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## CDB: Born Bankrupt, Born Shaper

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Established in 1994, China Development Bank was soon on the verge of bankruptcy in the late 1990s, then it miraculously rejuvenated in early 2000s. Now with total assets of USD 1.85tn, CDB ranks as one of the most dynamic and the largest national development bank in the world. What happened to CDB? What contributions has CDB made to China's rapid development? This chapter will explore in detail the CDB's role in light of China's transition economy. CDB is a key contributor to the establishment of an accommodative local government credit system and facilitator for infrastructure constructions. Therefore, CDB's role goes beyond a bank financing tangible infrastructure, but above all a shaper of the government credit system. CDB is one of the starting points to understand China's economy.

### 1. Introduction

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In China, there are three policy banks, CDB (China Development Bank), EIBC (Export-Import Bank of China) and ADBC (Agricultural Development Bank of China). CDB is the largest and most influential one. This paper will elaborate on how CDB transformed its role from born bankrupt in 1990s to born shaper in 2000s. As a key background, China has been a transition economy in last three decades. Meanwhile, CDB's story can enhance our understanding of China's transition.

Established on Mar 17, 1994, CDB was born with planned economy marks and its inherent disadvantages. Affected by the shocks from the Asian financial crisis in 1998, CDB suffered a NPL ratio of 42.7%, and came to the verge of bankruptcy. Both China and CDB desperately needed to change. But as a developing and transition economy, what was China's priority in 1990s?

### **1.1 Born in a Transition Economy**

China set to reform and open its economy at the end of the 1970s, when the focus was mainly the real sector, instead of the financial one. Until 1992, China explicitly defined the reform target as establishing the market economy (Jiang, 1992). In the 1992 framework, the financial system was on top of the list.

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Since the end of the 1970s, the reform and opening policies have resulted in a great change in the national income distribution among the central government, local government and private sector. By the early 1990s, the central government's fiscal resources were substantially weakened, and being crowded out by the disordered expansion of local government fiscal capacity. The proportion of local government revenue to the total revenue rose from 59.5% in 1984 to 78.0% in 1993; at the same time, the proportion of central government revenue decreased from 40.5% to 22%.

In early 1994, China's first budget law was published and came into effect in the beginning of 1995. This law redefined the framework of the fiscal system, and redistributed the financial resources between local and central government. More tax revenues were transferred to the central government, and local government was even forbidden to run a deficit<sup>2</sup>. This was the situation in China's fiscal system when CDB was born in 1994. We will explain later how CDB played its role to rebalance the fiscal capacity between central and local government.

Before 1994, one of the many functions that Chinese commercial banks served in financial markets was to share a policy bank's role.<sup>3</sup> At that time, Agricultural Bank of China (ABC) was also heavily involved in the national agricultural policies. China

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<sup>2</sup> Budget Law of the People's Republic of China, Beijing, Law Press, 1994.

<sup>3</sup> In 1993, the four largest state-owned commercial banks, ICBC, BOC, CBC, ABC, were the leaders with 80.4% market share in terms of total assets. The remaining market share was taken by joint-equity commercial banks controlled by the local or the central government. In 2014, the four largest banks' market share decreased to 40%, leading to a more diversified banking system.

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Construction Bank (CCB)'s business also covered infrastructure policy financing. Therefore, commercial business and policy responsibilities were mixed. In 1994, the central government decided to establish CDB and the other two policy banks, the EIBC and ADBC. ADBC took over the agricultural policy business mainly from ABC (Bai and Li, 2005), while CDB took over the policy finance business from CCB and six state investment corporations (see section 2) (Gao and Chen, 2008). These arrangements aimed to separate policy finance from commercial banking.

From then on, commercial banks became more market-oriented. Finally, in 1995 China's Commercial Bank Law was published. At that time, the role of commercial banks was clarified by Article 4 of the law: commercial banks should work under the principles of efficiency, safety and liquidity with full autonomy and full responsibility for their own risks, profits and losses and self-restraint. Stripped of their policy financing functions, commercial banks could move forward with fewer burdens. However, these burdens were transferred to the policy banks, rather than addressed.

In addition, in late 1990s, China suffered from two external shocks: the Asian financial crisis in 1998 and the internal impact of SOE reforms. A policy bank like CDB, on the verge of bankruptcy, could hardly support the projects assigned by central government, and it became an extra burden itself. At the same time, resolving financial risks became the priority of the central government (Literature research division of the central

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committee of CPC, 2011). With the new priority of the central government and a recently appointed mighty president for the bank, CDB was willing to make every possible effort.

## **1.2 CDB Contributes to Reconstruct the Credit System**

For China, it is critical to build a sound credit system for the market economy. As a transition economy, China has met bottlenecks both in public and private credit systems. According to Adam Smith, division of labor and specialization are the sources of productivity and economic growth. But a poor credit system hinders labor division and specialization and undermines economic development.

China's WTO entry in 2001 has led to an improvement in the private credit system. The tradable sector was forced to reconstruct its credit system in order to do international business. Foreign direct investment companies also facilitated a sound credit system in some cities. On the other hand, the emergence of third-party e-commerce payments platforms, such as Alibaba, Taobao, Tencent, Jingdong Mall, helped boost the private credit system. All these positive factors spread to the whole of China's economy and significantly improved the domestic private credit systems.

Yet, the underdeveloped local government credit system hindered the provision of local

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public goods and infrastructure projects, the latter being both capital- intensive and government-credit-intensive. From 1998 to 2003, CDB carried out a series of significant reforms, to ensure, on the one hand, the sustainability of its own business, and, on the other, also promote central-local government credit system rebalancing and improve adaptability. Prior to 1998, CDB had been operating in strict accordance with the instructions of the central government. The lack of independence and its nature as an extension of the central fiscal system, which was viewed by local government as a quasi-central fiscal system, pushed CDB`s operations to the brink of bankruptcy. Chen, a powerful CDB president, came to this position just at that time. He restructured the framework of the policy bank and repositioned CDB as a shaper: “Our mission is not merely to support social and economic development, but to drive the formation of sound markets and institutions that underpin such development.” (Chen, 2013)

Outsiders trying to understand China`s transition economy often encounter many puzzling aspects: mismatch of fiscal capacity between local and central government, mounting local government debt, controversial land finance, investment-driven economy, rapidly developing infrastructures, and China`s confidence in AIIB initiative, whereas a study of CDB would offer a special perspective to better comprehend them.

The rest of the paper is organized as follows. Section 2 reviews the birth dilemma of CDB in the 1990s, which caused its bankruptcy and presents a sharp contrast with

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CDB's achievements in 2000s. These achievements will be described in section 3.

Section 4 explores CDB's substantial self-reforms. Then in section 5, we observe CDB as a shaper of China's financial system. Section 6 concludes the chapter.

