

Financing model of New urban construction in China

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Abstract. With the continuous development of China's urban construction, China's urbanization rate has increased from 17.92% in the early stage of reform and opening-up to 63.89% now. At present, urban construction in mainland China has reached the present stock stage from the initial expansion stage, and more and more infrastructure has been completed. China is going to strive to create an enabling environment for people to work, live, enjoy and travel, so that government will create a greater sense of gain and create a happier and better life for the people. But a new era for the construction of the urban construction will lead to higher costs, as the stock of the real estate market has reached the age, at the same time, each region of government began to implement measures, for the most of the local government gradually out of the land within the revenue, in this case study the new era of urban construction investment and financing mode is particularly important. Local governments need to attract more social capital to participate in urban construction in the new era by updating their own investment and financing modes. This paper first expounds the background of urban construction in the new era, then analyzes the investment and financing problems existing in Local governments in China, and finally gives suggestions at the national, provincial and project levels according to the current specific policies.

Keywords: Urbanization; Urban Development; Investment; Financing.

1. Introduction

Urbanization refers to the dynamic process of the transformation of human production and lifestyle from rural to urban. It is an inevitable trend of economic and social development for the rural population to move to cities and the transformation and development from rural to urban. By the end of 2020, China's urbanization level had reached 63.89%. Even though China's urbanization development has made significant progress, there are still some outstanding issues in terms of total investment and financing, channel, methods, and models, such as financial investment insufficiency, local government investment and financing platform management is not standard, local bond issuance is limited, credit support, enthusiasm is low, the capital market financing channel is narrow, and so on. This severely stifles the rapid expansion of urbanization. At the same time, it is not only the problem of capital that restricts urban development. With the gradual improvement of urban infrastructure construction and the continuous expansion of the stock market, urban construction in the new era arises at a historic moment to meet the growing material and cultural needs of social residents.

In this paper, urban construction in the new era is defined as the construction of improving the overall level of urban infrastructure based on the needs of urban residents rather than focusing on the original infrastructure construction through the combination of high and new technologies and urban construction. It may include CIM platform, intelligent municipal infrastructure construction and renovation, smart city and intelligent connected vehicles, intelligent building and integrated urban management service platform, etc.

1.1 Lecture Review

Cities have been around for thousands of years, but the study of urbanization and urbanization is relatively new. The word "urbanization" first appeared in an Introduction to Urbanization (1867) by Zelda, an urban planner in Barcelona, Spain. Urbanization is an inevitable stage in the historical development of human society. Zhong Shuiying (2009), a Chinese scholar, believes that urban development requires a diversity of economic structure and its pillar industries. Andrea found in her

research that in the construction of smart city indicators, multiple directions need to be considered, pointing out the influential factors such as crowd, family, and environment that play a pivotal role in the system. Huang Jian (2019) proposed that the PPP mode plays a key role in urban construction, and the functions of government and private enterprises are crucial in its mode. Mayston and Pollock put forward the concept of private financing activities for the first time in their research on the UK national security department. After this, the research on the PPP financing model developed vigorously. Zhao Huihan (2014) pointed out that superstructure is the focus of ensuring smooth financing, and specific financing behavior should be market-oriented. Ding Youliang (2014) pointed out that the Chinese government should learn more from excellent financial institutions at home and abroad, summarize investment and financing modes suitable for China's national conditions, and actively innovate. To summarize, Chinese and international researchers have conducted valuable research on urbanization as well as finance routes and modes in the urbanization process.

2. Existing problems in China

Influenced by traditional ideas, capital bottlenecks and institutional obstacles in urban construction restrict urban development. Some people believe that urban infrastructure and public utilities must be operated by the state, which is not enough to attract social funds and private capital. Between 2015 and 2020, the construction of municipal public facilities in Chinese cities is mainly funded by state budget funds, domestic loans, bonds, foreign capital, self-raised funds and other funds. The largest share is still from the state budget, followed by domestic loans from commercial banks and self-financing from social capital. Self-raised funds from social capital between 2015 to 2019, slightly declining, it represents China's infrastructure construction is still mainly by representative of state-owned capital of the state budget funds and domestic loans, from the point of view of reduce pressure on the government fiscal countries still need to improve social capital to participate in the share in urban infrastructure construction.

