

Producing for what? GDP and Well-being in China's Economic Policies

By
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ABSTRACT

China's economic growth in the 2000s relied heavily on its manufacturing and construction sectors, which expanded disproportionately rapidly. During the period of the Hu-Wen administration (2002-2012), the Chinese government announced several policies that facilitated the investments on construction and real estate, in order to maximize GDP growth. This dissertation intends to explore the relationship between China's construction and GDP-oriented administration and people's public well-being, measured by a selected set of well-being indexes. Did China's economic policies truly bring about significant improvements on people's living, or it only generated GDP bubbles and gaps between productivity and well-being? What were the reasons that led to the result? This research will use a typical industrial city in Central China --- Changsha as the main case, analyzing it with the "before and after" data in China's Statistical Yearbooks, and comparing it to the other cases in China and Japan. I seek to locate and analyze changes of well-being indicators in the period before, during and after these economic policies were implemented. This study may provide new perspectives in researching the key reasons behind China's economic rise and recent slowdown, as well as novel explanations on China's distinctive economic mode guided by political goals, and its impacts to social life. This article will also explore and discuss a major sociological topic: the contradictions between public well-being and the driving force of productivity growth.

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Preface

Research Question and China's GDP policies

In this dissertation, I ask the following question: In what ways have Chinese government policies, specifically those that promote rapid growth in Gross Domestic Product (GDP), affected public well-being? How can we explain those effects?

China, which is now the world's second largest economy, has seen rapid GDP growth since early in this century – often 10% or more per year. This growth is partly the result of new policies introduced by the Hu-Wen administration in the early 2000s. After the introduction of these policies, the Chinese economy has clearly achieved a remarkable growth, but have these new policies also enhanced public well-being?

On November 15, 2002, Hu Jintao became General Secretary of the Central Committee of the Communist Party of China, four months later, on March 16, 2003, Wen Jiabao was selected as Premier of the People's Republic of China. Hu and Wen served as China's paramount leader and head of government until the end of 2012. Thus, the ten-year period between 2003 and 2012 is often called the "Hu-Wen Administration."¹

On August 12, 2003, the State Council of China, led by Wen Jiabao, issued the *Circular of the State Council on Promoting the Continuous and Healthy Development of*

¹ Brown, Kelly. "What did Hu Jintao and Wen Jiabao do for China?" <http://www.bbc.com/news/world-asia-china-21669780>

the Real Estate Markets (State Council 2003).² In this circular (often called Decree No. 18), the Chinese government prioritized the position of the real estate market in local administration by recognizing real estate as “the backbone industry” of the economy. In the Chinese context, “backbone” means an industry that is heavily relied on to support the entire system — an indispensable source for the stability and growth of the whole national economy.

Why did Wen Jiabao put the real estate industry in such a high position? This seemed to imply that many major sectors in the national economy, such as electricity, metal production and international trade, would not be as important as real estate to the Chinese economy at that point.

One explanation could be that Chinese GDP growth had experienced a slowdown between 2000 and 2003, with annual growth of just 6-7%.³ The economy could have been in need of another major industry to stimulate GDP growth.

Wen might also have been counting on real estate to foster growth in other sectors of the economy. In Chinese, the term “real estate industry” is defined as “a comprehensive industry with lands and buildings as business object, consisting of housing development, dealership, operation, management, repair, decoration and service” (Shen 2005). It is regarded as a service economy in China, but the economic sectors related to it are not confined to the service sector.

² <http://www.lawinfochina.com/display.aspx?lib=law&id=3078&CGid>

³ <https://tradingeconomics.com/china/gdp-growth-annual>

Only in 2004, real estate industry already accounted for 5.2% of Chinese GDP directly. This percentage did not include output generated in so many subsidiary industries necessary for developing commercial housing areas such as “iron mining, steel and cement manufacturing, construction, shipping and logistics, architecture and design, home furnishings, finance, maintenance and so forth” (Liu et.al 2008: 164).

Due to the lack of official statistics, it is unclear exactly how large the effect of real estate would be for all these related industries, but the impact should have been very large, as some direct research indicated a strong positive effect of real estate investment on economic growth in short term (Hong 2014, Wei et.al. 2014). Also, between 2004 and 2011 (with the exception of 2008), the annual growth rate of the Chinese GDP indeed returned to 10% or above. Thus, Decree No.18 may have met its intended effect to facilitate a GDP boom.

According to the *Circular* itself, the real estate industry has “a high degree of conjunction” with other industries. Real estate expansion therefore “boosts consumption, enlarges domestic demand, promotes the increase of investment,” and promotes “the continuous, rapid and healthy development of the national economy.”

Decree No.18 has been regarded by many scholars and media as the starting point of China’s “housing economy” and the beginning of making the real estate industry the growth engine for Chinese GDP (Ma 2017:167, Lu 2012:340, Zhang 2005). It also marked a major departure from previous policy. During the 1990s, the Chinese

government had maintained an Affordable Housing System, attempting to keep the housing supply affordable for the most urban residents by controlling the dominant proportion (not below 80-90%) of “economic-comfortable” houses in the entire housing market (Ma 2017: 165-166).⁴ But Decree No.18 led to the commodification of the housing system and the abolition of the older welfare-oriented system. The goal of the real estate industry was no longer to “establish and refine a multilevel urban housing supply system with economic-comfortable houses as the mainstay” as before, but rather to ensure that “most families gradually purchase or rent ordinary commercial houses” (State Council 2003; Ma 2017). After Decree No.18, the “housing demands for most families should be satisfied through the commercial market” instead of mainly by governmental distribution (Ma 2017: 167).

After the introduction of Decree No.18, China’s construction sector recorded an average yearly growth rate of 23% in the 2000s (EUSME 2015: 8-9) — at least twice the annual growth rate of China’s GDP between 2004 and 2012, and four times the annual growth rate of China’ GDP between 2000 and 2003. Comparably, the period between 1995 and 2002 saw a much slower growth rate of the construction sector, with the total output only doubled in nearly seven years. The scale of total output in the 1990s was also tiny compared to the outputs in the next decade.⁵

⁴ In Chinese, this phrase means residential houses built according to national plans and sold with governmental-guided prices, aiming at low and middle income families.

⁵ <http://www.madote.com/2014/02/is-eritrea-on-verge-of-construction-boom.html>; with sources cited from China Statistical Yearbook 2010

Moreover, The share of real estate investment in GDP (Ma 2017: 168) and housing prices (Liu 2009) also rose rapidly in the meantime. The annual growth rate of real estate was 22.1% between 1998 and 2007, even more than 30% between 2003 and 2007. It is claimed by some authors⁶ that the internationally-acknowledged share of real estate investment in GDP should be no more than 5%, but China reached 9.6% in 2004, 15% in 2014, and even more than 50% in some cities (Ma 2017: 168; Liu 2006; International Monetary Fund 2017: 49).

It should also be kept in mind that real estate is only one part of China's grand construction boom in the 2000s, although certainly a major part of it (the share of real estate investment accounts for 22.93% of total fixed-asset investment) (Ma 2017: 168). For instance, the Chinese government also spent tremendously on infrastructure building across the country. In only three years between 2008 and 2011, China built more than 4,800 miles of High-Speed Rails (Darst 2013). This alone would require a huge amount of governmental investment as well.

The construction sector accounted for another 5-6% of total Chinese GDP in the 2000s (China Statistical Yearbook 2012), as real estate already accounted for more than 5% of GDP, but counted as service sector outputs. Hence rapid growth in construction and real estate investment could be part of the reason for the amazing expansion of the total fixed asset investments (in China, this refers to the total amount of works and related

⁶ It is originally cited from Liu Junmin (2006)'s article in *China Economic Times*, but it is unclear that how he figured out the "internationally acknowledged" standards.

expenses of all the constructions and purchases of fixed capitals of the whole country) (Gao et.al. 2017:86). According to Li Yizhong, the former head of Industrial and Information department of the Chinese government, fixed asset investments accounted for 76.7% of the Chinese GDP in 2013⁷. Li also claims that the same percentage had been much lower earlier – 41.58% in 2003 and 32.83% in 1998.

From these numbers, not only we may see that how substantial the construction market could impact GDP in China, but also see the emphasis on the construction-related investment seemed huge during the Hu-Wen administration (2002-2012). Both the construction output and fixed asset investments had an extraordinary growth rate and became much more decisive in the national economy compared to the 1990s. Therefore, it seems construction and real estate development indeed worked effectively as the new growth engine of Chinese economy during this period.

China's economic-oriented administration could be traced back to the beginning of Reform and Opening (1979), and achievements of Chinese politicians were often mainly measured by GDP growth rate (Landry 2003: 58; Landry et.al 2017:44-45). As the international GDP ideology was strengthened during the 2000s (which I will introduce later), Chinese government's emphasis on GDP seemed to be more enhanced as well. Wen Jiabao nearly always prioritized the "fast development of economy" (Wen 2004) and set a high goal of annual growth rate, usually 7-8% (Wen 2004, 2005, 2008), in his

⁷ Li, Yizhong. 2013. *Fixed Asset Investments Has Reached 76% of GDP* (speech). <http://money.163.com/14/0730/14/A2DIFEJD00255399.html> (in Chinese)

Government Work Report, announced in the beginning of each year. Thus, the local governments could be hard-pressed to reach these annual growth goals in their respected administration.⁸ In comparison, Chinese leaders before Wen Jiabao also set priorities upon economy, but they seldom made direct yearly growth goals solely measured by GDP. For example, the 2001 Government Work Report by then Premier Zhu Rongji did not mention any GDP goals for the next year (Zhu 2001).

GDP ideology first became dominant after the Cold War, and it has become even more central in the 21st century. The modern concept of GDP was developed by Simon Kuznets in 1934, and was originally only influential in the United States and Great Britain (Fioramenti 2017: 47-49). As the collapse of Soviet Union marked the triumph of western capitalism, the main tool for measuring a country's economy used by the United States government became “the only game in town.” The dominance of GDP ideology seemed particularly strengthened after the U.S. Department of Commerce celebrated its invention in 2000. Nowadays, a cursory search on Google would give about 120 million hits in late 2016, compared to well-being’s 96 million (Fioramenti 2017: 51-55).

Overall, we can conclude that the Chinese government became highly GDP-oriented during the Hu-Wen period and that their administration highlighted policies to expand GDP by promoting construction and real estate. According to Decree No.18, one goal of the new real estate policies was to improve people’s overall living standards, i.e., public

⁸ The actual official growth rates were often equal or above the goals set by the Work Report, see <http://www.chinanews.com/tp/hd2011/2014/03-05/315143.shtml>

well-being. However, I shall discuss in this dissertation that overemphasis on GDP through construction investments may have led to opposite outcomes.

Research Description

Previous studies often divide the concept of well-being into objective well-being and subjective well-being, and these studies were often constituted by works that focus on one of these two categories (Alatartseva and Barysheva 2015; Western and Tomaszewski 2016; Hendriks 2017:155; Veenhoven 2008: 44-45). In one common definition, objective well-being includes the quality of a person's living conditions evaluated by objective indicators (Hendriks 2017: 162-163), usually measured by material standards. In these cases, as Lawrence Mishel and other scholars have mentioned, GDP is only determined by the market values of goods and service produced in a period of time. It does not include and does not necessarily connect well with income and wage levels. Mishel's research even reveals an increasing gap between productivity and worker's pay (in the US) since the 1980s (Mishel et al. 2012; Li 2017). Therefore, objective well-being is often not sufficiently covered by GDP, although the Chinese government seemed to treat GDP as the most symbolic reflection of objective well-being, as shown in the Government Work Reports. Wen Jiabao listed the performance of some objective well-being indicators in his 2006 Government Work Report, such as the average disposable income of urban residents and the average net income of rural residents. However, these indicators were only mentioned once, merely displayed as

demonstrations of the economic achievements. When setting the main goals for the next year, only GDP growth rates and employment rates are mentioned (Wen 2006).

I will choose several key objective well-being indices in my dissertation to compare with GDP. These indices including disposable income, wage rates, floor space per household, number of hospital beds, employment rates, etc.⁹ Income and wage are main indicators of people's earnings and life conditions, and a main topic of economic sociological research (Mishel and Gee 2012; Mishel et.al. 2012), yet it is surprisingly not covered by GDP numbers since GDP is a value of production. Household spaces and employment are also key elements of people's living conditions, and both involve an inseparable part of everyday life. The same is health, which is represented by the number of hospital beds and the total number of personnel that serves medical care.

Subjective well-being consist of people's personal feeling and personal judgments toward the quality of life (Frey and Stutzer 2010), well-being in a person's perception and experience, often measured by surveyed self-reports and life satisfaction ratings (Hendricks 2017: 163), including happiness score, satisfaction over social communication, intensity of work, sense of relative deprivation, etc. One main difference between these two well-being concepts is that the subjective well-being focuses more about "people's expectations and aspirations in life, their emotions considering the past and the future, and their relations to family and friends, and others in society," which

⁹ According to OECD, other important objective well-being include social inequality, environmental qualities, murder and assault rates, life expectancy, working hours, etc. Due to limitations of data many of them are not included in this research.

objective well-being does not cover (Hendricks 2017: 164).

In this dissertation I will analyze both subjective and objective well-being conditions in China during the 2000s. However, I will mainly focus on analyzing the objective well-being indicators. Many of these indicators are also in currency unit (RMB), thus directly comparable to the GDP.

The main case of this study is the prefectural-level city of Changsha, a region¹⁰ that achieved double-digit GDP growth in the 2000s. Changsha is my home city, and my familiarity with it enables me to know that two construction machinery magnates in China, SANY and ZOOMLION were both located in Changsha. ZOOMLION was founded on 1992 in Changsha¹¹ and its headquarters is still located in Changsha. SANY was founded on 1989 in Hunan province (with Changsha as its capital) and its headquarters spent 20 years in Changsha before moving to Beijing in 2012¹². According to the Construction Machinery Yearbook of Changsha, a main body of Changsha's GDP in 2011 (around 56%) came from the Second Industry (manufacturing and construction), yet construction machinery was the top industry of Changsha's manufacturing sector, contributing about 31% of the gross output value of large-scale manufacturing. It was also the first industry in Changsha to reach the output value goal of "100 billion RMB"

¹⁰ Prefecture-level city is an administrative region containing and surrounding a major city, similar to American counties and Japanese prefectures. I am going to compare Chinese prefecture-level cities and Japanese prefectures in Chapter 2.

¹¹ <https://web.archive.org/web/20110718155736/http://www.zljt.com/english/about/2008-05/1210474778d3833.html>

¹² <http://stock.eastmoney.com/news/73289,20121203261721812.html>
"SANY's reflections on moving its headquarters to Beijing" (in Chinese).

(Changsha Construction Machinery Yearbook 2011), making itself a vital part of Changsha's GDP growth.

Therefore, although Changsha may not be the most typical area in the entire country to represent China's construction economy, it should be a good representative in Chinese cities to analyze the effect of a construction boom in GDP. Also, one recent research by Liming Hong (Hong 2014:7) claims that the effect of real estate on economic growth is stronger in the Eastern area of China compared to the Midwest area. In contrast, Changsha is located in the Midwest China, but with a rapid growth GDP during the 2000s. My research may illustrate that construction economy's effect on GDP may be equally strong in certain Midwest regions.

In supplement, I will also compare the data of Changsha to the prefectural-level city of Jinan (a region with majority of GDP comprised by service economy) and two prefecture cases in Japan during the Japanese economic boom (1975-1995), Aichi and Saitama. Thus, I could not only analyze the interrelationship of GDP growth and well-being across different regions in China, but also across two countries in different historical periods.

I will compare and analyze the GDP and various well-being indicators over the 20 years between 1994 and 2013, using the Changsha Statistical Yearbook and the China General Social Survey (CGSS). The Statistical Yearbooks in China (including versions for the whole country, every province and every major city) is the official records of

China's economic statistics, published by the Bureau of Statistics in China. It is widely cited in many other research projects regarding the Chinese economy.

The CGSS is part of the famed sociological project *General Social Survey* and its official partner in China. The 2013 edition of CGSS is marked by the repetition of many subjective well-being questions (involving relative deprivation, social communication, general life quality, etc) surveyed in 2003, and provided the comparison of responses in these two years. This "before and after" research method across ten years and CGSS's data which focus on mental and social well-being are very similar and compatible to my research subject. Therefore, both of these two sources are authoritative and reliable. I know these sources from the recommendation by one dissertation committee member.

I divided this period in two: the pre-construction boom period (1994-2003) and the construction boom period (2004-2013). I set the period to be started in 2004 because it would be one year after the Decree No.18 to be put into effect; actually, the construction boom over China would be greatly enhanced after the Four Trillion Plan in 2008 invested more funds in constructions, which I will introduce in detail in Chapter 1.

This periodical division enables me to locate the key changes in GDP and social indicators after China announced its new GDP-oriented policy, with a focus on construction in particular, in the document *Circular of the State Council on Promoting the Continuous and Healthy Development of the Real Estate Markets*, and started a period of rapid growth of construction investments and GDP.

Rise and Harm of GDP Worship

Gross domestic product (GDP) is often assumed to be directly related to the well-being of a country's residents (Easterlin 1974:100-105; Inkeles 1960: 17). It is considered by many authorities to be a relatively accurate measurement to account a country's economic power, especially compared to traditional measurements based on taxes or industrial power (Fioramenti 2017: 46-47). For example, Paul Samuelson and William Nordhaus eulogized GDP as "truly among the great inventions of the 20th century" (Samuelson and Nordhaus 2008, Li 2017: 11); the US Department of Commerce also held a major event in 2000 to celebrate the invention of GDP as its "achievements of the century" (Fioramenti 2017:53).

Moreover, GDP per capita is also considered an important indicator of "richness" for a country's individual residents (Li 2017: 34). According to Li Jinzao from China National Tourism Administration, the progressiveness of the western world is represented by its long standing lead in the GDP per capita, especially according to Angus Madisson's research (Madisson 2003, Li 2017: 40-41). Also, after the Reform and Opening, the developments of Chinese economy were also reflected well in GDP per capita (Li 2017: 53-54). This unavoidably generated a great impression among Chinese administrators that GDP itself represents well-being.

Thus, in China, it even generates a phrase called "GDP worship" (Li 2017: 1-3) to describe the overemphasis on GDP in economic administration. According to Li Jinzao,

in a GDP worship, local governments often carry out “blind GDP competitions” and lay “excessive or biased emphasis on GDP and putting it on a pedestal”, disregarding energy and resource waste, production over-capacity, and environmental degradations during this process (Li 2017:3).

Therefore, is GDP actually associated with well-being? Are there particular contexts in which it is not? Especially, in the contexts across the history of People’s Republic of China, the growth of economic indicators was often placed at first priority, and sometimes at any cost. GDP, as a sum of value for all formal exchanges in goods and services of the national economy, can be effectively boosted by focusing on any particular economic sector, disregarding the overall quality (Li 2017:3, Jackson 2009, Fioramonti 2017:54-56). This way is not necessarily beneficial to the social well-being, and sometimes disrupts social well-being.

In 1958, Mao Zedong’s Great Leap Forward campaign mobilized the whole country to promote industrialization, especially steel production, in a short period of time. The Chinese government announced official goals to surpass the total industrial output of Great Britain in 15 years (Niu 1958). In order to achieve this goal, nearly the entire country was mobilized to produce steel, including the agricultural manpower. Numerous small furnaces were operated by villagers in every people’s commune and “everywhere furnaces were red hot” (Dikötter 2010: 57-60). Clearly, this mass mobilization had disrupted normal agricultural productions. Combined with natural disasters, the total

grain output in China fell dramatically from 200 million to 143 million tonnes between 1958 and 1960 (Dikötter 2010: 130-132).

Although one goal of the plan was to develop the national economy of China, and, the people's well-being, the program's partial focus on statistics of one economic sector (industry) caused desolation and destruction in agriculture and grain outputs, leading to one of the worst famines in the Chinese history, resulting in the deaths of millions of Chinese between 1959 and 1961 (Dikötter 2010: 320-325). The GDP of China actually grew from 107 billion yuan to 147 billion yuan between 1957 and 1960 (yearly growth rate 12%), possibly due to the growth in industrial productions, but came with a huge cost. This is one example that an unbalanced economy and artificially accelerated economic growth could cause great harm.

Similarly, Decree No.18, according to official announcement, is designed to drive another round of economic boom in China. Wen Jiabao believes that developing real estate could be meaningful for "improving the inhabitation quality, and meeting the demands of the material and cultural life of the masses", and "bringing the advantages of the human resources into full play and enlarging the social employment", and in general, "building a well-off society in an all-round way". In sum, one goal of the new real estate policies is to improve people's overall living standards, thus benefit the public well-being. GDP growth is the new policies' main goal but not the only goal. Therefore, if in the actual administration there exists a partial focus on GDP (and industries that could

quickly generate GDP), yet actually brings about imbalance to the national economy and harms to the public well-being, it fails the purpose and falls into some kind of dataphilia.

Thus, this dissertation is not aimed at claiming that “GDP is not useful at all” or “whether the economy of China is filled with bubbles or not”. Rather, my research would explore the gap between GDP statistics and the various indicators of well-being which often exists in modern societies, and pinpoint the danger that an overemphasis upon GDP may lead to unbalanced growth between GDP and well-being, which may cause social grievances and damages the long-term sustainability of the national economy.

Conclusion

In general, my dissertation focuses on exploring the relationship between GDP-oriented policies and the public well-being. Although not the same thing, the GDP boom in the first decade of 21st century China is substantially influenced and driven by the policies and decrees of the Hu-Wen administration that promoted the large-scale constructions over the country (including infrastructures) and marketization of the real estate industry, which ultimately aimed at producing a new GDP growth engine, as introduced in the previous sections. Thus, we could conclude that the Hu-Wen administration implemented a GDP-oriented strategy between 2003 and 2012, but it is also a period marked by the thriving of constructions and the real estate.

In order to further analyze the characteristics of this period, it is important to illustrate how constructions in China expanded rapidly in several years. In Chapter 1, I

will mainly introduce and discuss the construction boom in China during the 2000s. I will also discuss the historical and cultural backgrounds that make the Chinese government inclined and accustomed to use constructions as the tool of boosting economic achievements.

Chapter 1: China's Construction Emphasis

The Construction Boom in 2000s

The economy of mainland China has experienced many years of continuous growth. The Chinese GDP growth rate has been positive since the year of 1977, and this trend still continues. Over the course of the 2000s, the Chinese GDP growth rate was constantly above 7 percent, and in some years (between 2003 and 2007), above 10 percent¹³. This rapid growth allowed China to overtake Japan in 2011 and become the second largest economy of the world. Only until recent years (particularly after 2014), did the Chinese economy start to experience a slowdown trend, with its annual GDP growth rate dropping to around 6 percent.

China has also experienced a significant construction boom in the 2000s, especially since the Chinese government issued *Circular of the State Council on Promoting the Continuous and Healthy Development of the Real Estate Markets* in 2003 (as introduced in the Preface). This construction boom played a considerable, perhaps essential role in its high speed GDP growth at the same time.

In the 1990s, China did not have a particularly large construction industry despite its rising economy. A graph by HIS Global Insight Construction Service hints that China never went beyond 5 percent in terms of share of global construction spending in this decade. In contrast, Japan accounted for nearly 40 percent of the global spending around

¹³ World Bank Database

1991 (TUSIAD 2011: 1). As of the year of 2000, China only had 4.6 percent in international construction market shares (Zhang and Zhang 2003: 9).

Rapid changes occurred during the Hu Jintao-Wen Jiabao administration (2003-2012). The Chinese government announced several policies that promoted investments in constructions. As a result, construction industry in China expanded at an extraordinary pace, rising to nearly 20 percent of the global share of construction spending, surpassing the United States and Japan to become the top country of the world in just ten years (TUSIAD 2011:1). Nowadays, construction projects could be easily seen in the streets of Chinese cities, and it can be said that construction economy had become a characteristic feature of China.



Figure 1: China’s Share of Global Construction Spending (graph from TUSIAD. 2011. “China Construction Industry Overview 2011”)

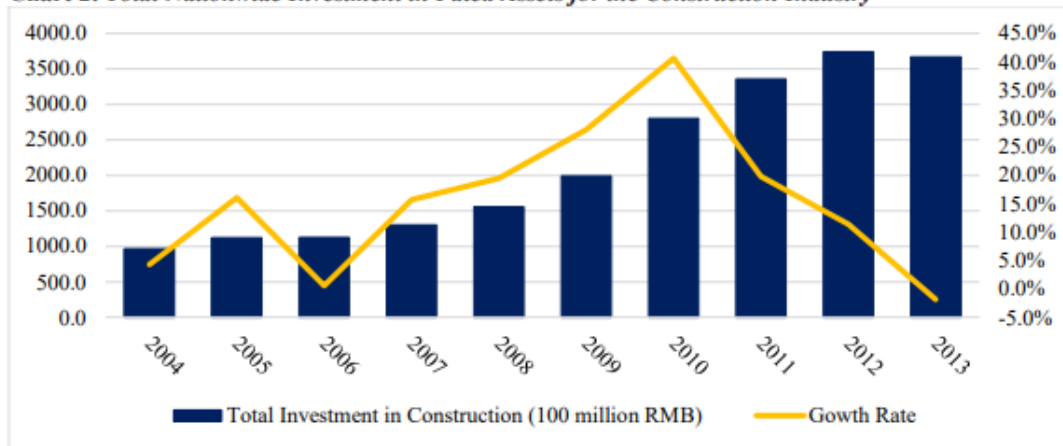
With the world’s largest industry (as shown in figure 1), construction is now a huge part of China’s economy. During the first decade of the 2000s, China’s construction

sector recorded an average growth rate of 23 percent, and this is nearly twice the rate even compared to China's annual GDP growth at the same period (8.3 to 14.2% between 2000 and 2009). This indicates that construction has grown into a spearhead industry in stimulating China's economic growth (EUSME 2015: 8-9). A report suggests that "construction output value" accounted for 26.4% of China's GDP in 2012 (EUSME 2015:8). This report of EU SME center on the construction sector in China did not estimate the percentage of "construction output value" in GDP in the previous years, but it should share a relatively smaller portion in the early 2000s, as the average growth rate of the construction sector in the 2000s is considerably faster than the GDP growth rate in the same decade.

The growth rate for investments in the construction industry itself is even more extraordinary. The growth rate for the nationwide investments in fixed assets¹⁴ for the construction industry once reached 40 percent in 2010, two years after China's decision to launch a huge investment package known as "Four Trillion Plan" at the end of 2008 as a response to the global financial crisis (EUSME 2015: 9). In comparison, the same growth rate was 20 percent in 2008, which was doubled in only two years. Total investment in construction rose from around 150 billion RMB in 2008 to over 250 billion RMB in 2010, and over 350 billion RMB in 2012, indicating that construction investments served as one of the focal points of the Four Trillion Plan.

¹⁴ Assets that are purchased for long-term use and not likely to be converted quickly into cash, such as land, buildings, and equipment.

Chart 2: Total Nationwide Investment in Fixed Assets for the Construction Industry



Source: National Bureau of Statistics of China (NBSC)

Figure 2: Growth of Construction Investments during the Four Trillion Plan (graph from EU SME Centre. 2015. *Report: The Construction Sector in China*)

Total investment in the construction sector reached around 367 billion RMB in 2013, where it was only around 100 billion RMB in 2004. Yet this figure still does not include China's huge fixed asset investments in the other areas closely linked to construction, such as metal, raw material and machinery manufacturing industries, real estates, infrastructure and transportation development (EUSME 2015: 8,10, TUSIAD 2011:2). For example, in 2011, China invested another 2.7 trillion RMB to transportation, storage and postal services, and 1.3 trillion RMB to road transport, compared to only 325 billion direct investments to the construction sector itself (TUSIAD 2011:2). It is hard to estimate exactly how much in fixed asset investments are directly or indirectly in some relations with construction, but the total value of fixed asset investment reached 43 trillion RMB in 2013, which is 76% of the Chinese GDP¹⁵.