## **2. Born Bankrupt in The 1990s**

In March 1995, one year after CDB's foundation, when he met with the director of the Industrial Bank of Japan, then prime minister ZHU Rongji explained to his guest that CDB benefited from a mixture of two kinds of talent: people from the financial sector, familiar with financial business, and the rest from central government, ministries, with a good knowledge of the macro economy (The editorial board, 2013). The two advantages combined would allow CDB to excel. Nevertheless, CDB's early operations failed to live up to the expectations.

### **2.1 CDB: A Born Bankrupt Bank**

In its early days in the late 1990s, CDB struggled, not to grow but to survive. By the end of 1997, CDB's total assets amounted to RMB 381bn, and its NPL ratio reached 42.65 % (RMB 162.5bn)<sup>4</sup>. At that very moment, the total volume of mid and long-term

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<sup>4</sup> For the whole banking system, the People's Bank of China (PBoC) estimates that at end 1997, around 20–25% of total bank loans, or about RMB 1,500 billion (US\$ 180 billion), were non-performing. See Mo, Y. K. (1999). A review of recent banking reform in China. Strengthening the Banking System in China: Issues and Experience, BIS Policy Papers, No.7, pp. 90.

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loans was RMB 365.6bn, of which RMB 155.9bn were NPLs. Among them, the coal industry was the hardest hit. By June 1998, the amount of CDB loans to coal industry was RMB 64.2bn, of which 48.3bn were non-performing. The NPLs ratio for this single industry reached 75% (The editorial board, 2013). Theoretically, NPL on such a scale would bankrupt CDB many times. Indeed, CDB was on the verge of bankruptcy.

When the state investment corporations were established in 1988<sup>5</sup>, they suffered from chaotic internal governance due to the absence of corporate law or banking law, because China had just begun its market-oriented reforms. Meanwhile, the task of the managers of the six corporations was described as ferrying money to various projects (Guo, 2006). So, when CDB took in the policy investment finance from the six state investment corporations in 1994, it planted the seeds for the later NPL crisis, which became CDB's historic burden.

Furthermore, the six state investment corporations were set up to finance policy projects. All the projects were featured as having significant positive spillovers. Although these projects were supposed to be socially bankable, they were not economically bankable. Consequently, when the loans were transferred from the six corporations to CDB in 1994, the quality of these loans was worrying. Except the NPL problem, in terms of

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<sup>5</sup> In 1988, learning from the Temasek model in Singapore, China's central government established six state investment corporations to take the financing functions from the ministries. These six corporations provided financing to agriculture, forest, energy, transportation, raw material, mechanical and electronic textile, taking the national perspective into consideration. For example, the Three Gorges Dam, the largest hydropower project in the world was financed by the six corporations and then by CDB.



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lending volume, CDB accounted for 2% of the total lending system with RMB 81.9bn.

It was a second-tier bank.<sup>6</sup>

The six corporations were based in Beijing, and had no subsidiaries in other cities; CDB therefore inherited no branches in 1994. Thus, other commercial banks that had local branches played the role of CDB's local loan agents. By 1998, 88.6% of CDB's loans had been lent through the commercial banks' network (The editorial board, 2013). However, because of insufficient incentives and supervision mechanisms, it was difficult for CDB to monitor the ultimate borrowers through the commercial banks, and the losses were solely borne by CDB.

Chen, the former president of CDB, remembers that when he joined CDB in 1998, a foreign media report described CDB as a bank that had “nearly exhausted” its initial capital, “sits on a mountain of bad debt”, and “toes the line” in lending to government projects (Chen, 2013)

## **2.2 Local government with poor capacity to finance infrastructures**

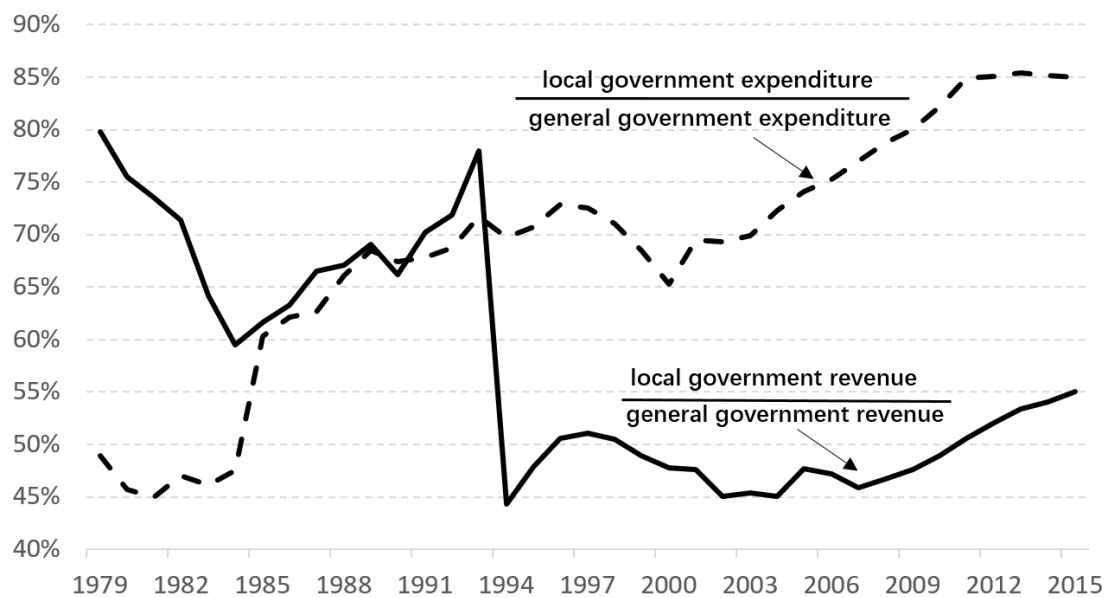
From the late 1980s to the beginning of the 1990s, when CDB was about to be founded, many local governments had issued too many municipal bonds to finance local

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<sup>6</sup> In 2015, this ratio increased to 10%, according to CDB's annual report published in 2016.

infrastructure projects. Some even went beyond the local governments' capacity and could only be sold through forced administrative measures. For instance, in some cities, staff were forced to purchase apportioned bonds issued by the local governments and their affiliates. In other cases, instead of the cash, the staff got part of their wages in the form of local government bonds, with zero-interest rate (Wang, 2006).

**Figure 1: The mismatch between Local Government Revenue and Expenditure**



Sources: National Bureau of Statistics of China and WIND data, 2017.

The over-indebted local government had not only crowded out central government financing resources, but also pushed up the fiscal risks. In this regard, the central government issued a new budget law in 1994<sup>7</sup> and centralized the most lucrative tax sources, including value-added tax (VAT), resource tax, and personal and enterprise

<sup>7</sup> Before 1994, the fiscal relations between central and local government were similar to those between parent company and subsidiaries. Roughly, a local government that ran a surplus would submit its “profits”, according to a given ratio, while if it ran a deficit, it would get transfers from the central government.