3. Suggestions

Adhere to the road of market resource allocation by the "fourteenth Five-Year Plan". We should adhere to the principle of government leadership, participation of private capital, and market-based operation. In supporting the local city with good government allocated special (including budget capital and debt capital), strive for policy Banks credit, financing platform or the investment and financing of state-owned enterprises at the corresponding level and at the same time, the central department in charge of urban and rural construction and housing industry, the relevant ministries and commissions of the joint institutions, to encourage the active participation of social capital city construction projects, encourage financial product support to the urban construction. We will encourage local cities to make diversified use of market-based financing for urban development in the new era and reduce the pressure on local government debt. Financing categories, according to local conditions, flexible application of government-led, market-led, government-guided market capital participation, and other modes. Are as follows:

3.1 From the central policy and ministries point of view

3.1.1 The linkage system of "project-industry-industry" should be established in the urban construction field involving social capital

According to the linkage and driving thought of strengthening project construction, industrial development, and industry cultivation, the corresponding industrial characteristics are analyzed, and the project construction is conducive to industrial development, and the basis for targeted investment and financing suggestions is provided. The linkage system refers to the integration of similar types of urban construction projects to achieve the effect of "forming industries" and "driving industries," effectively catalyzing the marketization degree of urban construction and attracting investment more

effectively from project inception to industry cultivation and, finally, industry formation. Such as the construction of sponge cities. In 2015, the country's first batch of 16 sponge city pilot areas covered a total area of 435 square kilometers, with a total of 3,159 projects, including buildings and residential areas, roads and squares, green gardens, underground pipe networks, and water system renovation, with a total investment of 86.5 billion yuan. For the second batch of sponge city pilot projects, the central government will provide special subsidies for three years: 600 million yuan per year for municipalities directly under the central government, 500 million yuan per year for provincial capitals, and 400 million yuan per year for other cities. Since then, more than 20 provinces and cities have released plans to promote "sponge cities" and launched more than thousands of projects, with 16 pilot cities nationwide planning to invest more than 130 billion yuan. Municipalities directly under the Central Government take Shanghai as an example. Shanghai has been included in the second batch of pilot cities for sponge city construction in the Pudong New Area. This time, Shanghai harbor sponge city investment is as high as 8.1 billion yuan, indicating that the national-level funding for three years is 1.8 billion yuan, the remaining 6.3 billion yuan will be provided by local governments, the total allocation ratio is 450%. Wuhan, a provincial capital city, took the lead in sponge city construction, mainly in Qingshan District and Hanyang Four new areas. The two demonstration zones, covering a combined area of 38.5 square kilometers and benefiting 480,000 people, are planned to invest 13.4 billion yuan, with local governments matching the 1.5 billion yuan of state funds with 11.9 billion yuan or 793%. Local cities take Sanya as an example. In 2016, Zhongnan Construction Won the bid for the sponge city construction project of Sanya city in PPP mode, with a total amount of 5.1 billion yuan. Sanya city matched 3.9 billion yuan of 1.2 billion yuan of national funds through PPP mode, with a ratio of 325%.

At present, we can see that only 4.5 billion yuan has been invested in the three regions at the national level, while 33.4 billion yuan of industrial projects have been built through pilot projects at the local level. According to the Ministry of Housing and Urban-Rural Development, investment in sponge city construction is about 100 million yuan to 150 million yuan per square kilometer. The General Office of the State Council issued the Guidelines on Promoting sponge City Construction in October 2015, which mentioned that more than 80% of urban built-up areas will meet the target by 2030. By multiplying the cost of sponge city development per square kilometer by 80 percent of China's present urban built-up area, the estimated market size of sponge city can be computed. According to the China Statistical Yearbook of 2021, the national urban area is 186,628.9 square kilometers, and the built-up area is 60,721.3 square kilometers. Therefore, based on the current urban construction, the estimated market size of Sponge city in China is 4.86 trillion yuan to 7.29 trillion yuan.

