Project Finance and Macroeconomy in China 2007-2017 (2)

por Shihui Yu

ICADE Business School

Master in Finance

Master's Thesis
Project Finance and Macroeconomy in China 2007-2017

Author: Shihui Yu

Director: Ramon Cidon Martinez

Madrid

July 2018

Project Finance and economic growth in China 2007-2017

by Shihui Yu

First Draft: 2018/4/22

Second draft: 2018/06/13

Final draft:2018/07/09

INDEX

List of Figures and Forms

LIST OF ABBREVIATIONS

FDI – Foreign direct investment

LGD - Local government debt

LGFV - Local government financing vehicle

PFI – Private Finance Initiative

SNGs- Subnational governments

CHAPTER 1. INTRODUCTION

1.1 INTRODUCTION

The thesis starts by the question of, what is the basic shape of project finance in China after the global financial crisis and what's its role played in the economy. First the thesis breaks down the analysis of China macro-economy on different components in GDP, comparing with total debt bearing by the country, and analyze the changes in the view of the regulations. As China did not open the market until the "reforming and opening up" in year 80s in the 20^{th} century, the role played by the government in different levels took up an important role of the financial activities allowed to be performed in the country. Exactly after the free-market reforms in 1979, China's economy has been the fastest sustained expansion by a major economy in the history. In the second part, the thesis concludes the changes of project finance in China in 2008- 2017 by checking cross-sectional data and time series-data along the timeframe to draw the picture of settlement in different provinces. By longitudinal comparison and the cross-wise comparisons of different indicators set to measure the scale of project finance, the thesis documents the development of project finance in 2^{nd} generations and the boom of PPP(Private-Public-Partnership) in 2014. At the end, the thesis tries to explain the relationship between the business cycle of China economy and the prevail popularity of project finance in China with the description of the nature of China economy.

After the financial crisis in 2008, to sustain the pace of GDP growth that before averaging 9.5% which was already getting slow back then (from 14.2% in 2007 to 6.9% in 2017), China government announced a stimulus plan that aim at boosting domestic economy at an amount of 4-trillion RMB plan and also announced to the public that a "new normal" would be emerging as the country never face the slower economic growth before comparing before. As well under the belief that infrastructure drives economic growth, and also to attract incentives promoted by the central government which greatly encourage the officers in local government, large numbers of LGFVs (Local government financing vehicle) were set up to fueled the urban infrastructure development. And with the consideration of the fact that the economic growth driven by the real estate industry was considered no longer sustainable due to the heavy debt born by the local governments. While local government struggled to balance the dilemma between economic growth and increasing off-the-balance debt, the global financial crisis just wiped out the revenue source selling national – own lands to the commercials of the real estate which at the same time pulled up the GDP of the local. The Central government at the meanwhile chased behind the wild-development of the projects in local provinces, to implement policies to regulate the growing project finance market with the concern of increasingly growing debt would bring systematic risk to the whole market, as the loans taken by the enterprises were mostly connected with the financial sources from the national banks. The financial crisis exposed such risk that the vehicles that set up by the local government may not be able to generate efficient cash flow or generate cash flow in time to cover the credit risk issue. Needless to say that, under the performance of such package of4 trillion RMB stimulus plan ($586 billion in US dollars) was effective as thirds of forth of the credit were spread through national banks and later the credit flew through the local governments which invest heavily in railways, subways, airports and energy plants, which the debt of local government reach a new peak. As the report of (Morrison, 2018) showed, the plan focused on funding infrastructure and loosening monetary policies made China stood still facing the challenge of the declining in demands from exportation.

Especially inside the scene, the use of PPP made China one of the biggest market for project finance – 17.6 billion RMB investing until the end of 2017, and since 1994, the LGFVs under the list of government reached 10,000, with the debt relating with such vehicles grew more than 39% when at its peak.

Project finance first breakout to be populous for the oil crisis in 1973 that was used to provide loan product to finance gas and petroleum with a syndicated loan that reached 945 million dollars, which conducted with 66 banks, to explore the petrol in the North Seas. Later it is extended to other filed as mining, infrastructure and public transportations. China once financed the largest PF in the history, the Three Gorges (Yumiko Kojima, 1998)in Chongqing province. The PFs have more strengths comparing to traditional corporate finance for the reasons of:

(a. with most possible leveraged (Hui Jin, 2016) level to realize the potential of the revenue of the project;

(b. make off-the-balance debt possible and influence less on Sponsor's balance sheet;

(c. distribute risks among different parties;

(d. relatively high ROE with risk verified more precisely.

As the rising demands of ¨public goods¨, that with the form of project finance it helps to generate long run economic growth. The projects require the sponsors to give support in

capital without taking the whole debt of the project into balance sheet. For the public infrastructures, it managed to obtain more capital not limited to commercial banks, insurance companies and other financial institutions. As at the time when the government also views the economy growing as an insurance of the social stability.

This paper will document such changes and its impact in the economy, with summary on different roles and relationships involved government and local state-own company players, with explanation on the regulatory offices that monetize the procedure of Project Finance in China. To this end, it will give the outline of the Project financing is leading to one of the part of the increasing shadow banking issue in China.

Keywords: Project Finance, PPP, LGFV, 4 trillion plans, Shadow Banking

1.2 LITERATURE

There are literatures that working on the relationship between project finance and economic growth. On the study of (Kleimeier, 2010), project finance can be effective to support the financial needs of the underdeveloped countries and financial systems, and improved the contractual relationships and corporate governance. In the study of (Lisbeth la Cour, 2014) that project finance worked as a significant driver of economic growth.

There are a large numbers of existing studies on China government local loan. On Project finance regarding foreign direct investment (FDI) and on internal infrastructure construction. For example, the study delivered by (Hui Jin, 2016) that specify the relationship between PPPs and the LFGVs.

With the precise articulation from (Ho, 2007) describe the role of local government in China's Economic Development. It provides a good frame work to understand the balance and behavior between the local government, the central government, the firms and the banks.

On the relationship between local government loan and China economic growth we have:
Robins from LSE from Neoliberalism state that the government interfere with economics lives more than ever, which surpass the boundary than it should.

(Calderón, 2011) proposed that within 10-years study for 88 countries, a 1 % increase in infrastructure assets could increase GDP per capita by ¾% to 1 %. (Chris Thoung, 2015) also confirmed that infrastructure investment would contribute to productivity growth comparing to non- infrastructure investment, using time series data for 27 countries. With (Jorge A. Chan-Lau, 2016), the research highlights the importance in long-run economic growth with the numbers of project finance inside the countries.

Chapter 2 Methodology

2.1 Documentation

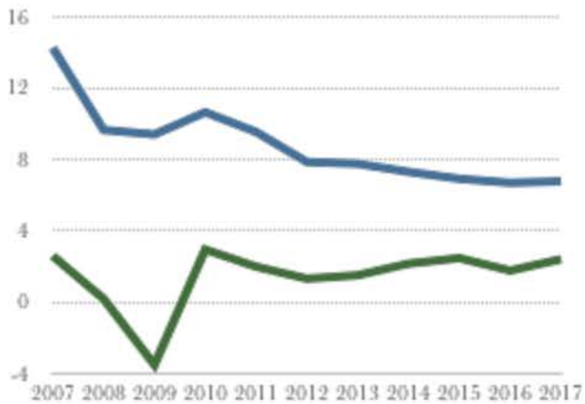
The paper documents the project finance in China and its main activity involving the policy making from the government, while at the same time it articulates the reaction cycle of how the local government behave to strike for most interest within the regulation of the central government. And compare the status quo with the governments in the world to check the attitude and the implementation of PPP in China.

2.2 Explanation

The paper hopes to explain in detailed how different models of project finance works in the perspective of private capital, which help them to determine the best way of joining project finance under the environment when political factors become the main player in field, which differs from the literatures already exist that focus on helping the government to make better decision on managing capital.

Chapter 3 China Macro-economy in 2007-2017

3.1 Growth and Domestic Demand (% of growth rate)



Blue line: China

Green line: OCED 20 countries average

Figure 1. GDP Growth Rate of China in 2007- 2017 (comparing with OECD total)

Data source: National Bureau of Statistics data

Year/Country	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
China	14.23	9.65	9.40	10.64	9.54	7.86	7.76	7.31	6.92	6.70	6.78
OECD Total	2.61	0.21	-3.47	2.97	2.01	1.34	1.53	2.18	2.49	1.79	2.43

Form 1. GDP Growth Rate 2007-2017

Data source: OECD

3.1.1 Gross Domestic Product/ Nominal and Real GDP

Since the introduction of economic reforms, from 1979 to 2016, its annual real GDP averaged 9.6%.

The economic growth rate is the rate at which a nation's GDP changes over the last year. GDP is the indicator telling that the market value of the finished good and service produced in certain area in a particular time (in this case 1 year).

As shown in the Figure 1 and Form 1, that in the year of 2008, comparing with the former year GDP growth rate of 14.23%, the economy of China slowed down to 9.65%. Right after the stimulus plan by the government in the fourth quarter in 2008, the economy ceased the downward trend and picked up again in 2010 to 10.64%, when afterwards the GDP growth rate decreased slowly to 6.70% in 2016 and 6.78% in 2017.

Comparing at the same period with the OECD total that contain 35 countries' data (including China) as the baseline, the GDP growth rate of OECD total started dropping from 2.61% in 2007 to -3.47% in 2009 in response to the Global financial crisis. It immediately picked up the trend to 2.97% in 2010 and maintained such growth rate around 1.3-2.5% during the year 2010 -2017. The GDP growth rate of China outpaced the OECD countries in 10 years, especially during 2008 and 2009, when the OECD countries suffered a downward movement. However, in the long term, we can sense that the direction of the GDP growth of China is heading down, regardless of the small climbing in 2010, while the rate for the OECD total is maintaining steady despite the period of global financial crisis.