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income tax. Meanwhile, local governments were prohibited from having a budget deficit and from issuing local government bonds (Lu and Sun, 2013)<sup>8</sup>.

Consequently, local governments' financing capacity to support infrastructure projects was significantly weakened. As shown in Figure 1, the mismatch between local government revenue and expenditure appeared suddenly in 1994, and it remains.<sup>9</sup>

To balance fiscal revenue and expenditure, and make use of market resources, many local governments have established city investment companies (CICs) since the beginning of the 1990s. The first CIC was launched by the Shanghai municipal government in 1992. Then many CICs emerged in other cities. But the city investment companies faced challenges in at least two ways:

First, the CICs' financing model was project-oriented, that is, each project was individually financed by a borrowing arrangement. However, infrastructure projects, which have positive spillovers, long-term and capital-intensive features, can only be unevenly financed, due to their diversified and heterogeneous natures. Projects like water utility and environment protection are hardly be bankable in economic terms, even if they could profoundly enhance the overall social welfare; others like highways

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<sup>8</sup> Until 2015, in the wake of the updated budget law, local governments continued to have a deficit and they resumed issuing bonds.

<sup>9</sup> After 1994, there was no possibility for local government to run a deficit, and transfers from the central government were far from adequate. This large fiscal gap was closed by CDB's innovations in LGFV and land finance. We will elaborate on this later.

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and power stations are relatively more profitable and therefore bankable. Consequently, although the projects have significant positive spillovers, they could not attract abundant capital in the financial market (Shen, 1999).

Second, in the early and mid-1990s, CICs found it difficult to finance capital-intensive infrastructure projects, because they only had limited self-owned capital. To enhance the CICs' financial capacity, it was natural for the local government to become its guarantor. With the direct endorsement of the local government, CICs got more loans with favorable interest rate.

The Law of Guarantee, issued in 1995, banned local governments from acting as guarantors, including for the provision of guarantees for CICs or any infrastructure projects<sup>10</sup>. This new law cut off the guarantee relations between the CICs and the local governments, without which CICs' high leverage (debt/asset ratio) became unsustainable. Consequently, the CICs' model was on the verge of collapse. Again, the local government's fiscal situation was in difficulty.

### **2.3 Central Government: Excessive Intervention in CDB**

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<sup>10</sup> There was an exception: if the local government provided on-lending loans extended by foreign governments or international financial institutions, then it could play the role as a guarantor. But the volume of such kind of loans was very limited. For details, see the third article of the second chapter, in Guarantee Law, Beijing: Law Press of China, 1995.

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Since CDB was founded in 1994, the People's Bank of China (PBoC) had forced CDB bonds onto other Chinese financial institutions via administrative command. With such rules of play, when CDB attempted to expand its business, it inevitably brought more pressure for the other commercial banks to buy more CDB bonds. Besides, CDB bonds had no liquidity in the secondary market at that time. With growing assets and large NPLs on CDB's balance sheet, the commercial banks complained and opposed such compulsive arrangement (The united study groups, 2007). Correspondingly, the commercial banks demanded a higher yield rate premium to purchase CDB bonds. CDB's financial costs, in turn, increased. CDB was thus caught in a vicious circle.

On the other hand, when CDB was established, it had followed the lead of the State Planning Commission (SPC), which was the predecessor to the National Development and Reform Commission (NDRC) (Chen, 2013). In the early years of CDB, most of its projects were decided by the SPC and the state, which meant that the central government had absolute control over the project selection. The main concern of the central government and the SPC was long-term social development, but not necessarily being economically bankable. Consequently, CDB's responsibility was solely to provide funds for pre-selected projects. In this way, CDB acted almost as an "ATM machine". Many borrowers used to view CDB as the second ministry of finance. Yuan Chen, the president from 1998 to 2012, said, "They feel like it's a free lunch. You can borrow and you don't have to pay back." (Sanderson and Forsythe, 2013)

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But the relations between the government and the “ATM machine” were not always harmonious. Excessive intervention from the central government had derailed CDB’s operations, which went from market-driven to politically driven. The borrowers, usually SOEs (state owned enterprises) or “joint stock” firms controlled by the state, considered CDB as a de facto extension of the treasury, and they also regarded CDB loans as zero-cost fiscal appropriation. Consequently, this aggravated the massive NPLs problem.

In 1997, a full three years after CDB was set up, the East Asian financial crisis deteriorated China’s economy and its financial market. Overcapacity emerged as a problem in many industries in China. CDB’s loans to the designated pillar industries suffered. In the same year, CDB’s NPL ratio rose to 42.65% (The editorial board, 2013).

### **3. An Amazing Turnaround**

CDB was born bankrupt. Indeed, CDB’s high NPL ratio back then would instantly have caused the bank to go bankrupt, according to the Basel Accord III<sup>11</sup>. Nonetheless, CDB survived into the late 1990s, and developed at a breathtaking pace afterwards, playing

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<sup>11</sup> According to the Basel Accord III, the capital adequacy ratio of a bank should not be under the level of 8%.

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a significant role in both China’s infrastructure construction and the improvement of people’s living standards. How did CDB managed to survive and change? We will elaborate on the reforms undertaken by CDB in section 4, and how CDB has played a role as shaper of the fiscal and financial system in section 5. Beforehand, we will focus in detail on the outcomes of this amazing turnaround.

At the end of 1990s, CDB survived the NPL crisis and East Asia financial crisis. From then on, CDB speeded up its development. In 1994, CDB’s total assets amounted to USD 11bn, equal to 1.9 percent of China’s GDP. They rocketed up to USD 1,849bn and 18.6 per cent of China’s GDP in 2015<sup>12</sup>. Meanwhile, CDB has played a critical “crowd-in” role of drawing capital from commercial banks and other financial institutions (Wang, 2016).

The high NPL ratio was a fatal issue for CDB in late 1990s. After Chen took the position as the president of CDB in 1998, he primarily restructured CDB’s internal governance, so as to decrease the NPL ratio. We will review the basket of measures he introduced in section 4. The trajectory of the NPL ratio declined substantially from 42.7% in 1997, to 1.8% in 2002; and then, for the first time, CDB’s NPL ratio fell below 1% in 2005. Since then, the NPL ratio has been kept at or below 1% for 11 years. Even during the global financial crisis, CDB’s NPL ratio did not exceed 1%. From 2012 to 2015, it

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<sup>12</sup> Source: The data in 1994, is drawn from the editorial board of The History of China Development Bank (2013). The data of 2015 is from the annual report of CDB in 2016.

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experienced a moderate growth from 0.3% to 0.8%<sup>13</sup>.

CDB's capital adequacy ratio and CDB's ROA (return of assets) have not shown a continuous increase. In 2006, the former declined to just above 8%. It was not due to write-off and equity capital losses, but because of the rapid expansion of total assets. Corresponding to the relatively low capital adequacy ratio in 2006, CDB's ROA reached a peak of 1.32% in the same year. Since 2007, the capital adequacy ratio has been maintained around 11% to 12%<sup>14</sup>.