¹⁵ Li, Yizhong. 2013. *Fixed Asset Investments Has Reached 76% of GDP* (speech). <http://money.163.com/14/0730/14/A2DIFEJD00255399.html> (in Chinese)

The United Kingdom Contractors' Group estimates that £1 in construction output could generate a "total of £2.84 in total economic activity" due to its connection to other industries (UKCG 2009: 10). This influence could be even stronger in countries like China, where some of its major economic sectors, such as manufacturing, transportation and real estates, are all tightly linked to construction activities.

Estimating the exact amount of GDP directly or indirectly produced by the construction boom in China is challenging due to its broad connections. The Chinese construction industry is considered part of "the Secondary Sector". In China, national economy is divided into three major sectors: the Primary Sector, which is mainly represented by agriculture, animal husbandry and fishery; the Secondary Sector, which includes the entire manufacturing industry and construction, and the Tertiary Sector, which is mainly represented by commercial and service economy. The Secondary Sector has been China's top economic sector since the 1980s, and was constantly accounting for more than 40 percent of China's total GDP (China Statistical Yearbook 2013). It is also the sector that consumes the dominant amount of energy usage. Manufacturing consumes 72.8% of the energy in China in the 2010s, and construction industry consumes another 1.2 percent. In comparison, household consumption of energy shares only 12.5% of the total usage (EUSME 2015: 24). Estimating how much exactly the GDP in manufacturing sector is produced by or related to construction activities is difficult, but I will mention later that in my cases, some heavily construction-linked manufacturing industries (such as

construction machinery) serves as a vital part in GDP.

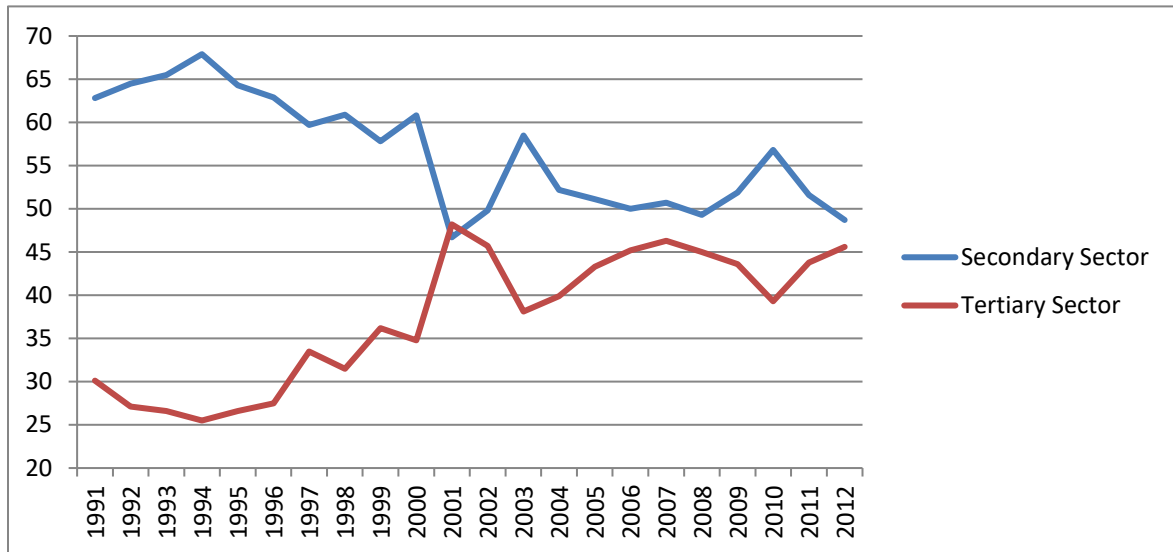


Figure 3: Percentage of Secondary Sector and Tertiary Sector’s contribution of Chinese GDP (source: China Statistical Yearbook 2013)

Moreover, the transportation industry, which received at least 2.7 trillion RMB investments in 2011, has been the main focal point of the fixed assets investments after the Four Trillion Plan (TUSIAD 2011: 2, 10). The real estate expansion is also a major part of the construction boom. As introduced in the Preface, Premier Wen Jiabao announced the real estate as the future “backbone industry” of China (means an industry that is heavily relied on to support the entire system as an indispensable source for the stability and growth of the whole national economy) in the Decree No.18 of 2003, which started a wave of constructing new commercial houses in the entire country, leading to the 23% average annual growth rate of construction sector in the mid-2000s, in comparison, the output was only doubled between 1995 and 2002.¹⁶ The share of real

¹⁶ <http://www.madote.com/2014/02/is-eritrea-on-verge-of-construction-boom.html>; with sources cited from China Statistical Yearbook 2010

estate investment also reportedly accounts for 22.93% of total fixed-asset investment in the 2000s (Ma 2017: 167-168).

As transportation and the real estate are so important to the Chinese economy and GDP, both of the two industries count as “the Tertiary Sector” in China (as they fall in more on the category of commercial output rather than the industrial production, at least by Chinese standards), thus, they do not count towards GDP produced by the Secondary Sector, despite they have obvious links to the construction boom.

Therefore, construction in China could also heavily affect the GDP growth in the service sector, not only the “the Secondary Sector” it belongs to. It can be said that construction booms in the 2000s decade may influenced and served as the engine of the fast growing performance of the entire Chinese economy at the same time (Ma 2017:167, Liu et.al 2008: 164, Lu 2012:340).

In the following paragraphs, I will review the literature regarding the construction boom in China, particularly during the Hu-Wen Administration (2002-2012).

Literature Review of Chinese Construction Boom

As it took place less than twenty years from now, the construction boom in China received increasing attention from scholars of economics, political science and sociology fields only after 2010. The perspective of these scholars that view and research this gigantic construction expansion also varies a lot.

Some literature views China’s construction boom in the context of urbanization and

treats it as a reflection of China's rising, dating back to Kristof's article (Kristof 1993: 59-74) in the 1990s. Kristof regards that Chinese metropolises in the 1990s such as Beijing and Guangzhou are "dizzied by the ubiquitous construction sites", and treat them as a main symbol of China's ongoing economic revolution and the proof that the rise of China is becoming real. Kristof also describes that "the Chinese construction boom" has caused "a global scramble for certain kind of steel". As it is introduced in the Preface and previous sections, despite the construction activities in China during the 1990s was much smaller in size, compared to its grand construction boom in the 2000s, it still illustrated that China's tendencies to expand its construction was already noticeable back then, and it already contributed greatly to the economic growth.

The works that connect the Chinese construction boom to the rise of China as a great power are recently represented by books of Neville Mars' and Thomas Campanella (Mars and Hornsby 2008, Campanella 2012). The authors of these books seem to view the construction boom in China with a generally positive and progressive perspective, but they also point out that the construction boom is not only motivated by the aim of improving economy or well-being, the great ambition of the Chinese government to urbanize the entire country is also a key factor behind it.

Mars and Hornsby regard the construction boom as a representation of "the Chinese Dream". In China nowadays, "The Chinese Dream" is a slogan proposed by President Xi Jinping (possibly a correspondence to "the American Dream") in the 18th National

Assembly of Chinese Communist Party in 2012, which aims to completely realize the “great revival of the Chinese civilization” and to make China a rich and developed country between the year of 2021 and 2049¹⁷. Clearly, not only Xi Jinping and the Chinese government think it is a concept that could become the reality, as Mars and Hornsby’s book was published in 2008.

Mars and Hornsby assert that the Chinese Dream is such a great project as it equals to a project of building “the whole mass of Western Europe” in 20 years (this should mean that to make a country as populous as China a developed nation would require to generate as many GDP as the entire Western Europe). First of all, the construction boom in China is so grand in the 2000s and will still be so in the future, because China is also undertaking a huge task of urbanization. Despite urbanization is a global trend, China seems to have the fastest goal in the entire world. Mars and Hornsby claims that the Chinese government (in 2008) plans to make 930 million Chinese to live in the cities before the year of 2030. This would mean moving 400 million farmers originally lived in rural areas into the cities between 2008 and 2020, and this number creates a new Beijing (the capital of China, with 21 million population) every year (Mars and Hornsby 2008: 20-29). Thus, it is hard to imagine how many new homes and residential buildings needed to be constructed in China during each passing day. Considering the content of Xi Jinping’s presentation of “the Chinese Dream” in 2012 (to make China a rich and

¹⁷ Xi Jinping’s presentation of “the Chinese Dream” (in Chinese)
http://www.xinhuanet.com/politics/2017-10/18/c_1121820111.htm

developed state by 2049), the grand economic ambition of the Chinese government did not seem to be changed fundamentally when the Hu-Wen administration was replaced by Xi.

Secondly, in parts of China where the urban areas are most concentrated (exemplified by the “Jinhu urban region”, which means the regions located between Beijing and Shanghai), a grand task of constructing new infrastructures also existed in order to connect these cities. The transportation infrastructure in Jinhu urban region alone would need to cover the urban area of 485,000 kilometers, and to connect 474 million people resided in these cities, with the population density of 978 per kilometer by the year of 2020. Compared to the actual population of Jinhu urban region in 2005 (385 million people), the population density is planned by the Chinese government to rise around 23% (Mars and Hornsby 2008: 39-43).

Thirdly, the great construction boom in the 2000s and in the future also requires tremendous amount of resources. China was already the second largest consumer of petroleum in the world (only after the US) since the year of 2003, yet the major resource that produces energy in China is still coal, which consists 66% of Chinese energy consumption. The coal resource in China is limited and ineffective for the future demands, especially considering that China plans to provide electricity and energy to 900 million urban population. Therefore, one to two nuclear stations is expected to be built each year after 2008, and this will again contributes to the demands of construction. As it is

discussed before, construction and urbanization also consumes huge amount of steel and cement, and nowadays, more than 50% of the growth of these two products in the world came from China (Mars and Hornsby 2008: 118-130) .

Lastly, many aspects of the Chinese construction boom and the urbanization task are unprecedented in history and this brings about numerous challenges. For example, the city of Beijing is now ten times the geographical size of Beijing in imperial dynasties, yet still expanding rapidly. The unprecedented size of metropolises often brings about pragmatic and disordered urban planning (Mars and Hornsby 2008: 286-290). Many Chinese cities were originally planned as industrial bases (especially during the Mao Zedong era), now they needs to be transformed into “bourgeois consumption center” and “the successfulness of this change would be vital to China’s economic future”, as the service economy in China is considered relatively weak and not sufficiently developed. Some economic observers¹⁸ assert that compared to most developed countries, China’s major point of growth relies heavily on manufacturing. The domestic consumption in China languishes at a relatively low level (about 36% of gross domestic product, far below the standards of other top ranked GDP countries --- such as the US, where domestic consumption is around 70% of its GDP). In other words, China may also need to fully exploit the potential in its service economy, in order to continue a successful economy in the future. In general, the construction boom and the Chinese Dream would

¹⁸ Roach, Stephen. 2014. “China’s Monetary Policy Surprise” in *Project Syndicate*

mean that the Chinese needs to achieve many things never attempted before, as one Chinese undergraduate student said: “We don’t need history here, we are creating it.”

(Mars and Hornsby 2008: 520-537)

In general, Mars and Hornsby think highly of the construction boom in China and see it as an equivalent of the American Dream, mainly because it is such a huge, grand and ambitious project. It needs to solve numerous difficult tasks, and the Chinese already achieved many in order to reach this goal. However, according to their descriptions, the “Chinese Dream” also costs tremendously huge amount of money, manpower and resources, making it doubtful that whether these costs could be too high for the sustainable development of China in the future (this will be discussed with more detail in Chapter 4).

Campanella termed China in the 2000s “the concrete dragon” and thinks the construction boom is a part of China’s ambition to complete an “urban revolution” (Campanella 2012: 13-14). The reason of this naming is similar to that of Mars and Hornsby: it is influenced by the direct impression that China went through construction with great scale and intensity, accompanying a grand urbanization goal in the 2000s decade.

Campanella believes that over the last twenty years (the book is published in 2012), the People’s Republic of China has undergone “the greatest period of urban growth and transformation in history”. It is claimed by Campanella that China’s construction industry

“employs a workforce equal to the population of California”, devoured “nearly half the world’s steel and cement”, and “much of the world’s construction equipment is in China” (Campanella 2012: 15-16). Like Mars and Hornsby, Campanella also stresses the ambition of future Chinese goals: China had a 180 mile of modern motorway in the 1980s, now it spans 30,000 miles; By 2020 China will likely have 53,000 miles of national highway, becoming “the most freeway-laced nation on earth” (Campanella 2012: 16).

Like Mars and Hornsby, Campanella also points out that the reason that Chinese urbanization would require such a grand construction boom could partly be attributed to the population size of China ---- if China wants to reach the same urban population percentage of the United States (80%), it would require more than 1 billion city-dwellers (Campanella 2012: 14). Yet this is what the Chinese government planned to do in a short period of time: 930 million urban population before 2030 (Mars and Hornsby 2008: 20-23).

Despite Campanella attributes the primary motive force behind China’s urban revolution to the growth of the Chinese economy (rather than administrative goals), he also emphasizes that policy factors --- Deng Xiaoping’s promotion of the idea “it is glorious to get rich” (Campanella 2012: 20-22), and the Reform and Opening starting from 1979 (Campanella 2012: 27-28), which established a number of new cities in Southern China, all exerted great influence to the rapid Chinese urbanization as well.

As the title suggests, Campanella is also impressed by the grandness of the Chinese construction boom, describing the Chinese urbanization process as “revolutionary”, “concrete dragon” and “reinventing the cities”. He also regards highly the skill, expertise and innovativeness of contemporary Chinese architecture, and believes it has achieved worldwide influence (Campanella 2012: 23-24). However, he is equally aware that the intensive constructions in China also often crippled public well-being. The private residential houses of many citizens need to be demolished during the urban renewal process. The families involved must move to a new place, and this generates considerable social grievances. Many people declined to move, and persisted to stay in their houses surrounded by the ruins of other demolished houses. Some of them protested with a banner saying “A citizen’s legal private property is not to be encroached upon” (Campanella 2012: 12-13). Also, many historic buildings (some with hundreds years of history) and old neighborhoods were also demolished or damaged and made way for the modern style buildings (Campanella 2012: 108-110), and this brought about inestimable losses of historical sites and culture. Therefore, it is not surprising that the rapid construction boom in China also earned a reputation of “the ruthless centrifuge of change” (by Carl Schorske) and “creative destruction” (by Joseph Schumpeter) (Campanella 2012: 10, 15).

Many others scholars relate the Chinese construction boom to the expansion of real estate market in China, as the great outburst of commercial housing in the 2000s brought

about tremendous construction investments from both state and private enterprises, and served as the growth engine in China during the 2000s.

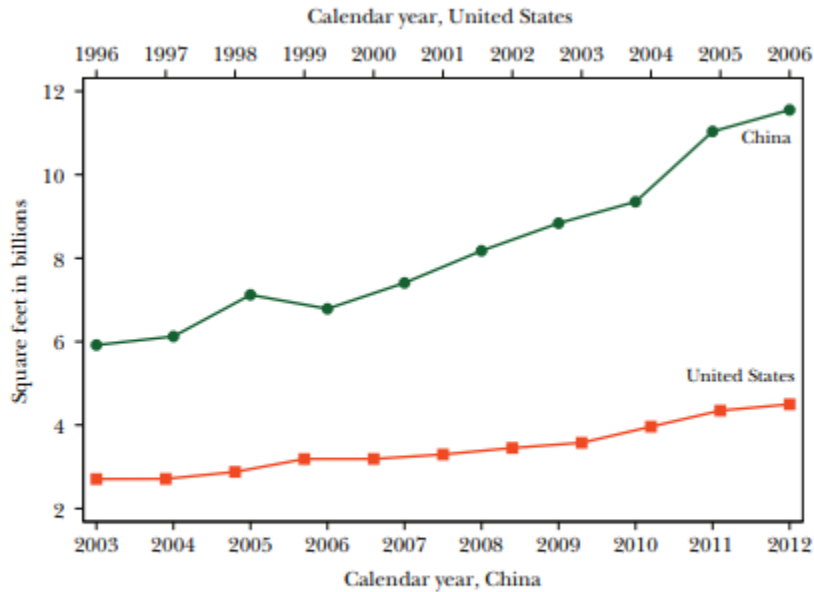
Joyce Man (Man 2011) believes that the construction boom is one direct outcome of the housing reform of the Chinese government. Man claims that China is world's largest construction market in terms of built space, and about half of China's annual constructed space is residential (Man 2011:xi). Therefore, the residential housing market serves as a decisive factor of the Chinese construction boom, according to Man. The rapid expansion of residential houses could be partly attributed to China's urbanization goals and demands, but the governmental housing reform also played a vital role (Man 2011:5). Starting from 1998, by terminating the direct public housing distribution to workers (in the public sector) by State Council Document No.23, China began to gradually terminate the welfare-based housing allocation and to establish a market-based system of housing provision. This, according to Man, dramatically increased land and housing supply in Chinese real estate market, as "a growing number of companies, both state and privately owned, have been entering the real estate market, in anticipation of great profits in the housing sector." (Man 2011: 4-5). Man thus claimed that the floor area of new constructions grew by over 300 percent during the period from 1999 to 2010, and the housing prices also doubled during the same period (Man 2011: 13).

Ma Xiulian (Ma 2017) recently emphasizes the same, that the construction boom was greatly accelerated by China's housing reform. Compared to Joyce Man, she stresses

more on the Decree No.18 (*Circular of the State Council on Promoting the Continuous and Healthy Development of the Real Estate Markets*) in 2003, which marked the final completion of China's housing reform and housing marketization. In Decree No. 18, the Chinese state council fundamentally changed the goal of the real estate industry from "establish and refine a multilevel urban housing supply system with economic-comfortable houses as the mainstay" to "ensure that most families could gradually purchase or rent ordinary commercial houses", and emphasizes "housing demands for most families should be satisfied through the commercial market". Also, the Chinese government officially declared in the Decree No.18 that the real estate should be regarded as the "backbone" of Chinese economy (Ma 2017: 165-167). According to Ma's view, the growth rate in China's construction sector became twice the annual growth rate of Chinese GDP after the announcement of Decree No.18, and the real estate industry truly became the growth engine of Chinese GDP as desired (Ma 2017: 167-168).

Edward Glaeser and his colleagues (Glaeser et.al. 2017) compared the real estate expansion in China between 2003 and 2012, and the real estate bubble of the United States between 1996 and 2006. Glaeser finds that the real estate expansion in China is accompanied by a construction boom (of residential housing) with very huge scale: annual completed residential space was already 6 billion square feet in 2003, and this number became nearly 12 billion square feet in 2012. Such rapid and vigorous building boom was not observed in the United States during its real estate bubble, where the

annual completed residential space in the US only fluctuated around 3-4 billion square feet (Glaeser et.al.2017: 97-98).



Source and Note: Annual completed residential space for China is from *China Statistical Yearbook*. Annual completed residential space for the US is calculated as units of single family homes completed multiplied by average square footage of new single family homes, plus units of multi-family homes completed multiplied by average square footage of new multi-family homes

Figure 4: Annual Completed Residential Space for China and USA during their Real Estate Boom (Source: Glaeser, Edward et.al. 2017. “A Real Estate Boom with Chinese Characteristics”. *The Journal of Economic Perspectives* 31(1))

Therefore, Glaeser states that the US housing cycle “looks stable and dull relative to the great Chinese real estate boom” (Glaeser et.al. 2017:93). In regards to the question that whether China is also experiencing a real estate bubble, Glaeser tends to believe that since China had a rapid building boom in the 2000s with much larger size than the United States (before the 2008 financial crisis breaks out), it provided continuous and elastic supplies to the real estate market. At the same time, the urbanization requirements in China also generated high market demands, making it “far from certain” to judge that whether Chinese housing market is a bubble ready to burst (Glaeser et.al. 2017: 94,

107,114).

Some sociological scholars link the Chinese construction boom to the expansion of global capitalism. Possibly due to their own standpoints that view capitalist expansion as exploitative to the working class rather than beneficial to the public well-being, their evaluation on the Chinese construction boom is somewhat negative.

Ho-Fung Hung (Hung 2016: 52-84) and Yasheng Huang (Huang 2008) both believe the construction boom in China is fundamentally capitalist expansion, although in China it is covered by the name of “socialist market economy”. This term was first used during the 14th National Congress of the Communist Party in 1992 to describe the goal of a new wave of economic reform led by then President Jiang Zemin. The Jiang administration believes this reform will transform China into marketization and an economic system mainly operated by market adjustments, to replace the Soviet style central planning system, but it will still keep China as a socialist country with state and public-owned enterprises in predominance.¹⁹

On the other hand, Hung believes that all historical industrialization process is fundamentally capitalist, since it inevitably involves the accumulation of capital and the increment of money after the circulation of capital. Therefore, China in the twentieth century was “essentially a struggle to jump-start primitive accumulation and bring about the rise of self-perpetuating and self-aggrandizing capital” (Hung 2016: 7-9). Hung thus

¹⁹ http://www.xinhuanet.com/politics/2018-10/04/c_1123519131.htm
Xinhua News Agency’s description of Socialist Market Economy (in Chinese).

views the Chinese economic growth after the 1980s, including the economic boom in the 2000s, as a rise and large expansion of capitalist economy (after its long but successful primitive accumulation period during Qing and Kuomintang rule). The Chinese boom is also dependent upon the global free trade and investment flows, thus it is dependent upon the neo-liberal order rather than challenging it (Hung 2016:10).

Compared to Ho-Fung Hung, Yasheng Huang agrees the Chinese economic boom is capitalist but he also states the Chinese economy fits neither the category of laissez-faire, market liberal capitalism nor a socialist planned economy, but rather “crony capitalism” built upon raw political power. In comparison to western capitalism, property rights of the individuals in China are often harshly suppressed by governmental forces (the forceful removals of old buildings and residential houses mentioned by Campanella serves as a typical example), indicating that state and political intervention still plays a significant role in the Chinese capitalist boom. Thus, Huang also believes that China resembles more of the “state-led capitalism prevailing in Latin America” than the other East Asian countries where their economic achievements are marked by the advances of entrepreneurship (Huang 2008: 236, 237-239).

Huang asserts that the Chinese government started to put GDP statistics ahead of all other aspects of domestic administration since the 1990s. The Chinese economic institution (capitalism guided by a powerful government) made the GDP-oriented administration operate effectively. Yet, under this economic mode, the capitalist boom in

China is especially likely to aggravate the inequalities and damage the public well-being (results to reduced funding in education and health care, for example) (Huang 2008: 238, 244-252). Huang's points will be explained in more detail in the later sections.

In the book *Evil Paradises: Dreamworlds of Neoliberalism* (edited by Mike Davis and Daniel B. Monk), the contemporary global capitalism marked by the predominance of neo-liberalism is called by the authors an “evil paradise”, because it contributes to neither improvements of social justice nor healthy, sustainable economic development. According to the authors, neo-liberalism only redistributes the wealth favorable to the superrich, rather than generating new wealth for the public, this is why they call it “evil” (inspired by Rosa Luxemburg’s “barbarism”); on the other hand, these capitalist magnates continuously exhaust their funds to fill up the financial bubbles, which brought disastrous outcome to the world economy during the 2008 crisis. Therefore, it is also a “dreamland” of illusions, rather than a down-to-earth approach to develop (Davis and Monk 2011: Introduction).

Anne-Marie Broudehoux wrote a chapter of this book that regards China as an example of such “delirious” neoliberal economy backed by state ambitions. Broudehoux states that the Chinese construction boom left large debts to the developers and the local governments, particularly during the massive facility constructions before the Beijing Olympic Games. China paid an unnecessarily high price to host the Olympics Games, only to fill the vainglory of the Chinese government. In China, the manufacturing and

real-estate tycoons' also benefit greatly from exploiting the migrant workers who sold their labor power with "notoriously low price", causing great social divisions as well. Therefore, the Chinese construction boom is also considered by Broudehoux a part of the "evil" legacy brought by neoliberalism (Broudehoux 2011: Chapter 5). While you may or may not agree with Broudehoux's point completely, I think it is important that even researchers of neoliberalism in recent years began to notice that China's construction-oriented economic mode became harmful to the public well-being in many ways.

Some other articles, including Pierre Landry's (Landry 2017: 4) links the Chinese construction and GDP boom in the 2000s to the promotion system of the Chinese politicians. Landry's research (Landry 2003) shows that the economic indicators (mainly measured by GDP) are considered the major factor to determine an official's administration achievements and political performance in China, and one recent research of him (Landry 2017:44-45) still finds positive and significant correlations between relative GDP growth and officials' promotion in county level. In other words, better GDP statistics under the term of an official means he or she will have better chances to be promoted. Therefore, the rapid Chinese GDP boom in the 2000s is not only heavily intertwined with the governmental goals, the political system in China also made its bureaucracy more motivated to implement a GDP-oriented administration.

When discussing this point, I find many scholars around me could not understand

that the motivation of simply boosting the GDP statistics could lead to launching a grand construction boom. It looks simplistic and irrational. Yet, it is officially recognized by the Chinese government in recent years, that excessive GDP worship had already misled administration in China for years in many ways, such as disregard of social development, well-being, energy and resource wastes, environmental damages and financial problems (Li 2017: 87-155). Perhaps it is another example that many political phenomena in the real world could not be measured by the hypothesis of rational man.

In sum, the existing literature views the Chinese construction boom with various different perspectives (including progressive, capitalistic, neo-liberal, real-estate guided, governmental guided, etc), and with controversial evaluations (some sees it as great progress and represents the rise of China, some sees it as damaging to the public well-being and aggravated bubble economy) on this ongoing historical process. My dissertation will focus on the perspective of exploring how this type of economy in China (rapid GDP growth rate driven by extensive construction investments) would affect the public well-being in the same period, by analyzing and comparing the improvements of objective and subjective well-being indicators with the GDP growth rate over 20 years between 1994 and 2013 (ten years before the Decree No.18 and ten years after Decree No.18). Therefore, I could also evaluate whether the GDP-oriented economic policy of China truly realized a great improvement to the public life or only brought about prosperity on the surface.

In the next section, I shall discuss the evidence of interconnections between construction activities and some major manufacturing industries with more detail, using the case of this research, the city of Changsha as an example. Not only because Changsha's type of economy (during 2000s) that heavily focuses on construction-related manufacturing sector, making it an ideal type of studying construction boom in China, not surprisingly, Changsha is also a typical city that experienced a rapid urbanization process in recent years. In 2017, the population of Changsha reached 7.91 million, compared to 6.13 million in 2000 (Changsha Statistical Yearbook 2013)²⁰. The intensive influx of new residents probably also facilitated the construction boom.

The case of Changsha

In this dissertation, I will use the prefecture-level city of Changsha as a case with its economy significantly influenced by the construction-related industries.

Changsha is my home city, and my familiarity with it enables me to know that two construction machinery magnates in China, SANY and ZOOMLION were both located in Changsha. ZOOMLION was founded on 1992 in Changsha²¹ and its headquarters is still located in Changsha. SANY was founded on 1989 in Hunan province (with Changsha as its capital) and its headquarters spent 20 years in Changsha before moving to Beijing in 2012²². According to the Construction Machinery Yearbook of Changsha, a main body of

²⁰ <http://www.changsha.gov.cn/zjcs/kncs/rkgc/> Changsha government official page

²¹

<https://web.archive.org/web/20110718155736/http://www.zljt.com/english/about/2008-05/1210474778d3833.html>

²² <http://stock.eastmoney.com/news/73289,20121203261721812.html>

Changsha's GDP in 2011 (around 56%) came from the Second Industry (manufacturing and construction), yet construction machinery was the top industry of Changsha's manufacturing sector, contributing about 31% of the gross output value of large-scale manufacturing. It was also the first industry in Changsha to reach the output value goal of "100 billion RMB" (Changsha Construction Machinery Yearbook 2011), making itself a vital part of Changsha's GDP growth.

Therefore, although Changsha may not be the most typical area in the entire country to represent China's construction economy, it should be a good representative in Chinese cities to analyze the effect of a construction boom in GDP, and an ideal example to show how a major metropolis in China may rely more on construction activities to accomplish its growth goals. This strategy may be especially likely in Changsha, as it is located in inland China, which may make it less advantageous in trade and receiving foreign direct investments. Some of the coastal metropolis in China, such as Shanghai and Guangzhou, are more completely commercialized; thus, a central city with more limitations in resource and development potential may also better represent the economic condition and well-being of contemporary China.