	2007	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
CPI (yoy)	4.80	5.90	-0.70	3.30	5.40	2.65	2.62	1.99	1.44	2.00	1.56
Real GDP	14.23	9.65	9.40	10.64	9.54	7.86	7.76	7.31	6.92	6.70	6.78
Nominal GDP	23.10	18.20	9.30	18.30	18.50	10.40	10.20	8.20	7.00	8.00	11.20

Form 2. Real & Nominal GDP & CPI Index

Data source: OECD

Real GDP is modified after taking into consideration the effect of general price level unchanged for the measured period. The value of goods and services measured at current prices as nominal GDP. The gap of this two is explained by the price deflator, or some may put it as the inflation rate. To compute a better comparison among them, the following chart extract the data with the Nominal, Real GDP taken from OECD, the CPI Index released from the National Bureau of Statistics. Although there are argues that the Real GDP released by the NBS from China is not accurate number, the studies show that as the economy itself is evolving too quick for the statistic office to catch the exact number.

As shown in the form, that the CPI index formed decreased from 5.4% in 2011 to 1.56% in 2017 in the terms of national currency on Yoy basic. And during the year 2007 to 2011 there was volatility in CPI. If simply look on the number, China is keeping the inflation rate steady.

3.1.2 Domestic Demand

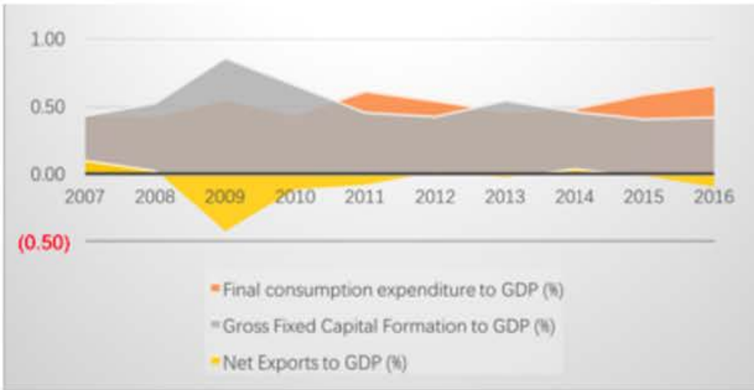


Figure 2. Domestic Demand 2007-2016

Data source: National Bureau of Statistics data

To compose the domestic demand, as it is known that final domestic demand is the sum of final consumption, investment and stock building expenditures by the private and general government sectors in real terms. The Figure 2 drew the pattern of final consumption expenditure, gross fixed capital formation and net exports, in the form of (contribution % to GDP growth).

For the final consumption expenditure - including consumption from households and enterprises. For Gross Fixed Capital Formation - the net increase of physical assets (investment - disposals), with exclusion of the land sales and purchase, is an indicator which show the confidence of the investor and the business sector. Partly show the investment of the entity. Net exports - the difference between the monetary value of a nation's exports and imports over a certain period.

From the data available during the time 2007-2016, while the government through urban infrastructure construction in large scale and therefore pushed investment, private consumption dropped and the Net Export dropped to the lowest point in 2009. Chinese domestic demands contribution rate to economic growth averaged 105.7% from 2008 -2017. The engine that used to drive the economy of China: Net Exports, contribute to GDP growth drop to -43%, when due to the stimulus plan, investments increased to 87% contribute to GDP growth. And again hit another height in 2013 with contribution to GDP growth to 55%. In short, we can indicate that in the for coming years, the domestic consumption will be the key point of the focus of the government. As the model of exportation is no longer as sustainable as it was and the power of the infrastructure construction was losing its trend.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Import	14.80	7.41	2.19	19.93	17.73	6.59	10.65	7.77	-0.48	4.71	6.95
Export	20.93	10.64	-11.30	25.64	14.59	5.88	8.76	4.25	-2.22	1.08	9.15
Net Exports	6.14	3.24	-13.49	5.72	-3.14	-0.71	-1.89	-3.51	-1.74	-3.63	2.20

Form 3. Volume of imports & Exports of goods and services (% change)

A balance of trade deficit (Net Export < 0) means that the domestic economy is spending more on foreign goods and services than foreign economies are spending on domestic goods and services. And a balance of trade surplus means vice versa. In the form 3, the net export of China faced a punch during the year 2009 with a dramatic low point on -13.49 in growth rate (comparing to 6.14% in 2007), even it recovered to 5.72% in 2010, it turns negative since 2011 and not until 2017 rebounded to 2.20%. The volume imports and exports dropped from two digits before 2012 to one digit showed a hint that the intensive growth started to ease.

3.1.3 Investment Indicators

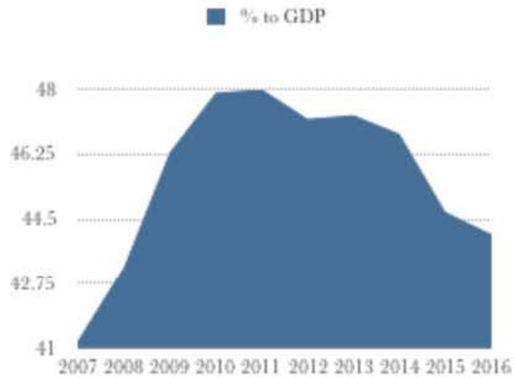


Figure 3. Gross Fixed Capital Formation (GFCF) 2006-2017

Data source: National Bureau of Statistics data

With the data available till 2016 as a consequence of the stimulus plan, in 2009 the investment rate reached near 48% and remained the relevant level for 5 years until 2014 dropped to 46.8%. In 2007 it was linger between 40-41% for the reason that at such time the main motor of the whole economy was still exportation, but we can see how it climbed dramatically after the global financial crisis and its influence remain even till 2016. The 4 trillion plan result was effective as within 2 years the investment to GDP raised 7%. Also taking the slowth of the GDP into consideration that it may give reasons for the decreasing proportion of the investment in the GDP. Investment indicators are used to measure the gross fixed investment or gross fixed capital formation, which deliver the value of acquisitions of new or existing fixed assets with a life span.

3.2 Public Sector and Fiscal Policy

3.2.1 Government Revenue

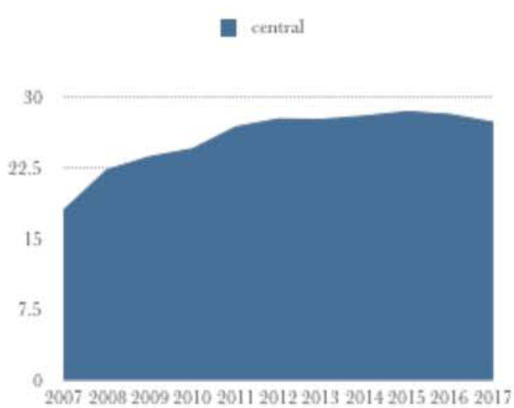


Figure 4. Government Revenue(% GDP) in 2007 - 2017

Data source: National Bureau of Statistics data

Since the tax reform taken place in 1994 which determine the budgetary structure among the Central Government and the local government, the right of imposing taxation had been firmly control by the Central Government. Its revenue includes 3 parts: budgetary revenue, extra-budgetary revenue, and social security contributions. The first one consist of tax revenue and state enterprise contributions, while extra budgetary revenue include fees and charges. The last one are for local government as off the budgetary revenue. As we can check from the Figure 4, that since 2007 it took up more that 20% of the GDP and even though the global financial crisis the revenue kept standing more than 22.5%. And kept growing to reach nearly 30% during 2016 and 2017.

3.2.2 Tax rate

Corporate tax rate - standard tax rate 25%, for qualified enterprises that are engaged in industries promoted by the government tax rate will be 15%.

Value-added tax - applies to the sale of goods, except real estate properties, and the provision of labor services in relation to the processing of goods and repair and replacement services within China. The standard tax rate is 17%. (Government is not within the VAT system in China. And Subsidies provided by the central government are exempt from VAT).

3.2.3 Government spending (% GDP)

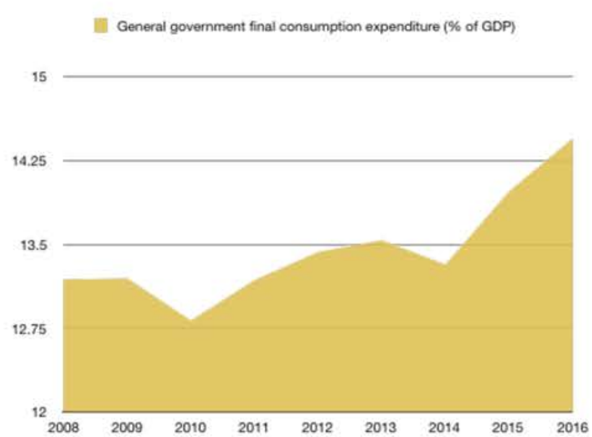


Figure 5. General Government final consumption expenditure (% of GDP) in 2007 - 2016

Data source: National Bureau of Statistics data

The government spending maintains at around 13%, and decreased to 12.75% during the year 2010.However, it climbed rapidly after the year 2010 relatively reached 13.5% in

2013 and again another height in 2016 to over 14.25%. Currently there's no official data for this number in terms of % GDP in 2017, still it can be observed that the expenditure is rising.

The growth rate of the government spending dropped from 23.2% slowly to 6.2% in 2017. But together is the decrease from the growth rate of the government revenue from 32.4% to 11.7% during the 2009, and picked up again in 2011 for 25% and ever since then slowly decreased to 4%.

3.2.4 Budget Balance

Budget balance is the overall difference between government revenues and spending.