CDB's ROA was shocked by the global financial crisis. In 2008, CDB's ROA decreased to 0.62%. It rose moderately to 0.9% in 2015, but never came back to its peak level in 2006. Part of the reason is that CDB took the initiative to operate at lower leverage and be more prudent about financial risks.

Because CDB's balance sheet became sounder and more sustainable, CDB bonds gained popularity in the bond market. Generally speaking, the oversubscription rate in the issuance market for CDB bonds is around 3 times. The last CDB bond issue of 2016 was on December 20, when three CDB bonds with 3-year, 5-year and 7-year maturities were issued on the same day. The oversubscription rate in the issuance market was

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<sup>13</sup> Source: The data before 2013, from the editorial board of The History of China Development Bank (2013). The data starting from 2013, from the annual report of CDB in 2013, 2014 and 2015.

<sup>14</sup> Ibidem.



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above 3 times for all of them. For the 3-year bond, it was even close to 5 times (Wang, 2016). The central government no longer forces CDB bonds onto other commercial banks. With favorable market conditions, CDB's annual bond issuance has expanded from RMB 0.2tr in 1998<sup>15</sup>, to RMB 1.48tr in 2016<sup>16</sup>.

When CDB expanded its business rapidly, it funded large investments in railway, public highways, electric power, water resources, petroleum and petrochemical, public infrastructure and strategic emerging industries. In addition to these core businesses, CDB also provided financing to people's livelihood. By 2015, CDB's loans outstanding in education had accumulated to RMB 56.2bn, in rural development RMB 855.7bn, poverty alleviation RMB 962.3bn, small and medium enterprises RMB 1,120bn, transformation of shantytowns RMB 1,310bn, and green credit RMB 1,570bn.

#### **4. CDB as a Self-shaper**

Before CDB can play its role as a shaper to China's financial system, it must first shape itself. As mentioned in section 2 and 3, CDB was born bankrupt and then turned prosperous. How CDB achieve such an amazing turnaround?

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<sup>15</sup> The editorial board, The History of China Development Bank, Beijing: China Financial Publishing House, 2013.

<sup>16</sup> Wind Data, 2017.

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## 4.1 Improving Internal Governance

**The disposal of NPLs:** In 1999, China set up four Asset Management Corporations - Great Wall, Cinda, Huarong, Dongfang - to strip toxic assets from Chinese national banks. In that round, the NPLs of the four largest national commercial banks, which amounted to RMB 1.4tr, were stripped. At the same time, Cinda Corporation acquired CDB's bad assets for RMB 100bn. In 1999, CDB launched a debt-to-equity swap plan for qualified enterprises. At last, 36 enterprises were included, and the debt-to-equity swap amounted to RMB 44bn. In this way, CDB's NPLs decreased by RMB 18.8bn (The editorial board, 2013).

In 1997, the stock of NPLs in CDB was RMB 162.5bn. In 1999, the NPL problem was largely solved when 100bn toxic assets were stripped and 18.8bn NPLs were solved through a debt-to-equity swap plan. Because of these measures, CDB's NPL ratio decreased from 42.6% in 1997 to 18.7% at the end of 1999.

Besides, to resolve NPLs whose borrowers were the local government and SOEs (state owned enterprises), CDB kept in close communication with the higher authorities responsible for these issues, and collaborated with them.<sup>17</sup> In the imperfect financial

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<sup>17</sup> As the Chinese administrative system is relatively centralized, provincial leaders are appointed by the central government and municipal leaders are appointed by provincial leaders. At the same time, CDB is based in Beijing and has a close relationship with the central government and the local government. With this background, CDB kept in close communication with the higher authorities, to use their influence on the debtor (a provincial or a municipal government).

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market of 1990s China, CDB and its president had to resort to the higher authorities to exert pressure on the borrowers in order to recover the loans. The strong position of CDB, and especially of its president, was critical in this process.

**Build up the national network of branches:** In section 2, we have mentioned that CDB heavily depended on the other commercial banks as local loan agents. But there was a serious principal–agent problem. It was difficult for CDB to operate inter-bank supervision. That was also one of the explanations for the NPL surges. Until 1998, CDB had only one branch in Wuhan city and three offices in Chendu, Xi’an and Shenzhen (The editorial board, 2013). To internalize the principal–agent relations and smooth the coordination between head office and local agents, CDB needed to set up a national network of branches and subsidiaries.

At the end of 1998, CDB took over China Investment Bank and restructured the bank. At the end of 1999, CDB had a national network of 20 subsidiaries on the mainland and one office in Hong Kong. In April 2002, the mainland network increased to 29 subsidiaries and 2 offices. After the branch banking system was established, CDB transferred nearly 3,000 loan projects and 16,000 correspondent banking accounts to the local branches (The editorial board, 2013). Since then, the local branches have entirely replaced the external loan agents; meanwhile, internal governance has replaced

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the inter-bank principal–agent coordination.

**Reform the loans approval process:** In this respect, CDB introduced a firewall mechanism (in 1999) and independent review committee (in 2002 and 2004) to control potential risks. The framework of firewall consists of three new departments: market and industry analysis division, financial analysis division, evaluation and review division. A local branch will firstly submit a project plan to the head office in Beijing. Then, the above-mentioned three departments will review the project respectively in terms of: market future, repayment capacity and compliance. Next, the evaluation and review division will report all the information to an independent review committee, which will vote to make the decision.

When the evaluation and review division reports to the independent committee<sup>18</sup>, the borrower of the project will also hold a road show through electronic means. This way, the commissioners get more information from the borrower but they do not appear in front of the borrower.

Each time, member selection for the independent committee is generated randomly from a candidate pool, and commissioners vote in an anonymous way. The mechanism is designed to enhance the objection weight. A project will be rejected if 30 percent or

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<sup>18</sup> The members of the independent committee consist of internal specialists, external lawyers, accountants and economists.

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more of the commissioners are against it. In the first year after the firewall was built, among 308 projects submitted, nearly 200 projects, or 65%, required substantial revisions or were rejected (The editorial board, 2013; Chen, 2013).

Following this step, the approved projects are submitted to the committee at the head office, and finally to the president. In this way, the president cannot approve a project from the beginning, and he only has the power to veto at the end.

#### **4.2 Be Independent of Central Government Intervention**

As mentioned in section 2, CDB got “excessive support” or too much intervention on both sides of the balance sheet from the central government in the 1990s. On the credit side, since CDB was founded in 1994, PBoC had forced CDB bonds onto other Chinese financial institutions via administrative command. Because CDB bonds have no liquidity in the secondary market, the investors, usually commercial banks, demanded a higher yield rate premium. The Central Bank designed an administrative issuing rate with a tradeoff between CDB and other investors.