On the other hand, during the 2000s, many of the high-growth Chinese provinces are non-coastal, inland provinces, particularly concentrated in the center (called by the Chinese officials as "Rise of Central China Plan"). It seems more logical that these provinces may boost their GDP growth more by infrastructure and building constructions,

"SANY's reflections on moving its headquarters to Beijing" (in Chinese).

rather than the effects of foreign investments and trade. Moreover, there were reports that many coastal industries in China had suffered congestion effects and were forced to relocate themselves to central areas (He and Wang 2012: 361), making the fast development of manufacturing industry in central areas a possibility.

When briefly analyzing the economic statistics of the city of Changsha, the interconnections between manufacturing, construction and GDP can be illustrated clearly. According to Changsha Statistical Yearbook, Changsha's GDP value from the Secondary Sector (manufacturing and construction) already surpassed the value of the Tertiary Sector (all service sectors) since 2007, and the gap between the two industries has been increasing since the 2008 financial crisis (Figure 1). As a result, the manufacturing sector began to account for a predominant position in Changsha's economy.

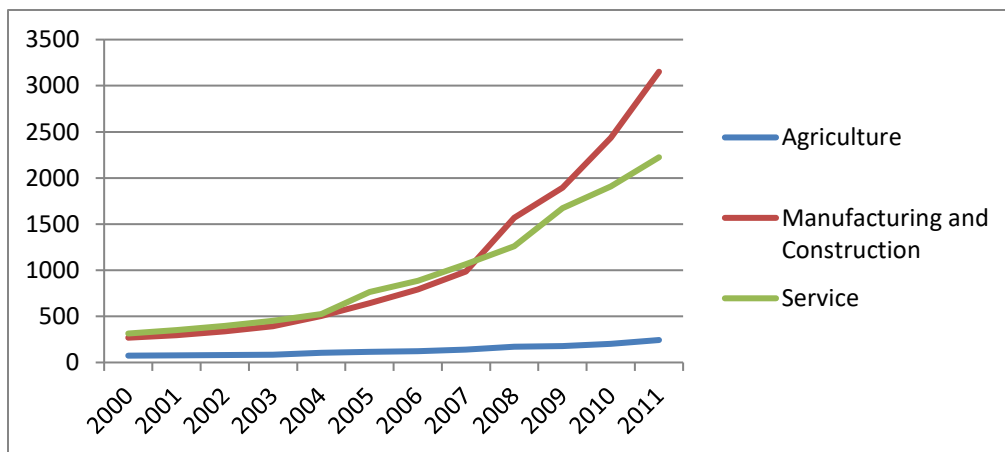


Figure 4: Changsha's GDP composition, by 0.1 billion RMB yuan (source: Changsha Statistical Yearbook 2013)

Moreover, when analyzing the composition of the manufacturing sector, it appears that many major manufacturing industries are connected closely to construction activities. In 2011, construction machinery was the top industry of Changsha's manufacturing sector,

contributing about 31 percent of the gross output value of large-scale manufacturing. In 2010, with a gross output value of 110 billion RMB, construction machinery became the first industry in Changsha to reach the output value goal of “100 billion RMB” (Changsha Construction Machinery Yearbook 2011). As an industry that directly supports the construction tasks (construction machinery) already firmly at top seat of Changsha’s manufacturing, the second-placed manufacturing industry in 2011 was the new materials (including aluminum and alloy, Figure 2), also highly demanded by construction activities. Not to mention that some traditional industrial sectors, such as steel and cement production, also have a lot to do with construction projects and infrastructure buildings.

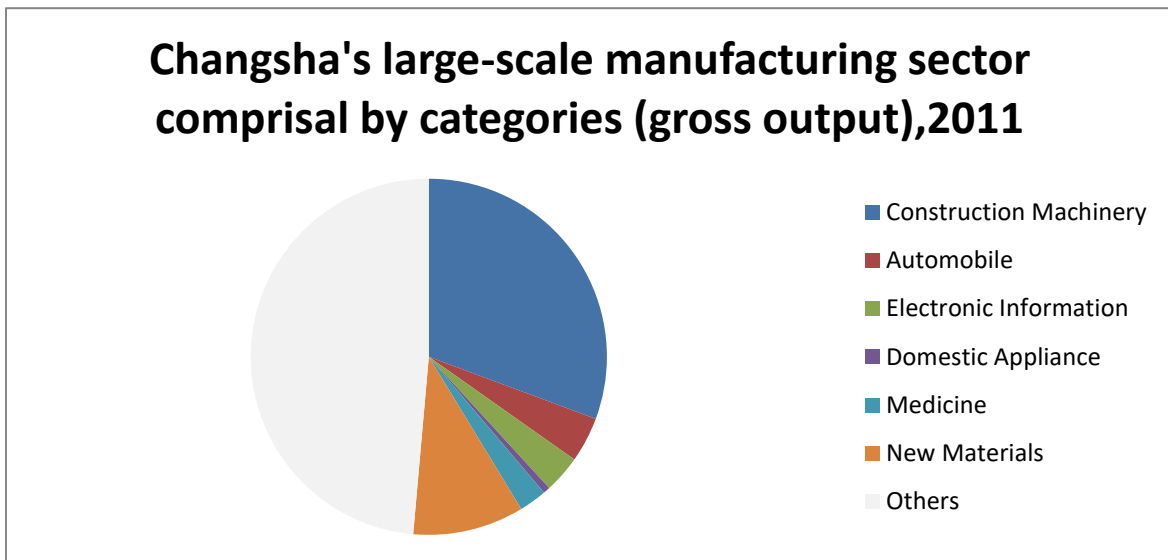


Figure 5: Changsha’s manufacturing sector (large-scale)’s output value composition, by 0.1 billion RMB yuan (Source: Changsha City Government Report Dec 2011)²³

The manufacturing sectors related to construction also seem to have experienced a

²³ This only includes the figure of “Six Major Manufacturing Sectors” defined by the Changsha City Government. All the other manufacturing sectors are combined in the “Others” category.

rapid boom during the 2000s. In only five years between 2006 and 2011, the output value of construction machinery has increased 1,000 percent, and the output value of the new materials also increased 800 percent in the same period (Changsha City Government Report Dec 2011, Changsha City Government 2007). In contrast, the other major industries in Changsha only grew slowly, with the output value of household electric appliances even showing a dropping trend. In conclusion, construction-related industries, such as construction machinery and new materials played the role of leading industries of Changsha in the late 2000s; thus, along with construction itself, they contributed significantly to GDP growth.

This also coincides with the fact that China's accelerated spending on construction investments took place exactly during this period, with the growth rate of total investment of construction rising from 5% in 2006 to 40% in 2010. The construction output growth rate also reached the highest in 2011 (26.7%), hinting that 2011 was the year when the construction boom in China reached its summit (EUSME 2015: 9-10). If the boom of construction machinery and other sectors in Changsha (2007-2011) partially coincides with the national timing of the construction boom, the case of Changsha may become more representative in reflecting China's overall economic features.

Given the above evidence of a construction boom in China during the 2000s, a major goal of this research is to give an explanation for its cause. In the next section, I shall discuss some of the governmental policies during this period that may have led to a

construction-oriented economic pattern.

China's Construction-oriented Policies

A major engine behind the construction boom in the 2000s is probably the governmental policies during this period. As I argued in the preface, Hu-Wen administration (2002-2012) implemented an administrative style that is oriented on pursuing the GDP growth. In order to realize the high annual GDP growth goals (usually 7-8%), the Chinese government set up a focus on construction, allowing generous investments to be spent upon the construction sector and the related residential and infrastructure buildings.

As early as August 2003, the State Council of China already announced the “*Circular of the State Council on Promoting the Continuous and Healthy Development of the Real Estate Markets*”. This official announcement started to recognize that real estate was growing into “the backbone industry” of Chinese economy, and started to encourage large-scale investments into the housing market. Besides total commodification of housing system and the abolition of the welfare-oriented older system (as introduced in the preface Chapter), this circular also demanded that all departments over the country should encourage residents to purchase new housing or to replace old ones, and officials should not set obstacles on those houses already on sale (The State Council 2003).

According to the *circular* itself, the real estate industry “has a high degree of conjunction” with other industries. Real estate expansion therefore “boosts consumption,

enlarges domestic demand, promotes the increase of investment,” and promotes “the continuous, rapid and healthy development of the national economy.” This pinpoints that the ultimate aim for China’s construction policies is to facilitate a high speed GDP growth.

Decree No.18 was thus regarded by many scholars and media as the starting point of China’s “housing economy” and the beginning of making the real estate industry the growth engine for Chinese GDP (Ma 2017:167, Lu 2012:340). The housing business also creates construction demands, and a large portion of fixed assets investments would actually be spent directly on “real estate developments” (China Statistical Yearbook 2013: 5-2). This also coincides with some local government’s move to switch city management focus into manufacturing and constructions. For example, the government of Changsha announced an “Industry First” policy in 2004, replacing the previous “Education First” that they used to adopt as the main city strategy in the previous years (Long et.al. 2004).

Another very notable policy during the Hu-Wen administration is the so-called “Four Trillion Plan”, formally “*Ten Measures to Increase Domestic Demands and Facilitate Economic Growth*”, which was announced by the State Council of China led by then Premier Wen Jiabao on November 5, 2008, in order to deal with the global financial crisis and its potential economic effects (The State Council 2008). A huge fund estimated 4 trillion RMB would be invested by the government to implement these ten measures, and the major part of them would be spent upon infrastructure constructions (such as roads,

railroads, airports and electric wires), as China's National Development and Reform Commission estimates that 1.5 trillion RMB alone would be used on these measures. The necessity and effects of such a grand spending is a debatable topic, but many Chinese sources (Construction Machinery Yearbook 2011; Wei 2012; Song 2013) tend to believe that the huge investments upon infrastructure construction worked successfully in maintaining the high speed economic growth in China. "If not for the prompt and resolute decisions (to implement the 4 Trillion Plan) of the Party Central Committee and State Council at this critical moment (financial crisis), the continuous development of the construction machinery industry would not be possible", argues the editor of a construction machinery yearbook.

Therefore, it seemed to be a clear intention that the Chinese leaders in 2008 again aimed at resorting to large-scale construction investments in order to maintain the GDP growth goals, by creating domestic market demands and opportunities for manufacturing industries. Is this a new strategy of the Chinese government, conceived and adopted only during this recent recession, or does the Chinese government have a history of similar interventions in constructions to support growth?

In the next part of this chapter, I shall discuss the historical background of the Chinese government in making construction-oriented policies. This may stem from a long-term administrative tradition in China marked by strong state intervention on constructions and using constructions to stimulate growth.

The Historical Background of China's Construction Emphasis

Imperial China's traditions

In the 2000s, the government seems to have played a significant role in making a construction-oriented economic policy, and this may be partially attributed to traditions and historical backgrounds of Chinese politics and policies. As a country with a long history of authoritarian bureaucratic institutions, it seems that the Chinese state often tends to intervene actively upon construction-related administrations, and possesses the power and capacity to make such interventions.

China had been a centralized empire with a direct "province and county" administration by national officials since 221 BC, instead of feudal administration by nobility and knights in Europe (Corradini 1987). China's political tradition also fits Max Weber's ideal-type of bureaucratic state, where administrators of the state were separated from the resources of the office, and became merely faithful public servants directly responsible to the ruler (or monarch) (Weber 1968: 956). Weber regards the use of Confucian literati (scholars) class as national officials to be one of the earliest forms of professional politicians, making Imperial China's bureaucracy one of the most efficient among pre-modern states (Weber 1968: 964), thus, the central government of Imperial China should have comparably more power of direct intervention over all national resources compared to many other ancient and medieval states.

According to Feuerweker, although imperial Chinese states seldom intervened directly towards the pre-modern agriculture and commerce, its presence was still often, and perhaps most frequently, illustrated among construction activities, such as the construction of water conservancy systems (most notably, the Grand Canal) and official granaries, as governmental planning, administration and funding became critical over construction projects (Feuerweker 1995:31). Aside from economic projects, it was perhaps more well-known for Chinese state's huge efforts and mobilizations to build military structures, such as the Great Wall. Gigantic projects such as the Great Wall and the Grand Canal often led to tremendous cost of finance and manpower to the Imperial Chinese states.

Therefore, Imperial China was both reputed for national undertaking of large construction projects, as well as maintaining a good record of pre-modern economic growth at the same time (Feuerweker 1995: 40). Such a trend does not seem to have weakened in modern China, but rather strengthened.

Modern China's construction institutions

After the People's Republic of China was founded in 1949, China proclaimed itself to be a "proletarian dictatorship" (Moore 1966: 178-79) and started the solo leadership of the Communist party. Not only was the "province and city" administrative system of imperial China inherited and still in use today, but also, a Communist party committee was installed in each of the administrative units. The party system thus also formed a

functional hierarchy with the central standing committee in Beijing being the supreme power (Lawrence and Martin 2013: 21). This has enhanced the complexity of the bureaucratic system in China and made China even closer to an ideal-type of authoritarian bureaucratic state than before.

Moreover, during the early years of Communist China, it was widely regarded that China had copied the planned economy system from the Soviet Union, an economic system in which the state and government pre-plan the economic goals and exert a near-total intervention effort upon major industries, including construction (Zhang and Zhang 2003:2 , Zhang et.al 2008: 6-7). It was not until 1978 that China announced the “Reform and Opening” policy, and not until 1993, that it proclaimed it will establish a “Socialist market economy” to replace the planned economy system (Mehran 1996: 1).

However, some remaining features of the planned economy age still play some important role in China’s current economic system. For example, the “Five-Year Plan” policy, a mark of the Soviet Union’s economic system, adopted by China since 1953, is still preserved and routinely announced by the Party Central Committee, to set clear goals of the national economy and its growth expectations²⁴. For instance, during the 2000s, the Tenth and Eleventh Five-Year Plans had been announced successively, and the national economy in this decade was guided under the influence of these two plans. The five years between 2016 and 2020, however, would be in range of the Thirteenth Five-Year Plan.

²⁴ Huang, Cary. 2015. “How China’s Five-Year Plan, an Overhang from the Soviet Era, Has Evolved” South China Morning Post, October 13, 2015

This mixed characteristic of market economy and governmental intervention is also seen in the modern Chinese system's construction industry, and some other aspects of China's economic conditions.

One example is the evolution of management and bidding systems of the construction industry. Before 1985, as influenced by the planned economy system, the construction industry was regarded simply as a subordinate work force of the state's fixed capital investment program (Zhang et.al 2008: 6). From 1953 to 1965, China simply borrowed the management system of construction industry from the Soviet Union, including the "three parties" system: the construction unit (party A), the design unit (party B), and the building unit (party C), but all disputes between the three parties were controlled and resolved by the governmental departments. From 1965 to 1984, all of the projects were constructed under the management of a "commanding organization", a temporary governmental organization responsible for all design, purchase and construction processes (Zhang and Zhang 2003: 2), illustrating a long trend of centralized control on construction. Not until the 1980s, did relevant departments began to establish construction engineering companies, and made them responsible for their own financial loss and profits. Afterwards four basic systems governing the construction project activities were gradually established (Project Legal Person Responsibility System, Tender System, Construction Supervision System and Contracting System), all of which are still under the leadership of the State Council, thus forming the current management system

(Zhang and Zhang 2003: 2-3).

In terms of the bidding system, it also took a long period to develop and virtually started from nonexistence during the planned economy age. From 1950s to 1980s the Chinese government was “not only responsible for freely providing all finances for construction works, but also responsible for assigning construction project to contractors”. The tasks of survey, design, construction and installation were all allocated by the governments according to the yearly fixed investment plans (Zhang et.al 2008: 11). It was not until the 1980s that competitive bidding among enterprises started to be encouraged, and only in 2000 did the Law of Bid Invitation and Submission in China start to take effect, which regulated that all important construction projects should be awarded through the system of inviting bids (Zhang et.al 2008: 12).

In sum, many aspects of the construction industry in modern China, such as managements and assignments, were historically influenced heavily by governmental decisions, or simply controlled directly by the government (pre-1980s) itself. Even after the competitive bidding system became the dominant delivery method in China’s construction industry, the government may still play some important role during this process, such as the comprehensive evaluation of the biddings (since the government is often the side that needs to employ others to do constructions).

As of 2000s, the lowest bidding price rule (widely used in most Western countries) was not widely advocated in China, making the subjective judgment of the construction

party still a very important factor. It is often criticized that many construction works are still awarded by the government or other bid evaluators to the contractors who have the best relationship with them, rather than those who are the most competent. This highlights the problem of corruption and waste at times (Zhang et.al 2008: 15), as personal ties may still often prevail over market mechanisms under this system. One report on the construction market in China (Sridharan 2007: 13-14) also argues that important construction projects in China often met political pressures during design evaluation and construction process, exemplified by the “Bird’s Nest” stadium of 2008 Beijing Olympics. The planned retractable roof of “Bird’s Nest” was scrapped, as some academics and politicians regarded it be “extravagant” for a developing country. However, the vulnerability of the stadium to rain and inclement weather leads to many event cancellations, which cost a lot of money as well.

Similar to the criticisms of the bidding system in Chinese articles, this report also criticizes that government evaluation of construction projects is often “shoddy and incomplete”, hurriedly completed within an insufficient time (Sridharan 2007: 18). This means Chinese construction projects are often poorly defined and planned, and a “Do-and-Fix” methodology (meaning to start constructing the project first, and try to locate the problems and risks during the building process) also seems to be prevalent across the country (Sridharan 2007: 12-13). In conclusion, the management and planning of construction industry in China is often politically influenced, not to mention that the

presence of many projects is primarily political in nature (Sridharan 2007: 12). Despite the Chinese government having long claimed to be working on a “Socialist market economy”, both the Chinese construction market and Chinese construction firms illustrate their relative immaturity of the market, and do not seem to be accustomed to the way the market economy operates (Sridharan 2007:20).

The pursuit of GDP growth of the Chinese government

The imperial Chinese state’s tradition to undertake gigantic pre-industrial construction projects, and the modern Chinese construction institutions that give the government a substantial power of macroeconomic control, both seem to illustrate that governmental power may have considerable influence on the construction booms. On the other hand, the Chinese government’s intention to boost infrastructure and housing constructions probably resulted from its intention and strategy to promote GDP growth itself.

Yasheng Huang, the author of the book *Capitalism with Chinese Characteristics*, regards the contemporary Chinese state to be neither a Socialist, nor a typical capitalist one, but rather a “crony capitalism” built upon raw political power. One important reason is that in typical western capitalist countries, property rights of the individuals should be highly-regarded and securely protected by the institutions (Huang 2008: 236). On the contrary, in China, it is often reported that small entrepreneurial traders were harshly suppressed by the governmental forces, either to eliminate them or to extract rents from

them (Huang 2008: 233-234). Huang also believes that China resembles more of the “state-led capitalism prevailing in Latin America” than the other East Asian countries where their economic achievements are marked by the advances of entrepreneurship (Huang 2008: 237-239).

However, Huang believes that the trend of strong state intervention of the Chinese economy was originally less prevalent in the 1980s, and was rather the result of a significant transition of the ruling strategy and goals of the central Chinese government after 1990 (although according to my research, it may still stem from a long-term Chinese political tradition). The 1980s Chinese economic policy was believed by Huang to be far more laissez-faire and less interfered with by the bureaucracy (Huang 2008: 236), with the government less concerned about economic statistics, but paying more attention to people’s genuine development of wealth and well-being (Huang 2008: 242-252). Starting from the 1990s, however, the GDP growth becomes the chief administrative goal of the central and local governments, and the Chinese government began to put GDP statistics ahead of other aspects of domestic administration.

This transition was illustrated in many aspects, according to Huang. Taking the city of Shanghai as a case example, Huang believes that during the 1980s, the growth of personal incomes exceeded the growth of GDP. Things were on a contrary direction since the 1990s: the growth of personal income began to lag behind the speed of GDP growth significantly, showing that fast GDP growth did not necessarily translate into the fast

growth of personal income and wealth. Huang believes this trend is also consistent with the rapid escalation of income inequalities in contemporary China (Huang 2008:238).

The traces of unbalanced growth were not only seen in incomes. Huang also discovered a declining trend of adult illiteracy in the 1990s but an increasing trend of it in the 2000s. But the adults in the 1990s should be educated in the 1980s or earlier, with adults in the 2000s being graduates of the 1990s education system (Huang 2008:244-245). This shows that with increased educational costs, and decreased investments in education from the state, the quality of Chinese education experienced a recent decline, with the actual dropout rate increasing significantly (Huang 2008: 246-248). The medical condition in China also appears to have declined: the utilization of hospital beds declined from 81 percent in 1989, to 57 percent in 2002. At the same time, the health care cost of China was also regarded as unaffordable to many common people, evaluated by the World Health Organization as one of the most inequitable countries in the world in terms of “distribution and access to health care” (Huang 2008: 251-252).

If the transition of the growth-oriented strategy of the Chinese government started in the 1990s, it may have been strongly related to China’s lack of democratization and the Tiananmen Incident in 1989, both of which severely weakened the Communist party’s ruling legitimacy. Once heavily relying upon the charismatic leadership of Mao Zedong and Deng Xiaoping, the Communist party needs to maintain its legitimacy after both leaders passed away. It is hypothesized by some political sociologists that the Communist

party leadership then turned to economic statistics, hoping that economic growth would strengthen the party's legitimacy based on functional competence (Xia and Jiang 2004). Indeed, with successful economic growth in recent decades, it is true that the Chinese government has turned down some western political sociologists' statement that advanced economies only exist in western multi-party democratic countries (Dahl 1998; Lipset 1981), therefore gaining some prestige as the ruling party. Also, the prosperity in economic growth may possibly attract more foreign direct investments, as record levels of foreign capital inflows into China in recent years actually seem to coincide with the Chinese momentum of high speed economic growth (Gareffi 2009).

No matter what is the motivation behind this strategic change of Chinese administration, it still poses a question: Is China's state-led capitalism and its growth mode sustainable, especially if the benefits brought to its people do not match the economic statistics (Huang 2008: 240-241)? This is also the main topic that this dissertation seeks to explore: Does economic and productivity growth necessarily bring about corresponding well-being of the people? Will it even work on the negative side, reducing social indicators of well-being, if not handled properly?

Furthermore, legitimacy is definitely secured by making the majority of people content. If a strategy aims to secure the legitimacy by making good economic achievement, then it should also be done by making people economically satisfied. If this strategy brings about grievances of the people rather than satisfaction, it fails the purpose

and will ultimately damage the legitimacy of the ruling faction instead. Especially considering some aspects of the growth-guided administration of Chinese state: the brutal suppression of many small entrepreneurial traders; the grabbing of rural lands from local governments (Huang 2008: 283); the rising gap between rich and poor, and the dangerous trend of corruption; all of these may actually intensify social contradictions and make the working class in China less content than it was in the 1980s, before the GDP boom (Huang 2008: 275-276, 283-284).

According to Yasheng Huang, the Hu-Wen administration (led by ex-president Hu Jintao and ex-Premier Wen Jiabo during 2003-2012) clearly noticed such a contradiction and hoped to make some alteration in the growth-oriented way of administration. They sought to focus more on rural income and well-being, and a return of the directional liberalism of the 1980s (Huang 2008: 240). Therefore, it seemed the Hu-Wen administration once sought to find a balance between economic growth and social stability, rather than solely focus on the GDP growth. This could be reflected from the slogan “building a harmonious socialist society” in the early years of the Hu-Wen administration.

However, looking back from now, the China in the 2000s is characterized by an even more rapid GDP growth, which seemed to be accelerated by increased investments and projects in constructions. The GDP growth did not seem to translate into better personal wealth and well-being, but even worse. This could be partly seen from the gap of 55,000

RMB between GDP per capita and disposable income of urban residents in Changsha (Figure 3, Changsha Statistical Yearbook 2013), yet, with the outbreak of a housing price bubble, the social contradictions in China also tend to get even more severed in many aspects (Kessel 2014).

Therefore, it would be an interesting question: whether or not President Hu and Premier Wen’s original goals of “harmonious” administration have already failed? Although they may have originally set an administrative goal like this, certain circumstances may have forced the Hu-Wen administration to solely emphasize the GDP growth goals yet again.

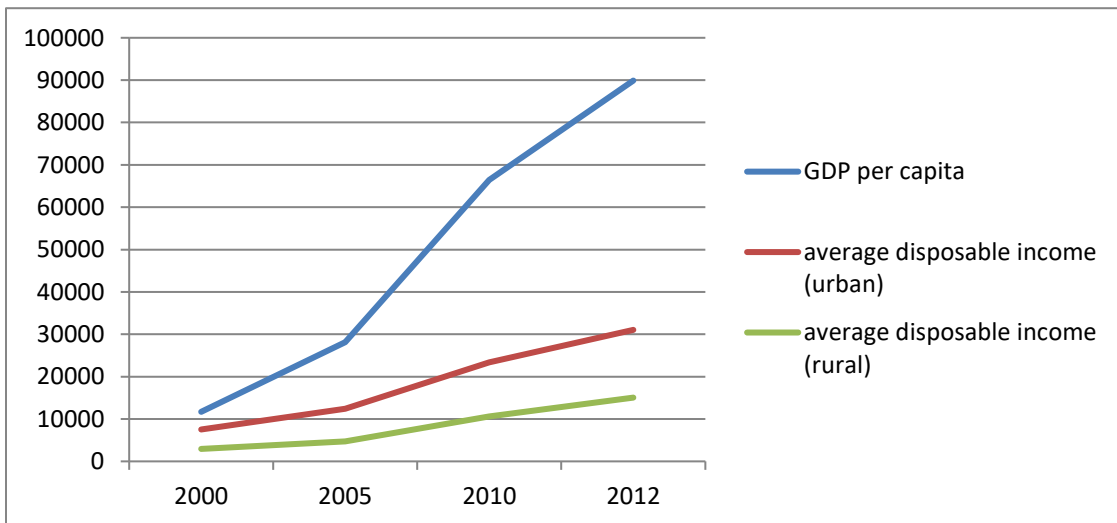


Figure 3: Changsha’s GDP per capita compared with disposable income per capita, by RMB yuan (source: Changsha Statistical Yearbook 2013)

Summary and discussion

In this chapter, I have offered the point that construction booms and investments have long characterized the economy in China, making it a major point of GDP growth.

However, much previous research on the structure of the Chinese economy tends to focus on the aspect of foreign direct investments (FDI) and its foreign exports (Gareffi 2009: 37; Unel and Zebregs 2009: 239), believing that these should be the decisive factors of China's economic growth.

Indeed, a major part of the Chinese economic reform (named "reform and opening") since the 1980s is to open up its market and allow the entry of foreign capital and investors. The topic of international investments and trade may also attract more attention from the western observers. But, under the current economic condition of China, the impact of FDI and foreign exports may not be as huge as it seems. According to China Statistical Yearbook, exports only accounts for 2 percent of China's GDP in 2012, when calculating in the expenditure approach (China Statistical Yearbook 2013: 2-18). Even if this official Chinese statistical figure may be doubtful, we should take notice that as a historical fact, the locational advantages of coastal areas made it much more likely to receive foreign investments and export incomes (Overy 2005: 149-150; China Centric Associates 2012), while many of the high-growth provinces in contemporary China are from the inland (He and Wang 2012).

Another debate that has been mentioned is that some experts doubt the importance of construction economy is really as huge as it seems. For example, a Wells Fargo Economic Group commentary (Bryson 2015) tends to believe that construction does not account for a dominant position in the added value of Chinese GDP. Then again, the statistics of

construction's GDP percentage in China also tends to differ greatly due to the differences in counting (Bryson 2015, EUSME 2015:9). Bryson believes that construction only accounts for 7 percent of value added in China, which is in some contradiction with the statistics provided by EU SME center, that construction output accounts for 26% of China's GDP. This may be due to the fact that although the construction sector itself may not be a huge one, the fluctuations in construction market may also affect a wider branch of industries that are also major producers of GDP, such as manufacturing and real estates. As UKCG estimated, "one pound invested in construction industry may generate 2.84 pounds in total economic activity" (UKCG 2009: 10).

Thus, in response to the above two debates, I tend to believe an argument that the construction boom in China may at least have contributed significantly to the high speed GDP growth in the 2000s.