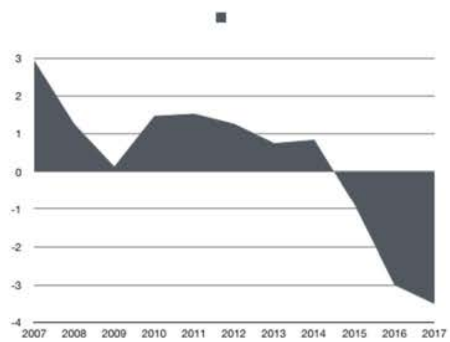


Figure 6. Budget Balance (%of GDP) in 2007 - 2016

Data source: National Bureau of Statistics data

According to the data provided by the Financial Ministry of China, when after 2007 it suffered a drop from a surplus of the budget balance from 3% to the GDP to nearly 0% in 2009, when it recovered around 1-2% during year 2010 to 2014, it dropped to nearly 3% to GDP around 2016 and 2017 significantly due to both excessive credit growth and big fiscal deficit.

3.2.5 Primary Budget Balance and Public Debt

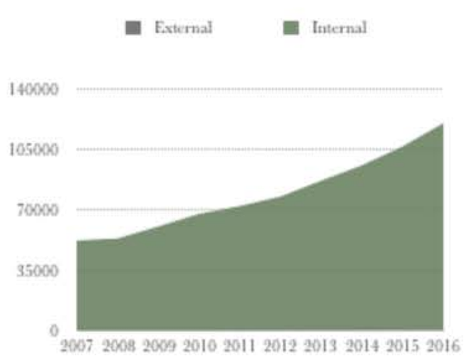


Figure 7. Public Debt (Billion CNY) in 2007 – 2016

Data source: National Bureau of Statistics data

The public debt comparing from the starting of 2007, it doubled its size from 52000 BN CNY to 120000 BN CNY in 2016, with no sign to slow down.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Total	52074.65	53271	60237	67548	72044	77565	86746	95655	106599	120066
Internal	51467	52799	59736	66987	71410	76747	85836	94676	105467	118811
External	608	472	501	561	634	818	910	979	1132	1255

Form 3. Public Debt (Billion CNY) in 2007-2016

Data source: National Bureau of Statistics data

3.3 Financial System

Even though in 2007 the President of China already pointed out the problem of the over credit growth, while the global financial crisis hit the country the government rapidly kicked off the stimulus plan through the local government lending and also SOEs construction. Together with the economy of land, in a way of which the local government gained quick revenue through selling state-owned land to real estate companies making house building, the purchasing price of real-estate boost.

The government had long been stressed that it maintain a "prudent and neutral" currency, at which it aims at both controlling the exchange rate and maintain a basic liquidity. Stable was written, at the same time different tools were used to maintain the inflation rate.

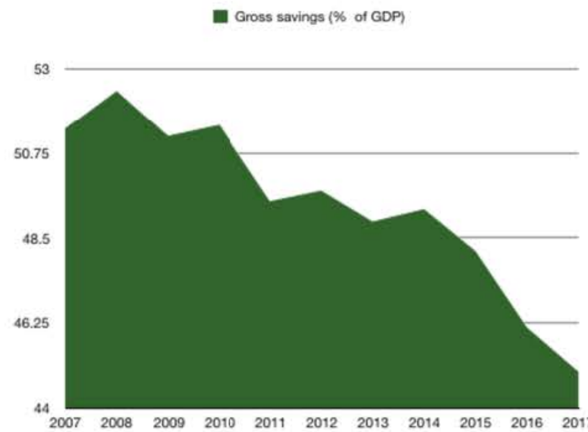
Still, given by a report from the IMF that pointed out 3 tensions during the year 12015-2017, it is still waiting to see that if the financial system can manage the problems that are about to broke. First is that the 2 waves of rapid credit relatively after 2008 and after 2011 due to political pressures keep firms that cannot support its business to fall, the over Debt to GDP ratio stand high while at the same time productivity growth slow. The debt went to more grey area that make the authorities harder to detect the movement of activities in the system. And last many troubled state-owned firms and LGFVs hold firm belief that they wouldn't default as the government will bail them out.

3.3.1 Gross savings, Total Credit and Public credit

There are three parts of credit that divided: Household sector, public sector and nonfinancial sector.

Figure 8. Gross Savings (% of GDP) 2007-2017

Data source: The World Bank Data



China has maintained high level of savings since 1979 reaching a 32% of the GDP, and they were the result from the SOEs and support the domestic investment. Since there's lack of safety net of the social security system, and also the restrictions on the export of capital. Even though the people held faith that saving in the banks is safer, the gross saving dropped significantly from 50.75% in 2007 to around 45% in 2017.

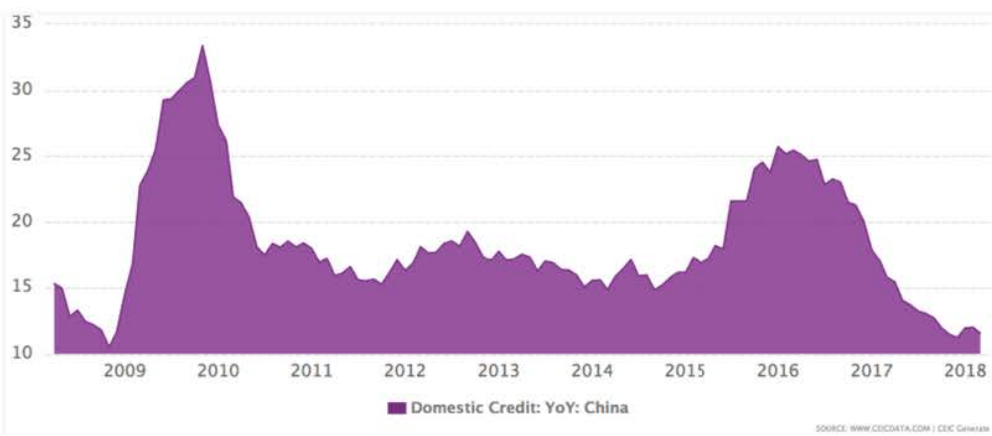


Figure 9. China Domestic Credit growth from 2007-2018

Data source: CEIC data center

Before most of the credit came from the nonfinancial sector, while the regulatory action lagged the pace of this sector build-up, the household sector started piling up.

Corporate debt take large portion of the non-financial sector credit, took an average of 18% of the last decade, and its share to GDP decreased from 166.8% in 2016 to 163.4% in 2017.However, the household debt growth rate increase from 17% in 2015 to nearly 25% in 2017 from the data of Bank for International Settlements, and it is probable the result of the housing market in the last decade, during which while the disposable income and wages of the people have not been improved but the price of the underlying asset (say real estate) soared up quickly, which make the households apart from using savings only choices of taking up more expensive mortgages. This all effect brings to the consequence that during the year 2017 Moody downgraded China's sovereign credit rating to Aa3, and also changed its outlook. From 2006 to 2016, China's total nonfinancial sector debt as a percentage of GDP increased 111%.

3.3.2 Non-performing loans (% of total loans)

In this part together with the analysis from 3.3.1, we look into the portion of the non-performing loans that may help explain the picture. The nonperforming loans is the sum of borrowed money upon which the debtor has not made the scheduled payments for a period of time.

The PBoC classifies household loans into two categories: loans for consumption purposes and operation loans. And the consumption loan consists of household mortgage loans and consumer loans.

The non-performing loans according to the study of (DING LU, 2005) and (Lai, 2017), the measures taken by the government to tackle the problem was to make use of a debt-for-equity swap to clean up. It was raised to concern once in the history of the banking system in China, because lack of hard budget constraint in banks. At the opposite site of the scene, is the definition of soft budget constraint, that means when the company show little interest and seriousness to indeed aiming at cover financial loss and rely heavily for the government work as the last resort. It was not the first time that the government ordered the bank to bail out troubled SOEs, which lead to moral hazard of risky lending.

3.3 THE CENTRAL GOVERNMENT, 4-TRILLION-POLICY AND PRIVATIZATION

To maintain the above 9% annual growth rate, a 4-trillion stimulus package was implemented under the level of the local government with finance instruments called Local Government Financing Vehicles (a SPV formed to deliver infrastructure construction and operation business) Only one-fourth of the investment was from the ban and the others are from the alternatives instruments that the local government may use.

3.4 THE IN AND OUT OF THE BOOK - LOCAL GOVERNMENT DEBT ANALYSIS

As in 4-trillion-stimulus program there's 25% could match with the public budgets that could be categorized as on-balance-sheet spending, which indicates that three-fourths of the investment was off-the-balance sheet.

Under such data set we have official report relatively in December 2010 and June 2013. Also according to the report by (Zhuo Chen, 2017)There are four kinds of debt that are on the liability side of local governments: bank loans, Municipal bonds, Municipal Corporate Bonds, and Trust loans. With the same study they found that there's *"a shift from bank loans to non-bank debt obligations over time."* Under the consumption that the government must seek a way to finance the debt with other instruments.

CHAPTER 4. CENTRALIZED OR DECENTRALIZED- FINANCIAL SYSTEM AND REGULATORY OFFICE

Ever since the country set up in 1949, from 1949 to 1979, the economy was centrally planned and strictly controlled by the state. For example, the large state-owned enterprises took up three fourths of the industrial production in 1978. Such planned and centrally controlled made the market mechanisms distorted for there's no incentives to reallocate resource. The motors that drove the economy were two: the great scale of capital investment that financed by national banks with the large domestic savings, and productivity growth. Nevertheless, even with decades of reforming, the government still put the economy as a "socialist- market economy".

To fully understand the relationship of the techniques of project finance, its application and the decision made by the Central government according to the characteristic of the method itself and nature or behavior of the Central and the local government. This chapter will explain the structure of financial institution in China, and the directives coming from the institutions accordingly, which at last exert impact on the real economy. Since the inverse trend on marketization in 1989, and the taxation reform in 1994 that balanced the power between the Central government and the local governments. With only 40% of tax revenues collected, and the fiscal transfers from the Central must be spent on certain purpose projects. Also since 1994 local governments were prohibited from accruing budget deficits. Under the lucrative incentives (promotion on political life, fortune and statues), even with limited access to finance resource, local governments swift to other directions to finance the construction process. First this act give boost to the land/real estate economy, and the second is to encourage the local governments to use SPV as LGFVs to finance.