But in 1998, because China’s economy continued to face downward pressure, PBoC lowered interest rate 5 times in one year to the lowest level in history. In such a situation, CDB faced a much narrower spread between lending interest rate and financing costs

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(the bond issuing rate). The bond issuing rate determined by PBoC was unfair, according to CDB, while it was very supportive of other commercial banks. The conflict of interest between CDB and commercial banks was clear (The editorial board, 2013).

Finally, a consensus was built to develop a bond market, where bonds would be priced by the market instead of the government. Meanwhile, it was also necessary to foster the liquidity of CDB bonds. But in the late 1990s, the bond market was not mature enough to sustain such liquidity.

In September 2, 1998, CDB issued RMB 5bn bonds for the first time as a step towards marketization. Beforehand, PBoC gave three assurances: (1) CDB bonds' liquidity in the inter-bank market, (2) guarantee to buy-back through open-market operations, (3) 2 to 3-year transition period. Meanwhile, CDB bonds would be issued through a dual-track system, with traditional administrative pricing and market pricing system (The united study groups, 2007).

The above measures amounted to an endorsement of the market liquidity for CDB bonds, and ensured the confidence for investors. On September 2, 1998, the oversubscription rate for CDB's first bond issuance was 3.73 times. The coupon rate was 5.19%, relatively lower than the administrative rate 6.12%, and even lower than PBoC's re-lending rate of 5.58% (The editorial board, 2013). By 2004, Ministry of

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Finance of PRC, China Export-Import Bank, China Agricultural Development Bank, in succession, also realized marketization issuance for their bonds. With the development of China's bonds market, CDB has also become fully independent to decide when to issue bonds and how much to issue. Meanwhile, the bond market developed quickly, and PBoC had more instruments for open market operations.

On the debit side, the central government identified and selected the projects for CDB before 1998. CDB played the role of a "cash machine" at that time. As mentioned earlier, since 1998 CDB has restructured the loans approval process, introducing three firewalls and an independent review committee. Since then, the loans approval system has rejected project applications not only from local government, but also from the powerful State Planning Commission (SPC). The loans approval system decentralized the decision-making power from the president, releasing the president from external pressures, and kept the CDB more independent. In 1998, CDB launched 437 new projects on its own initiative, which accounted for 30.5% of the total amount that year. In 1999, it even exceeded 60% (The editorial board, 2013).

Unlike commercial banks that select profitable projects from applications, CDB is to actively provide development financing for potential projects, or so called pipeline. One effective way to nurture such projects is "planning first" (Chen Yuan, 2013). CDB is actively involved in the five-year plan at the national level, regional planning and

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industrial planning in many provinces and cities, and it has sometimes even led the development of certain programs. In this way, CDB nurtured a pipeline project pool by taking into consideration global development tendencies, national economic growth strategies, regional and industrial plans. As a result, CDB has not only gradually gained independence from the over-intervention of the central government, but also bridged the gap between central government plans and regional and local plans.

## **5. CDB as a Shaper to Financial System**

CDB positions itself as a development bank. In this case, development not only means to directly develop the economy or the related public infrastructures, but also means to develop sound markets and institutions.

CDB plays a role as a key shaper to the financial market and the credit system, at least through the following ways: it reshapes the local government credit system through a local government financial vehicle (LGFV) model, contributes to construct primary interest rate in bonds market, and acts as a tool of monetary policy to guide long term interest rates.

### **5.1 Local government funding vehicle model, launched in Wuhu city**



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As mentioned in section 2.2, with the constraints of the updated Budget Law introduced in 1994 and the Guarantee Law issued in 1995, China's local government met financial bottlenecks for infrastructure projects.

In cooperation with CDB, in early 1998, the municipal government of Wuhu, a port city alongside the Yangtze River, set aside its quality assets to establish the Wuhu Urban Construction Investment Co. Ltd. (WUCI). Authorized by the local government, WUCI was mandated to raise funds for the city's infrastructure. It marked the start of the Local Government Funding Vehicle (LGFV), which leverages government credit (Sanderson and Forsythe, 2013).

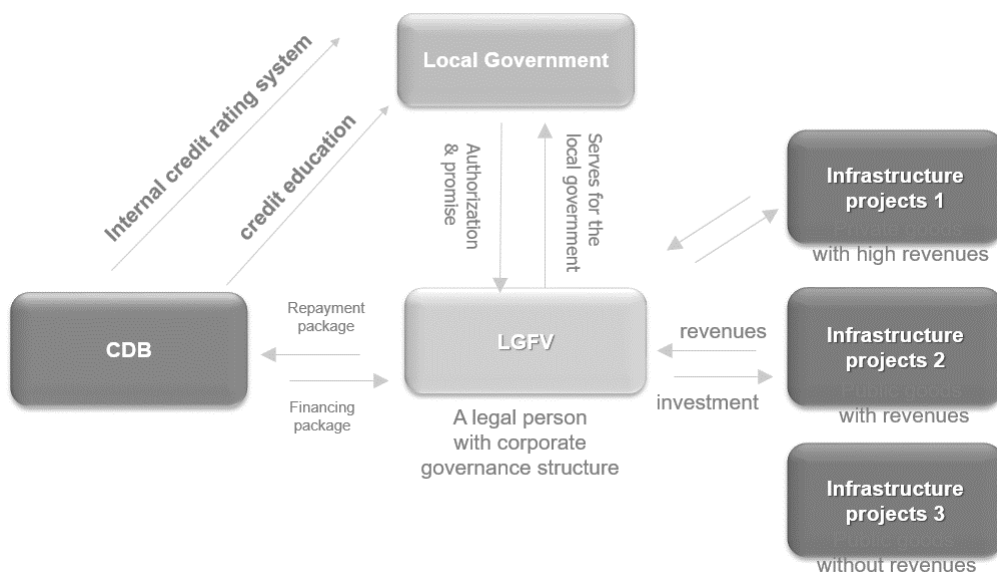
The first feature of the Wuhu model is the legal person status of WUCI, which was registered as a local state-owned enterprise (Chen, 2013). WUCI's borrowing behavior was not restricted by the 1994's budget law. Meanwhile, the local government also issued a promise with a stamped document, yet not a guarantee<sup>19</sup>, to CDB. As a specific form of promise, the local government injected its quality assets into the company. If the infrastructure asset, such as a highway or power station was profitable, WUCI could take the future profits as collateral and borrow from CDB. To enhance the credibility of the promise, there were more innovations such as BOT (build–operate–transfer) model. On the other hand, CDB kept informal but close relations with its superior

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<sup>19</sup> Because the 1995's guarantee law forbids local government to do so.

government, Anhui province in the Wuhu case. These arrangements avoided the constraints of the Guarantee Law published in 1995. As a bottom line, CDB has an internal credit rating system for the local government and its officials. If a loan becomes non-performing and cannot be resolved, the local government and its officials will be recorded in the credit rating system (figure 2) (Chen, 2013).