It is obvious that the sponge city construction industry has not reached saturation at present. The state can implement allocation for sponge city project construction in pilot areas step by step to achieve the effect of cultivating sponge city industry. After this industry is cultivated, social capital will know that the construction of sponge city is profitable, so as to continuously attract social capital to construct and form a capital loop, thus forming the construction industry of sponge city.

3.1.2 Establish a national, provincial and three-tier city construction investment and financing system

Completes the top-level design, builds level 3 national provinces and cities urban construction investment planning system, upper and lower linkage, overall coordination, requirements of the country's regional level and place to be born as a whole, investment and financing policy cohesion, improving national and regional levels of investment and financing policy of urban project ground direct leading role, while encouraging local combined with local actual Enhance the local features of investment and financing planning, and fully utilize a variety of investment and financing techniques. To achieve the goal of sustainable economic and social development, the government must fully utilize financial credit, inject good assets, establish and perfect the trinity investment and financing platform of the state, province, and city in accordance with the modern enterprise mechanism, and

realize the goal of capital integration, serving citizens, and promoting urban construction development.

3.1.3 Support the transformation of urban investment platforms and the listing of construction and property enterprises.

At the industrial level, we will strengthen guidance for the development of investment and financing platforms for local urban construction, support the integration of financial licenses, promote asset restructuring, support the expansion, strengthening, and optimization of the market, and encourage listing. Sasac website public disclosure information requirements: State-owned enterprises should create wealth with higher quality and more efficiency, accelerate the adjustment of state-owned economic layout and structure, improve the overall efficiency of state-owned capital allocation, effectively improve the quality and efficiency of economic development, and further strengthen the assessment of state-owned assets. As the main body of state-owned capital construction, central enterprises need to play a leading role in the construction industry in the new period, and they are the important object of social capital consideration in urban construction. The participation of large central enterprises is encouraged to drive local private enterprises to participate in the financing of local projects, and to diversify the financing channels. In addition to the development of construction companies, the corresponding supporting service companies are encouraged to be listed, such as property companies. Such companies will continue to provide services after the completion of the project and generate continuous cash flow so that the project can achieve sustainable operation and income generation. By the middle of 2021, 19 property companies have submitted their applications to the Hong Kong Stock Exchange. Meanwhile, Sunshine Smart Services and Great Wall Property applied to the China Securities Regulatory Commission (CSRC) on May 17 and 19 respectively for IPO in Hong Kong. In terms of market value, by May 18, 2021, the total market value of 45 listed real estate enterprises was 842.74 billion yuan, 2.1 times that of their first day of listing. Country Garden Services firmly tops the list with a market capitalization exceeding HK \$200 billion (HK \$235.29 billion or 194.98 billion yuan). Evergrande Real Estate and China Resources Vientiane Life Insurance both have a combined market value of more than 100 billion Hong Kong dollars, with 149.19 billion Hong Kong dollars and 100.89 billion Hong Kong dollars (or 123.63 billion yuan and 83.06 billion yuan), respectively. The diversified business and permeability of property service enterprises give them a higher valuation imagination space, and the total market value of several property enterprises once exceeded their associated real estate enterprises. According to data as of May 18, 2021, the average p/E ratio of 45 publicly traded real estate enterprises is 32.4 times, with a median of 26.4 times, much higher than the average P/E ratio of related real estate firms of 6.4 times and a median P/E ratio of 5.0 times.