One last interesting debate I would like to discuss arises from Yasheng Huang's argument. Huang's argument tends to believe that the macro-economic administration of the Chinese government was originally marked by less bureaucratic interference and more emphasis on people's genuine wealth and well-being (Huang 2008: 236-238), until perhaps, the outbreak of the Tiananmen Incident.

By analyzing some historical sources, I tend to believe otherwise. The directional liberalism of the 1980s appeared to be more of a unique case in the history of Chinese administration, and the majority of the other periods in historical and modern China

pointed to strong state power and state intervention in national economy, at least in constructions. First, during Imperial China, the state tended to mobilize tremendous amount of manpower and material resources to complete some construction projects (Feuerweker 1995). Second, after the founding of People's Republic of China, the state had totally adopted the soviet mode of planned economy (Zhang and Zhang 2003). Finally, after the 1990s, the Chinese state had overturned its temporary laissez-faire approach and adopted a state-led, growth-oriented mode of capitalism (Huang 2008).

Moreover, Huang believes that the Hu-Wen administration would again reverse the trend of overemphasis on GDP growth and work more on its balance with the social stability, marked by their slogan of "harmonious society", but this did not seem to actually take place. Interestingly, Huang's book was written in 2008, four years before the end of Hu-Wen administration, and lot of things can happen following the outbreak of the global financial crisis in the same year. The Four-Trillion Plan, which enabled tremendous money investments upon infrastructure and other constructions, was also implemented afterwards to deal with the effects of the crisis. This also highlights a value of this research: the majority of research on the structure of Chinese economy and its effects upon social well-being discusses the situation before 2008, and the situation afterwards may be very differently characterized.

In conclusion, this chapter has summarized the emphasis on construction in the economic administration in China, and how it is resulted from and connected to the

Chinese government's long and unwearied pursuit of GDP statistics. Compared to many other academic articles that research on the same area, I hypothesize that construction economy may be a more important factor behind China's high speed growth during the 2000s than many people believed. Also, it may stem from a long-term tradition of bureaucratic intervention of macro-economy in Chinese states (that also often produces a growth-oriented administrative strategy).

In the rest of the chapters, I shall discuss more details of the construction economy in the selected cases, and its effects on the well-being indices.

Chapter 2: Statistical Analysis of GDP and Well-being

In this chapter, I will first review the earlier research that contribute to this article's research idea and research method, represented by Lawrence Mishel's works on the productivity-pay gap. In the rest of sections, I will examine the association of GDP and various well-being indicators in Chinese and Japanese cases with data from Statistical Yearbooks and General Social Surveys in China and Japan. In the end of this chapter, I will also discuss the possible geographic and political explanations that may make the local governments in China more likely to choose the path of construction economy to maximize GDP growth.

Literature Review

The design of this dissertation is partly inspired by the phenomenon of productivity-pay gap that occurred in the US society after the 1970s. Lawrence Mishell and his colleagues (Mishel and Gee 2012:31; Mishel et.al. 2012: 71-76) point out that although labor productivity in the United States increased rapidly (80 percent) between 1973 and 2011, median real hourly wages remained "virtually stagnant". According to this discovery, Mishel and Gee believe that a great gap formed between economic productivity and the actual payment of the working class. Thus, productivity gains began to disconnect with improvements of living standards for most Americans (Mishel and Gee 2012: 43). Bivens and Mishel (2015: 5) also found that the growth of real median

hourly compensation between 1973 and 2014 (8.7%) lagged largely behind the net productivity growth (72%) as well.

The research of Mishel and his colleagues seem to have fostered similar research in other OECD countries in recent years. Productivity-pay gap research was extended to Canada (Dufour and Russell 2015) and Australia (Cowgill 2013; Gordon 2016), illustrating that the gap between productivity and actual income may be a worldwide phenomenon and can be widespread over capitalist economies. In Canada, real hourly labor income was at first “rather tightly linked with productivity growth”, but they “began to diverge” by the early 1980s. Productivity growth in Canada thus began to outpace compensation growth since then (Dufour and Russell 2015:55). In Australia, real hourly labor income at first rose much faster than productivity (real hourly output) in mid-1970s, but by the end of 1980s this “overhang” effect is over. Starting from around 2000, real hourly labor income also failed to keep space with productivity growth in Australia (Cowgill 2013: 4-5).

The productivity-pay gap thus began to appear in all three samples of large capitalist economies: US, Canada and Australia. Mishel attributes this historic divergence (between productivity and worker’s pay) to “the result of policy choices that boosted the bargaining power of those with most wealth and power” (Bivens and Mishel 2015: 2) as well as wage inequality (Mishel and Gee 2012: 40, 43). Dufour and Russell believe that the divergence of wage growth in different occupations may also contributes to the

stagnation of median earning (Dufour and Russell 2015: 56-57), and Cowgill states that Australia's acceleration of output growth since 2000 may be largely the result of its mining boom (Cowgill 2013: 14-15). Furthermore, Gordon thinks that factors such as "better utilization of resources", technological progress and competition may also make output grow faster than input (Gordon 2016: 175) in Australia.

Among these explanations, Cowgill points out that dependence on the rapid development of one specific economic sector (mining) may tend to boost the statistical number of productivity growth ahead of actual productivity in many sectors, thus deepening the productivity-pay gap. This seems particularly relevant to the case of construction economy in China that my research focuses on.

Interestingly, although there are articles that extend Mishel's research direction to other western countries, I found few researches that explored the productivity-pay gap of Asian countries. Thus, my research that is dedicated on the issue of GDP and well-being divergence in China may make certain sociological contributions toward this field.

The research methods and indicators used differed slightly in those articles mentioned above. For example, Mishel uses "real median hourly wage" as the indicator for pay and "net productivity" as the indicator for productivity. On the other hand, Dufour and Cowgill use "real hourly labor income" as the indicator for pay and "real output" or "GDP growth rate" as the indicator for productivity. Despite those differences, they serve the same goal of displaying the gap between economic numbers and actual standard of

living. Birdsall and Meyer (2015: 343, 355) argue that median is a “superior” indicator than GDP per capita and other mean measures in illustrating the well-being of a typical person that represents the majority of people, especially in developing countries. But according to my early research, since the typical median Chinese person often live in rural areas (even in metro administrative regions), the mean number in income indicators is often sufficient to illustrate the productivity-income gap in Chinese cities.

Mishel’s well-being study focuses on wage. I think it would be helpful to also examine indicators in other areas, such as employment, prices, and medical care. Results of these well-being indicators’ interaction with GDP will also be discussed following the income indicators.

In addition to the objective well-being indicators, many studies also explored the area of subjective well-being, i.e. “happiness” or “life satisfaction level”. The subjective well-being studies often measure happiness by a mean score of satisfaction based on surveys, and observe its fluctuations when affected by a number of “explanatory variables”.

For example, Frey and Stutzer (2002) believe that improvements in income and democratic participation can positively affect people’s happiness, and unemployment affects happiness negatively (Frey and Stutzer 2002: vii). This is concluded from the mean score of life satisfaction on a 10-point scale from data source, and how their coefficients are positively or negatively affected when controlling the variables (Frey and

Stutzer 2002: 84, 98, 166). John Knight states that this relationship can be summarized as the formula of $W = a + Xb$, with W as well-being, a as basic score and X as explanatory variables (Knight and Song 2009: 4). These variables could be economic factors, such as absolute income and relative income (Knight and Song 2009: 7). Helliwell's research also focuses on social capital and individual factors as explanatory variables, such as health, marriage, age and religion (Helliwell 2003: 347-350). World Health Organization also aims to explore the social determinants' effect as explanatory variables on young people's health and well-being, including family, peer relations, school and neighborhood (Currie et.al 2012: 7).

These previous studies all provided insightful experiences in researching subjective well-being, and the formula $W = a + Xb$ offered me a good method model to interpret related well-being data in China and Japan. The above subjective well-being research also involve various research subjects, including western countries and rural China. In comparison, my research focuses on urban China and Japan.

The Four Case Comparisons

In this chapter, I will provide some statistical data to examine whether GDP is actually associated with various indices of well-being. I will compare the development of four cities across 20 years. Two of these cases are from China, and two of them are from Japan. In each country, I will select one case with strong tendency of construction economy, and one case less influenced by construction investments. In China, this is

determined by the amount of fixed asset investments relative to the total GDP of the city, and in Japan, the amount of annual completed construction value of the prefecture. With this method, the relationship between construction economy and well-being can be illustrated and highlighted. By including cities in two countries, I can also analyze that whether the phenomenon of construction-boosted GDP growth is unique to China.

The “high construction” case in China, as I introduced in the first chapter, will be my hometown Changsha (the capita of Hunan province). Not only because I am more familiar with my hometown, the fact that two construction machinery magnates --- ZOOMLION and SANY were both once located in this city, gives us an ideal exemplar case of cities influenced by construction economies. Jinan (the capital of Shandong province), at the contrary, has a long history of its GDP led by the service economy (Jinan Statistical Yearbook 2013), and has far less fixed asset investments in comparison to Changsha. Therefore, Jinan is considered a “low construction” case in this research.

In China, all construction investments are included in the statistical concept of “fixed asset investments”. In 2012, Jinan’s total amount of fixed asset investments reached 218 billion yuan, which size is 45% of the total GDP of Jinan (480 billion yuan). Changsha’s total amount of fixed investments reached 401 billion yuan, which size is 62% of the total GDP of Changsha (639 billion yuan). This also illustrates that construction investments may play a more important role in Changsha’s economy, compared to Jinan.

The two selected cases in Japan are prefectures. Not only the prefecture data in Japan

are easier to access, but also the actual number of population in each prefecture in Japan appears to be more comparable to China's provincial capitals, rather than the province itself.

The cities that marked the height of Japan's construction boom in history were obviously Tokyo and Osaka. But since both of my Chinese cases are local cities, such gigantic metropolises are not suitable to compare with them. Therefore, I pick Aichi, a prefecture with one of the highest completed construction values, as the "high-construction" case. Saitama, the prefecture with similar population of Aichi (both about 7 million), but with much lower completed construction values, is chosen as the "low-construction case in Japan.

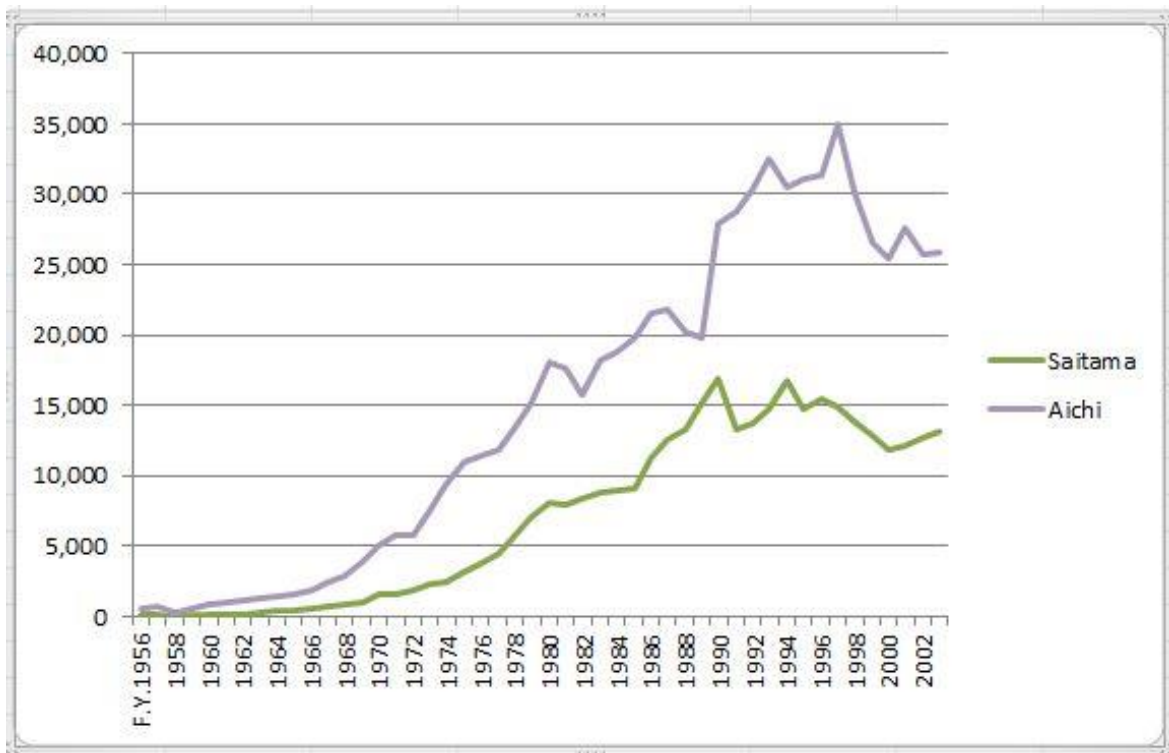
Figure 1 shows the annual value of construction completed in Saitama and Aichi from 1956 to 2003. The figure illustrates that Aichi and Saitama, the two prefectures with similar population (both 7 million in 2003), show different trend in constructions. Aichi's completed construction value was far ahead of Saitama in most years, and was one of the prefectures with highest construction values in late 1980s and early 1990s²⁵, besides Tokyo and Osaka. Saitama, on the other hand, experienced one of the lowest completed construction values among prefectures with the similar population size.

However, the two cases in Japan include the decline of the construction economy, which the two cases in China have not yet experienced. In both Aichi and Saitama, completed construction value began to fall after mid-1990s, amidst Japan's GDP

²⁵ <http://www.stat.go.jp/english/data/chouki/09.htm> 9-17

recession.

Figure 1: Annual Completed Construction Value of Saitama and Aichi



(Saitama and Aichi's completed construction value in each year. Unit: 100 million yen, Source: Japan Statistical Yearbook)

The Periods of Construction Boom

In addition to these four city cases, I have also categorized a few periods of construction economy, in order to highlight the actual effects of construction booms under the “before and after” method.

In China, the first period is called the “pre-construction boom” period, which started from 1994 (the first available year from Changsha Statistical Yearbook), until 2003. In this period, China also enjoyed a high speed economic growth but less influenced by the construction boom. As introduced in the first chapter, starting from 2004, the emphasis upon real estates and manufacturing marked by the implementation of several policies, had brought China into a period of high construction investments. Therefore, 2004 to present is set as the “construction boom” period.

In Japanese cases, the years from 1975 to 1986 are set as the “pre-construction boom” period. The years from 1987 to 1997 are set as the “construction boom” period. Although the high construction activities may already started in Tokyo and Osaka in early 1980s, the statistics shows that in local areas of Japan (such as Aichi), the major wave of completed constructions took place after mid-1980s, mainly after 1986. The stock market and asset price bubble in Japan already collapsed in the early 1990s, starting an economic depression known as “the lost decade” (Koo 2009: 1-8), but, in areas like Aichi, the construction value still continued to grow, until the end of 1997. Coincidentally, the total GDP amount of Aichi also did not drop until 1996, and this also seems to indicate some mutual reliance or causal relationship between GDP growth and construction activities.

The historical data in Japan Statistical Yearbook’s electronic version lasted until 2003²⁶, and in these years completed value of constructions in Japan clearly declined. Therefore, the six years after 1997 will be treated as “post boom period” of Japan in this research. The “post boom period” of China is vacant, as China’s construction boom has not reached an end, according to recent information²⁷.

Table 1: Time Periods of Construction Economy

	Chinese Cases	Japanese Cases
Pre-Construction Boom	1994-2003	1975-1986
Construction Boom	2003- present	1987-1997
Post Boom	N/A	1998-2003

As commonly known, the main currency is RMB in China, and yen in Japan. To make my analysis meaningful and comparable between countries, I unified all currency units in my data as RMB yuan. I have also adjusted all GDP and currency in my research to account for inflation. First of all, I adjusted all Chinese and Japanese data in the past years into 2016 prices. Then I converted all yen units into RMB yuan according to the exchange rate in 2016.

²⁶ <http://www.stat.go.jp/english/data/chouki/index.htm>

²⁷ Powell, Jamie. 2018. “Accounting for China’s real estate boom”
<https://ftalphaville.ft.com/2018/03/29/1522312567000/Accounting-for-China-s-real-estate-boom/>

After all these preparations, the four cities' economy and well-being data become comparable to each other. To examine the relationship between the construction economy and well-being, I first graph measures of well-being to allow visual comparison of changes in well-being over time in areas with high or low construction investments.

To estimate whether the relationship between GDP and indices of well-being varies by construction period, I use fixed effects models. Specifically, I predict measures of well-being with GDP, indicators for construction boom and post-boom, and their interactions. I include fixed effects for each location to account for stable differences in well-being for the particular city or prefecture. For example, the locations that had high construction investments may also had consistently higher well-being measures.

Accounting for stable differences between locations helps address this concern. I also include indicators for each year to address changes in well-being over time that could affect all four cases. For example, an apparent association between construction period and well-being could reflect a change that impacted the entire region. Accounting for changes in well-being over time help addresses this concern.

The fixed effects model is provided in Equation 1. I predict measures of well-being at each location (i) with location and year (j) fixed effects. Measures of GDP and well-being are standardized to allow the coefficients to be interpreted as correlations. The coefficients of primary interest are β_m , which estimate whether the correlation between GDP and well-being changed during the construction boom or post-boom.

$$\text{Well - Being}_{ij} = \alpha + \beta_1 \text{GDP}_{ij} + \beta_2 \text{Constructi on Phase}_{ij} + \beta_m \text{GDP}_{ij} * \text{Constructi on Phase}_{ij} + \text{Location}_i + \text{Year}_j + \varepsilon_{ij} \quad (1)$$

I will analyze each of the basic well-being indices and discuss the results below, starting with income.

GDP and Income Comparisons

1. GDP and citizen/prefectural income

Based on the available data in the statistical yearbooks of two countries, I selected the variable “prefectural income”²⁸ in Japanese dataset, and “disposable income of urban residence” in Chinese dataset, both converted to per capita numbers, to compare with each city’s number of GDP per capita.

In Japan, “prefectural income” refers to the average income of entire prefecture. In China, “disposable income of urban residence” does not consider the poorer rural area that surrounds the city, yet it still illustrates a great gap far behind the number of GDP per capita. There are some differences between the two indicators, but as the Chinese statistical yearbooks do not include the average income stats for the entire metropolitan area, I pick this measure of urban residents’ income as replacement.

According to Figure 2-3, for both of the two “high construction” cities (Changsha and Aichi), GDP numbers reached the highest point during the construction booms, but also became increasingly disconnected with their respected income. For example, Changsha’s GDP grew 290% during the period of construction boom (2004-2012), while

²⁸ <http://www.stat.go.jp/english/data/chouki/03.htm>

its disposable income only rose 121%. Jinan's disposable income also grew 112% between 2004 and 2012, but faster than its GDP growth rate. In Aichi, prefectural income grew 8% faster than GDP during the pre-constructions phase; this became 6% slower than GDP growth during the construction boom period.

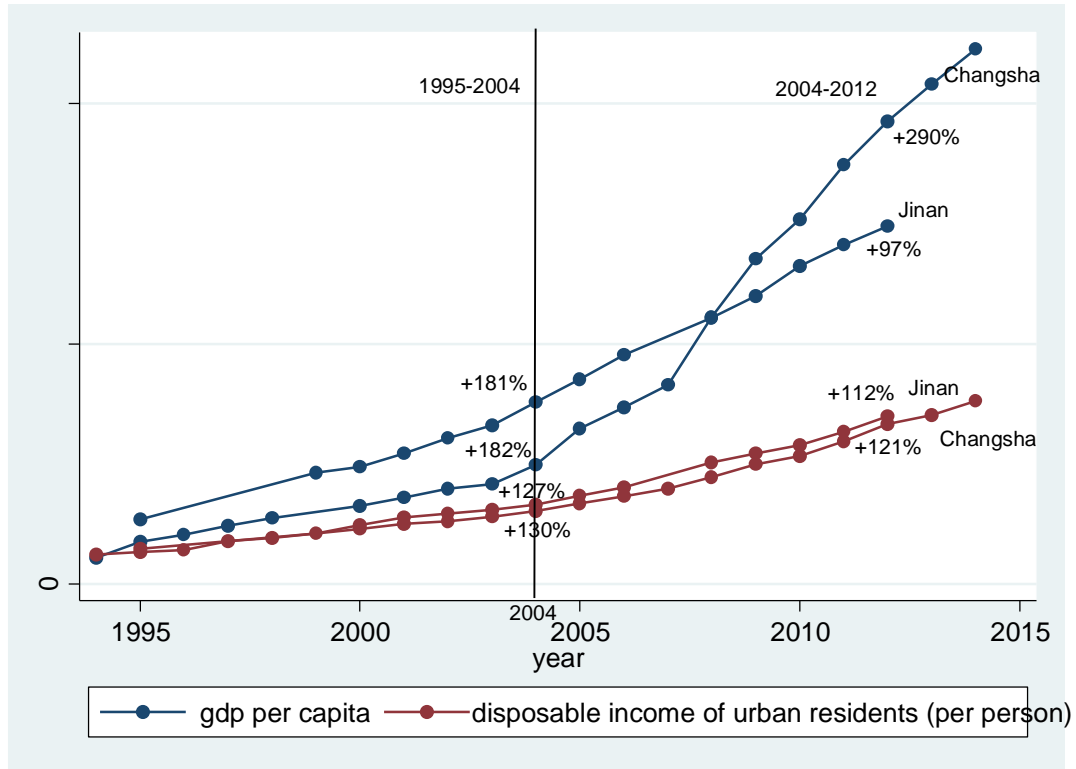


Figure 2: GDP and income of two Chinese cases, 1994-2014

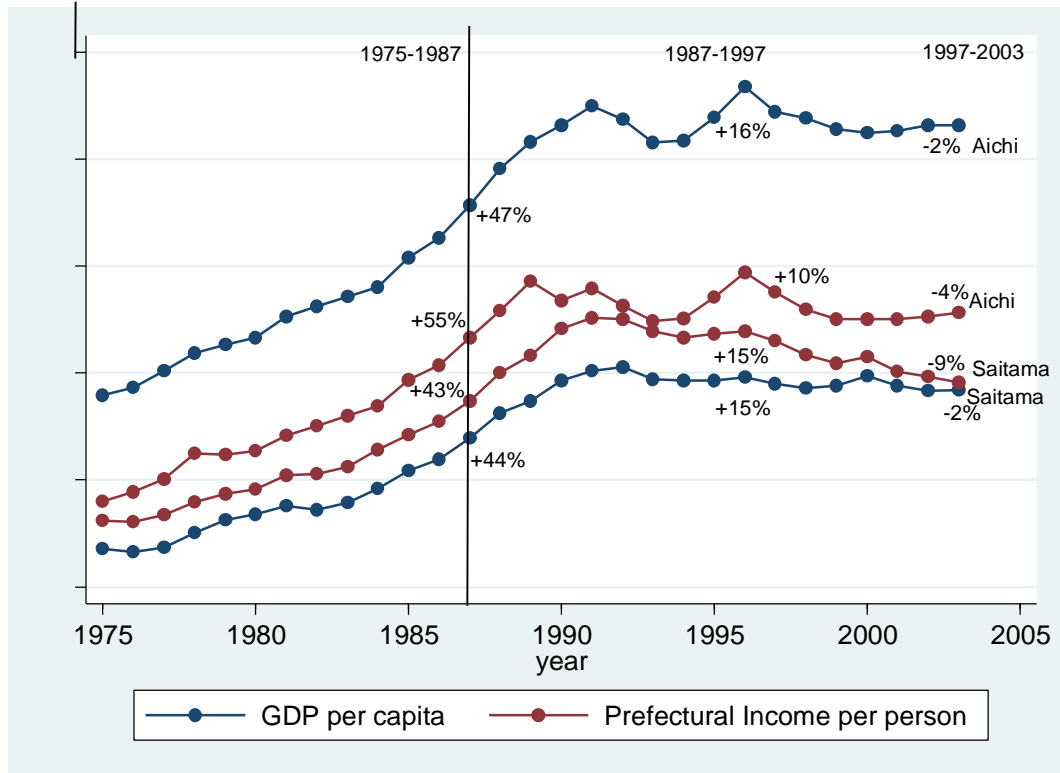


Figure 3: GDP and income of two Japanese cases, 1975-2003
 Currency Unit: RMB yuan (2016 prices) in both graphs.

Table 2: per year GDP and income growth rate (%) for the four selected cases

	Pre-Construction Boom		Construction Boom	
	GDP growth rate	Income growth rate	GDP growth rate	Income growth rate
Chinese Cases	1995-2004	1995-2004	2004-2012	2004-2012
Changsha	20.2	14.4	36.3	15.1
Jinan	20.1	14.1	12.1	14.0
Japanese Cases	1975-1987	1975-1987	1987-1997	1987-1997
Aichi	3.9	4.6	1.6	1.0
Saitama	3.7	3.6	1.5	1.5

When analyzing the yearly growth rate, as shown in Table 2, Changsha also illustrated an unusually high GDP growth rate (36.3% per year) after 2004, whereas its disposable income growth rate is not significantly higher than the previous period (14.4% to 15.1% per year). In comparison, in two “low construction” cases, Jinan and Saitama’s income growth rate tends to be more consistent to the growth rate of GDP.

When estimating the relationship using fixed effects models, the GDP/income association changed significantly with the construction boom phase ($P < 0.05$). In this series of test, “pre-construction boom” period is set as original status.

Table 3: The Relationship between GDP and Income: Fixed Effects Regression

VARIABLES	(1) Standardized values of (income)
Standardized values of GDP (zgdp)	0.38** (0.13)
Construction Boom	0.33** (0.12)
Post Boom	0.15 (0.11)
Construction Boom*zgdp	-0.11* (0.04)
Post Boom*zgdp	-0.06 (0.04)
Constant	-0.41** (0.06)
Observations	92
Number of location	4
R-squared	0.99

Standard errors in parentheses

** $p < 0.01$, * $p < 0.05$, + $p < 0.1$

The interaction between phase 1 (construction boom) and standardized GDP score (zgdp) yields a significant negative coefficient, suggesting that the correlation between GDP and income was significantly lower than that during the pre-construction boom ($p < 0.05$). Therefore, the growing gap between GDP and income during construction boom periods shown in Figure 2-3 holds in the fixed effects model, accounting for stable differences between locations and changes over time.

2. GDP and wage

Another important indicator to measure the actual income of people is wage. Yet again, the wage statistics in Chinese Statistical Yearbooks only covered a portion of people who worked in state and collective corporations, and may not include some laborers with the lowest earnings. But still, their wage appears to be much lower than GDP numbers. In the Japanese dataset, I selected the variable of “monthly earnings of regular employees”²⁹, and converted them into yearly numbers. Japan’s data of regular employee’s earnings should also refer to the regular employee of the entire prefecture, while the wage data of Chinese cases only include the public sector. But as the Chinese statistical yearbooks do not provide wage data for the entire metropolitan area, I could only use this indicator as replacement.