**Figure 2. Wuhu model: the start of LGFV**



Source: summarized by the author.

The second characteristic is bundled loans (Liebman and Milhaupt, 2015). Urban infrastructure projects are highly diversified and heterogeneous. In late 1998, CDB

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signed an agreement with Wuhu municipal government and the latter was promoted to designate WUCI to raise and repay funds for various projects in a basket (figure 2). This way, WUCI got financing from CDB for six infrastructure projects on highway, water utility, waste disposal and landfill. Consequently, socially bankable infrastructure projects are financially supported by economically bankable ones. And conversely, economically bankable projects also benefit significantly from the positive spillovers of socially bankable infrastructure projects.

The third feature is land finance. In 2002, the Wuhu model was upgraded with an innovation. In August of that year, CDB signed a new Financial Collaboration Agreement with WUCI. Based on this, CDB agreed to provide an additional lending of RMB1.095bn. Correspondingly, the municipal government authorized WUCI, the LGFV of Wuhu municipal government, to bid and auction its land to get land transfer revenue, which would at the same time guarantee the repayment to CDB (The editorial board, 2013; Chen, 2013). This is the origin of China's land finance.

Since 1998, infrastructure in Wuhu has improved remarkably; meanwhile, the overall business and investment climate has become more attractive. In the wake of fully equipped infrastructure, related sectors such as construction, building materials, real estate, tourism, cars have boomed as pillar industries. In last two decades, per capita

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GDP of Wuhu has risen from USD\$ 1,000 in 1998 to USD\$ 10,000 in 2015<sup>20</sup>.

In 2003, the Wuhu model was applied to Tianjin City, one of China's four municipalities. In this case, Tianjin city got financing from CDB to support a basket of urban infrastructure projects: highway and subway construction, watershed management of a river, urban landscaping, and land acquisition and reclamation. In 2009, as China was facing the external shock of the global financial crisis, the Wuhu model was widely replicated and applied to other provinces and cities. At that time, all the other Chinese commercial banks were encouraged to follow the LGFV model<sup>21</sup>. As a comparison, in 2007, the total debt of China's local government amounted to RMB 13.9tr; by 2014, it had rocketed up to RMB 30.3tr (CASS, 2015).<sup>22</sup> Meanwhile, more potential risks lay in the explosive local government debt in real terms<sup>23</sup>. When more banks began to cooperate with local government, they were blind to the whole situation. For example, the local government probably made promises to several banks at the same time backed by the same asset. In such a case, if there is a default, even solid-looking promises could

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<sup>20</sup> Source: National Bureau of Statistics of China, 2016.

<sup>21</sup> It was not the case in 2006. At that time, the stance of central government was not favorable to LGFV. But in 2009, it changed dramatically to stimulate the economy.

<sup>22</sup> For the same criterion, in 2007, China's local government assets totaled RMB 49.9tr, then in 2014, RMB 108.2tr, which was much larger than the debt in the corresponding year. This criterion for debts includes the most comprehensive items, such as contingent debt, like a guarantee, and indirect/implicit debt incurred by the local SOEs. If the implicit debt (by SOEs) is excluded, then the total debts of local government (including the contingent debt) would be RMB 3.0tr in 2007 and RMB16.8 in 2014 respectively.

<sup>23</sup> As described above, the LGFV was registered as a local state-owned enterprise. Meanwhile, the local government gave promises to LGFV, but not guarantees. This arrangement was a way to bypass the constraints of the 1994 budget law and 1995 guarantee law. As a result, LGFV debts become contingent liabilities of the local government. But this does not mean the LGFV model has no other value than bypassing constraints. Land finance, bundled loans are forms of Chinese practices in development finance.

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prove very weak. This may lead to a mess, to some extent, and moral hazard as well.

In spite of this, the main problem for China's local government debts is not the stock, but the surging flow. In 2007, the total debts of local government, including all of the contingent liabilities, accounted for only 30% of GDP (or RMB 17.9tn). If we combine the central and local government debts, the general government debt, including all contingent liabilities, accounted for 50.9% of GDP in 2013. Comparing with other countries in the world, it was a fairly moderate ratio.

But, after all, local government debt had rocketed up from RMB 3.0tr in 2007 to RMB17.9 in 2013. With the explosion of local government debt burden, it seemed that LGFV had opened a Pandora's box in early 2010s. Many economists and decision makers were afraid that local government debt would be out of control, and the LGFV model had already made the financial supervision ineffective (Wei, 2010; Liu and Zhang, 2010). Consequently, after a fierce debate, China's finance ministry published *Measures for Screening Outstanding Debts of Local Governments and Including Them in Budget Management*, which was launched to reorganize and suppress LGFVs. As a substitution to LGFVs, local government needs new funding to meet the financing demand for infrastructure. The central government introduced some supporting measures, as follows: a new budget law was issued at the very beginning of 2015, which formally allowed local government to run a deficit and issue bonds. In addition, the

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central government promotes the PPP (Public—Private—Partnership) financing mode as well. Nowadays, the financing mode are still going forward in the course of exploration

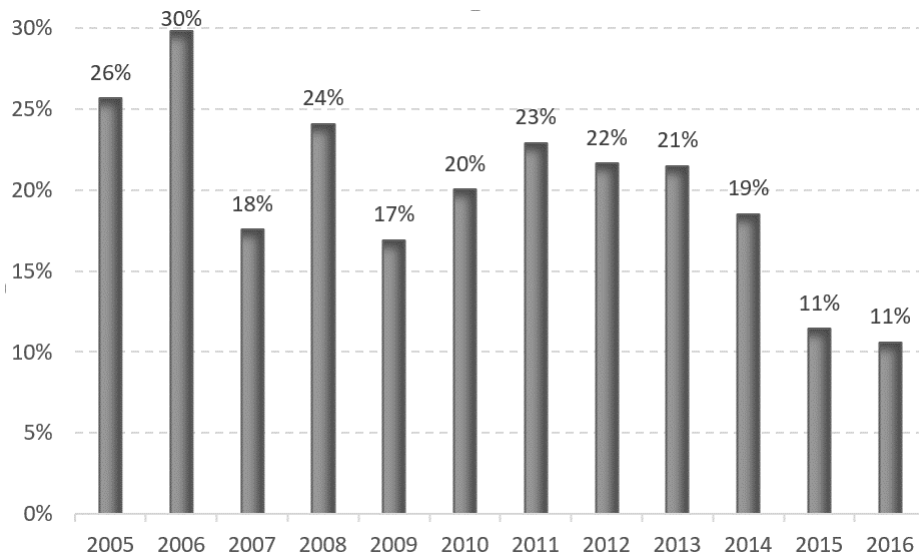
China has learned many lessons from the explosion of local government debt, and it is still facing trouble to some extent. But undoubtedly, China’s economy has significantly benefited from well-developed infrastructure networks. LGFV model is set to exit the stage of history, but it did substantially free local government from budget constraints and facilitate infrastructure construction. From the perspective of institutional evolution, although LGFV was a temporary innovation, it finally forced and accelerated national fiscal reforms from top to bottom. Even in some emerging markets, land financing, bundled loans and “planning first”, the kind of modes applied by CDB, have achieved rapid development.