3.1.4 Jointly formulate policies to support the participation of social capital in urban construction

It also dynamically summarizes various specific measures of relevant ministries and commissions to support urban construction and timely updates investment and financing support policies. The competent departments of urban and rural housing construction shall, in collaboration with relevant ministries and commissions, formulate incentive policies to support local governments in carrying out diversified market-oriented financing for urban construction in the new era. For example, on November 21, 2021, CBRC issued the Notice on Matters Related to Public Offering of Infrastructure Securities Investment Fund for Insurance Capital Investment, allowing insurance funds to enter the urban construction investment market. Policies ranging from the federal government to local governments and specific projects must be tailored to the situation, and policy information disclosure websites should be established to sort out policies beneficial to urban construction projects in the new era from top to bottom for construction investors.

3.2 From the perspective of local cities, suggestions on promoting urban construction investment and financing in the new era.

Emancipate the mind to create good conditions for social capital participation. Local cities should gradually change the traditional concept and practice of urban construction, which is primarily based on land finance and government funds; at the same time, we should keep up with The Times, begin with the new requirements of the Party and the country, and the people's sense of gain, fully respect and value the willingness of social capital to participate in urban construction, and increase market-oriented investment and financing based on the people's sense of gain, and increase market-oriented investment and financing based on the people's sense of gain. From the position of urban decision-makers, organize and lead the investment and financing of urban construction, finance, development, and reform at the local level, strengthen cooperation in terms of revitalizing urban stock assets and asset securitization, and carry out substantive policy innovation and project implementation. From two aspects of financing channels and investment and financing methods, draw lessons from the existing practice of landing, combined with the actual situation of various places, planning, and innovation.

3.2.1 Coordinate with the construction investment and financing plans of the upper cities and the special national funds to plan and implement the projects.

From the planning point of view of the government at the corresponding level, according to the urban construction high-quality development-related planning project listing, according to the general characteristics of the urban construction in the new period, the city construction and government debt situation, fiscal and taxation, built and sent to departments, research and develop and adapt to the local urban construction investment and financing the top-level design, especially to further broaden the scope of engagement and social capital, And give corresponding policy incentive.

From the perspective of declaration, it is necessary to strengthen supervision during declaration and achieve more targeted, more feasible and clearer policy sources through a better project policy formulation system, so as to better attract social capital.

From the point of view of implementation, the city investment and financing platform and the competent department of city construction, relevant departments at the corresponding level, to strengthen communication, to the need of city construction in the new period, the whole overall consideration into the city's investment and financing system, and from the Angle of view of the widening social capital to participate in organized social investment and financing unit, urban construction management operation and so on to participate in, We will do a good job in planning, reserving and recommending urban construction projects in the new era, and attract a wide range of social capital to participate in projects through single or combined investment and financing.

3.2.2 Appropriately control the financing costs of local governments.

Strictly controlling platform financing costs in the region and eliminating high-cost financing can alleviate financial pressure and prevent and defuse local debt risks in the long run. In the short term, the market has positive expectations of regional platform financing standards and cost pressure reduction, which may lead to a downward valuation of urban investment bonds. Instead of promoting credit growth through excessive credit policies, credit growth can be driven by effective credit demand in a market-oriented way. Secondly, by increasing the transparency of the financial market, the impact of risks can be minimized. Third, legislation to regulate the government and large enterprises' accounts payable period. At the same time, local governments should not only consider short-term effects when considering lowering financing costs, such as quantitative requirements for loan growth and price guidance for loan interest rates. These short-term actions can accelerate the issuance of credit, but in the long run, it will increase financial risks and credit costs, which is not conducive to the continuous reduction of financing costs.

3.2.3 Explore new ways of investment and financing to encourage nongovernmental capital to participate in urban development.

PPPs, REITs, ABOs, and ABNs are innovative ways for social capital to participate in urban construction.

(1) Mode 1: PPP.