As Julian Gruin (GRUIN, 2013) put it, that the GDP growth rate driven by the capital intensive infrastructure building led by the state-owned firms for the financial system was dominated by the banking sector. While at the same time, the similar sectors in other parts of the world are led by private sector. However, as the target of the growth of the country is clear that through investment and exportation, and the agencies mentioned above as PBC and CBRC hold direct control to the banking sector, with the China communist Party having the office as the party committee. With the target of maintaining focus, there left little option and space for the banking sector to make innovation and complex products to meet the demand of the market.

4.1 Local Government and firm type

4.1.1 State owned, collectively owned and Privately owned.

There are 3 types of firms in the economy, and they contribute growth to the economy.

For state owned company(SOE), its ownership belongs to the state, that they provide a tax base of the state firms to the local government. The number right now of SOEs reach 150000, which covered the sectors as mining, telecoms, transportations and utilities. So far on the Fortunes' list of 500 largest in the world there are 103 China Firms in 2016, while at the 2007 there was only 29. The government owned 50% or more of 75 of those. And as the name and the ownership put it state owned, the government will enjoy certain right to intervene the management of the state owned company. For example, that the local government can affect whether the state owned company access to loans that usually released by the state owned bank. And also, as the state owned companies were considered as the "children" of the republic, the Central government usually put heavy attention to the performance of these companies and encouraged their development by incentives and support, in which drew the local government a tendency to compete for such attention among each other. Whereas the sustainable growth and the capacity to repay debt of the state owned company was not a working focus.

For collectively ownership, that differentiate with those larger/heavier industries and also get back by the central government, the local government tend to operate with smaller, more privitalized management in which they had much more control, and also more space to generate economic profit on their own.

For private firms, they have less accessibility to the capital resource comparing their peers in the first two forms.

4.1.2 Local government behaviors cycle

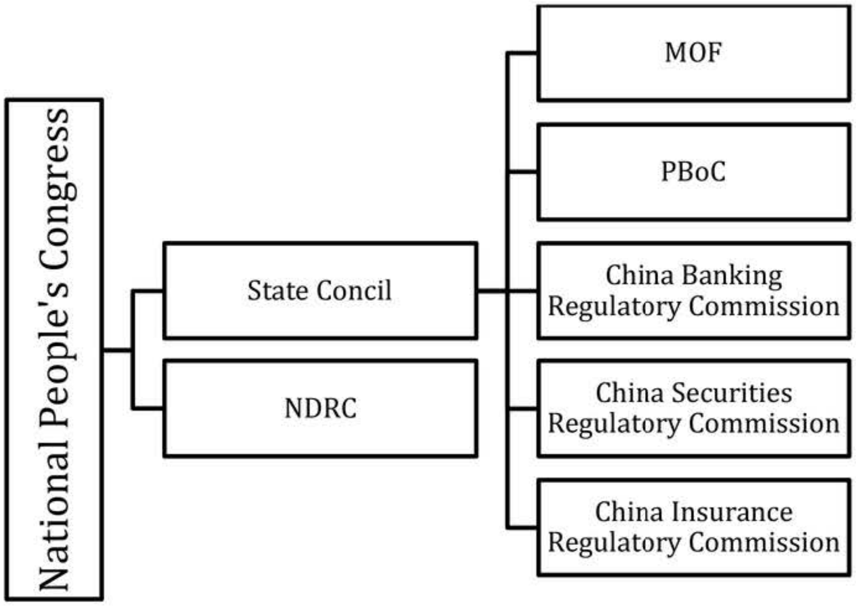
With the aim of the local government to generate economic development, the study by (Douglas J. Elliott, 2013) described the direction of the actions local governments will take to pursue such target. The changes or actions taken to innovate the current methods of doing usually happened during the transaction in the undergoing business, where the actions of firms trigger the debate in the national degree and also draw the attention of the Central Government. When central government measure and access if these innovative ways would be considered benefit beneficial (or harmful) to the whole system, it would make relevant economic policy according with incentives as encouragement, and penalties as ban. Therefore, when the policy released and arrived the table of the local government, it strikes to maximum the economic benefits within the resource and work frame that it can get - and modify the policy from the central government accordingly to make it more suitable for the local level and it transfer the influence to the local firms. After getting the economic result of the actions, the local government either changes its policy to test in the case of that the result is not ideal or the Central government show no support, or continue the same direction to strengthen the policy while at the same time reflect the feedback to the Central government to share the experiences to more locals.

"The two ratios" namely the ratio of which the central government to total government revenue, and the ratio of government revenue to gross domestic product (GDP) always yield the attention. And after the tax reform taken place in 1994, the central power seemed to decline for its disposable revenue decreased, and during the same time the local government learned quick to grab the window of the opportunity to collect, to borrow, and to earn. In this way, its revenue grew rapidly.

4.2 Regulatory Office

4.2.1 The Central Government and the Banking Regulatory System

There several institutions in China that make sure the financial activities in China and the relevant financial reform perform. Aggressive liberals gather around PBC and government think tanks, while the more conservatives link with NDRC, the Ministry of Finance and the Ministry of Commerce. On the monitoring perspectives, there are mainly two institutions that may influence the status of the project,



China Bank Regulation Committee (CBRC)

An agency that aims at working as the independent banking by regulator in 2003. It is authorized by the State Council to regulate the banking sector of China. And also conduct examinations of the banking institutions and take actions on law breaking behaviors. Provide proposals on the resolution of problem deposit-taking institutions in consultation with relevant 23 regulatory authority. It aims at protect the interest of depositors and consumers through prudential and effective supervision.

The People's Bank of China (PBOC)

Central Bank of China. Responsible for formulating and implementing China's monetary policy. With the function of controlling and supervising of the domestic financial sector and the China´s Banking System. The main activity include: formulation and direction of monetary policy to maintain financial stability and stimulate economic growth; formulation of the credit plan; setting of interest rates; financial market regulation; regulation of financial markets; issuance and administration of the circulation of Renminbi; regulation of interbank lending and interbank bond market; management of foreign official exchange; recording of transactions in foreign currencies and management of the State treasury.

Ministry of Finance (MOF)

Responsible for China's fiscal policies and the central government budget. It it the national executive agency of the Central People´s Government which administers macroeconomic policies and the national annual budget. This institution also records and publishes macroeconomic data of the country. And the macroeconomic management is handled by the National Development and Reform Commission (NDRC). However, it dose not handle regulation of the money market or interest rates, and it is governed by the People´s Bank of China (PBC). The Ministry, NDRC and PBC are equal in status and under the control of the State Council

National Audit Office (NAO)

The National Audit Office is the supreme audit institution of the country which is a cabinet level department which takes up part of the State Council and together under the management of the Premier. Its duty would be exercising national audit work, drawing up drafts of audit of laws and regulations as well as audit policies.

National Development and Reform Commission (NDRC)

Its function includes formulate and implement strategies of national economic and social development, annual plans, medium and long-term development plans which will accelerate the economic growth and exert social impact. National People's Congress It has the power of legislate and oversee the operations of the government, and the power to elect the major officers of the state. 24 State Council It is also considered as the Central People´s Government since 1954, is the chief administrative authority of the country, with chair by the premier and leaders from the cabinet-level executive departments

4.2.2 BANKING SYSTEM

The banking system in China is critical to understand the whole economy as the financial market of the country is not fully open and under the influence of the party and the government leaderships. The top 5 players in the country are: Industrial and Commercial Bank of China (ICBC), China Construction Bank (CCB), Bank of China (BOC), Agricultural Bank of China(ABC) and the Bank of Communications (BCOM). These banks are mostly state owned apart from some equities hold by private sector shareholders. Two thirds of the income of the bank come from the traditional banking activities as a financial intermediation. There are also other 3 policy banks that their activities differ from those work as commercial banking, that are China Development Bank, Import and Export Bank of China,) and other specialized banks that fully finance by the government and focus on supporting the developments of public departments.

The second level of banks would be local banks that mostly owned by local government and sued by it to control and manage locally developed projects and programs.

When in the following we have the "private" commercial Banks and Underground Banks. The appearance of the latter result to the harder access for individual and business with little chance to approach legal banks and sometimes, they suffer from a much higher interest rate but they take it as a short term solution to deal with the liquidity problems. More dangerously, some of the findings come from official commercial loans obtained by local business, and therefore raise the risk of defaults of the normal business loan. This phenomenon also being pointed out by the series papers of the

Foreign capital only accounted for 1.6% of total bank assets.

Since 1990 the financial reform to make banks more commercially, the People's Bank of China (PBoC) still exert great influence over the activities. And there are claims that the government is using its control over the Chinese banks, which raise controversial in the creditworthiness of the SOEs that hold closely relationship with the Chinese Banks, and the violation of the promise made by Chinese government to compliance with the WTO accession agreement to open its domestic financial markets to foreign banks.

The banking system is viewed by some analysts that it is used as a buffer to boost credit that help the growth objective. From 2007 to 2016, according to the US Economist Intelligence Unit estimated, the domestic credit growth raised from 1000 billions to 2700 billions in 2016.For the reason that the extensive borrowing from the national entities, the banking sector also earned a higher capital return than any other sector of the economy. As the banking sector play such an important role in the monetary policy of China, that it is impossible to make any analysis on finance, or in the case of this thesis, in project finance, which involve certain factors: investment, credit, and finance.

4.3 Timeline of Policy regarding project finance

2013 a) fiscal management reform; b) loosing SNG fiscal rules and setting up domestic municipal bond market; c) new PPP regulatory framework.