## **5.2 CDB as a key player in monetary policy framework**

China’s central government remains conservative about running a large deficit and issuing a big volume of government bonds. Insufficient government bonds, and consequently liquidity, are the key reasons why China’s bond market has lacked a developed benchmark for yield curve for decades. To some extent, CDB has filled in the gaps. CDB is the second largest bond issuers in China, after the Ministry of Finance. For most years in the last decade, the issuance of CDB bonds generally accounted for

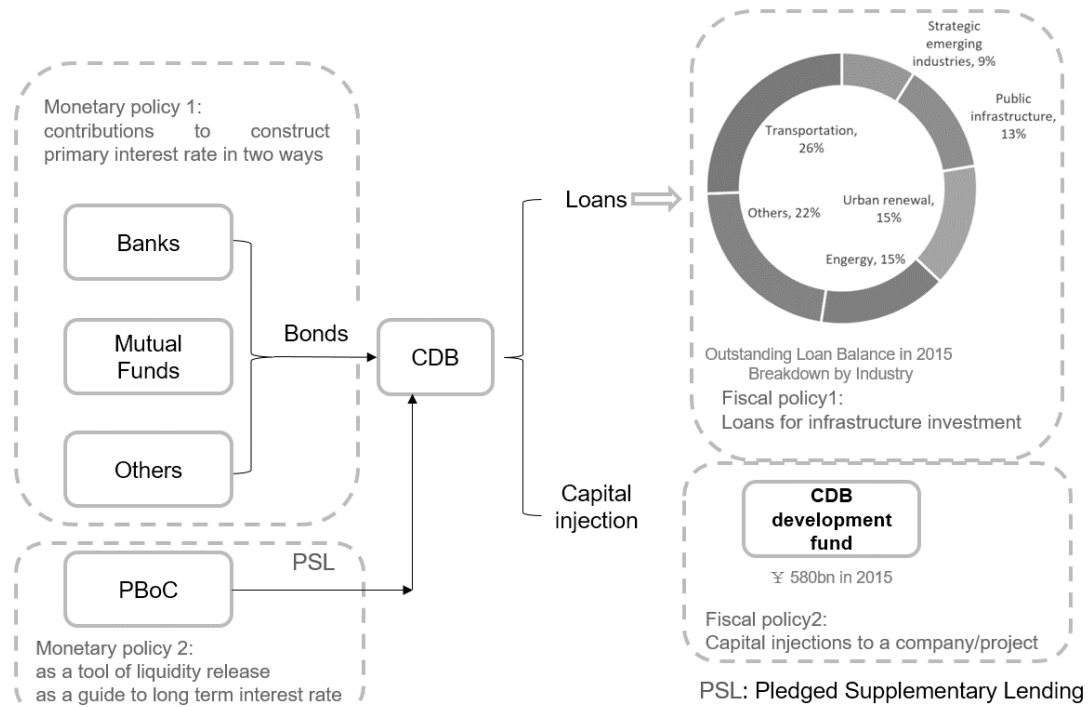
about 20% of the whole bond market (figure 3).

**Figure 3 CDB bonds issuance accounts for a key portion of the market**



Source: WIND Data, 2017.

**Figure 4 An overview of CDB's counter-cyclical role**



\*\*\*: this circle diagram describes CDB's outstanding loan balance, which is broken down by industry. Source: CDB's annual report of 2015 and the author's summary.

In addition to its large scale, (1) CDB covers all bond maturities, (2) its bonds are issued regularly and traded with a high liquidity in the secondary market, (3) CDB's credit rating is as high as China's sovereign credit rating. Under these conditions, CDB bonds contribute to develop the yield curve of benchmark interest rate.

On April 24, 2015, Guangxi Yuchai Machinery Group issued the first bond taking CDB bond rate as a benchmark (Gao, 2015). Since then, the CDB bond rate itself has behaved as a kind of benchmark in the market. On June 30, 2016, China Securities Index Co.,



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Ltd released the price index for the 10-year CDB bonds to set up new benchmarks and references for the investors<sup>24</sup>. By the end of August 2016, the trading volume for bonds of China's three policy banks, among which CDB plays the leading role, amounted to 53 trillion yuan, with a ratio of 46% in the total volume<sup>25</sup>. In China's secondary market, CDB bonds are the most liquid asset with the most active quotations and the minimum spread. Consequently, many financial tools, such as bond index funds are created based on CDB bonds.

Since the end of 2014, the PSL tool (pledged supplementary lending) has been introduced as a new channel to inject liquidity into the market. It is a new type of supplementary lending instrument backed by collateral, injecting liquidity into the market at the same time. The collateral includes high credit rating bond assets and high-quality credit assets.

As the direct and effective funding support for infrastructure and shantytown renovation, PSL distributes major resources to CDB. At the very beginning of PSL in 2014, CDB got a quota of RMB 1tr for PSL from PBoC. CDB has become the dominant borrower in PSL. On the other hand, PBoC designed and created this monetary policy tool to

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<sup>24</sup> CSI 10-Year CDB Bond Index is composed of the China Development Bank (CDB) bonds of which the term-to-maturities are between 6.5 and 10.25 years. See the web site of China Securities Index Co.,Ltd:

[http://www.csindex.com.cn/sseportal\\_en/csiportal/zs/jbxx/report.do?code=930849&&subdir=1](http://www.csindex.com.cn/sseportal_en/csiportal/zs/jbxx/report.do?code=930849&&subdir=1)

<sup>25</sup> For the first time, a CDB's bonds (7-10 years term) index fund was issued, Sep. 22, 2016.

[http://finance.ce.cn/rolling/201609/22/t20160922\\_16160776.shtml](http://finance.ce.cn/rolling/201609/22/t20160922_16160776.shtml)

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lower medium and long-term funding cost. By the end of 2016, the outstanding balance of PSL has accumulated to RMB 2.1tr.

## 6. Concluding Remarks

CDB was born in 1994 in a transition economy. In the 1990s, the features of a planned economy lay in both the macro economy and CDB's internal governance. CDB's revival can be attributed to (1) the reconstruction of its internal governance, (2) the restructure of the domestic credit system and financial market, which was motivated by CDB's reform efforts, (3) corrections to the excessively strict 1994 fiscal reform. This refers specially to rebalancing the fiscal capacity between the local and central government with the constraint of the 1994 budget law. In addition to the reconstructions and corrections, (4) CDB works as a coordinator between the central government's macro-economic plans and local government fiscal capacity.