²⁹ <http://www.stat.go.jp/english/data/chouki/19.htm>

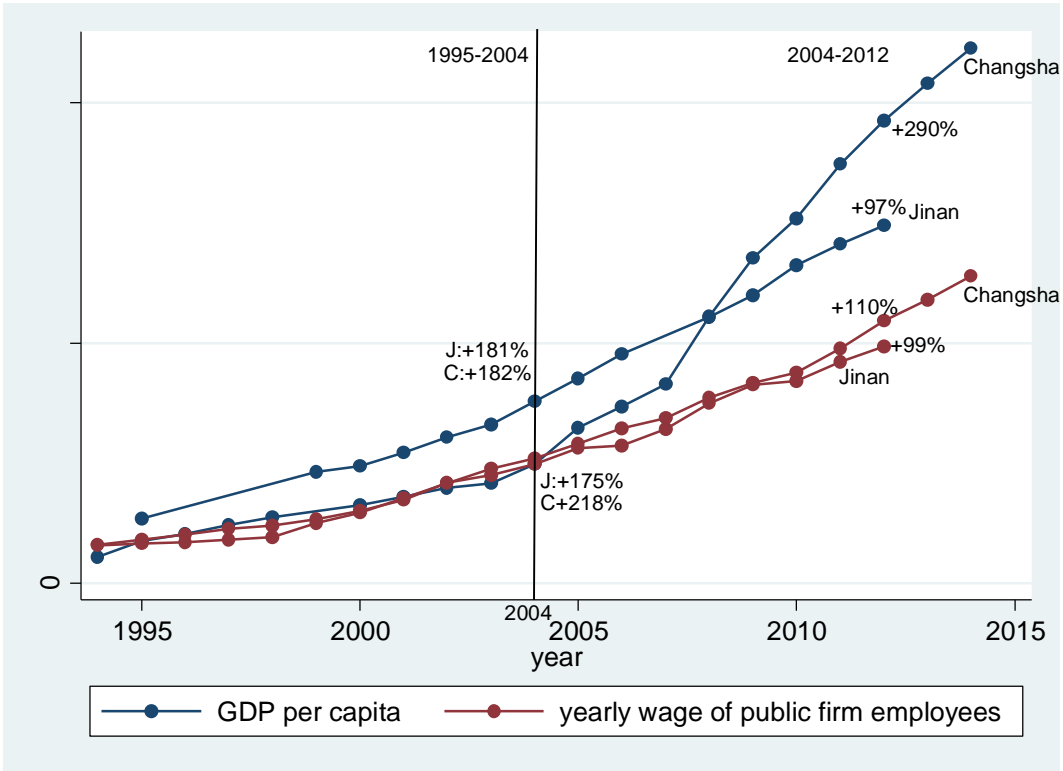


Figure 4: GDP and public employee's wage for two Chinese cases, 1994-2014

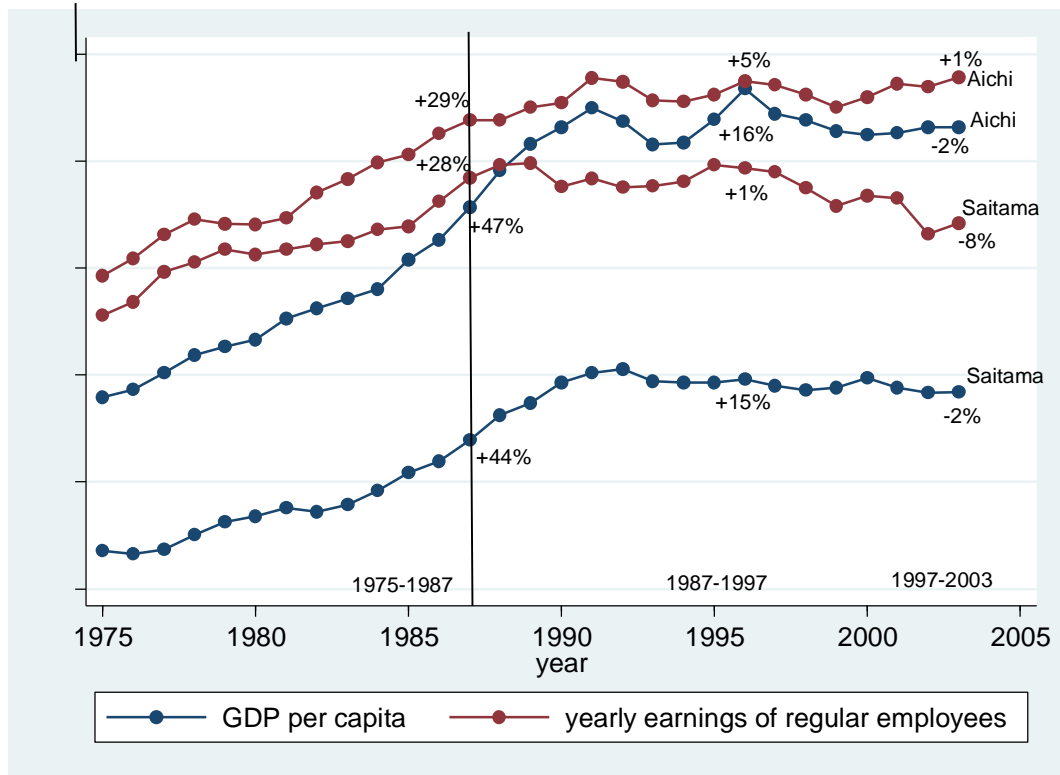


Figure 5: GDP and yearly earnings of two Japanese cases, 1975-2003
 Currency Unit: RMB yuan (2016 prices) in both graphs.

In Graph 3-4, we could again witness a significantly faster growth of GDP relative to the wage growth, especially compared to the previous period. In the construction booms period (2004-2014), Changsha’s GDP grew 290% and the wage of public firm employees only grew 110%. Such difference is even higher than the gap between GDP and disposable income in Changsha (290% to 121%) over the same period, mentioned in the above section. In Aichi, the earnings of regular employees was once 60,000 RMB above the numbers of GDP per capita in 1975. This difference became less than 5,000 RMB in 1996.

	Pre-Construction Boom		Construction Boom	
	GDP growth rate	Wage growth rate	GDP growth rate	Wage growth rate
Chinese Cases	1995-2004	1995-2004	2004-2012	2004-2012
Changsha	20.2	24.2	36.3	13.8
Jinan	20.1	19.4	12.1	12.4
Japanese Cases	1975-1987	1975-1987	1987-1997	1987-1997
Aichi	3.9	2.4	1.6	0.5
Saitama	3.7	2.3	1.5	0.1

Table 4: per year GDP and wage growth rate (%) for the four selected cases

When analyzing the per year growth rate of the four cases (Table 4), we could find that wage growth rate in Jinan (a “low construction” case) is again quite consistent to its numbers of GDP growth rate. However, in Japanese cases, earnings growth in Saitama (Japan’s “low construction” case) also stagnated after 1987. Although Aichi and Saitama’s GDP level both reached their highest point around 1996, both prefectures’ earning level virtually fell into stagnation at the same time. This may due to the overall Japanese economic recession following the break of housing bubbles in the early 1990s, but high GDP and construction values (in Aichi) both seemed unable to bring significant improvements in earning levels during this period.

Table 5: The Relationship between GDP and Wage: Fixed Effects Regression

VARIABLES	(2) Standardized values of (wage)
Standardized values of GDP	0.30** (0.10)
Construction Boom	0.20* (0.10)
Post Boom	0.00 (0.09)
Construction Boom*zgdp	0.01 (0.03)
Post Boom*zgdp	0.12** (0.04)
Constant	-0.10+ (0.05)
Observations	92
R-squared	0.98
Number of location	4

Standard errors in parentheses

** p<0.01, * p<0.05, + p<0.1

In the fixed effects model, the interaction between post-constructions phase and standardized GDP score (zgdp) results significant and positive score (p<0.01). This means that GDP and wage correlations could be stronger in the post-constructions phase.

As I introduced previously, the post-constructions boom phase has only occurred in Japan. According to graph results, yearly earnings of regular employees in Japan were once far above the GDP numbers in the 1970s, yet the two figures became much closer in the 1990s. This could mean that faster growth of GDP relative to wages could have reduced their difference, making the correlation stronger in post-construction phases.

However, the interaction between construction booms and standardized GDP is not

significant.

In conclusion, in both countries, the highest GDP number is generated during the construction booms, but at the same time, income indicators in “high construction” cases grew far less effectively. On the other hand, in “low construction” cases, the association of income indicators and GDP often appears to be stronger (except for the earnings in Saitama). In other words, construction economy may actually tend to enhance the disconnection between productivity and actual income.

Medical Care Indicators

Yasheng Huang (2008: 251-252) emphasizes in his book *Capitalism with Chinese Characteristics* that the medical care condition in China had degraded substantially during the 1990s. For example, the number of hospital beds and their utilization rate dropped even in comparison to 1980s, and reached a historic low point around 2002. Interestingly, this example has been used by Huang to illustrate the disconnection of high speed GDP growth and well-being indicators during the 1990s, the “pre-constructions” period in my research, before the largest boost of Chinese GDP could take shape under the construction boom (2004 onwards). This again shows that GDP growth may not necessarily have certain correlations with improvements in well-being in many occasions.

Huang argues that after the retirement of Jiang Zemin, the Hu-Wen administration (2002-2012) paid more attention to grass-root medical care and reversed the degradations in medical care conditions. Thus, my research provided the opportunity to examine his

conclusions, since Chinese and Japanese datasets both provided the numbers of historical hospital beds and medical care personnel.³⁰

At first sight (Figure 6), the number of hospital beds in Changsha did improve effectively after 2004, and show a dramatic upward trend compared to the pre-constructions period. However, in Japan, the highest growth of hospital beds happened long before the construction heights, and on the contrary, hospital beds grew relatively slowly in Aichi (“high construction” case) ten years after 1984 ---- only at 0.9% growth rate each year.

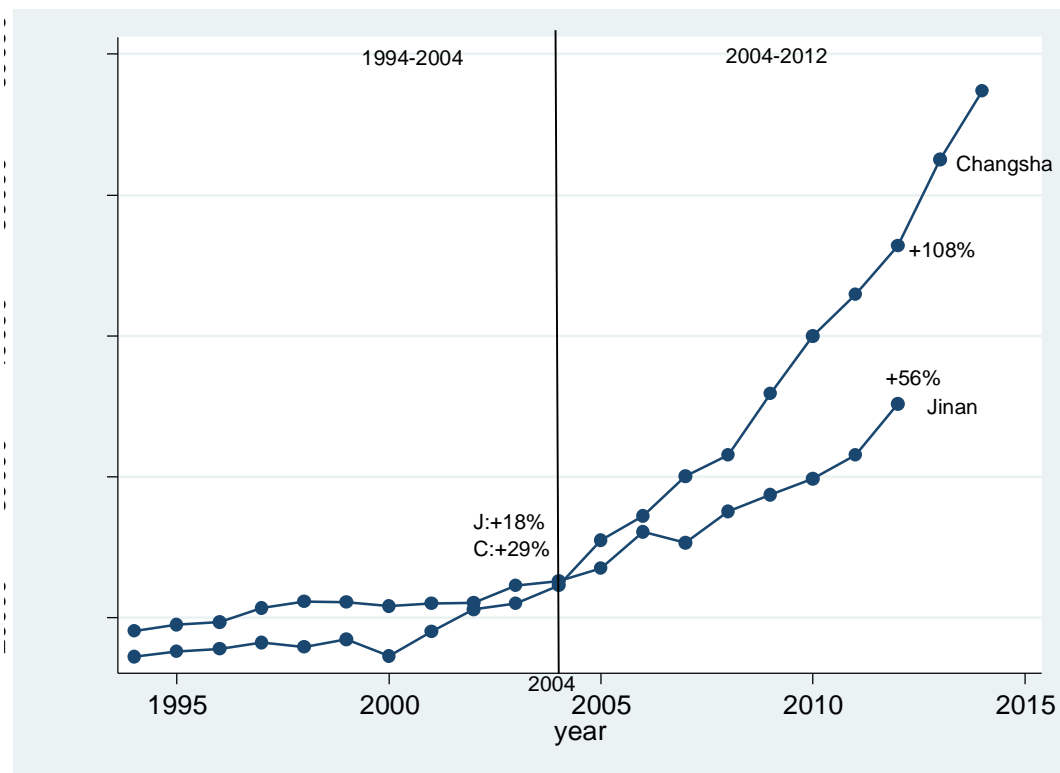


Figure 6: Number of hospital beds in the two Chinese cases, 1994-2015

³⁰ <http://www.stat.go.jp/english/data/chouki/24.htm>

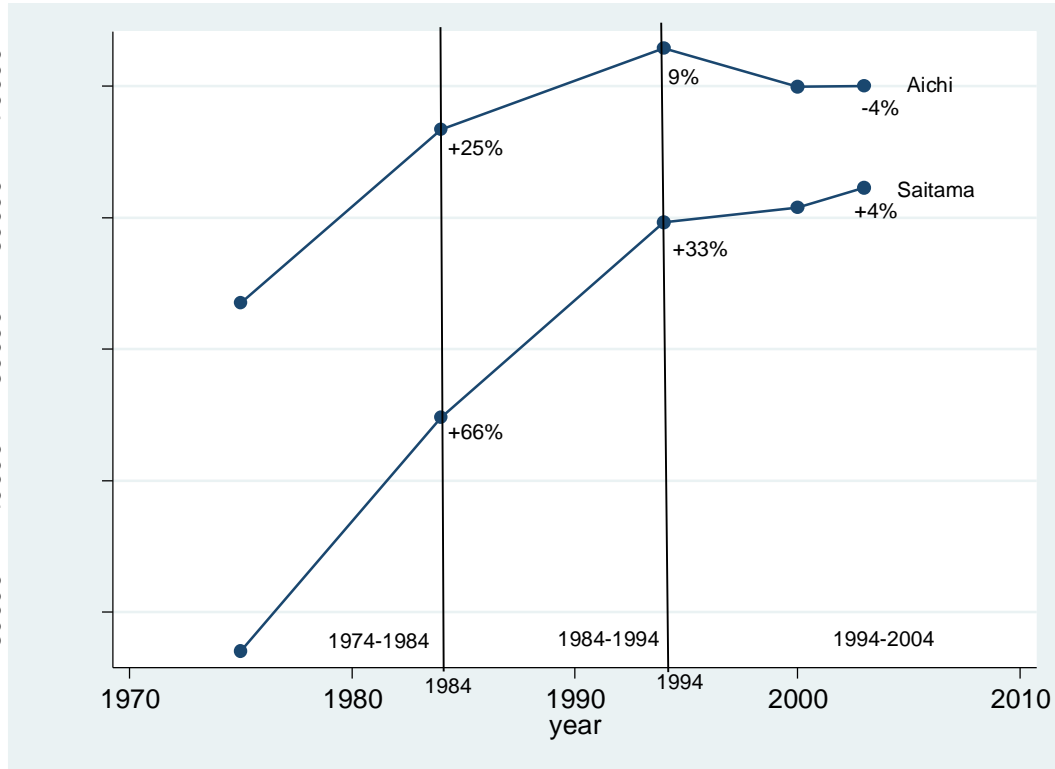


Figure 7: Number of hospital beds in the two Japanese cases, 1974-2004

	Hospital beds growth rate	
	1994-2004	2004-2012
Chinese Cases		
Changsha	2.9	13.5
Jinan	1.8	7.0
Japanese Cases	1974-1984	1984-1994
Aichi	2.5	0.9
Saitama	6.6	3.3

Table 6: per year growth rate (%) of hospital beds in the four selected cases

When analyzing the two “low construction cases”, Jinan’s hospital beds also show a large increase compared to the first period (Table 6). Saitama’s hospital beds growth kept

a higher rate than Aichi all the time (Figure 7). Both of the two “low construction” cases performed relatively well in this indicator. Therefore, it is possible that the dramatic increase of hospital beds in the Chinese cases could be the result of the shift of administrative focus (as Huang argued), rather than the result of construction economy during the Hu-Wen period.

If the number of hospital beds provides an indicator in medical equipment, the total number of medical care personnel indicates the manpower dedicated to this area. This indicator also seems to be independent from the GDP trends. Changsha and Jinan’s medical personnel number reversed the negative growth in the first period ---- a trend obviously disproportionate to the GDP growth in the 1990s (Figure 8). The Japanese cases also appear unrelated to the GDP trend, as their medical personnel kept a steady growth trend even after 1994 (Figure 9, Table 7).

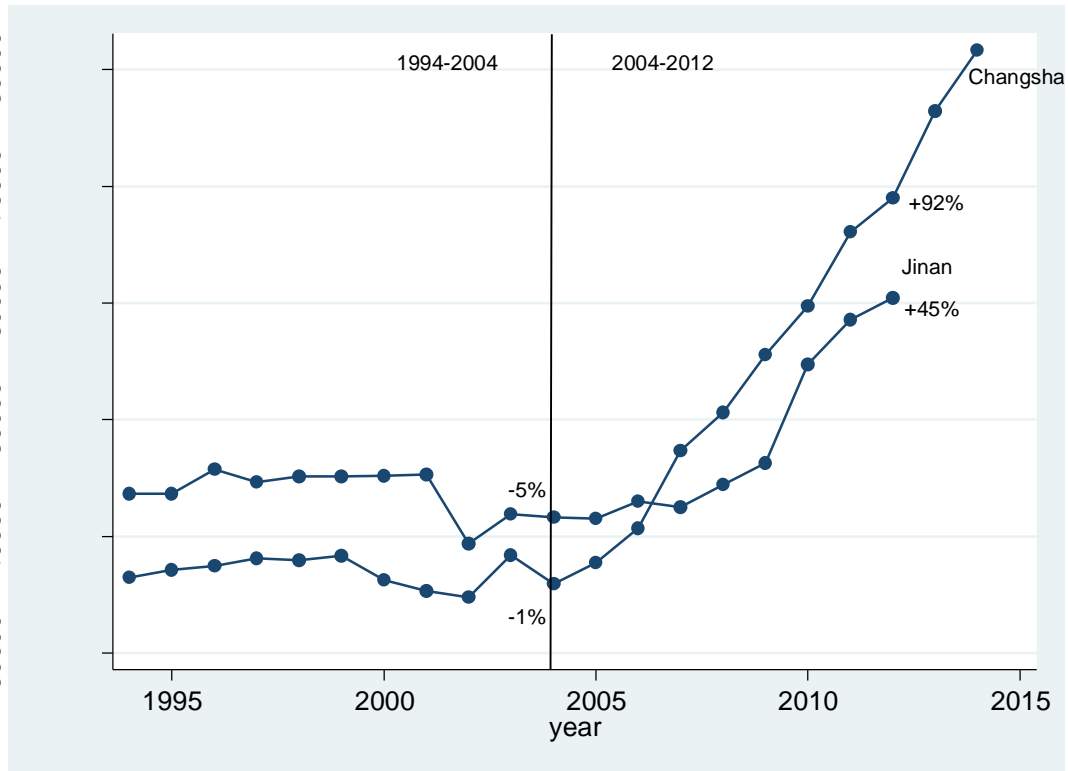


Figure 8: number of total medical care personnel in two Chinese cases, 1994-2014

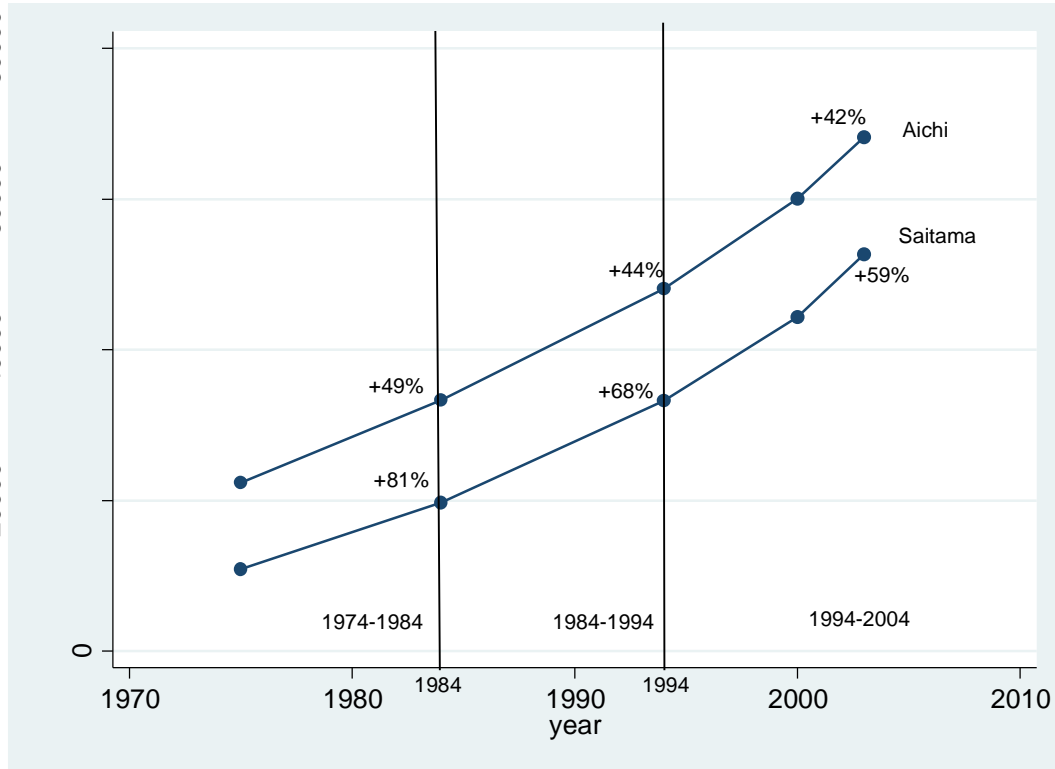


Figure 9: number of total medical care personnel in two Japanese cases, 1974-2004

	Medical Care Personnel Growth rate	
	1994-2004	2004-2012
Chinese Cases		
Changsha	-0.1	11.5
Jinan	-0.5	5.6
Japanese Cases	1974-1984	1984-1994
Aichi	4.9	4.4
Saitama	8.1	6.8

Table 7: per year growth rate (%) of total medical care personnel in the four selected cases

In conclusion, although the number of hospital beds and medical personnel in

Changsha did show a huge increase after 2004, much evidence suggests that medical care indicators still often went contrary to the GDP trends. It is also noticeable that although the GDP per capita of the two Chinese cases were far behind of their Japanese counterparts, they managed to catch up in absolute numbers of hospital equipment and manpower in the 2000s.

These contrary trends of GDP and health care indicators coincides with Yasheng Huang's argument shown in Chapter 1, that since China adopted a GDP-oriented administration in the 1990s (marked by the increase of state and bureaucratic intervention in economy and society, with GDP growth as the chief focus), the medical condition in China often fell behind the growth of GDP, or even declined. This point seems to be supported by my research. Both the number of hospital beds and medical care personnel had shown opposite directions of GDP during the 1994-2004 period. Although the situation was improved in the late 2000s, the growth of these numbers in Changsha (11-13% yearly growth rate) was still relatively small compared to its GDP achievements (36% yearly growth rate).

Japan Statistical Yearbook only includes the hospital bed and medical care personnel statistics in a few selected years, and skips through the data for all the rest years between them. This considerably reduced the total number of observations in this dataset. Thus, I did not make a regression analysis for medical care indicators.

Housing indicators

1. The data of floor space per household

My analysis of well-being in housing conditions consisted of two aspects: size and floor space and land prices of residential housing. The Japanese Statistical Yearbook only included the average amount of floor space size of each dwelling in all prefectures³¹. To be able to compare with this data, I selected the variable of “floor space per household” in Chinese datasets.

Unfortunately, Changsha and Jinan’s Statistical Yearbook only included the average amount of floor space size for each person. In order to convert this data into per household statistics, I multiplied “per person floor space size” by the indicator of “average family size” in Changsha and Jinan (provided by these two cities’ yearbooks). Therefore, the Chinese data of floor space per household is an estimation, to make it more compatible to the Japanese dataset.

³¹ <http://www.stat.go.jp/english/data/chouki/21.htm>

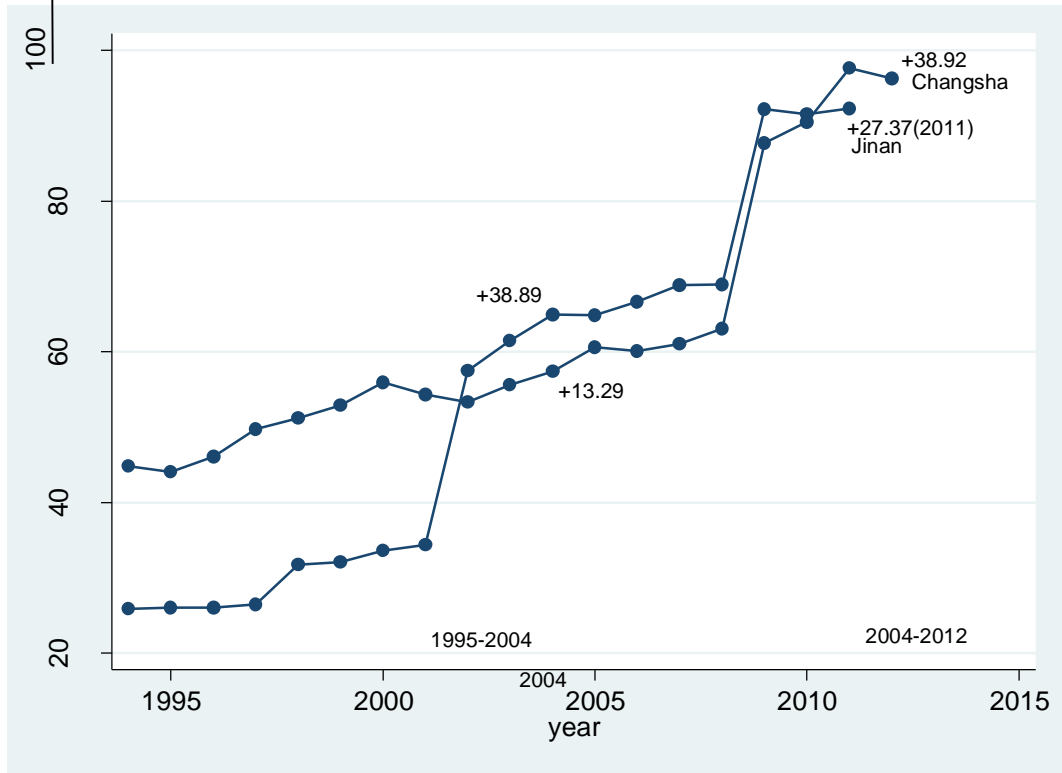


Figure 10: changes of floor space per household in Chinese cases, 1994-2012

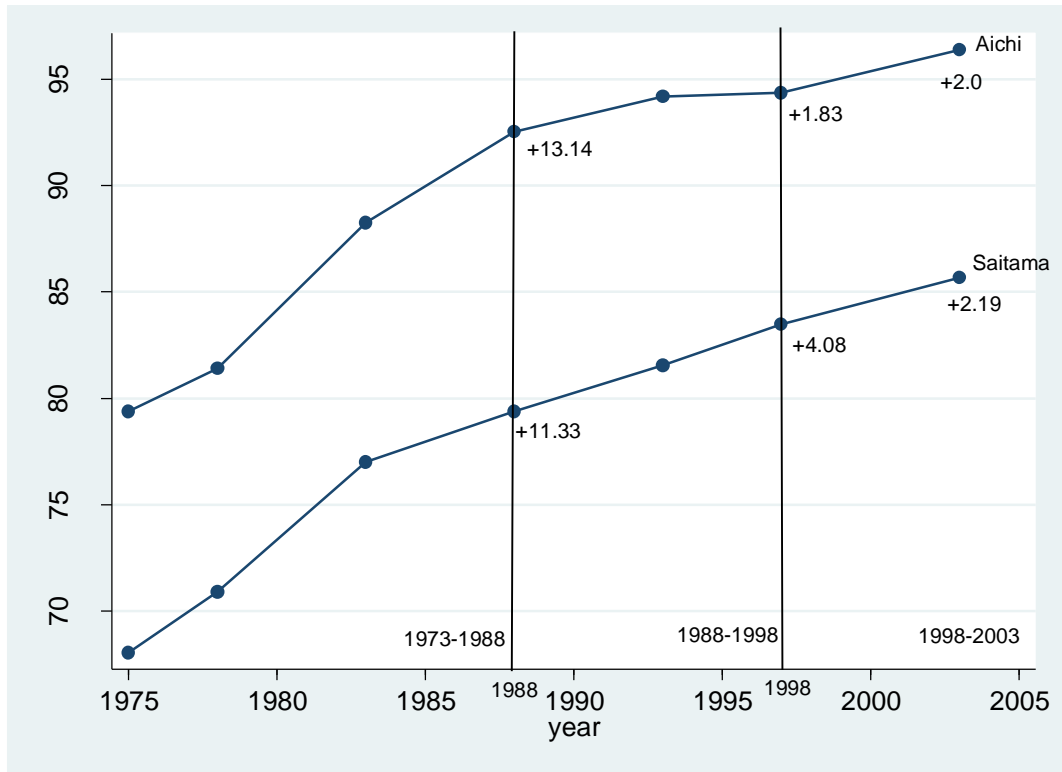


Figure 11: changes of floor space per dwelling in Japanese cases, 1975-2005

(Size unit: square meters in both graphs)

	Floor space per household changes	
Chinese Cases	1995-2004	2004-2012
Changsha	1.5 square meters	4.9 square meters
Jinan	4.3 square meters	3.9 square meters
Japanese Cases	1973-1988	1988-1998
Aichi	0.9 square meters	0.2 square meters
Saitama	0.8 square meters	0.4 square meters

Table 8: per year changes of floor space per household in four selected cases

Although “construction” at first sight may have much relationship to the size of dwellings, these results still illustrates a trend generally independent of GDP fluctuations. The floor space growth (per household) speed in Changsha was slightly faster than Jinan after 2004, but there were no substantial differences (Figure 10). Both Japanese cases had their fastest growth in floor space (per dwelling) around early 1980s, and kept a slow increasing trend after that (Table 8). Yet, this figure did not fall down after the end of construction boom (Figure 11). This result can be explained in many ways, as average ownership of floor space is a social indicator that can be influenced by many geographical factors and the density of population itself, and less influenced by GDP booms and declines.