2014 Revision of budget law allowed local government to borrow at a level that there was a ceiling set with more requirements for reporting. Extended the coverage of the budget documents. Prohibited LGFVs as a way of financing local governments.

October 2014， the State Council released its "Document 43" forbidding LGFVs from any further borrowings for the government.

Issuance Authorities	Issuance Date	Document Title
State Council	September 26, 2013	Instruction regarding government purchases of service from social sources
State Council	May 19, 2015	Notice of instruction on promoting public-private partnerships in public service
NDRC	December 2, 2014	Instruction regarding carrying out Public-Private Partnerships; Including the NDRC version of PPP contract guidelines 2/
NDRC and China Development Bank	March 10, 2015	Notice regarding promotion of development financing to support public-private partnerships
NDRC et al.	April 25, 2015	Administration method for concession in infrastructure and public works 3/
MOF	November 29, 2014	Operational guidelines for public-private partnerships (pilot)
MOF	December 30, 2014	PPP contract guidelines (pilot) 2/
MOF	December 31, 2014	Government procurement administration method for public-private partnerships
MOF	April 7, 2015	Guidelines for fiscal affordability evaluation in public-private partnerships
MOF	December 18, 2015	Guidelines for Value for Money evaluation in PPP (pilot)
MOF	December 18, 2015	Notice regarding standardization of PPP comprehensive information platforms

Notes:

1/ Selected from about 40 PPP-related documents issued by the central government since 2013.

2/ The NDRC and MOF versions of PPP contract guidelines differ in quite a few important areas, which were also reflected in the two ministries' respective framework regulatory documents. Also, the targeted government bodies are different: the NDRC guidelines were issued to development and reform commissions at various local government levels, while the MOF guidelines were issued to local Bureaus of Finance.

3/ It was issued by NDRC in coordination with MOF, People's Bank of China and a few line ministries.

Figure 7. Regulatory documents since 2013 PPP mentioned by the central government

Source: NDRC and MOF

CHAPTER 5. PROJECT FINANCE

5.1 DEFINITION AND PRINCIPLE OF PROJECT FINANCE

To construct this part, the article, take reference to the book written by (Gatti, 2013),that project finance long exists in the ancient time of Rome, when the sea voyagers on the Mediterranean to against the natural unpredictable disaster, some merchants invented a sea loan that allow them to diversify the risk, in the promise that the loan would be paid back by the revenue of the goods. To protect the goods and also their own interests, the lenders might send followers to ensure that the voyage run smoothly without cheats from the ship.

The definition of "project finance" consist of two senses: (a. In broadly sense, it could be used to describe any techniques or methods that support financing of a project. and (b.in narrow sense, it refers to a specific financing method that derives from traditional corporate finance. It uses the predicted stable cash flow provided from the future operation of the project to request the leveraged debt which help initiate the project and at the same time with the cash flow generated to cover the debt involved. In article HBR, (Wynant, 1980) defined it as *"a financing of a major independent capital investment that the sponsoring company has segregated from its assets and general purpose obligations."*

In this paper we focus on the narrow defined of "project finance" and focus on the internal investment which exclude the description of FDI, for the reason that the time-frame chosen in the paper in China with little participants from FDI.

Studies show that the history of project finance technique appeared in at least 1299 A.D. The English Crown financed the Devon silver mines with 1 year leasing rights and mining concession of the mines to the Italian bankers, and this case demonstrate the idea of securing initial financing by the assets of the project. When in 17th century, investors financed the ship voyages and took the cargos and profit of trading along the routes in return, under the condition that the cruits dismissed and all the assets were liquidated at the end. Not until in the North Sea oil fields exploitation that several modern features of PF shown up as: capital intensive, highly leveraged, long term, independent entity with a finite life, non-recourse or limited recourse financing, allocated risk and costly.

Due to the nature of the project finance, that it involves numbers of parties and dealing with conflicts of interests, the structural of the project finance is of key importance. And the sum up of all the resources and risk consuming of all the parties involved, must cover the demand of the project over years, and maintain the operation of the project regardless of how dynamic and changeable the outside environment.

5.2 CHARACTERISTIC AND BASIC FEATURES

5.2.1 FINANCING STRUCTURE/ INVESTMENT STRUCTURE/ DEBT STRUCTURE/CREDIT GUARANTEE STRUCTURE.

Project finance structure is more adaptable and tailorable comparing to traditional finance for the reason that it operates under a new economic entity using "off-balance sheet" financing. In the meantime, as its characteristic of being more complicated and involve at one time legal, technical and financial aspects of each different project, the cost of delivering a successful transaction from the beginning till the end is rather higher than the normal corporate finance.

As the definition taken from the World Bank Group:

¨One of the primary advantages of project financing is that it provides for off-balance-sheet financing of the project, which will not affect the credit of the shareholders or the government contracting authority, and shifts some of the project risk to the lenders in exchange for which the lenders obtain a higher margin than for normal corporate lending.¨

5.3 PARTICIPANTS AND ROLES

5.3.1 SPV

"The Project Company", or the borrower of the project. Responsible for owning, developing, constructing, operate and maintaining the project. It has no previous business or record and its solely purpose is to carry out the project, for example being the entity that sign the construction contract and operations contract. This will be determined by the case in practice. SPV usually also would be the borrower that that get finance, and would be exerted strict covenants if to take activities that are not relevant to the project.

5.3.2 Sponsors, Contractors, Operators and Financial Investors

The Sponsors are the equity holders of the project from different backgrounds. Could be companies, agencies and individuals.

The Contractors are responsible for constructing the project and ensure the technical compliment.

The Operators manage the operation. It is usually company that has profound experience in the management of certain project.

Financial investors invest only for the purpose of return for its capital, and would not involve too much into the project activities.

5.3.3 Government

Government play an important part of the project, as it mostly regulates the activities during the construction period and the operating period. It also be responsible for assigning the license, make guarantees and modify taxes. A steady economic environment and transparent policy making framework will benefit the process the project financing.

The government can also join the project in the part of supplier and customer etc., Still, as the government may support the project development regardless of the interest of private capital, which hurt the interest of not only the private investors but also the benefit of tax payers. What's more, as the government guarantee the output of the project, it may tackle the effectiveness of the operation – that it lacks sufficient incentives for the project to perform surpass the competitors.

5.3.4 Supplier, Customer

Supplier works as an upper part of the chain to provide input to the project which can be considered as a factor that influence the economic return of the project. Whether the supplies would be enough and with good quality at defined price, would decide whether the project would fall to supply risk or not. While the Customer ensures the output of the project can be turned to profit in certain. Contracts from both parties may increase the credit of the project.

5.3.5 Financial Entities

5.3.5.1 Commercial Banks

Banks work as the main lender in such financing, providing funds in form of syndicated loan that usually managed with more than one bank. When the bank receives the application of the syndicated loan, it worked Mandated Lead Arranger (MLA) will gather others banks to complete the process. The MLA ensure (or "Underwriting") the loan is constructed under certain conditions. Together with the arrangers and managers among the process. As Clifford Chance mentioned also that with more banks with different background such as different countries, it may decrease the possibility that the local government interfere the normal operation of the project with the consideration that it would involve more complicated disputes with other countries.

Both regional banks and international financial institutions join actively into the loans to support the project finance, and for some multilateral organizations, they take up the risk in the developing countries and support financing in the private sectors. For example, the World Bank Group that comprise of the IBRD (International Bank for Reconstruction and Development), IDA (International Development Association), IFC (International Finance Corporation), and MIGA (Multilateral Investment Guarantee Agency, that each of them focus on different areas to improve poverty and economic statues in world economies. While for Regional Development Banks there are EIB (European Investment Bank) that participate in PPP projects from 1990s, ADB (Asian Development Bank) founded 1966 that encourage and assist the private sectors to participate actively into the project finance with forms of loans and guarantees and other banks.

Yet, project finance is a very particular field for the banking sectors, and each project is extensively different from other, makes it harder for one bank to be able to cover the need and risks of the project.

5.3.5.2 Multilateral Agencies

The World Bank, the International Finance Corporation (IFC),OECD, regional development banks, or other national development banks that provide credit support for projects financed in developing countries.

5.3.6 Rating Agency/ECA (Export Credit Agency)

As the entity set up during project finance is to achieve the only purpose (or purposes) of executing the project. The lenders would like to know whether the project will fulfill the debt service obligations, even though the entity has no credit history. In this case, rating agency work as a third party to provide standardized information to the lenders, and as well make the finance easier as it makes reference to the capital market. Fitch, Moody's and S&P all have developed rating criteria for project finance.

Also ECAs are able to provide political risk coverage, total coverage, or direct loans to exporting companies operating in their home country.

5.3.7 Insurance company

Offer insurance to guarantee the interests of the sponsors. Such as civil responsibility, all risk, and lost profit. Insurance is irreplaceable in the project finance, for example if any unpredictable disaster or accident interrupt the process of the project, insurers would be the one that cover the lenders and the sponsors their loss.

The scope of the insurance company cover depends on the nature of the project.

5.4 Financing Structure

The financing structure in project finance differ greatly for roles and also procurement inside the project. We have Non-recourse Project Finance which investors finance the project will not be responsible for the assets but instead only depends on the cash flow of the project. Then lenders cannot count on sponsors to repay the loan for the limited-recourse clauses, that prevent them to do so.

And Limited-recourse Project finance, the investors will only have limited recourse to the projects and certain guarantee amount defined. This is more common in the project finance in developing countries.

Under the financing structure, the project shows its own financial model which is crucial for the investment as the sponsor be able to scrutinize the profitability of the project. Therefore, while to bid for public services concession or in BOT/BOOT scheme, the financial model could provide crucial information to the authorities. And in the structure of PPP initiatives, the public administration often provides large grants to the construction period. And although there's general categories of the structures of the finance, in practical it follows a case-by-case basis. For example, that the tax rules and the macroeconomic variables differ in each country will have a great impact on the financial models, like the depreciation policy for the infrastructure, the taxes on environmental issue, inflation rate and currency exchange rate. And in this case the study of the correlation between the macroeconomic variables and the financial model shall be made.