In macro-economic textbooks, there is consensus on the need for an independent central bank. CDB's history in the 1990s proved an independent development bank is also necessary. Otherwise, with excessive support or administrative interventions, CDB could easily have ended up as a second ministry of finance and gone bankrupt. In the late 1990s, CDB was lucky to have a powerful president. The disappointment of the central government, weakened macro-economic situation and high NPL ratio gave

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CDB a valuable opportunity to make substantial reforms.

But independence does not mean a development bank should cut off all relations with the central government. On the contrary, CDB should work closely with the state on national plans. CDB is actively involved in the state five-year plan, national industry plan and should closely cooperate with the related ministries to integrate their ideas into the provincial and municipal plans.

Last but not least, CDB grows against a special background, which does not necessarily apply to other countries. One special characteristic is that China's economy took off again in the early 2000s. CDB's expansion is also closely linked to interactions with the macro economy. Another key point is that China's local government is in possession of massive resources, in many aspects, such as local state-owned enterprises, land-transferred revenues, which directly enhance local government credit.

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## Appendix: CDB's role as counter-cyclical lender

Most development banks play a role as counter-cyclical lender. CDB is no exception.

We focus on its role in this appendix.

CDB's shareholders include the Ministry of Finance of China (36.54%), Central Huijin Investment Ltd. (34.68%), Buttonwood Investment Holding Co., Ltd.<sup>26</sup>(27.19%) and the National Council for Social Security Fund (1.59%)<sup>27</sup>. MoF of China and PBoC are two major direct shareholders of CDB. Thus, CDB was not only established for sustainable development, but also to facilitate fiscal or monetary policy for counter-cyclical purpose. CDB's assets business reflects its counter-cyclical role. On the assets side, CDB invests through lending and capital injection, both playing a role as a quasi-fiscal policy (figure 4).

As to the fiscal system, CDB is a crucial policy vehicle to provide funding to quasi-fiscal projects. Through credit support and capital injection, CDB leverages more capital from the commercial system. By the end of 2015, the composition of CDB's outstanding loan balance in different industries was: strategic emerging industries 9%, public infrastructure 13%, urban renewal 15%, energy 15%, transportation with 26%

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<sup>26</sup> Buttonwood Investment Holding Co., Ltd. is an investment corporation solely invested by SAFE (State Administration of Foreign Exchange). And SAFE is also directly affiliated to PBoC.

<sup>27</sup> Source: CDB's annual report of 2015, pp. 27.

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and others 22% (figure 4).

On August 25, 2015, CDB Development Fund (CDF) was established to support domestic investment in key fields. Different from the traditional loan business, CDF supports the projects as a shareholder by means of capital injection, equity investment and loans to a project.

It is possible that some projects, which are not qualified to get loans according to the standard of risk control, are initiated with a high leverage. But among these projects, some are potentially profitable and featured as having positive external effects. If a project is identified and qualified by CDF, then CDF can directly inject capital to the project to become a shareholder. At the same time, the debt/asset ratio will be expected to decline to a desired level because of the capital injection. Thus, the project will also be qualified and enabled to borrow more from CDB, commercial banks or the bond market. In the process, CDF (including CDB) can obtain interest rate subsidies from MoF of China, and dividends and interest on loan from the project. These lead to a sustainable business. Besides CDF, CDB Capital<sup>28</sup> and China's Investment Fund of Integrate Circuit Industry<sup>29</sup> also operate equity investments.

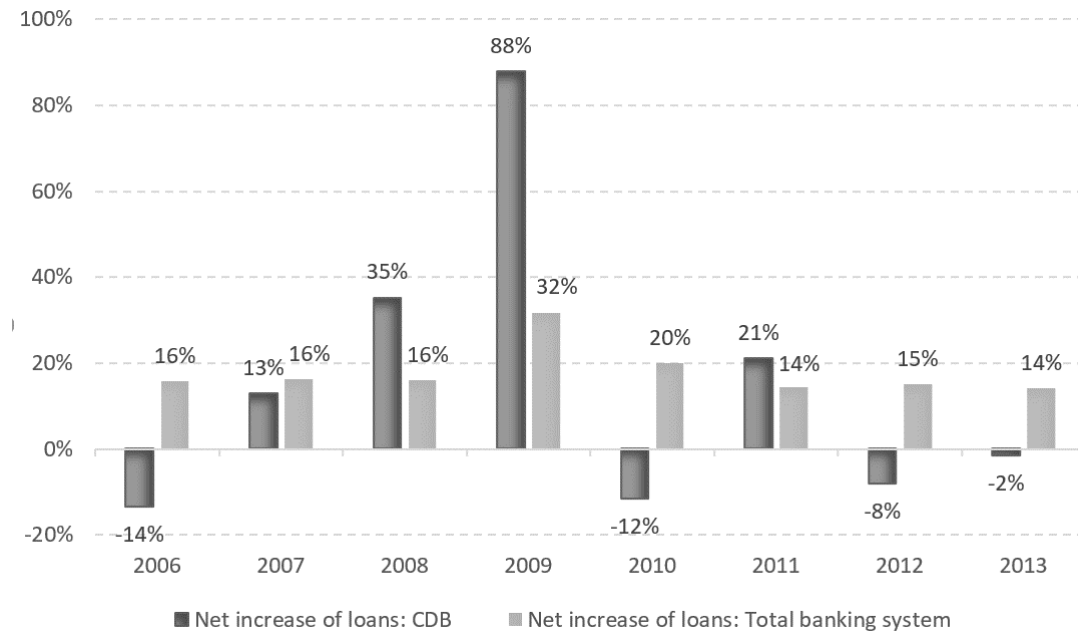
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<sup>28</sup> CDB's wholly-owned subsidiary, established in 2009.

<sup>29</sup> Initiated by CDB and other institutions, established in 2014.



**Figure A.1 CDB's counter-cyclical: net increase of loans**



Source: the editorial board of The History of China Development Bank, 2013. And CDB's annual report in 2013. PBoC, 2016.

As a fiscal policy vehicle, CDB's loan business is characterized as counter-cyclical. At the end of 2008 and throughout 2009, just after the global financial crisis, CDB's loans for investment projects rocketed. In 2009, to deal with the shock of the global financial crisis, the growth rate of CDB loan was a striking 88%. In 2010, by contrast, facing an overheated economy, CDB loan grew at a speed of -12%.



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**Contributor Bio:**

XU Qiyuan joined IWEP (Institute of World Economics and Politics), CASS (Chinese Academy of Social Sciences) since 2008, and becomes a senior research fellow since 2011, then the head of economic development division at IWEP in 2014. In 2012, he also took up the role of advisor to the international collaboration department in Ministry of Finance of PRC. His interests mainly focus on China's macroeconomic policies, RMB internationalization, and international development financing (related to the Belt & Road initiative). Xu also sits in the work team of CEEM (China's External Economic Environment) in IWEP. This work team issues a quarterly report on global macroeconomics, and he is responsible for the research on China's economy and RMB issues.