Japan Statistical Yearbook only includes the floor space per dwelling statistics in a few selected years, and skips through the data for all the rest years between them. This

considerably reduced the total number of observations in this dataset. Thus, I did not make a regression analysis for this indicator.

2. The data of land prices

For some reason, the Chinese statistical yearbooks included only the land price growth rate compared to the previous year (and only after 1998), rather than a specific price. Therefore, I could only compare Japanese data based on the aspect of growth rate³², and all growth rate statistics in this section are not inflation-adjusted.

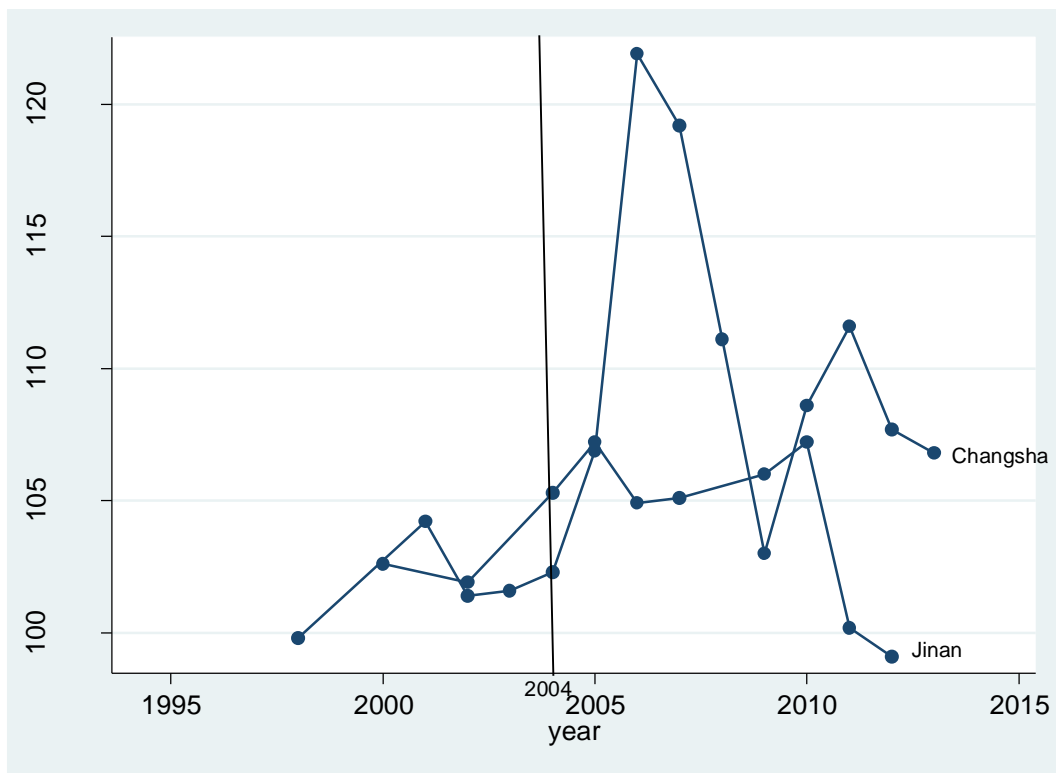


Figure 12: growth rate of residential land price in Chinese cases, 1998-2014

³² <http://www.stat.go.jp/english/data/chouki/15.htm>

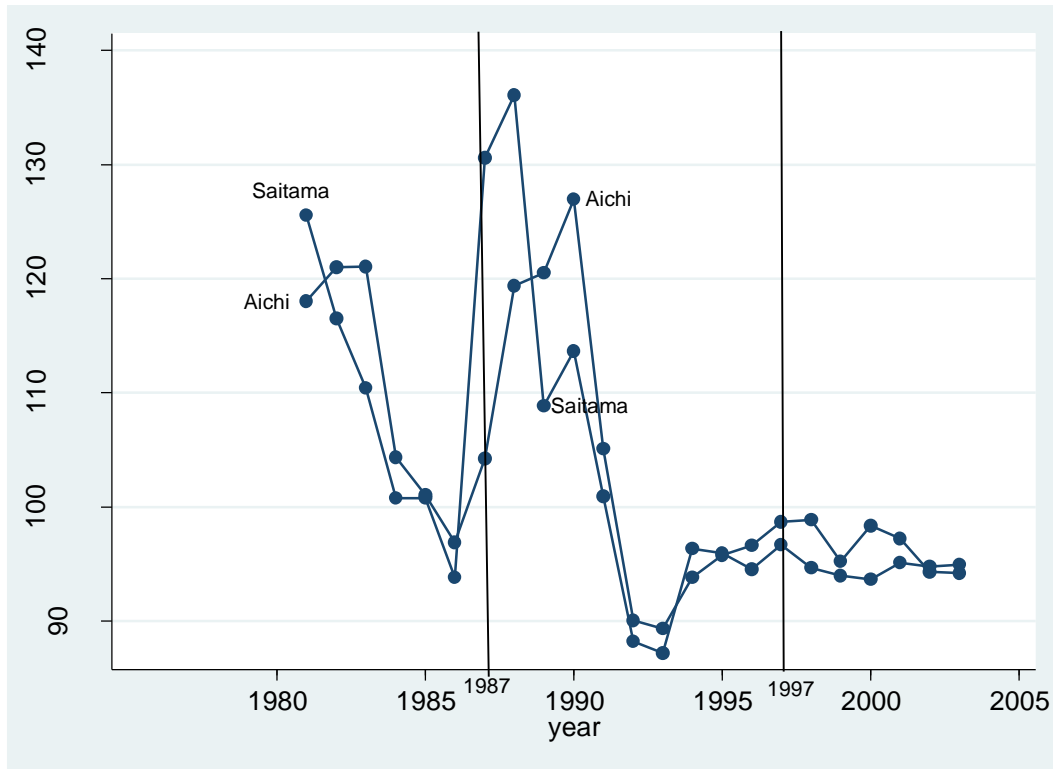


Figure 13: growth rate of residential land price in Japanese cases, 1981-2003
(Unit: % compared to the previous year, in both graphs)

	Pre-Construction Boom	Construction Boom
	Residential land price growth rate (yearly average)	
Chinese Cases	1998-2004	2004-2012
Changsha	1.86	11.25
Jinan	3.27	4.24
Japanese Cases	1981-1987	1987-1997
Aichi	9.52	3.62 (22.28 during 1987-1990)
Saitama	11.21	1.84 (19.53 during 1987-1990)

Table 9: yearly growth rate (%) of residential land price in the four selected cases

According to the average growth rate of land price in each year (Table 9), land price

tends to rise during the years of the construction boom. Changsha's land price growth rate rose up to 11.25% after 2004, while Jinan ("low construction" case)'s growth rate did not change much. Especially around the year of 2006, the yearly growth rate of Changsha's residential land price once reached more than 20%, and then fell down (Figure 12). I am not totally sure what exactly causes such an extreme fluctuation in Changsha's land prices, it could be affected by the early real estate booms (2004-2006) right after the announcement of Decree No.18, and the global financial crisis in 2008. But in general Changsha kept a high growth rate of land prices in the 2004-2012 period.

In Japan, if considering the whole period of construction boom, land price growth rate was even lower than the previous period of pre-constructions. But as we know after the break of the housing bubble, Japanese land prices fell sharply. As it is shown in Figure 13, radical fluctuations could be seen between 1980 and 1993. Following the Plaza Accord in 1985 caused the quick appreciation of Yen (Koo 2009: Chapter 6:3), and extensive constructions activities after 1986 (introduced in the previous sections), the residential land price in both Japanese cases began to rise rapidly from 1986, until the break of housing and stock bubbles in the early 1990s led to a dramatic price fall.

If only considering the first three years of construction boom (1987-1990), Aichi's residential land price rose 22.28% in each year. Comparably, Changsha's residential land price, during the heights of its construction boom in 2008-2009, rose 20-35% each year.

Table 10: The Relationship between GDP Growth rate and Residential Land Prices:
Fixed effects Regression

VARIABLES	(3) Standardized values of (landprice)
Construction Boom	0.87 (1.22)
Post Boom	-2.92+ (1.61)
Standardized values of GDP growth (gdpg)	-0.58 (1.32)
Construction Boom*zgdpg	0.55 (1.37)
Post Boom*zgdpg	0.15 (2.30)
Constant	0.97** (0.31)
Observations	70
R-squared	0.86
Number of location	4

Standard errors in parentheses

** p<0.01, * p<0.05, + p<0.1

Possibly due to this fluctuation in Japanese housing market, coefficients of the interaction between construction boom and the standardized score of GDP growth rate are positive but not significant.

GDP and unemployment

In fact, China's official explanation of its GDP-oriented administration is that the continuous growth of GDP could reduce unemployment. This is reported by Premier Li Keqiang to China Trade Union's national assembly in 2013 (Li 2013). In this report Li

Keqiang claimed that 1% of GDP growth could provide work opportunities for 1 million people in “historical experience”, and maintaining the urban unemployment at below 4 percent would require a 7% GDP growth rate. This research also provided an opportunity to examine this claim. Unfortunately, Japan’s statistical yearbook did not provide unemployment data for specific prefectures, thus I could only compare the Chinese cases with the national unemployment rate of Japan³³.

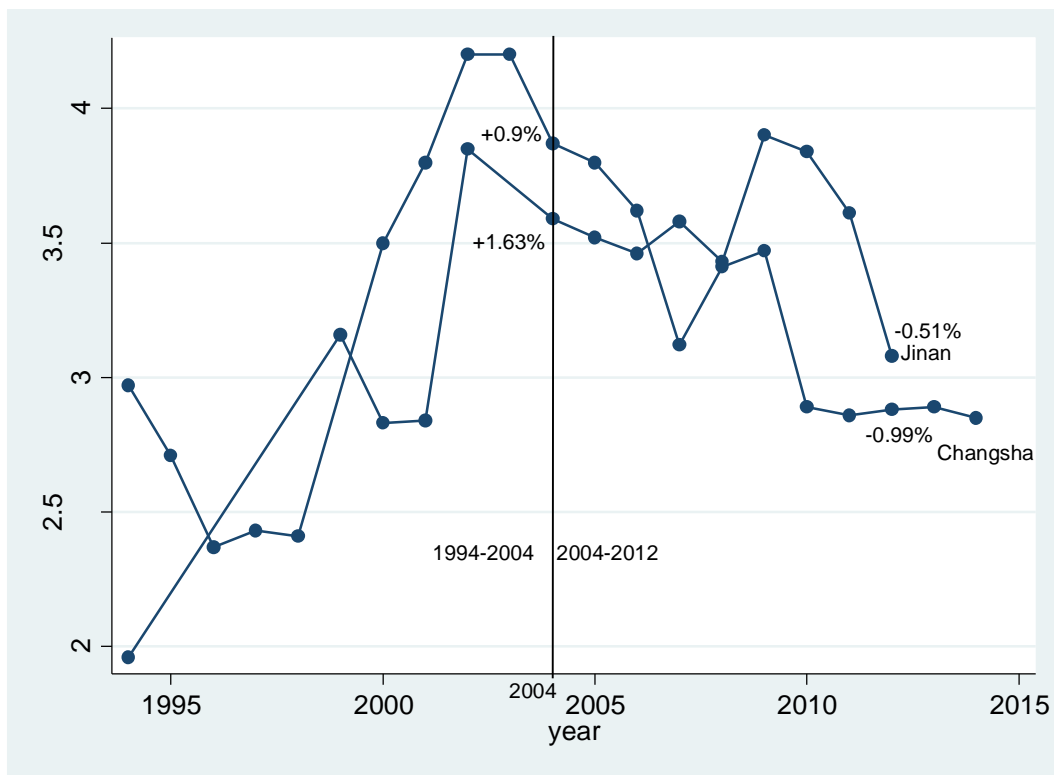


Figure 14: unemployment rate changes in the two Chinese cases, 1994-2014

³³ <http://www.stat.go.jp/english/data/chouki/19.htm>

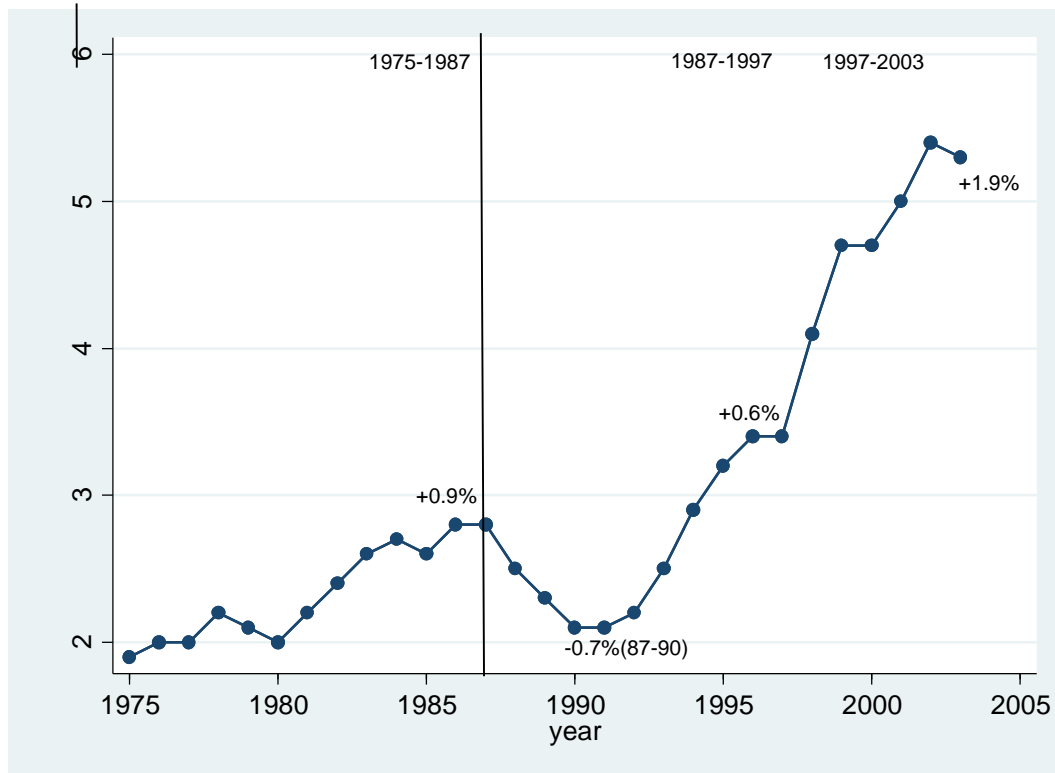


Figure 15: unemployment rate changes in Japan, 1975-2003

	Pre-Construction Boom	Construction Boom
	Unemployment rate changes	
Chinese Cases	1994-2004	2004-2012
Changsha	0.09	-0.12
Jinan	0.16	-0.06
	1975-1987	1987-1997
Japan	0.08	0.06 (-0.23 during 1987-1990)

Table 11: yearly unemployment rate (%) changes in the selected cases

According to the unemployment statistics, GDP growth did appear to have some connections with the reduction of unemployment. In the Chinese cases, Changsha and

Jinan's unemployment rate decreased after 2004, following the construction and GDP booms of the same period (Figure 14). The relationship between construction boom and Japan's unemployment rate appears clearer: its unemployment rate reached the lowest point of 2.1% on 1990, at the height of construction economy (Figure 15). Japan's unemployment rate rose in all other periods, especially after the end of high construction activities after 1997 (Table 11, Figure 15).

Table 12: The Relationship between GDP and unemployment: Fixed Effects Regression

VARIABLES	(4) Standardized values of (unemploy)
Standardized values of (gdp)	-1.77* (0.69)
Construction Boom	2.19** (0.49)
Post Boom	2.86** (0.44)
Construction Boom*zgdp	0.46* (0.23)
Post Boom*zgdp	0.48+ (0.24)
Constant	-2.13** (0.40)
Observations	90
R-squared	0.97
Number of location	4

Standard errors in parentheses

** p<0.01, * p<0.05, + p<0.1

In the fixed effects model, the interaction between the standardized score of GDP and

the construction boom is positive and significant ($p < 0.05$). This means that the correlation of unemployment rate and GDP is increased significantly during the construction boom period.

However, statistics also indicate that unemployment rate did not fall following the GDP booms in all cases. For example, Japan's unemployment rate between 1975 and 1986 also rose despite a growing GDP. The same is occurred in Changsha and Jinan during the 1990s. Changsha's unemployment rate was above 4% around the early 2000s, despite having a 20% GDP growth each year during this period. This change may reflect then-Premier Zhu Rongji's employment policies. Between 1998 and 2002, Zhu Rongji enforced a reform on the state-owned enterprises in China that aimed at reducing their payroll and increasing their efficiency. Large numbers of workers in state-owned enterprises were forced to laid-off during this period, and became unemployed (Zhu 2015: 16-21). Thus, the unemployment rate of both Chinese cases during the late 1990s and the early 2000s could be unusually high. This example shows that unemployment rate may also be largely affected by factors independent of the GDP.

Subjective well-being research

As it is mentioned in the literature review, the subjective well-being research is generally conducted by surveys and questionnaires and often measured by scores. In this article, I will compare the questionnaire results of China General Social Survey (CGSS) in 2003 and 2013, and the Blue Book of Urban Competitiveness (2011 version) to

analyze the changes that took place across ten years. From the fluctuations in scores and statistics, we can also discover that whether rapid growth rate of GDP will truly determine improvements in well-being.

One main difference between the CGSS research and previously-mentioned research according to the Yearbooks, is that the data of CGSS is basically categorized by provinces and it seldom mentioned which parts of it are surveyed from the capital cities. Therefore, I could only select the data that contains all urban results from each province that my two case cities are located (Hunan province, with Changsha as its capital; and Shandong province, with Jinan as its capital).

Therefore, it might be useful here to also sum up the GDP statistics of the two provinces. In the year of 2000, Hunan province had a total GDP of 355 billion RMB, and Shandong province had 833 billion. In the year of 2005, Hunan province had a GDP of 659 billion and Shandong province had 1,836 billion. In the year of 2013, Hunan province had a GDP of 2,450 billion, and Shandong province had 5,468 billion. Counting from 2000 to 2013, Hunan's GDP grew 590 percent and Shandong's GDP grew 556 percent. If counting from 2005 to 2013, Hunan's GDP grew 272% and Shandong's GDP grew 198% (China Statistical Yearbook 2013). Like their capitals, Hunan had a faster GDP growth rate compared to Shandong province, especially in the late half of the 2000s.

Another limitation of the CGSS research is that only several questions in 2013 questionnaire serve as a repetition of the 2003 version, thus available for direct

comparison and analysis. Still, it provides plenty of information.

1. Sense of relative deprivation

Some scholars emphasize that the sense of relative deprivation can be a key factor that leads to the deterioration of subjective well-being (Li 2002, Brockmann et.al 2009). Two of the questions in the CGSS surveys mentioned about the comparing with peer groups of people, thus enabled us to analyze the sense of relative deprivation amidst high speed economic growth in urban China.

One question asked about the respondents' socio-economic status compared to people of the same age. Majority of respondents replied that they have "about the same" status with peers (Table 13). Although experienced a higher GDP growth rate during this period, the sense of deprivation compared to peers even appeared to have risen slightly among the people of Hunan. People who reported a "higher" status dropped from 6% to 4%, and those who reported having a lower status than peers, rose from 32% to 33%.

2003 CGSS result:

	Shandong (291 observations)	Hunan (247 observations)
Unsure	10 (4%)	31 (13%)
Higher	9 (3%)	15 (6%)
About same level	170 (58%)	121 (49%)
Lower	102 (35%)	80 (32%)

2013 CGSS result:

	Shandong	Hunan

	(175 observations)	(169 observations)
Unsure	10 (6%)	10 (6%)
Higher	23 (13%)	7 (4%)
About same level	108 (62%)	96 (57%)
Lower	34 (19%)	55 (33%)

Table 13: statistical result for the question “Compared with same age peers, what is your socio-economic status?”

Pearson chi2(3) = 9.1199	Pr = 0.028
Likelihood-ratio chi2(3) = 10.5513	Pr = 0.014

Table 14A: chi-square test result of data changes in **Shandong** province, 2003-2013.

Pearson chi2(3) = 72.3045	Pr = 0.000
Likelihood-ratio chi2(3) = 48.4506	Pr = 0.000

Table 14B: chi-square test result of data changes in **Hunan** province, 2003-2013

Diff = mean(x) – mean (y)	
Ha: diff < 0	Pr = 1.000
Ha: diff ≠ 0	Pr = 0.000
Ha: diff > 0	Pr = 0.000

Table 14C: t-test result of the mean differences of proportion of **Shandong** residents who feel having “higher” status than peers, 2003-2013

Diff = mean(x) – mean (y)	
Ha: diff < 0	Pr = 0.000

Ha: diff \neq 0	Pr = 0.000
Ha: diff > 0	Pr = 1.000

Table 14D: t-test result of the mean differences of proportion of **Hunan** residents who feel having “higher” status than peers, 2003-2013

I have also conducted a chi-square test and a two sample t-test (Table 14) to analyze the changes in the survey data across ten years. The chi-square test shows that in both Hunan (p=0.000) and Shandong (p=0.028) provinces, the changes in data is significant comparing 2003 and 2013 survey. The two sample t-test shows that in Shandong province, the mean difference of selected proportions (respondents who chose “higher”) is higher than zero, which means that a significantly larger proportion of Shandong respondents in 2013 reported that they enjoy a “higher” status than peers, compared to 2003. In contrast, in Hunan province, a significantly smaller proportion of respondents (mean difference lower than 0) in 2013 regarded themselves having a “higher” status than peers.

Another question asked about the respondents’ socio-economic status if compared to a “typical ordinary people”. It is clearly shown in the survey that overwhelming majority of people in urban China regarded themselves as “ordinary people” in the early 2000s. In Hunan province, the statistics over this question remain mostly the same in the 2013 result, with respondents who regarded themselves “better” off than ordinary people rose from 4% to 7%, but respondents who regarded themselves “worse” than ordinary people also increased from 11 to 12%.

In comparison, Shandong province, which represented the “low constructions” case,

seemed to be improved in both sides. People who regarded themselves “better” off than ordinary people rose from 3% to 8%, and respondents who saw themselves “worse” than ordinary people decreased from 10% to 6%.

2003 CGSS result:

	Shandong (291 observations)	Hunan (247 observations)
Unsure	27 (9%)	11 (4%)
Better	8 (3%)	10 (4%)
About same level	227 (78%)	199 (81%)
Worse	29 (10%)	27 (11%)

2013 CGSS result:

	Shandong (175 observations)	Hunan (169 observations)
Unsure	0	9 (5%)
Better	14 (8%)	12 (7%)
About same level	150 (86%)	128 (76%)
Worse	11 (6%)	20 (12%)

Table 15: statistical result for the question: “Compared with ‘the life of ordinary people’, what do you think your life is like?”

Pearson chi2(3) = 37.4988	Pr = 0.000
Likelihood-ratio chi2(3) = 48.0361	Pr = 0.000

Table 16A: chi-square test result of data changes in **Shandong** province, 2003-2013.

Pearson chi2(3) = 4.7917	Pr = 0.188
Likelihood-ratio chi2(3) = 4.0607	Pr = 0.255

Table 16B: chi-square test result of data changes in **Hunan** province, 2003-2013.

Diff = mean(x) – mean (y)	
Ha: diff < 0	Pr = 1.000
Ha: diff ≠ 0	Pr = 0.000
Ha: diff > 0	Pr = 0.000

Table 16C: t-test result of the mean differences of proportion of **Shandong** residents who feel having “better” life than ordinary people, 2003-2013

The chi-square test result (Table 16A, B) shows in Shandong province (p=0.000), the changes in data is significant comparing 2003 and 2013 survey. However, in Hunan province, the changes in data is not significant (p=0.188). The two sample t-test (Table 16C) shows that in Shandong province, the mean difference of selected proportions (respondents who chose “better”) is higher than zero, which means that a significantly larger proportion of Shandong respondents in 2013 reported that they enjoy a “better” life than “ordinary people”, compared to 2003.

In conclusion, like some experts predicted, the economic growth in China did not seem to reduce the sense of relative deprivation very effectively. Especially, the higher GDP growth rate in Hunan province seems to make even more people to report that their status are worse than the peers. On the contrary, Shandong province, which experienced a slower GDP growth rate than Hunan in this period (2003-2013), showed some improvements in both of the two surveys.

2. Social communications

Another important aspect that is focused by CGSS surveys is about the frequency of people's communications with friends, relatives and other people in the society.

One question asked about the respondents' frequency of contact with their relative and friends. The result shows that in 2013, people in Hunan province seemed to make somewhat less social contacts than before (average score dropped 0.09 and median score dropped 1 point), despite experienced a faster growing GDP.

2003 CGSS result

	Shandong (291 observations)	Hunan (247 observations)
Refused to answer	2	2
Very infrequent (1 point)	0	4
Not frequent (2 point)	16	12
Okay (3 point)	102	96
Frequent (4 point)	154	119
Very Frequent (5 point)	17	14

Average score (1-5):

Shandong= 3.60, median 4

Hunan= 3.52, median 4

2013 CGSS result

	Shandong (175 observations)	Hunan (169 observations)
Very infrequent (1 point)	5	3
Not frequent (2 point)	12	22
Okay (3 point)	35	62
Frequent (4 point)	94	64
Very Frequent (5 point)	29	18

Average score (1-5):

Shandong= 3.74, median 4

Hunan= 3.43, median 3

Table 17: statistical result for the question: “How would you evaluate your contact with relatives and friends?”

Pearson chi2(3) = 2.5e+05	Pr = 0.000
Likelihood-ratio chi2(3) = 135.1467	Pr = 0.000

Table 18A: chi-square test result of data changes in **Shandong** province, 2003-2013.

Pearson chi2(3) = 34.2310	Pr = 0.000
Likelihood-ratio chi2(3) = 25.9053	Pr = 0.000

Table 18B: chi-square test result of data changes in **Hunan** province, 2003-2013.

Diff = mean(x) – mean (y)	
Ha: diff < 0	Pr = 1.000
Ha: diff ≠ 0	Pr = 0.000
Ha: diff > 0	Pr = 0.000

Table 18C: t-test result of the mean differences of proportion of **Shandong** residents with “not frequent” and “very infrequent” contacts of relative and friends, 2003-2013

Diff = mean(x) – mean (y)	
Ha: diff < 0	Pr = 1.000
Ha: diff ≠ 0	Pr = 0.000
Ha: diff > 0	Pr = 0.000

Table 18D: t-test result of the mean differences of proportion of **Hunan** residents with “not frequent” and “very infrequent” contacts of relative and friends, 2003-2013

The chi-square test result (Table 18A, B) shows in both Shandong (p=0.000) and

Hunan provinces ($p=0.000$), the changes in data is significant comparing 2003 and 2013 survey. The two sample t-test (Table 18C, D) shows that in both Shandong and Hunan provinces, the mean difference of selected proportions (respondents who chose “very infrequent” and “not frequent”) is higher than zero, which means that in both provinces, a significantly larger proportion of respondents in 2013 reported that they had infrequent contacts to relative and friends, compared to 2003. Thus, the test results seem to reflect that the contact with relative and friends is weakened in both provinces amidst the economic growth.