On the optimal capital structure for the project, the input from the financing sources make up the construction period cost, and later operating cash flow determine the reimbursement of the principal and interest to lenders and even later the payment of dividends to the SPV's shareholders.

5.4.1 Debt/Equity

There are 3 points that on the Debt/Equity ratio the sponsors must take care of: 1. The economic status and its reliability of the project. 2.The risk affinity the sponsors hold and 3. If there's any precedents on the financial market in domestic or international area. All 3 both provide information to the lenders (bank, stakeholders etc.,) to evaluate if the project worth investing or require more detailed explanation from the sponsors in the case of some special difference comparing to other similar projects.

5.4.2 Bonds

For the SPVs, to issue bonds to obtain funding is also an alternative comparing to approach banks for financing. With the connection of bond purchasers/ bondholders, the SPV approach wider debtors. With the project bonds rating, the SPVs are able to raise long term financing. Recently the insurance companies and the pension funds that are constraints less to credit risk, take special interest in project bonds. Issue bonds also means the better conditions, in which that it improve the sponsors' position by improving the cover ratio. There are several points that worth looking into in issuing bonds that we may discuss later in the China LGFVs' bonds.

First is the possibility of the currency and the liquidity in the international financial market. Larger project that in needs of larger number of funds and greater liquidity may consider issuing in more popular currencies such as U.S. dollar, Euro or pound sterling. The bonds that issue in local currencies called domestic bonds while issuing in foreign currencies called foreign bonds.

Second is the possibility of Municipal Bonds, that issued by the public bodies to finish the mission of financing the project. Municipal Bonds mean the bonds issued by the public bodies such as states, governments, provinces municipalities or other bodies in order to finance operating expenses or specific projects. These bonds enjoy the privileges such as tax free or reduced taxation. Three kinds of municipal bonds are used: General Obligation Bonds, Project Revenue Bonds and Dedicated Revenue Bonds and Dedicated Revenue Bonds.

The last point is that all the details of the bond issuing are all included in the final bond prospectus with cover the information of Price, Variable or Fixed Coupon, Maturity, Yield and Covenants.

5.4.3 Lease and Vendor

Under the leasing contract, the lessor can provide the asset to the SPV, and the lessee pay back the fee according to the time table set by both parties.

5.4.4 PPP / PFI

PPP: With limited resource and increasing demand for more public goods, to build infrastructure with less cost and more efficient as the starting point, PPP combine both strengths from two perspectives, that allow private party design, construct, operate and finance the project while the public administration provide strategy consultancy, public procurement and permission on licenses.

In the PPP projects, the public grants represent a crucial financing source of financing.

5.4.4.1 Types of PPP

Here is a spectrum that concluded by the writer that show the ownership and the operational entity that influence the process and also shape of PPP.

Dominant counterparty: Public sector ⟵⟶ **Dominant counterparty: Private sector**

Types of contractual structures			
Operation & maintenance services (O&M)	**Concession (public ownership of the facilities)**	**Concession (private ownership of the facilities)**	**Full privatization**
• Management of public facilities by private parties • Leasing agreements	• Rehabilitationofexisting facilities, management, and transfer • Design, building, management, and transfer (service agreements withthe public administration)	• Design, building, own, management, and transfer • Merchant plants	• Assetsales • Divestitures
Main risks and relative allocation among the involved parties			

-

Figure 9. Spectrum of PPP in terms of dominant party and function

Source: (Gatti, 2013)

PFI: PFI appeared in the 90s of last century in UK, when Private Finance Initiative was set up with Partnerships UK, operate in standard PPP format (Private Equity take up 51%, and public administrative take up 49%) to support local infrastructure construction.

5.4.5 BOT (Build- Operate-Transfer)

Under BOT, the government open the infrastructure construction market to attract capital which authorize the concession and license necessary to finance and construct the project, and when the term of concession is finished, the government will take the ownership of the project back. With the features that (a. With strong purpose of privitalization of national infrastructure (b. Debt paid by project cash flow and (c. At the end of the concession the government will own and operate the project. The private company earns the operating income and the transfer consideration.

5.4.6 TOT (Transfer- Operate – Transfer)

By selling the cash flow that it will be generated in the future project to finance the project itself, and at the end return the project back to the government. Which in this case, (a. the operator gain the profit during the operation of the project and provide convenience to refinance the next step of the project. (b.as less parties and transactions involved it will be relatively cheaper. The company under such model earn the operating income and the transfer consideration.

5.4.7 ABS (Asset Backed Securitization)

By converting part of the assets of the project company and release bonds pricing according to the rating of the rating agency.

5.5

Project finance will contribute the economy in the direct way of increasing the stock of capital of the economy and also provide input for the production process. And it improves the factor productivity by reducing transaction and other expenses for other industries for project finance will provide supports in terms of building utilities and public infrastructures. ((Newbery, 2005)).

In purpose of the project finance - creating stable revenue to pay the Sponsors and at the same time function as the target state, it is irreplaceable that the economy provides all the participants predictable regulatory, political environments and stable markets. Also under such circumstances, risk is more predictable.

5.6 EXTENSIONS ON PPP

On the mention of PPP, it is a project wildly accepted around the world, and it is interesting to compare them as below, and also as PPP is the key point to understand the current status in China.

The World Bank:

A long-term contract between a private party and a government entity, for providing a public asset or service, in which the private party bears significant risk and management responsibility and remuneration is linked to performance.

The United Nations Institute for Training and Research:

A private investment in public infrastructure that with long term service provision and risk transfer to private sector. It also stages the different evolutionary phases for the PPPs in emerging markets as Stage one: simply with policy frame work defined and viable, foundation concepts states to be known and applying experience from different sectors to new sectors, and market places starts to be built. While at the stage two, depending on the former experiences, the government starts to make reform and release policy/guide lines/official units to reinforce the current market and encourage new sources of funds. New pipelines are organized to serve. And at the end in the last state, the whole PPP market is matured and professional, with growing demands with investment and sufficient financing channels to support the demands.

APMG Certification:

A long-term contract between a public party and a private party, For the development (or significant upgrade or renovation) and management of a public asset (including potentially the management of a related public service), In the contract, the private party bears significant management responsibility and risks through the life of the contract and *provides a significant portion of the finance and remuneration is significantly linked to performance and/or the demand for or use of the asset or service, so as to align the interests of both parties.*

The European Commission

Public-private partnerships (PPPs) are long-term contracts between two units, whereby one unit acquires or builds an asset or set of assets, operates it for a period and then hands the asset over to a second unit. Such arrangements are usually between a private enterprise and government but other combinations are possible, with a public corporation as either party or a private non-profit institution as the second party (Article 15.41 of Regulation (EU) No 549/2013).

UK

For PPP: *involve everything from operating facilities and providing services on behalf of the public, to flexible methods of financing these services*

For PFI:

a particular method of financing capital investment which requires that the private sector design, build, finance and operate specific facilities.

China

For the government, through the process of cooperation with the private capital, to make use of the non-public sector's resources to construct and provide public goods and services, therefore to fulfill the function of the government and provide profit to the private capital.

We can discover that for the most institutions so far there's no widely recognized definitions of PPP. But there's common ground for those which are: that the cooperative and partnership would be the premises to finish the project, by means of providing services to the public as the target, and emphasize the sharing benefit together with risk.

But as the definition of PPP translated by the writer from the official site of MOF, it shows that the subject of the sentence focuses from the view point of the government. While others definition highlights the PPP as an instrument or a contract that involved two parties, which level 2 units at the same level.

There have been news and cases in the world reporting on the PPP project around the world. While PPP itself is being promoted by the World Bank and also UNITAR as an option to build sustainable economic growth, and also the successful experiences from the UK government. There are oppositions for the PPP as well, as the news from the European Court of Auditors (Investment, 2018) reported that signs were shown that for the projects they might delay the delivery and raise costs. The report gave recommendation that before wildly and intensively spread PPPs, the members of the states should not move further until more secured recommendations are implemented, which show a cautious attitude to the PPPs. According to the data of PWF, from year 1985 to 2011, Europe took up the 45.6% of the PPP. Even under the rather healthy management of the financial system comparing to Asian and other emerging markets, PPP take up limited percentage of the public procurements.

CHAPTER 6. PROJECT FINANCE IN CHINA

6.1 PROJECT FINANCE IN HISTORY

The marketization or the development of the finance market linked closely with the political scheme in the country. When Deng Xiaoping launched the first economic reform in 1978 after the Cultural Revolution), it geared up the modernization of all the industries. During the same period, the government realized it was important to not only invest to encourage the economic development, but also necessary to take up the responsibility of investing in public infrastructures, even though at that time the country was under limited resources to finance. (Zhiyong LIU, 2009)

BOT models were used in the form of the private company operate the project in the purchase of profit while it should transfer the project at a certain date in the future to the government. For example, the Laibin B Power Plant in Guangxi Province. (Tillmann Sachs, 2007).

"it allows a sponsor to undertake a project with more risk than the sponsor is willing to underwrite independently." (Forrester, 1995,). *"The Role of Commercial Banks in Project Finance," Journal of Project Finance. Summer 1995, p. 54*

Later it was given a boost under the regulations. As (Finnerty, 2011) pointed out in his book Project Financing: Asset-Based Financial Engineering, that it expanses the debt capacity of the sponsors, and it also allow the project with arranged contracts a higher leverage ratio.

6.2 PROJECT FINANCE SINCE 2008.

The large constitution of the stimulus plan was infrastructures both in urban and rural. With the consideration that with limited rights to gather revenue from taxation, the local government created new instruments which help them geared the development on more projects.