The return mechanism includes government payment, feasibility gap subsidy, and user payment. At present, there is a composite PPP model in the industry, which refers to the PPP model and XOD-PPP that add innovative elements such as equity financing, EPC project general contracting, land resources development, and the establishment of the special investment fund based on the traditional PPP model.

In 2021, Wuhan will use the PPP model to guide private capital to participate in the construction of infrastructure and public services. We focused on eight municipal-level PPP projects, including the Rail transit Line 12 and the Wuchang Ecological and Cultural Corridor, with a total investment of 57.25 billion yuan and 39.6 billion yuan of private capital.

(2) Method 2: REITs

REITs are a financial real estate concept that provides a "triple win" for businesses, individuals, and the economy as a whole. It is possible to develop a REITs promotion mechanism directed by the SECURITIES regulatory department and managed by the banking regulatory department. In China, there have been attempts to promote the industrial fund and trust plan in two (time) directions. The former is led by the National Development and Reform Commission, and it is difficult to obtain social funds due to the restrictions on investment fields and structural design. The latter, promoted by financial regulators such as the central bank, the China Banking Regulatory Commission, and the China Securities Regulatory Commission, is more appropriate. Because the REITs led by CSRC have the natural characteristic of biased stock, they will be closer to the essence of REITs than the biased debt REITs led by banking supervision departments in the subsequent development. Improve the secondary market and build a platform for public trading and withdrawal of REITs. Make it easier for retail investors to enter and exit the financial market freely and make it more socially acceptable. Introduce tax exemption policies and compulsory dividend arrangements to improve the investment income level of REITs. We will improve supporting systems and organizational structures. Establish a strict information disclosure system, require the timely and accurate release of operation and risk management, make information open and transparent for investors, and make social funds "taken from the people and used by the people". Provide necessary guidance to all REITs participants.

(3) Mode 3: ABO franchise financing.

Features: Authorize -- Build -- Operate mode, by the government authorized units to perform the responsibilities of the owner, by the contract to provide the required public goods and services, the government to perform the rules, performance assessment, and other responsibilities, while paying the authorized operating costs.

Advantages: ABO mode can play a role in regulating the market. Because platform companies need to take on the responsibilities of infrastructure and public service project owners belonging to the government and perform certain public management functions within the scope of authorization, based on this, in ABO mode, platform companies have the attribute of "public" subject, ABO mode should be regarded as a "public cooperation" mode, after ABO mode, Based on the "public" subject property of platform companies under "public partnership", the "market failure" of such projects can be regulated to a certain extent. Public projects have a large initial investment, long return cycle, and uncertainty of profit. General social capital is not willing to participate. Through ABO's "cooperation between government and local state-owned enterprises" mode, local state-owned enterprises with strong comprehensive strength, prominent local influence, and good risk tolerance are introduced.

(4) Mode 4: ABN

Asset-backed notes (ABS) are debt financing instruments issued by non-financial enterprises in the inter-bank bond market and supported by the cash flow generated by the underlying assets as repayment, which is agreed to repay the principal and interest within a certain period. Green projects,

represented by water treatment, new energy, and public transportation, have sustained and stable cash flow returns and are high-quality basic asset targets for issuing green asset-backed notes. Especially under the background that the Chinese government is vigorously promoting the asset securitization of PPP projects, it is easier for green projects to be financed in the form of asset-backed securities. Secondly, green projects are mostly emerging industries, and it is not easy for companies that take green as their main business to directly finance by issuing bonds due to the limited time and scale of the establishment. Through the establishment of an asset pool, asset-backed securities can separate the main rating of enterprises from the credit rating of assets, and enterprises can issue green asset-backed securities products for high-quality green projects to achieve low-cost financing.

(5) Mode 5: BOT

BOT stands for build-operate-Transfer, which is a way of directly absorbing capital and technology from private companies (including foreign companies) to Build, Operate and Transfer infrastructure plans to utilities, and organizing the project accordingly. The government grants the project to a subsidiary utility specialized company. Invite private enterprises to bid, after negotiations to sign a franchise contract approved by the government, an enterprise to obtain concessions, raise funds, establish a franchise company in the location of the project, design, and construct the project; operate the project for a certain period (usually 20-50 years), and obtain certain benefits. Eventually, at the end of the concession period, the project will be free of charge delivered to the local government.

