employment in all related upstream and downstream sectors by 6.7-11.7% (Chen et al., 2014).

5. Policy Implication and Conclusion

Needless to say, because of the unique set of historical circumstances and institutional settings under which land financing arose in China, the Chinese case has only very limited reference value to other developing countries, including African countries. The first key factor for it to work is, clearly, public ownership of land, a condition which may not be present or politically possible in other countries. And even with public ownership of land, then a Chinese style land financing strategy may again falter for any of the following reasons.

First, there may not be enough demand to come forward for either the newly built houses or industrial park facilities, or indeed even for the land set aside for lease, at the right prices. This problem was dealt with in China by local governments generating huge expectations of house and land price rises, and thereby investment demand for both. But China was able to do so because the country has had fairly strong government, local as well as central, and the populations in various localities have had strong trust and confidence in the words and backings of their local governments--at least as far as these matters are concerned. The lack of a record of any serious house price falls in their locality or nationally has also helped to convince anyone who may be undecided. In other countries, it might be difficult for the government to intervene as effectively in helping the population to form such expectations, and even if formed, to ensure that these expectations are indeed, by and large, realized.

Secondly, the formation and realization of these expectations in China have also been helped by a dynamic real economy and rising incomes. Without the support from the booming real economy, it would be difficult to see how the Chinese miracle of real estate sector booms could have continued for so long, without thus far experiencing any serious downward movements.

We have thus far only considered the happy part of the Chinese story. Both the Chinese real estate sector boom, and local government land financing that has been responsible for it, are clearly unsustainable. House prices simply cannot and will not continue to rise indefinitely into the future. At some point in time, they will no longer rise further. When this happens, expectations will be adjusted, and investment demand will then begin to disappear. How quickly this happens will depend on other investment opportunities available. One hopes that this process will happen only gradually, that prices may be stabilized at some level rather than undergoing sharp falls, and that existing investors will only move slowly to off load their investments in the sector. For, otherwise, China may face a serious real estate market and financial crisis.

Whatever may be the case, the role of land financing is likely to diminish in China in the future, whether as a key source of public revenue in its own right, or as promises of future streams of income for local government to leverage for borrowing. In places already with very high land and house prices, this process is likely to happen sooner. But even here, a local government may still use any remaining public land for lease to generate some additional revenue for itself, although it is unlikely to account for any significant revenue share. In places where current land and house prices are still low, with appropriate support from their local real economy, land financing may continue for some time as a major revenue source of local governments. And when this is so, these places are likely to experience their own share, albeit delayed, real estate sector boom.

It seems that countries that hope to draw on China's experience and practice will also need to think beforehand of a similar exit strategy, should they indeed be able to design and practice their version of land financing. The

risks that such practices inherently contain can be huge, and without a sound exit strategy, or without being able to effectively apply brakes on the processes, the angel may well turn into a devil and work against the master.

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Notes

Note 1. Under current regulations, the duration of lease for residential land is 70 years. If the land is used for other purposes, the duration will be shorter, for 50 or even 40 years depending on cases.

Note 2. Principally among local governments' spending responsibilities are spendings on health, education, various social protection schemes, central government approved infrastructure and other projects and programs.

Note 3. In the latter case some relaxation appears to have been under way when in 2014 the central government approved 10 provinces and municipalities to issue municipal ponds on their own, on a pilot basis. Earlier still, in 2009, local governments had been allowed to issue such bonds, but only through the MOF, with the MOF acting on their behalf, and in effect playing a role of vetoing such requests.

Note 4. See Chen et al. (2017) and Jin and Rial (2016) for some recent estimates and analyses.

Note 5. China has implemented a *hukou* system since the mid-1950s, whereby each citizen is registered to his or her existing resident locality for social protection and social benefit purposes, including subsidized access to local health facilities and education opportunities for family members. In the early days, the system also governed people's job assignments, housing, and various livelihood goods distributions such as grain rations, which have been phased out since the economic reforms in the country.

Note 6. Each country is plotted according to their 1990, 1995, 2000, 2005, 2010 and 2014 urban population shares and per capita GDP, using data from World Urbanization Prospects: The 2014 Revision Population Database, and the World Bank Databank.

Note 7. Another important factor is, of course, per capita GDP or income growth.

Note 8. Chinese cities are generally classified into six tiers, in part based on their administrative ranks (municipal, provincial, prefectural, county), and in part based on their economic size and strength. While there are competing lists for these six tiers, commonly the first-tier would include Beijing, Shanghai, Shenzhen and Guangzhou, while the last tier would capture all county-level cities (except for those that are already included in other higher tiers), and some key county seats not yet officially classified as cities. In between, second-tier cities would include most provincial seats and some key prefectural cities; third-tier most remaining provincial seats and most important prefectural cities; fourth-tier all remaining provincial seats, most remaining prefectural cities and some large county cities; fifth tier all remaining prefectural cities and most of the large county cities.