"Allowing local government to finance the investment projects by essentially all sources of funds, including budgetary revenue, land revenue and fund borrowed by local financing vehicles." — Document 631, Department of Construction, Ministry of Finance, October 12, 2009.

"Encourage local governments to attract and to incentivize banking and financial institutions to increase their lending to the investment projects set up by the central government. This can be done by a variety of ways including increasing local fiscal subsidy to interest payment, improving rewarding mechanism for loans and establishing government investment and financing platforms compliant with regulations." — Document No. 92, CBRC, March 18, 2009.

6.3 From BT to PPP

In the definition from OECD, PPP means a way of delivering public infrastructure through procuring services rather than capital assets, while public sector defines service requirement and the private sector designs, finances, builds, operates, (usually transfer) the asset. The government would make promises to pay for the service or make agreement with the contractor to collect payments from the users.

Since the popularity of project finance and PPP, there has been 3 generations of evolution with different players, signify different focus of the work of the government. The first generation of the PPP was mainly by the foreign investment since the "reformation" of the country. And during this period of PPP, usually with more experienced and professional foreign investors, the private sector charged high fees or request minimum return guarantees. Therefore, the General Office of the State Council prohibited such terms for foreign companies in 2002, and forced to renegotiate the terms on existed contract which make China a less favorable market for foreign investors.

Later, SOM and SNGs started to take LGFVs as the vehicle to make procurements and at the same time without recording the liabilities under the financial position. With the soaring price of the land before year 2010, the LGFVs didn't trigger any specific concerns until the State Council … in 2010.

In May 2015, the first patch of PPP projects reached 1043, when in February 2016, the number of PPP reach 7110.

State-owned-enterprises take up most of the projects in the market, in which national capital exert obvious spill-over effect of private capital. Until 2017 November, projects owned by SOE take up 53.37% of the total PPP, with a 76% of the total.

Even though with encouragement from the Central government with policies and improving conditions. The real projects that initiate successfully with predicted financing remained only 351 in 2016, only 5% of the total amount. Private capital stays cautious in taking decision of participate in the process or not.

Clearly, from studying the text and the promote direction of the institutions, comparing with the world, it is still more to be discovered. And China is considered as still in the state one of PPPs by UNITAR, while in the discussion of the application of PPPs, there are scholars argue that China already in the Stage two. As the central government already works as the operator to arrange the pipeline for the provincial government and organize the funds to different projects, while the models used by the PPPs in China varied. The government also tried to be the one that encourage transparent deals and public policies that eliminate ground for corruption. There are famous scholars such as Shouqing Wang from the Tsing Hua University that promote the PPPs model and also, to follow the call of the government, local government actively promote PPPs, either as there are incentives from the Central government, or as in search of new sources to finance the debt and also the local infrastructure construction. If looks into the good governance in PPPs from UNITAR to compare with the status quo of China, first with the coherent PPP policy, that so far in China there are two institutions that carry the task of legislation in PPP: The Ministry of Finance (MOF) that monitor macroeconomic policies, the national annual budget and the government expenditure, while the other is National Development and Reform Commission that aims at formulating and implementing strategies that help economic growth by submitting plans and drafting laws. Since the former institutions deals with the debt issue of the local government and they believe that PPPs would be essential to release the risk and enhance the function of the government to offer high quality public infrastructures. In the case of NDRC, it supports that PPP would be beneficial for the growth in investment that must help rebalance of the economy as well, which PPPs shall belong to investment for basic infrastructures.

The differences starting points of two institutions give rises to debate and confuse, their conflicts reflect in areas such as on the definition of the "social capital", that in the suggestion of MOF it would cover a smaller range of the NDRC, in which NDRC includes social capital together with State-Owned Enterprises while MOF forbidden LFGVs and the firms that controlled by SOEs. Another interesting example appeared in defining the role of the government, MOF decides the government should be the active player in the process of PPPs and provide profound professional advices, while NDRC encourage the government perform as a supervisor. What's more, as MOF proposes the government should act as an operator and manage from the recognition of the project, the preparation of the project, the procurement of the project, the execution of the project and the transfer of the project with detailed instruction. NDRC simply gives norms on the operation of the project. These conflicts and contradictories make the local government often at a loss.

At the same time, even though PPPs are defined as long-term contract, the concept got popular no more than 5 years ago (2013), during when NDRC promote actively, the local governments make hurry preparation, to control the financial risk that may appear during the later period of the project. For there are little guidance from the institutions to control financial risk, they fail to formulate the system that would help PPPs avoid potential risk. Except that there's one documents that argues the expense budget of PPPs shall not exceed 10% of the public budget, and several projects were set up regardless of the vague definition of the government financial grant. Comparing to the prudent and detailed covered insurance and risk management across different period of the project finance, which the risk management itself a credit for the financial investors, in the scene of PPP, the projects were set before full examination taken. The worse is that if the grant from the government surpass the reasonable percentage, the project would transfer to another LGFV that conceal the issues of the local government.

Regarding the aspect of the private capital, as the risk often not clear defined at the initial state, it fails to clarify the risk diversification among different parties. One policy regulates as the PPP shall avoid profit too high or too low, which is hard to define as PPP itself differ distinctively among sectors and provinces. The credit of the local government remained to be testified, as there are curtained terms for each term of offices, the officials got the rotations or promotions to other offices, it is less likely that the firm that inject private capital would be able to renegotiate the terms that raise doubts. Lastly, due to the historical reason, the state-owned firms enjoy a higher volume of partnership inside PPP both for the reason of capacity and relationship with the local government. While private capital is to be encouraged under the definition of PPPs to make sustainable growth, the reality keep the private capital outside of the door. One of the reason is that the market mechanism works less efficiently than the documents expected, in which the interests of the private capital can hardly be protected.

With all into consideration, for the private capital, to support a project that last usually more than 20 -30 years, without the proper financing from the banking sectors as the banks with the probably biased lending pattern, that makes the private capital less likely to against possible risk.

After all the discussion regarding the implement of PPPs in China, the writer found that on the UNIFAR on the principle 1 of how to make PPPs successful of the good governance, it includes ideas such as a "fewer, better, simpler" legal framework, a coherent PPP policy, a cooperative risk sharing and mutual support, the core values and principles (fairness, continuation of services, improved quality) and the right projects to get started. As UNIFAR take PPP a way of making sustainable economic growth. In the principle 2, it stress the importance of the personnel and the external advisors to make the market suitable for PPP. All of which are the key points and also the target of ensuring the public interests, involving the partnership with external parties such as auditors and advisors.

6.4 Public-Private or Public-Public, shadow banking or the shadows of the bank.

While the growth of PPP surged, MOF called for more private capital into the infrastructure construction.

In the national-wide audit of government debt by China's National Audit Office, the data was not available until 2013 when the central government realize the severability of the finance status of the local government. The local government raise bonds in two forms as: Municipal Bonds and Urban Construction Investment (Chengtou) Bonds.

6.4.1 Issuing and pricing of LGFV Bond

LGFVs are government-owned entities engaging in construction or operation of public welfare/infrastructure projects. They appeared for the reason that the local governments were not allowed to issue debt on they own since 1993, while at the same time a political pressure to meet the GDP growth. The main problems for the LGFV bonds are that there are no transparent data available to the public for the reason that no requirement from the central, there are rating that supported by the premises that the government will make guarantee for the debt even the business itself prove to be doubtful repaying and the last, that there is concern that whether when the LGFV bond default will the potential supporter - the local government will be willing, or be able to bail them out when the LGFVs lost the capacity to generate enough cash flow to cover the debt.

Moreover, the investors observe that there were changes from the attitude of the central government, that it simply forbids the local government to use fiscal resource to bail out the LGFVs' bonds, and it certainly will lead to the panic in the market and furthermore the repricing of such instruments. It falls into the dilemma that there's conflict inside the logic of the pricing of the bonds and the debt issue itself - to maintain the current pricing and the liquidity which means that the market admit the credit of the local government and also hold the belief that the local government may work as the last resort ,while at the same time given the current leveraged level - 4 trillion RMB(5.4% of GDP) in 2015 estimated by Fitch, to urge the local government to improve the financial statues and clean debts are the focus of the work of the central authorities. Even though with the warning of The World Bank, it has been viewed as the main risk of the economy and financial-system, the trend of borrowing from the future through different instruments has not stopped.

6.4.2 The rising concern of the Shadow Banking

And as 4 trillion plan in 2009 was proposed by the central government and executed by the local governments, bank loans soared and public debt piled. For the government, official report state mostly 3 kinds of debt that describe liability side of the balance sheet: bank loans, Municipal bonds, and Trust loans by the study of (Zhuo Chen, 2017)

6.5 LGFV and PPP

It is controversial that to equal LGFV, the vehicle to borrow funds from the bank and the market to the PPPs, that the projects aim at constructing and operating involving both capital from the private sector and the public sector. The studies from … argue that PPP is an updated form of LGFVs' bond, while these bonds brought heavy pressures on financing. During year 2017, the government start pushing the process of ABS in PPP, requiring that the ABS of PPP underlying projects with steady cash flow for more than 2 years. LGFVs are required to transform to SOEs or PPPs, or it might be liquidated. It is estimated that total LGFV liabilities was RMB44 trillion (or 55 percent of GDP) as of end H1 2017.10 Meanwhile, progress is slow with respect to the transformation of LGFVs into market-oriented entities and the profitability and debt payment capacity of some LGFVs have deteriorated.

Nowadays the government allow part of the Municipal bonds swap with the government debt, which mean the government will pay for the debts that already acquire the quality and credit risk equals zero, while at the same time those that fail to swap with the debt will turn to general industrial bonds that exposed to the risk of default. And for the latter one, they enjoy the possibility of converging to PPP project, which will attract private capital and also the government grant to support the maintenance of the project. For sure that there will be sectors that are more of public interest and less of economic result, that must in need of more support of the government. For example, transportation, public affairs and agriculture sector are at the most focus of the government financial support, while in real estate and housing constructions they are capable of generating sufficient cash flow.