3.3 From the means of investment and financing and urban construction project implementation

3.3.1 REITs

Applying REITs to the investment and financing mode of policy-based rental housing vigorously promoted by local cities will help expand financing channels of policy-based rental housing through the participation of social capital. Rental housing, as the focus of China's real estate sector during the 14th Five-Year Plan period, REITs should be gradually incorporated into rental housing, to realize the closed-loop investment and financing and promote the supply of rental housing. At present, the size of China's rental housing market may reach 3-4 trillion yuan, mainly concentrated in large and medium-sized cities. On the one hand, China has the unique advantage of a centralized supply of land, while the public sector can initiate and continuously promote financial capital market innovation (represented by REITs). Controlling land supply and product planning rights in the hands of the public sector, reinforced by specific "subsidy" policies to encourage market participants to participate, and at the same time, investment and finance efficiency can be increased with the help of REITs, a financial instrument.

The specific operation process is as follows: Public offering of REITs is a financing means of the project, which can be regarded as the IPO of the project. The initiator can obtain funds from the financial market by issuing REITs, and investors can transfer their shares of REITs in the open secondary market.

3.3.2 Urban construction in the new era

Take the construction and renovation of intelligent municipal infrastructure in the new era as an example. At present, the construction industry ranks second from the bottom in the degree of intelligence, only higher than the agricultural industry. Upgrading and intelligent management of municipal infrastructures such as water supply, drainage, power supply, gas, and heat are conducive to improving the operating efficiency and safety performance of municipal infrastructure. Take thermal infrastructure renewal financing as an example. With the rapid development of The Times, the thermal industry has been constantly innovating, from the most original thermal power generation to water conservancy, solar power, and nuclear power generation. Thermal power generation has been gradually eliminated due to its high pollution and low efficiency. New energy generation is increasingly expected to maximize the efficiency of natural and scientific resources. The new thermal infrastructure can use clean and environmentally friendly energy to generate heat. The national level

can be equipped with a special dual carbon green finance fund to raise funds at the national level in the first round and then distribute them to local governments. After receiving funds provided by the state, local governments can use the funds to conduct EOD mode development, improve the ecological environment near the original heat industry and drive the operation of attached regions to attract social capital. Or is ABO development mode, because thermal enterprises during the transition to cleaner energy may be associated with higher operating costs, the government authorizes the establishment of a platform company, the platform company chooses to cooperate with social capital and to form thermal infrastructure projects, the project company within the authorized scope of business is responsible for the heat infrastructure projects and the development of supporting resources. The principal and interest of project financing, as well as the high running costs throughout the energy transformation period, will be reimbursed during the operation stage through the project's income, linked resource income, and the national supporting green finance special fund. Finally, at the end of the cooperation period, the thermal infrastructure will be handed over to the government.

4. Conclusion

China's urban construction in the new era is characterized by wisdom, environmental protection, and sustainability. Its purpose is not only to meet people's demand for living infrastructure, but also to make the city better display the combination of science and technology and urban culture, and better serve urban residents. However, because the government is gradually no longer dependent on the income from land finance, it is particularly important to introduce social capital into the investment and financing links of urban construction in the new era. Through suggestions at the national level, policies can be issued to build the linkage system of "project-industry-industry", establish the investment and financing system of national and provincial three-level urban construction, and encourage urban construction enterprises to go public. Local and specific projects can flexibly use various construction methods to raise funds. Meanwhile, China's infrastructure construction Reits are also worthy of consideration as investment and financing mean. Through these means, the government will introduce more social capital to participate in construction, relieve the financial pressure on the government, and better carry out urban construction in the new era to promote social development.

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