Another question asked about whether the respondents would trust the strangers in society. For some reason, majority of respondents in urban China did not seem to trust strangers in general, in both 2003 and 2013 surveys. But in comparison, the average score in Shandong appeared to have improved after 10 years, which saw a rise of 0.13 point toward the “trusting” side. The average score of Hunan province remains at the same level.

2003 CGSS result

	Shandong (291 observations)	Hunan (247 observations)
Refused to answer	0	2
Very distrust (1 point)	14	12
Distrust (2 point)	181	164
Average (3 point)	67	61
Trust (4 point)	27	7
Very trust (5 point)	2	1

Average score (1-5):

Shandong= 2.39, median 2

Hunan= 2.27, median 2

2013 CGSS result

	Shandong (175 observations)	Hunan (169 observations)
Very distrust (1 point)	11	23
Distrust (2 point)	90	90
Average (3 point)	49	46
Trust (4 point)	22	10
Very trust (5 point)	3	0

Average score (1-5):

Shandong= 2.52, median 2

Changsha= 2.25, median 2

Table 19: statistical result for the question: “Generally speaking, how much do you trust strangers?”

Pearson chi2(3) = 10.6683	Pr = 0.031
Likelihood-ratio chi2(3) = 9.6795	Pr = 0.046

Table 20A: chi-square test result of data changes in **Shandong** province, 2003-2013.

Pearson chi2(3) = 37.5067	Pr = 0.000
Likelihood-ratio chi2(3) = 28.6040	Pr = 0.000

Table 20B: chi-square test result of data changes in **Hunan** province, 2003-2013.

Diff = mean(x) – mean (y)	
Ha: diff < 0	Pr = 0.000
Ha: diff ≠ 0	Pr = 0.000
Ha: diff > 0	Pr = 1.000

Table 20C: t-test result of the mean differences of proportion of **Shandong** residents with “distrust” and “very distrust” attitude towards strangers, 2003-2013

Diff = mean(x) – mean (y)	
Ha: diff < 0	Pr = 0.000
Ha: diff ≠ 0	Pr = 0.000
Ha: diff > 0	Pr = 1.000

Table 20D: t-test result of the mean differences of proportion of **Hunan** residents with “distrust” and “very distrust” attitude towards strangers, 2003-2013

The chi-square test result (Table 20A, B) shows in both Shandong (p=0.031) and Hunan provinces (p=0.000), the changes in data is significant comparing 2003 and 2013 survey. The two sample t-test (Table 20C, D) shows that in both Shandong and Hunan provinces, the mean difference of selected proportions (respondents who chose “distrust” and “very distrust”) is lower than zero, which means that in both provinces, a significantly smaller proportion of respondents in 2013 reported that they distrust the strangers, compared to 2003.

However, in Hunan province, the proportion of respondents who chose the “very distrust” option also increased, which may be part of the reason that its average score remains at the same level (when using the scoring method). This aspect coincides with some social phenomena reported during the Hu-Wen administration, particularly during the Peng Yu incident³⁴, public opinions pointed to the lack of “Good Samaritan laws” in

³⁴ https://en.wikipedia.org/wiki/Xu_Shoulun_v._Peng_Yu

China may lead to damages on trust between people (Young 2015: 703-707). This, in my view, could also hint that the rapid growth of GDP and economy may generate conflicts with the old legal and moral systems, and such conflict might be more fierce in areas with particularly high GDP growth (such as Hunan province).

In conclusion, the faster GDP growth rate in Hunan province did not seem to effectively enhance the social ties of its urban residents. The contact with relatives and friends seemed to have deteriorated in both Hunan and Shandong provinces.

3. Scores about general life quality

Among the selected questions of the CGSS research, Hunan province illustrated a notable improvement across ten years in three questions.

One of these questions asked about the respondents' social-economic status compared to three years ago. Although majority of the respondents replied that their status is "about the same level" of three years ago in both 2003 and 2013 survey, Hunan respondents who answered having a "higher" status rose from 39% in 2003 to 48% in 2013, and Hunan respondents who answered "lower" reduced from 21% in 2003 to 8% percent in 2013. Comparably, it shows some positive changes after 10 years. However, the same improvement occurred to Shandong province as well, with people who responded "higher" rose 8 percent, and who responded "lower" decreased 6 percent.

2003 CGSS result

	Shandong (291 observations)	Hunan (247 observations)
Unsure	11 (4%)	11 (5%)
Higher	65 (22%)	97 (39%)
About same level	171 (59%)	87 (35%)
Lower	44 (15%)	52 (21%)

2013 CGSS result

	Shandong (175 observations)	Hunan (169 observations)
Unsure	9 (5%)	3 (2%)
Higher	52 (30%)	81 (48%)
About same level	99 (56%)	71 (42%)
Lower	15 (9%)	14 (8%)

Table 21: statistical result for the question: “Compared with three years ago, what is your socio-economic status?”

Pearson chi2(3) = 10.2308	Pr = 0.017
Likelihood-ratio chi2(3) = 10.6693	Pr = 0.014

Table 22A: chi-square test result of data changes in **Shandong** province, 2003-2013.

Pearson chi2(3) = 21.2471	Pr = 0.000
Likelihood-ratio chi2(3) = 25.6699	Pr = 0.000

Table 22B: chi-square test result of data changes in **Hunan** province, 2003-2013.

Diff = mean(x) – mean (y)	
Ha: diff < 0	Pr = 1.000
Ha: diff ≠ 0	Pr = 0.000
Ha: diff > 0	Pr = 0.000

Table 22C: t-test result of the mean differences of proportion of **Shandong** residents who feel having a “higher” status than 3 years ago, 2003-2013

Diff = mean(x) – mean (y)	
Ha: diff < 0	Pr = 1.000
Ha: diff ≠ 0	Pr = 0.000
Ha: diff > 0	Pr = 0.000

Table 22D: t-test result of the mean differences of proportion of **Hunan** residents who feel having a “higher” status than 3 years ago, 2003-2013

The chi-square test result (Table 22A, B) shows in both Shandong ($p=0.017$) and Hunan provinces ($p=0.000$), the changes in data is significant comparing 2003 and 2013 survey. The two sample t-test (Table 22C, D) shows that in both Shandong and Hunan provinces, the mean difference of selected proportions (respondents who chose “higher”) is higher than zero, which means that in both provinces, a significantly larger proportion of respondents in 2013 felt they have a rising socioeconomic status, compared to 2003.

This test result appears to imply some contrast with my main points in this dissertation, but I still display it here. First of all, people feel that they have a higher socioeconomic position as time goes by may not be totally resulted from the GDP growth. It could be the effect of many other factors, such as the rise of wages (as illustrated before in this chapter, the disposable income in the both two Chinese cases rises as well --- although disproportionate compared to the GDP, they still rise after all), the thriving of enterprises (especially for those who started a business themselves), the improvements in

technology, etc. More importantly, the point of this dissertation is not to claim that GDP is completely harmful. It is logical that the rapid GDP growth leads to the rise of many people's socioeconomic positions. The worrisome trend in recent years is the overemphasis and "worship" on GDP to make it the chief focus of governments, above every other aspect in administration, and the tendency in China to artificially accelerate the GDP growth by focusing on develop the construction-related industries (mainly introduced in Chapter 1). On the other hand, this survey result may indicate that these moves may not be necessary: Shandong province, the case which has less emphasis on construction industries and much less GDP growth rate compared to Hunan province, also shows significant improvements in the (self-reported) socioeconomic position of respondents.

In the other two questions, the researcher provided a descriptive sentence, and the respondents would reply that whether this description fits their actual way of life. One of them wrote "my current work is very intense" and another is on the contrary, claimed that "I feel my life is easy and comfortable".

The results (Table 23, Table 25) illustrated that respondents generally feel less intense from work pressure, and feel life is getting easier and more comfortable, across ten years. In the "work intensity" question, the average score decreased in 2013 (leaning towards the "less intense" side) in both Hunan and Shandong. In the "life easiness" question, the average score increased in 2013 (leaning towards the "easier and more

comfortable” side), and the median score rises as well. This change occurred in both of the two provinces.

2003 CGSS result

	Shandong (291 observations)	Hunan (247 observations)
Refused to answer	13	8
Yes (4 point)	25	36
Basically Yes (3 point)	87	64
Basically No (2 point)	117	87
No (1 point)	49	52

Work intensity score (1-4):

Shandong= 2.32, median 2

Hunan= 2.35, median 2

2013 CGSS result

	Shandong (175 observations)	Hunan (169 observations)
Refused to answer	1	3
Yes (4 point)	12	15
Basically Yes (3 point)	45	30
Basically No (2 point)	77	54
No (1 point)	40	67

Work intensity score (1-4):

Shandong= 2.14, median 2

Hunan= 1.95, median 2

Table 23: statistical result for the description “my current work is always intense”

Pearson chi2(3) = 5.5243	Pr = 0.137
Likelihood-ratio chi2(3) = 5.4495	Pr = 0.142

Table 24A: chi-square test result of data changes in **Shandong** province, 2003-2013.

Pearson chi2(3) = 35.7917	Pr = 0.000
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Likelihood-ratio chi2(3) = 31.7349	Pr = 0.000
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Table 24B: chi-square test result of data changes in **Hunan** province, 2003-2013.

Diff = mean(x) – mean (y)	
Ha: diff < 0	Pr = 0.000
Ha: diff ≠ 0	Pr = 0.000
Ha: diff > 0	Pr = 1.000

Table 24C: t-test result of the mean differences of proportion of **Hunan** residents with “yes” and “basically yes” responses, 2003-2013

In the “work intensity” question, the chi-square test result (Table 24A, B) shows in Hunan province ($p=0.000$), the changes in data is significant comparing 2003 and 2013 survey. But in Shandong province ($p=0.137$), the change is not significant. The two sample t-test (Table 24C) shows that in Hunan province, the mean difference of selected proportions (respondents who chose “yes” and “basically yes”) is lower than zero, which means that in Hunan, a significantly smaller proportion of respondents in 2013 reported that their current work is intense, compared to 2003. Thus, this question becomes the only question that the Hunan case has shown an obvious advantage over Shandong.

2003 CGSS result

	Shandong (291 observations)	Hunan (247 observations)
Refused to answer	3	3
Yes (4 point)	8	20
Basically Yes (3 point)	126	80
Basically No (2 point)	120	104
No (1 point)	34	40

Life easiness score (1-4):

Shandong= 2.38, median 2

Hunan= 2.33, median 2

2013 CGSS result

	Shandong (175 observations)	Hunan (169 observations)
Refused to answer	2	0
Yes (4 point)	33	28
Basically Yes (3 point)	79	78
Basically No (2 point)	45	45
No (1 point)	16	18

Life easiness score (1-4):

Shandong= 2.75, median 3

Hunan= 2.69, median 3

Table 25: statistical result for the description “I feel my life is very easy and comfortable right now”

Pearson chi2(3) = 176.6951	Pr = 0.000
Likelihood-ratio chi2(3) = 83.7161	Pr = 0.000

Table 26A: chi-square test result of data changes in **Shandong** province, 2003-2013.

Pearson chi2(3) = 37.2032	Pr = 0.000
Likelihood-ratio chi2(3) = 34.8881	Pr = 0.000

Table 26B: chi-square test result of data changes in **Hunan** province, 2003-2013.

Diff = mean(x) – mean (y)	
Ha: diff < 0	Pr = 1.000
Ha: diff ≠ 0	Pr = 0.000
Ha: diff > 0	Pr = 0.000

Table 24C: t-test result of the mean differences of proportion of **Shandong** residents with “yes” and “basically yes” responses, 2003-2013

Diff = mean(x) – mean (y)	
Ha: diff < 0	Pr = 1.000
Ha: diff ≠ 0	Pr = 0.000
Ha: diff > 0	Pr = 0.000

Table 24D: t-test result of the mean differences of proportion of **Hunan** residents with “yes” and “basically yes” responses, 2003-2013

In the “difficulty of life” question, the chi-square test result (Table 24A, B) shows in both Shandong (p=0.000) and Hunan provinces (p=0.000), the changes in data is significant comparing 2003 and 2013 survey. The two sample t-test (Table 24C, D) shows that in both Shandong and Hunan provinces, the mean difference of selected proportions (respondents who chose “yes” and “basically yes”) is higher than zero, which means that in both provinces, a significantly larger proportion of respondents in 2013 reported that they their life is generally easy and comfortable, compared to 2003.

My comment on these results is similar to the previous one on the socioeconomic status issue. The intensity of life and work appear to be reduced following the GDP growth of China in the 2000s, but they could be the result of other factors, such as the rise of disposable income, the improvements in technology and entertainments. Secondly, as a case with less construction focus and less GDP growth rate, Shandong also shows significant improvements in relieving people’s life. It is mentioned above that the issue of work pressure is the only issue that Hunan province has shown statistically significant

advantages over Shandong. I think this may be related to the effect of GDP growth in reducing the unemployment, as mentioned in previous sections. The unemployment rate in areas with higher GDP growth rates tends to be lower, and this may contribute to reducing the pressures in work.

In conclusion, according to the result of these three questions, life quality is generally improving in the two provinces. As many scholars point out (Frey and Stutzer 2002; Knight and Song 2009), improvements in personal income and economic development often positively affect people's subjective well-being scores, therefore, it is reasonable that higher general GDP levels may result in better scores in life-satisfaction surveys.

However, in two out of the three questions, the Shandong province, which had a lower GDP growth rate and less focus upon the construction economy, also illustrated significant and positive changes. This result seems to illustrate that rate of GDP growth, on the contrary, may have much less correlation with well-being, as some other scholars emphasized (Easterlin and Angelescu 2009; Clark and Senik 2011).

4. Political participation

Participation of democratic election is regarded by some organizations, such as OECD, as one important aspect to measure well-being itself³⁵. Others (Frey and Stutzer 2002) treat it as an explanatory variable, believing that democratic participation may positively affect people's satisfaction level.

³⁵ <http://www.oecdbetterlifeindex.org/topics/civic-engagement/>

I originally predict that data for civic participation would not be available in China, but the results for one CGSS question actually revealed some statistics in this area. Here, I count those people who said to have joined the voting process of neighborhood community (either it is decided by voting, recommendation, or assigned by the superiors but has a voting process) as “participated” the election. The participation rate is thus calculated by the number of these people divided by the number of total observations. If according to this standard, the democratic participation in fact seemed to have regressed in both two cases, dropping from 27-28% in 2003 to 11-20% in 2013, thus showing no correlation to GDP growth at all.

As the democratic participation rate seemed to decline in both two cases, subjective data regarding some aspects of general life-satisfaction (such as work intensity and life easiness) changed positively during the same period. Therefore, the claim that democratic participation will raise up the happiness and satisfaction level is also doubtful in this research.

2003 CGSS result:

	Shandong (291 observations)	Hunan (247 observations)
Refused to answer	2	6
Don't know	174	160
Voted by residents	33	25
Recommended by residents	8	12
Assigned by superiors	34	10
Assigned by superiors but	40	34

has voting process		
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Participation rate:

Shandong 81/291= 27.8%

Hunan 71/247= 28.7%

2013 CGSS result

	Shandong (175 observations)	Hunan (169 observations)
Refused to answer	1	1
Not answered	all rest	all rest
Voted by residents	13	27
Recommended by residents	0	2
Assigned by superiors	7	1
Assigned by superiors but has voting process	7	6

Participation rate:

Shandong: 20/175= 11.4%

Hunan: 35/169= 20.7%

Table 25: Statistics for the question: “Do you know how your neighborhood committee was set up?”

Pearson chi2(3) = 45.2032	Pr = 0.000
Likelihood-ratio chi2(3) = 56.2419	Pr = 0.000

Table 26A: chi-square test result of data changes in **Shandong** province, 2003-2013.

Pearson chi2(3) = 32.1908	Pr = 0.000
Likelihood-ratio chi2(3) = 42.0221	Pr = 0.000

Table 26B: chi-square test result of data changes in **Hunan** province, 2003-2013.

Diff = mean(x) – mean (y)	
Ha: diff < 0	Pr = 0.000

Ha: diff ≠ 0	Pr = 0.000
Ha: diff > 0	Pr = 1.000

Table 26C: t-test result of the mean differences of proportion of **Shandong** residents who respond “voted”, “recommended” and “has voting process”, 2003-2013

Diff = mean(x) – mean (y)	
Ha: diff < 0	Pr = 0.000
Ha: diff ≠ 0	Pr = 0.000
Ha: diff > 0	Pr = 1.000

Table 26D: t-test result of the mean differences of proportion of **Hunan** residents who respond “voted”, “recommended” and “has voting process”, 2003-2013

The chi-square test result (Table 26A, B) shows in both Shandong (p=0.000) and Hunan provinces (p=0.000), the changes in data is significant comparing 2003 and 2013 survey. The two sample t-test (Table 26C, D) shows that in both Shandong and Hunan provinces, the mean difference of selected proportions (respondents who chose “voted by residents”, “recommended by residents” and “assigned by superiors but has a voting process”) is lower than zero, which means that in both provinces, a significantly smaller proportion of respondents in 2013 reported that they participated the election in their respected communities, compared to 2003. To sum, test results also illustrate a trend of regressing democratic participation amidst the economic growth.

The decline in democratic participation rate could be caused by many reasons, such as there had been more people who did not answer this question in 2013. However, this

result coincides with the reports and impressions that point to the lack of democratization progress by the end of Hu-Wen administration (Nathan et.al 2013: 65-75). It is also reported by some scholars (Minzner 2011: 935-936) that some Chinese authorities during this period also attempted to weaken the role of litigation in local administration, as they believe the rule of law might be a threat to the authority of the Communist party. For the same reason, the political activities of the citizens may be limited as well. In sum, due to the national condition of China, the GDP and political participation of people is unlikely to correlate, as I expected.

5. Sense of happiness

The Blue Book of Urban Competitiveness which is published by the Social Science Academic Press in China also announced its own well-being survey in 2011. This survey, conducted between 2001 and 2010, asked the respondents to report their happiness level in a 1-5 score by answering the questions that investigate their “income, housing conditions and medical conditions”. This survey has 17,757 samples in total and covered the citizens in 294 cities (Ni 2011: 105-106). The total happiness level in this survey is measured by a 100 points system.

The most noticeable result of this survey may be that Changsha, a city with fast growing GDP, had shown a dropping trend of the happiness score across the time. In 2001, Changsha scored a happiness score of 79.78, ranked 3rd among all surveyed cities

in China. In 2005, Changsha scored 79.06, and in 2009, Changsha scored 77.31. In 2010, Changsha scored only 77.10 in happiness score, and its rankings in the country dropped to the astonishing 115th.

In comparison, Jinan, a city also with a growing GDP but less growth rate compared to Changsha, had at first shown a dropping trend in happiness then recovered a bit. In 2001, Jinan scored a happiness score of 73.78, ranked 61st among all surveyed cities. In 2005, Jinan scored 71.39, and in 2009, Jinan scored 73.40. In 2010, Jinan scored 75.63 in happiness score, and its rankings in the whole country also dropped to 156th (Ni 2011: 114-115).

The result is almost perfectly clear that GDP does not correlate with sense of happiness in this survey, and GDP growth rate almost works on the happiness negatively. It is therefore not surprising that the book itself concluded that “in many important cities, the economy is developed into a certain level, yet people’s sense of happiness seems regressed.”, “the characters and trend shown by these developed cities may verify the theory that economic development and happiness could deviate from each other” (Ni 2011:114).

In conclusion, in 6 out of 9 selected surveys in this section, Hunan province, which had a faster GDP growth rate than Shandong, did not illustrate obvious improvements in many related well-being indices (sense of achievement, social communications, civil participation, etc.) ten years after 2003. People of Hunan saw positive changes in some

life quality measurements, but the same improvement also took place in the Shandong province. In general, similar to the result of objective measurements shown in above sections, subjective well-being in urban China may be related to a general economic level, but there lacks evident correlation between well-being and GDP growth rate and a construction guided GDP boom in the 2000s.

Conclusion

In the above sections, I have analyzed several objective and subjective well-being indicators and their relationship with GDP growth. It can be concluded that GDP growth rate and construction economy would not connect well with well-being indices in many ways, based on the following reasons:

First, personal income and wages did not show stronger correlations with the GDP during the construction boom period (during which the GDP growth rate has been accelerated);

Second, medical and housing conditions seem to develop independent of the GDP trends, and lack evidence to correlate with GDP growth. Land prices also seemed to rise in the years of construction boom;

Third, although employment rate seems to correlate with GDP growth and the GDP boosts in the construction boom period within this dataset, there are also many cases where unemployment did not fall following a growing GDP.

Fourth, despite having a faster GDP growth rate during the construction boom,

Hunan province also illustrated trends of higher sense of deprivation and weaker social ties and communication at the same period;

Fifth, although the score of the sense of life quality (in CGSS) improves over time, the sense of happiness (in *The Blue Book of Urban Competitiveness*) regressed accompanying the GDP growth;

Lastly, political participation in the two cases did not improve almost completely.

In general, under the context of contemporary China, there is also reason to believe that GDP growth would not mean correspondent improvements in well-being indicators, especially during the construction boom periods where GDP growth are accelerated. This reminds me that many sociological theories had argued the same: fast growing periods of GDP and productivity in history may not become a fortunate thing for the common people's well-being. This will be discussed in more details in the next chapter.

Chapter 3: Discussions on the Relationship between GDP and Well-being

Introduction

It is often assumed by some scholars and politicians that productivity (and the continuous progress of it) is the economic foundation of a better quality of life (Simon 1995, Knight and Gunatilaka 2011)³⁶. However, it is also common to find examples that point to different or even completely opposite directions of this statement (Marx 1967; Foster et.al. 2010; Steffen et.al 2011).

As widely known, the Chinese Communist Party (CCP) still claims the mantle of Marxism. Ironically, as I will introduce in this chapter, the Chinese government's administrative style to maximize the GDP output contradicts with Marx's own thoughts in many aspects. Marx points out that the monstrous expansion of industrial productive power could bring misery to the public, where this seems to resemble the situation in contemporary China, that GDP-oriented administration already produced many conflicts with the public well-being, as introduced in the previous two chapters.

This irony could be attributed to the fact that CCP's current perception of Marxism might be closer to Stalin's theory of Socialism in One Country, which sought to establish a superpower state with the Communist party in power. Hu Jintao was famous for his theory of the Harmonious Society, which was quoted not from any works of Marx, but

³⁶ <http://www.libertarianism.org/publications/essays/state-humanity-steadily-improving>

from Confucius, a symbol of traditional Chinese culture and Chinese nationalism³⁷. If this move still emphasizes the importance of well-being, Xi Jinping's slogan of "the Chinese Dream" is much more directly nationalistic: it aims to completely realize the "great revival of the Chinese civilization" and to make China a rich and developed state between the year of 2021 and 2049³⁸. Therefore, it seems the Chinese government seeks to maximize the GDP not only to strengthen the party-state, but also to raise the global standing of China. This will inevitably see many conflicts with classical Marxism's goal of liberating the working class.

In this chapter, I will display the results of my statistical research on the case of China's construction economy during the 2000s and its impact on the public well-being. I think it will provide a meaningful discussion exploring the relationship between productivity growth and well-being, as the research subject is one of the fastest-growing economies in the world, with its mode of development more heavily focused upon productivity instead of welfare.

Before providing details of my own research, I will review the existing theoretical perspectives that discuss this topic between productivity and well-being, including those of Marxists, environmental sociologists, and past empirical researchers working on the "Easterlin paradox", including the recent articles that study the happiness of contemporary China. In comparison, despite American environmental sociology's general

³⁷ https://www.nytimes.com/2006/09/14/opinion/14iht-edbell.2807200.html?_r=0

³⁸ Xi Jinping's presentation of "the Chinese Dream" (in Chinese)
http://www.xinhuanet.com/politics/2017-10/18/c_1121820111.htm

tendency to attribute the growth imperative to the capitalist market mechanisms and market liberal ideologies, other theory indicates that state power also works purposefully to advance productivity and economic growth. This mode of growth, however, often fails to translate into people's genuine benefits and wealth, and may be unsustainable.

In the end of this chapter, I shall discuss that why many local governments in China would still choose to boost GDP with construction booms, even though they might realize that GDP may neither improve the actual well-being of people nor legitimize themselves. I will discuss the geographical, sectorial and political reasons for these administrative decisions. The political background will be discussed under the context of cadre management system of the Chinese bureaucracy that treats GDP numbers as measurement of political achievement, forcing the local officials to prioritize GDP growth and overlook all other aspects.

Theoretical Backgrounds: From Karl Marx

Historical example of gaps between productivity and well-being

One of the founding theorists in sociology, Karl Marx, provided a lengthy discussion of this antithesis between productivity and well-being.

First of all, the rise of capitalism, which was supposed to be a significant advancement of productivity, brought about a series of degradations to the social life. By the end of the Medieval Times, Marx regards that the majority of population in England consisted of free peasant proprietors who cultivated their own lands (Marx 1967: 717).

This era was marked by “wealth of people” and the prosperity of towns according to Marx’s descriptions (Marx 1967: 718). Marx claims it to be a “golden age” of the working people.

However, following the rise of the capitalist economy, the working class had lost control of their own means of production. They were forced to sell their labor power to the capitalists, and had to accept the arrangement of the working day by the employers, regardless how harsh it could be (Marx 1967: 232-233). Since the capitalists often seek to “absorb the greatest possible amount of surplus-labor”, they tend to extend the hours of working whenever possible. Marx states that child workers in 19th century Nottingham often started work at 2 to 3am until 10 to 11pm (Marx 1967: 243). Thus, the capitalist economy brought about severe degradations of people’s working conditions, as well as great harm to health. Marx claims that the potters in England were “as a rule, stunted in growth, ill-shaped, and frequently ill-formed in the chest”. Such misery also widely existed among many other workers (Marx 1967: 245; 255-256). “It is not in dressmakers’ rooms that working to death is the order of the day, but in a thousand other places; in every place I had almost said, where ‘a thriving business’ has to be done”. Therefore, the rise of capitalist economy in England did not seem to translate into improvements of many people’s life, but rather led to the regression of it.

Secondly, in countries with an advanced capitalist economy, the economic burdens of people also tend to increase. Marx keenly observed that the Dutch Republic, the most

advanced capitalist state in the seventeenth century, amassed a tremendous amount of national loans from the public debt in order to support its global colonial and military machine (Marx 1967: 754-57). On the other hand, Marx believes that the development of capitalism also tends to generate an even greater mass of the proletariat class. In order to support the growth of functioning capital “with greater extent and energy”, a greater industrial reserve army and the productivity of its labor are also urgently required (Marx 1967: 644). Marx asserts that the relative mass of the industrial reserve army develops the labor power at the disposal of the capitalists, thus increasing the potential energy of their wealth. But a greater reserve army also results in a surplus population, and leads to more misery and torment of labor. This contradiction is considered by Marx as the “absolute general law of capitalist accumulation” (Marx 1967: 644). Therefore, “in rich nations, people are generally poor”, as Marx quotes the words of Destutt de Tracy (Marx 1967: 648).

Most importantly, the industrial revolution is universally regarded as an event of great productivity progress, as well as a great GDP boost. Marx admits in *the Communist Manifesto* that “The bourgeoisie, during its rule of scarce one hundred years, has created more massive and more colossal productive forces than have all preceding generations together” (Marx and Engels 2012:40). However, such a gigantic productivity boost did not necessarily bring about a corresponding level of life quality, but led to a worsened living condition for many people in the working class.

The Industrial Revolution was most significantly marked by the introduction of machinery into manufacturing of products. On the surface, the machinery made working more convenient, but it also reduced the differences between the muscular power of workers, thus enabling women and children to work with the same efficiency of men. Therefore, the capitalists quickly employed large numbers of women and children into the workforce in order to reduce the costs (Marx 1967: 394-95). As a result, many children had to work excessively long hours under poor health conditions, and their education were also negatively affected (Marx 1967: 401-02). The capitalists also often tend to intensify the degree of labor by maximizing the rotating speed of the machines, to cope with the legal limits of working hours. This also tends to exhaust the workers quickly and leads to their health problems (Marx 1967: 416-417).