6.5.1 LGFV

From the working paper of the IMF issued in (Hui Jin, 2016). They summarize how local government through unregulated PPPs to circumvent budgetary borrowing constraints, and therefore impose fiscal risks to such vehicles. The government react to the risk with updating regulatory framework.

In narrow sense, the project finance definition in academic paper is not coincidence with the SPV under such context for the reason that, the vehicle mentioned not necessarily manage the affairs with other projects or only serve as single purpose for specific project, while in China at the mention of LGFV, it means (a. State-owned enterprise (b. with the local government as main shareholders. Take the definition of LGFV in the database called Wind as example

"as a company whose business covers 'infrastructure and utilities' and whose major shareholder is a local government or a subsidiary of a local government". Or as the IMF working paper put it as *"LGFVs are companies set up and owned by SNGs to finance and implement public infrastructure projects".*

As to borrow from the bank or the bond market, the LGFV must meet certain criteria just as it generally dose for SPV, for example a general Debt to Equity ratio or minimum level of asset. SNGs to ensure the loan can be obtained successfully, and transfer part of the "quality assets" to the LFGV. LGFV, to repay loans, the government sold its own land near the infrastructure site after the project being finished and the value of the land appreciate. Or

it obtains the shares of utilities companies or the contracts with the SNG, to ensure the cash flow generated to repay the debt.
In the case of those LGFV that are not able to do so, they still hold the possibility of

> "*swapping municipal bonds for older city construction bonds emerged as a crucial component of the Chinese strategy.* " (Ronald Anderson, 2018)

With the close relationship between SNG and LGFV, their relationship can be as follow:
That under both circumstances the government will be the project owner while under model 1: that the LGFV act as the SPV(project contractor having BT or BOT contract with the government) it directly sign finance contract with financial institutions and connect with the financial market, while at the same time having subsidiaries to construct and hold shares of other SOEs that own land reserve or water companies to enhance its creditworthiness. In the model 2, the LGFV sign finance contract with banks etc., and also enjoy the transferred creditworthiness, but create another project company to have a BT or BOT contract with the LGFV, which under this project company they absorb equity investor and construct, relieving the pressure for the parent LGFV. For sure that there are more strategies for the officials to combine the structure to hide the debt issue.

6.5.2 PPPs

To employ the PPPs, the government can therefore make use of like VfM (Value for money) to relax the fiscal pressure for the public department. While the use of project finance at its beginning was mainly involving private sectors stating simply the importance of the cash flow, and in the contract of PPP, it stresses the role played by the public administration.

The total investment amount for the PPP now is RMB 17.7 Trillion, with the numbers of project reach 14059, data updated by 2017/12/31. There's a tendency of the numbers of project to drop as the government keep raising the standard of PPP. The red line: expense on local PPP projects shall not surpass 10% of the public budgetary expanse would stop a certain heat of the development of the projects. The government divide the phrases for those projects collected as "into the procedure" so as to identify the status of each project and decide whether to lend out support in forms of budgetary planning or not. The process are identification, preparation, procurement and exit, this act for the simple reason that it occurred the phenomenon that some local governments reported the project with the bidding and use the vehicle to ask for loans but never put the execution within the date, which is in medium and long term raise another problem for the financing position of the government and further lead to systemic risk to the whole system. With the identification and the credit enhancement from the government, the PPP in China would move on track.

Chapter 7. Relationship between economy and Project Finance

Generally, it is difficult to determine the exact number of project finance in China for the reason that

(a. The SOEs are usually stated as public owned company, with a mixture that may create sub-company with private capital. That the mixture of the properties of capital may tackle the

(b. Not until 2013 that the government started to record the PPPs commitments and among the industry create database to follow the evolution of projects.

(c. Taking into account the database from the World Bank Private Participation in Infrastructure (WB PPI) and Thomson Reuter Project Finance International data base (PFI) that both of them include limited numbers of projects.

7.1 Pressure from financial position

It is widely known that project finance used by the LGFVs in such cases will change the shape of the cash-flow of the government, but not the NPV of the spending over the lifetime. The part of reason why the government favor PPP more. The government promote the use of PPP in the consideration of involving more private capital and fancy the concept of it may run the project more efficiently while gathering the experience of the private sector. But since the history of the country, the attitude of the financial sector towards social capital, social capital still held suspicious doubt towards such kind of corporation, and their intention of acquiring IRR of 8% or even more will make the burden of the government even heavier. Needless to say that the SOEs still enjoy naturally in the market a better condition, support and experience from all in financial, legal and technical sectors sometime, which make the joint cooperation with the social capital is not in the same level.

CHAPTER 8 CONCLUSION

China faces a series of problems in the economy as it relied heavily on fixed investment and exports but not on consumer demand. Due to the nature of the form of the government, it gives strong support to state-owned firms, while the banking system weak and under the control of the central government, income gaps widening and pollution growing, and the sense of reliance and belief on the provisions from the governments rather than obey the rule of the law makes a weak financial market. Therefore, the government realized the issue and tend to reconstruct its economic model that promotes more sustainable growth and solve the problem of inefficient financial system and imbalances in income. And this puts greater emphasis on private consumption and the partnership with the private sector, and it is the private sector that give rise to the possible more efficient allocation of resources and also innovation that the country in deep need of.

With the background above and through the literatures and the documentations of the chain of cause and consequences, we can draw the conclusion that project finance - at the beginning - are being used in the form of PPPs and BOTs to be actively promoted by the central government, as a way of making attempts to improve the economy by involving more private capital and try to activate the private capital section that was long being suppressed, while at the same time the characteristic of project finance itself - off the balance sheet and depend on its own cash flow and asset to make project sustainable- provide grey areas for the local governments to conceal the debt issue that had been accumulated and rolled up since the financial crisis. It is of crucial importance that how the public service reform, and the financial system reform that what role the central government and the local government going to play either make up determination to cut up the debt issue and focus on servicing private sector, or simply play with new model to act or defer the debt issue raised by the investment and the unregulated financing vehicles or platforms.

REFERENCE

Calderón, C. E.-B. (2011). s Infrastructure Capital Productive? A Dynamic Heterogeneous Approach. *Banco de España Documentos de Trabajo N° 1103*.

Chris Thoung, P. T. (2015, July 07). Estimating the contribution of infrastructure to national productivity in Europe. *Infrastruct. Complex*.

DING LU, S. M. (2005, 8). Biased Lending and Non-performing Loans in China's Banking Sector. *THE JOURNAL OF DEVELOPMENT STUDIES, Vol.41*(No.6,), pp. 1071 – 1091.

Douglas J. Elliott, K. Y. (2013, July). The Chinese Financial System An Introduction and Overview. *John L. Thornton China Center Monograph Series, 6*.

Finnerty, J. D. (2011). Project Financing: Asset-Based Financial Engineering, 3rd Edition. *Wiley*.

Forrester, J. P. (1995,). The Role of Commercial Banks in Project Finance. *The Journal of Structured Finance Summer , 1*(2), pp. 53-58.

Gatti, S. (2013). Project Finance in Theory and Practive. *ELSEVIER*.

GRUIN, J. (2013, 4). Asset or Liability? The Role of the Financial System in the Political Economy of China's Rebalancing. *Journal of Current Chinese Affairs*, pp. 73-104.

Ho, B. S. (2007, November). The Role of Local Governments in China's Economic Develpment. *Degree of Doctor of Philosophy*.

Hui Jin, I. R. (2016, 9). Regulating Local Government Financing Vehicles and Public-Private Partnerships in China. (WP/16/187, Ed.) *IMF Working Paper*.

Investment, A. C. (2018, 02). EU Public Private Partnerships suffer from widespread shortcomings and limited benefits. *EUROPEAN COURT OF AUDITORS* .

Jorge A. Chan-Lau, K. K. (2016, JULY). Long-Run Economic Growth: Does Project Finance Matter? . *MOODY'S ANALYTICS*, p. 22.

Kleimeier, S. a. (2010). Project finance as a driver of economic growth in low-income countries. *Review of Financial Economics, 19*(2), pp. 49-59.

Lai, K. (2017, 4 12). Primer: non-performing loans in China . *International Financial Law Review*(02626969).

Lisbeth la Cour, J. M. (2014, 12 9). Growth and Project Finance in the Least Developed Countries. *nternational Journal of Economic Sciences and Applied Research, 7*(2), pp. 77-103.

Morrison, W. M. (2018, 02 05). China's Economic Risk: History, Trends, Challenges, and Implications for the United States. *Congressional Research Service* (RL33534).

Newbery, D. (2005). "Infrastructure Pricing and Finance. *HM Treasury Microeconomics Lecture Series*, pp. 22-39.

Ronald Anderson, L. H. (2018, 2 9). Sustainable Local Public Finance in China: Are Muni Bonds the Structural Solution?

Tillmann Sachs, R. T. (2007). Analysis of political risks and opportunities in public private partnerships (PPP) in China and selected Asian countries. *Chinese Management Studies, 1*(2), pp. 126-148.

Wynant, L. (1980). ESSENTIAL ELEMENTS OF PROJECT FINANCING. (R. n. 80312, Ed.) *Harvard Business Review*, p. 12.

Yumiko Kojima, K. M. (1998, Spring). The United States, China And The Three Gorges Dam. *The Journal of Public and International Affairs, 9*, 145-166.

Zhiyong LIU, H. Y. (2009). Public-Private Partnerships (PPPs) in China: Present Conditions, Trends, and Future Challenges. *Interdisciplinary Information Sciences, 15*(2), pp. 223-230.

Zhuo Chen, Z. H. (2017, 9 4). The Financing of Local Government in China: Stimulus Loan Wanes and Shadow Banking Waxes. *NBER Working Paper No. w23598*, p. 57.