This kind of miserableness of workers, according to Marx, resulted from the unending appetite of manufacturers to make more profits, and the basis of continued growth under the capitalist system (Marx 1967: 759). This background is definitely also one of the major motivations behind the creation of Marx's political ideas.

In conclusion, Marx's view of human society is often regarded as the relationship between economic base and superstructure. But, in the historical description of Marx's works, the growth of productivity and industrialism have often caused degradations of public well-being, due to the dark side of capitalist means of production itself which pursues profitability at all costs.

In terms of the contradiction between productivity and public well-being, Marx is also renowned for his introduction of the exploitation of workers after the industrial economy evolves into machinofacture --- mass production with the machines as the main tool. As a result, the capitalists could receive more relative surplus value. In the next section, I will describe more on the exploitations of workers for the relative surplus value, and I will compare Marx's theory to the situation in contemporary China.

Exploitation of workers' relative surplus value

Marx's argument on the capitalist economy lies on the theory of surplus value. The surplus value, according to Marx, could be divided into absolute surplus value and relative surplus value. In the previous section, I describe mainly about the absolute surplus value, that by squeezing the workers' labor power as much as possible, the capitalists gain more profit for themselves. This process was mainly done through the extension of working days and working hours, so that the workers would spend more labor power with the same wage in an accounting period (Marx 1967: 231-243).

The contradiction between public well-being and capitalist economy is very clear during the exploitation of absolute surplus value. It could be easily seen that extremely long working hours and working days will damage the public health and well-being. The rising of capitalism in England often saw working days between 2am until 11pm, which in turn led to huge degradations of health among the working class accompanying a

productivity boom (Marx 1967: 243).

On the other hand, generating relative surplus value leads to a more hidden way of exploiting the workers, which is mainly realized by increasing the production capacity itself through advances of technology, methods and other means. In this way, the capitalists will also gain more surplus value as the total value created by the workers is much increased, yet the capitalist still pays workers with the same wage.

Marx explained that after the early phases of the industrial revolution, the rapid technological advances brought about a boost in productivity, due to the common application of machines in the manufacturing process. In the “machinofacture” stage, more of the capital will be transformed into the means of production, instead of the labor power, when the capital increases. For example, the capitalists may originally need to use 1/2 of its increased capital to purchase labor power, but with the use of machines, the capitalists no longer need that many laborers. Thus, the capitalists may gradually transform 1/8 of the new capital into labor power and 7/8 of the capital to purchase the means of production (Marx 1967: 629).

According to Marx, when the composition of capital remains the same, capital accumulation will bring about increased demand for labor power (Marx 1967: 612-613). However, through the application of machines, the variable part of capital compared to the constant capital is reduced (Marx 1967: 621-623). Although the demand for the labor forces will still increase following the capital expansion, the capitalists would not require

as many new workers as before (when fully relied upon manual labor). Thus, these “surplus” workers that are no longer needed would not be employed, increasing the population of the industrial reserve army. Marx believes that this situation is very advantageous to the capitalists because it makes up an inexhaustible reservoir of labor power, and the capitalists can hire them any time when more laborers are needed again (Marx 1967: 643).

Moreover, the industrial reserve army could impose heavy pressure to the active labor army during the stagnation period, and holds the demands of the labor army in check during the over-production period (Marx 1967: 639). At any time, capitalists could easily find out the replacements for the current workers, thus, the active labor army will have very limited bargaining power.

Finally, the lowest stratum of the relative surplus population will usually dwells in extreme poverty, as they could not find other ways to feed themselves. In the “machinofacture”, more and more machines are applied into the production; therefore, a greater social wealth and functioning capital also tend to result in a greater industrial reserve army, because more and more laborers will be expelled. The larger the number of industrial reserve army, the more likely it is for more people to fell into official pauperism. Marx regards this as the absolute general law of capitalist accumulation (Marx 1967: 644).

Therefore, during the eighteenth century, some scholars and economists often argue

that the growth of national economy and the wealth for the rich “inevitably” requires the poverty of the lower classes in the society as “sacrifices”. Some even believe that misery could be a necessary condition to produce wealth (Marx 1967: 646). Here we could see an even more direct contradiction between productivity and public well-being as a part of capitalist accumulation.

Is the same exploitation and eviction of workers also happened in contemporary China, particularly in Changsha? Although there definitely existed a lot of well-being problems and rich-poor gap in China, as introduced in previous chapters, it seems the construction boom in China attracted more workers rather than expelled them.

The total number of workers and staff (staff is a concept in the Chinese statistical yearbooks, which may mean the other employee, clerks and personnel in the enterprises besides the workers) in Changsha rises from 598,370 in 2003 to 1.2 million in 2013 --- this change means that the total number of wage earners is more than doubled during the construction boom. Among them, 371,804 people worked in the manufacturing sector (hired the most employees in all sectors). 182,446 worked in the construction sector (with the second most employees). In comparison, only 137,391 people worked in the manufacturing sector and 44,920 worked in the construction sector in the year of 2001 (Changsha Statistical Yearbook 2014 and 2002). It seems that the construction boom in Changsha leads to the increase of employees in the city, particularly for the construction sector.

The production of machines in Changsha also soared in this period, particularly the construction machinery (one main constituent of Changsha's GDP, as introduced in Chapter 1). For example, the crane equipment rises from 18,729 tons in 2001 to 945,879 tons in 2013. The concrete machine, which is not even included in Changsha's yearbook of 2002, rises to 45,299 pieces in 2013 (Changsha Statistical Yearbook 2014 and 2002).

It seems that the construction boom may have played a key role in China's transition to machinofacture. However, the dramatic increase in machines, particularly construction machines, did not seem to result the decrease of employee numbers.

One reason that a dramatic reduction in the employee numbers following the rise of machinofacture did not happen in China could be attributed to the fact that 62% of Chinese people were farmers or rural residents in 2003 (Davis 2007: 12). The main urbanization process in China also took part during the construction boom in the 2000s, and the population in the city of Changsha has grown from 1.9 million in 2003 to nearly 3 million in 2013 (and this does not include those unregistered immigrants). As a result, the manufacturing and construction sectors in Changsha may have provided many job posts for the migrant workers in rural areas, as they were the two largest sectors in Changsha in terms of manpower. Their numbers of employees had both shown a substantial growth in the 2000s, as introduced above.

Although the application of construction machines may reduce the needs on the number of new laborers, the rapid expansion of the construction industry (capital

accumulation) in Changsha at the same period may have also greatly increased the demand for more workers. Therefore, the number of workers in the construction and manufacturing sector increased in general.

This, however, does not mean that Marx's point in machinofacture and relative surplus value is not relevant to this topic. Marx claimed that the factories could produce way more profits by applying the machines or from the technological advances, yet still paying the workers approximately the same wage. In this way the capitalists could squeeze out much more relative surplus value from the proletariat class. One main character of public well-being in China, as I mentioned before, is the gap between income and GDP, and this also existed in Changsha's construction sector.

In 2013, the workers and staff in Changsha's construction sector received an average wage of 47,108 yuan. In 2001, the average wage of workers and staff in Changsha's construction sector was 11,179 yuan. In direct comparison, there was a great increase (321%) of wages. However, between 2001 and 2013, the GDP per capita in Changsha rose from 12,443 yuan to 99,570 yuan, showing an amazing growth of 700% (Changsha Statistics Yearbook 2014 and 2002).

This figure suggests that the growth of workers' wage in Changsha's construction sector could not follow up the growth of GDP in Changsha, showing another GDP-pay gap as my main research illustrates. Furthermore, in the year of 2001, the average wage of construction workers was approximately the same of Changsha's GDP per capita; but

in the year of 2013, their average wage was only 47% of Changsha's GDP per capita. This number suggests that the construction workers in Changsha may have generated considerable relative surplus value during the 2000s and these values were also exploited out from them. I also noticed that the average wage of all workers and staff in Changsha was 59,211 yuan in 2013 (Changsha Statistical Yearbook 2014). Therefore, it seems the payment standard in the construction sector is also below average, despite it is a main stimulus of Changsha's economic growth (as introduced in Chapter 1).

I do not have complete data about the constituents of construction workers in Changsha, such as how many percentage of them are unskilled workers. However, there are some evidence that many of the construction workers could be migrant workers originally from the rural areas. According to a news report in 2008, the province of Hunan (where Changsha is located) alone had 12 million migrant workers, and around 3 million of them worked in the cities in Hunan province, and the rest worked in the other provinces.

The large army of migrant workers generated another systematic risk: during the "low" years of the construction boom, many of them will still be immediately expelled and forced back to the agricultural sector in the rural areas. During the 2008 financial crisis, many enterprises in China also suffered great downturns in their business, and were forced to reduce their number of employees. In a period of six months, 1 million migrant workers who worked in other provinces returned Hunan. It is also reported that

construction was the main sector that these workers were previously employed, numbered around 368,100, and another 98,400 workers were employed in the manufacturing sector. It is estimated by the same news report that around 2.8 million migrant workers lost their previous jobs and returned Hunan province during the financial crisis³⁹. Although this is the data of Hunan migrant workers employed in other provinces, the situation of migrant workers who worked in Hunan province may share similar characteristics, since Changsha is also a construction and manufacturing center. The official registered unemployment rate in Changsha also rose from 3.12% to 3.47% between 2007 and 2009.

In general, although the expulsion of workers by the machine production did not yet seem to be an obvious problem in China, Marx's theory is still relevant in contemporary China that technological advances in the construction boom may have generated far more relative surplus value compared to workers' wages. Also, the high reliance of migrant workers in construction leads to a greater instability of employment in this sector. The registered unemployed personnel in Changsha once reached a low point of 38,129 in 2007, but it kept a rising trend since 2008, and reached 60,751 in the year of 2013, which had increased greatly compared to 50,066 in 2002. These official unemployment numbers and rates are certainly not small, yet it still may not represent the entire picture, as many of the migrant workers are unregistered in urban households, and frequently returns to the countryside in certain parts of the year.

³⁹ Hunan Daily Newspaper. 2008. "2.8 Million Migrant Workers will Return Hunan". <http://hunan.voc.com.cn/article/200811/200811261011143132.html>

I do not have complete data or numbers that how many months the migrant workers will spend in the countryside during one year, but it is commonly reported in China that a great wave of them would leave the cities and return home during each years' Spring Festival, as their households are still located in the rural areas. This phenomenon even generated a word “spring transportation” (春运) in modern Chinese⁴⁰.

Therefore, it seems that the labor force in the construction sector began to resemble “the precariat”, the concept raised by Guy Standing to represent a condition of working class with irregular employment, insecure hiring and working condition, as well as unstable jobs. Their situation is precarious because their working condition lacks certainty and security (Standing 2016: ix-x).

Standing believes large numbers of precariats also exist in China (Standing 2016: 5), and it seems to be no exception in Changsha. As I discussed, the migrant workers in Changsha also seem to share the status of irregular employment: they are mainly rural residents that are only temporarily hired by the construction firms, and often needs to go back to the countryside in order to handle farming or reunite with their families; their employment are insecure, as any downturn in construction trends could make them expelled from their jobs; their work could be dangerous, and their wages are low compared to the GDP they generated, which may mean that considerable relative surplus value are exploited away from them.

⁴⁰ <https://baijiahao.baidu.com/s?id=1591138163522338524&wfr=spider&for=pc>
Pictures of migrant workers in “spring transportation”

As introduced previously, the average wage for construction workers had quadrupled between 2003 and 2013 (despite still lower than GDP growth rate). This may be a main motivation for the workers to accept these jobs despite their precariousness. Since the migrant workers may not spend all their times in the cities, much of their income could be offset by transportation costs. Yet, rampant wage default of migrant workers is also a frequently reported problem in China⁴¹.

Theoretical Background: Marxist and neo-Marxists

Expropriation and expulsion of people

When discussing the process of industrialization, Marx not only emphasizes the exploitation of workers, but also the expropriation of people from their lands and residence, particularly farmers. As it is mentioned in the previous sections, historically, the free peasant proprietors who cultivated their own lands in medieval England were expelled from their farms and became the proletariat class during the Enclosure Movement in the Sixteenth century. During this process, the great feudal lords in England forcibly drove out the peasantry from their lands, creating a large proletariat class without properties and income. The rapid rise of wool manufactures in Flanders and wool price in England makes transforming traditional farming lands into sheep pastures became far more profitable for the new feudal lords in Tudor England. Thus, they encroached upon

⁴¹ China Daily. 2016. "Migrant workers hit by wage defaults"
http://www.chinadaily.com.cn/china/2016-01/23/content_23210014.htm

the free peasants' lands by force and drove them into the towns and cities (Marx 1967: 717-719).

As the English government and laws forbid the expropriated farmers to be beggars and vagrants (Marx 1967: 734-737), they have no choice but to find work in urban areas. These new proletariat class provided the labor power for the rising manufactures, thus, the expulsion of people took place very frequently during the “primitive accumulation” of the European early capitalism, but it is still a distinct phenomenon existed in modern economies. These phenomena are explored in detail by Mike Davis and Saskia Sassen, and I will compare their points to the situation in Changsha.

According to Sassen, the new phase of advanced capitalism has “reinvented” many mechanisms of the primitive accumulation, marked by the growing intensity of expulsing people from their original places (Sassen 2014: 19-23). These expulsive actions include unemployment (51-52), forced migration (53-55), the danger of foreclosure when homeowners failed to keep up the payment (55-58), mass displacement (62-67), and increased imprisonment of prisoners (70-72). Perhaps more distinctively, growing land acquisition from farmers in many countries.

Sassen believes that the current economy of global market highlighted the demand for lands, as many types of business require new lands to develop. For example, the use of biofuels alone led to the acquisition of more than 35 million hectares of land between 2006 and 2010 (Sassen 2014: 104). The massive concentration of foreign acquisition of

land made Africa the continent with the most reported land acquisition, but Asia followed the second with 43 million hectares reported (Sassen 2014: 103-105). Thus, many of these land acquisitions could be taking place in China, and ironically, China is also the top country that made the most foreign acquisition of land in Africa (Sassen 2014: 107).

Sassen also points out that the construction and housing boom in China during the 2000s also made more people to make loans and mortgages in order to deal with the housing finance, thus, worsening many people's financial situation and brings about more insecurities in property (Sassen 2014: 128). In 2005, the ratio of residence mortgage debt to GDP in China already reached 10 percent, and in some regions such as Hong Kong, reached 40% (Sassen 2014: 138).

Furthermore, the acquisition and development of new lands bring about considerable industrial wastes, air pollution and water contamination, which will exacerbate the damage on the earth's biosphere (Sassen 2014: 156-162).

In China, there are fewer news reports regarding to the land acquisition in the rural areas. But only from the reports on the land acquisition in the city of Changsha, we could frequently see large numbers of planned removals of residents, like it is mentioned in Chapter 1. For example, only for the Binjiang (literally: riverside) new city project of the Yuelu District alone, the Changsha city government had acquired the land of 700 mu (Chinese traditional unit of land size, 1 mu= 666.67 square meters) in the first 6 months of 2009, which needs to relocate around 3,600 private household resided there. The entire

project involves the acquisition of 4,151 mu of lands⁴².

In the whole Yuelu District (which is separated from the main urban area of Changsha by the Xiangjiang river, with relatively rich undeveloped lands), the Changsha city government completed land acquisition of 37,000 mu in 2009, “relocated” 19,000 households and 43,000 people who resided in these areas⁴³.

Although the government regarded the urban renewal in Yuelu district as the largest land acquisition in Hunan province at that time, we should keep in mind that this is only the number of one city district’s action in one year. From these examples, we could see that the expulsion of residents from the land acquisitions also existed commonly in contemporary China.

In comparison to the primitive accumulation of capitalism in England, these expropriations of rural lands in China are mainly due to the need for lands of the government (urban renewal projects, for example) and real estate developers, not the feudal lords, therefore the expulsion of farmers existed but not in such a great extent. English farmers were commonly forced out from their lands and were forbidden to become vagrants; working in manufactures and factories became their only choice to make a living. In comparison, Chinese farmers nowadays own the right to use the lands since Deng Xiaoping’s reforms in 1979⁴⁴. Their reason to work as construction workers,

⁴² Changsha City Government Document

http://www.changsha.gov.cn/xxgk/szfxgkml/zdcq/200902/t20090217_89850.html

⁴³ Changsha City Government Document

http://www.changsha.gov.cn/xxgk/szfxgkml/zdcq/201001/t20100121_89865.html

⁴⁴ http://www.china.org.cn/features/60years/2009-09/16/content_18534697.htm

it seems, is not due to their means of living are deprived, but the motivation to gain a higher income. As introduced in the previous section, although the wage in construction sector is relatively low, it still increases over the years and still provides higher income than traditional farming (average income is only 30,472 yuan in the agricultural sector, compared to average wage of 47,108 yuan in the construction sector, as of 2013).

Another relatively positive factor in China is that the current financial capacity of the Chinese government (it will be explained in more detail in Chapter 4) allows it to build new houses to resettle these expelled residents. For example, the city government in Changsha also built 844,000 kilometers new residential area for farmers in 2009 and resettled 8,900 people. Therefore the people that were “relocated” would usually not fall into immediate poverty (like Tudor England). As introduced in Chapter 1, many people still would not want to leave their original houses despite these compensations, leading to many grievances.

Sassen claims that overdevelopment of new lands often leads to environmental degradations, and this also seems to be the case in China and Changsha. Changsha managed to control the waste water discharge to a relatively stable level: 4,006 in 2003 to 4,049 in 2013 (unit: 10,000 tons). However, the air pollution has become a very troublesome matter during the same period. The total amount of waste air discharge rose from 2,501,271 in 2003 to 6,233,559 in 2013 (unit: 10,000 normal cubic meters), and once reached a historic high of 10,219,789 in 2011 at the height of the construction

boom.

Therefore, Changsha also clearly does not have a good reputation in air quality. According to historical data, in at least 14 days during January 2014, the air quality index (AQI) in Changsha was regarded “heavily polluted” or “severely polluted”, even in Chinese standards.⁴⁵ It seems the air pollution trends in Changsha also coincide with its construction boom trends and rises altogether.

Another prominent feature in nowadays developing world, according to Mike Davis, is the prevalence of slums. When large numbers of rural residents are evicted out of their lands and joined the process of urbanization, they often will suffer from poverty and poor living conditions (exemplified by the concentration of squatters and tenements in certain city areas). Davis claims that the slums are so numerous in the world’s major metropolises that more than 1 billion people lived in slums in 2005, according to UN estimates. It could be said that we currently live in a planet of slums (Davis 2005: 20-22).

In China, the rapid urbanization process in the 1990s and 2000s also lead to the fast growth of slum population. During the era of Chairman Mao Zedong, China attempted to keep the peasantry out of the cities in order to maintain a “socialist” model of cities covered by the state welfare (Davis 2005: 51-55). Before 1978, only 13% of the Chinese population lived in urban areas and the country had more than 1 billion rural residents. However, starting from the 1980s, influenced by the removal of institutional barriers

⁴⁵ historical data of Chinese AQI

<https://www.aqistudy.cn/historydata/daydata.php?city=%E9%95%BF%E6%B2%99&month=201401>

against urbanization in many other countries (such as the end of colonialism and dictatorship in many other developing countries), China began to relax its control on urbanization and even made urbanization its main administrative goal (Davis 2005: 60). As it is introduced in Chapter 1, China planned to make 900 million people to live in the cities, and Davis estimates 63 percent of Chinese will be urban residents by 2020 (Davis 2005: 12).

This led to a deluge of rural immigrants into the cities and became a part of the industrial reserve army. Davis estimates that following the rapid expansion of Chinese urban population, at least 190 million people (37.8% of the urban residents) lived in slums in 2003.

In the last section, I discussed about the official number of registered unemployed personnel. However, Davis believes that official Chinese unemployment statistics could be unreliable because of this great influx of rural immigrants. It seems that at least in 2003, the Chinese official statistics still did not even count majority of these “floating workers” (at least 100 million in number) that moves between the rural and urban areas, because many of them did not register in urban households, as well as 10 million laid-off workers (Davis 2005:170).

Davis also noticed that the Chinese government was also frequently engaged in several slum clearance or forced relocation actions during the 2000s, in order to hide its poverty to the outside world. For example, only for preparing the Beijing Olympics

Games alone, 350,000 people in Beijing were resettled by the Chinese government (Davis 2005: 106). Like it is mentioned when discussing the land acquisition moves, only because the Chinese government could compensate and resettle these residents by using its financial power, prevented large numbers of homeless people to emerge after the slum clearance like many other countries (Davis 2005: 128).

Like many other cities in China, slum clearance is also a distinct feature in Changsha during its construction boom. In the official website of Changsha city government, the news of “squatter settlement renovations” could be seen from 2009 to 2017. During the two years of 2008 and 2009, Changsha completed the “renovations” of more than 3 million kilometers. In these areas, 22,281 private households were removed by the city government⁴⁶.

On the contrary to many reports, the governmental officials in China often thought that they improved people’s well-being by doing slum clearance. One city official claims that the slum areas and squatter settlements are “backward” part of city that has to be eliminated. As the name suggests, many of the slum residents lived in poor conditions and outdated facilities, and city officials believe that these residents should “yearn” that their housing will be modernized. Since the Chinese government also offer compensations and new housing to the slum residents whose houses are set to be removed, these residents could receive replacement housing instead of become homeless.

⁴⁶ Changsha city government documents
http://www.changsha.gov.cn/xxgk/szfxgkml/zdcq/201005/t20100511_89877.html

On the other hand, building the replacement housing is also a good way to facilitate the construction, as it will generate GDP. In 2013, at the same time of removing 9,460 squatter households that year, Changsha also builds 11,000 new public rental houses⁴⁷.

In conclusion, expropriation of people by land acquisition and slum clearance is also commonly happened during Changsha and China's construction boom. Because of the policy of Chinese government that compensated part of losses of the residents, these expropriations may appear less brutal than the same phenomenon in many other countries. However, it was still often against the will of the residents. As introduced in Chapter 1, expropriation of property is a common reason for people to launch protests and petitions.

GDP and well-being tensions as byproduct of capitalist state and globalization

For the other successive Marxists and neo-Marxists, there are also two distinctive perspectives when discussing the interrelationship between state, economic growth and well-being.

One perspective tends to believe that the contradiction between economic growth and public well-being is an inevitable byproduct of a state under capitalism. For example, Hal Draper believes that the state is “a superstructure of existing property relations”, “the organized power of one class for oppressing another”, and “the executive committee of the ruling class” (Draper 1977: 250-252, 256-257). Therefore, the bourgeois state is

⁴⁷ Changsha city government documents
http://www.changsha.gov.cn/xxgk/szfxgkml/zdcq/201303/t20130329_442196.html

meant to maintain the capitalist mode of exploitation at the expense of the working class's public well-being. Many bourgeois states are democratic, because capitalism as a social system requires the workers to be juridically free to sell their labor power (Draper 1977: 275, 280-281). However, in certain cases, such as Napoleon III's France, the bourgeoisie gave in their political power in order to preserve their social power (Draper 1977: 409), and in these countries the working class often possesses neither decent political rights nor decent social rights. This may also be the case in China. Although China still claims the mantle of Marxism, its economic system became very similar to the bourgeois states since the "socialist market economy" reform in 1992, and a market economy system inevitably involves the circulation of capital and emergence of private enterprises, as introduced in Chapter 1. To realize its administrative goal of maximizing the GDP, the Chinese government therefore has no choice but to tolerate the capitalist mode of exploitation (as it effectively produces GDP) at the expense of the public well-being, as it is mentioned in the beginning of this chapter. This makes the fundamental role of the Chinese state also resemble that of the bourgeois states.

Mueller and Neusuess believe that most revisionist attempts that advocated legal reforms within capitalism to make working class gradually acquire state power, usually ended up abandoning aims of socialism (Mueller and Neusuess 1979: 32), because this could not solve the contradictions between wage labor and capital. As long as the surplus value continues to exist, the workers continue to be exploited (Mueller and Neusuess

1979: 36-37). Thus, the gap between GDP and well-being could be seen as a reflection of the contradiction between capital and wage, and this could only be abolished by the revolutionary working class (Mueller and Nuesuess 1979: 33). Elmar Altvater, similarly, emphasizes that state under capitalism is “the instrument of domination of capital over wage laborers”. Safeguarding “the existence and expansion of total national capital in the world market” is the main function of a state under capitalism, as well as “regulate the conflict between wage labor and capital by law, army, police and any other means” (Altvater 1979: 40-42).

Another perspective links the contradiction between economic growth and public well-being to globalization and strategic transition of capital. James O’Connor believes that the periodical economic slump in the U.S. and the fast growing Asian economy to be the consequence of the new international division of labor. US capital after World War II tend to reposition themselves, moving factories into cheap labor havens and industrializing countries to avoid strict labor discipline, high wages, and welfare in western countries, and to prevent profit deficits (O’Connor 1984:2). Also, it is the only way to solve traditional overproduction in U.S. homeland (due to the relentless drive for profits of capitalists, supply of industrial products and goods often exceeds market demands⁴⁸), which will cause great devaluation of capital and economic crisis, such as the Great Depression (O’Connor 1984:65-66).

⁴⁸ O’Connor, James. “Selling Nature”
https://www.sagepub.com/sites/default/files/upm-binaries/13298_Chapter_9_Web_Byte_James_O'Connor.pdf

Therefore, the intensive production of western capital is transplanted into industrializing countries, while the predominance of authoritarianism in these countries often kept the conditions of laborers at a low level, contributing to a fast growing GDP but problematic public well-being (O'Connor 1984:2-3).

This pattern was further strengthened after the end of the Cold War. The capital virtually dominated the world following the failure of socialism in one country (Holloway 1995:116), which marked even the most solid bastion that closes to private capitalist investment (Soviet Union) was forced to open up then torn apart by money (Holloway 1995:134). The world is thus “characterized with the politics of money” (Bonefeld and Holloway 1995:1) and nation states such as China were forced to integrate themselves into the world market (Holloway 1995:116, 122-123). As introduced in the preface, GDP, an American method of statistics thus became the “only game in town” and began to be worshipped by Chinese officials.

In sum, the Neo-Marxist perspectives point out that capitalism and industrialism still continues to produce productivity/well-being contradictions due to its inherent exploitation of working class, and such contradiction was also emerging rapidly in industrializing countries, following the globalization trend of capital. In the word of Peter Dicken, the contemporary world is characterized by both “extensive geographical spread of free market economy and neo-liberal ideology” and a “high degree of functional integration” (Dicken 2015:8). Therefore, the inherent crisis in capitalism is also

expanding globally. Great gap between rich and poor, and the deep-seated poverty and deprivation accompanying high GDP growth rates also exist in developing countries, and these countries could not “decouple” from the effects of financial crisis as well (Dicken 2015:1-2).

Theoretical Background: Environmental Sociologists

Another criticism that is based on the contradiction between GDP and well-being is provided by environmental sociologists. Understandably, their works mainly focus on the negative effect of capitalist growth machine in the environmental issues, but they also criticized various views that highlight the worship of productivity. These views include the GDP oriented way of economic growth, and Human Exemptionalism.

Both Tim Jackson (2011: 3) and Gustav Speth (2008: 50) point out that GDP is most commonly used to measure economic growth nowadays. It is not very surprising since GDP seems to be the most simplified form it can be to measure and rank economic achievements. However, GDP only sums up the total value of the things produced, regardless what kind of things are being produced. Therefore, it can be incremented through various ecological harmful ways.

Although mainly dedicated to the research on ecology and environmental sociology, John Bellamy Foster is also heavily influenced by Marxist thoughts. He argues that the capitalist system could not exist without growth, as it is a system established upon the pursuit of growth itself. Marx’s M-C-M’ formula understands capitalism as a cycle which

continuously transform the money into commodities, and transform the commodities into “more money”--- the profits, and during this process, the capital “constantly metamorphosizes into more capital” (Foster et.al 2010:39). With the motivation to “beget” more money from money and to cope with the competition from other capitalists (Foster et.al 2010:78), the ultimate goal of capitalism is to endlessly amass more capital (Foster et.al 2010:39).

Therefore, the drive to amass GDP also becomes a perfect motive for treadmill production, a pattern of repetitively producing large quantities of industrial or commercial products not actually chosen by the consumers. For Foster, treadmill production is only a reflection of capitalist accumulation. With the self-expanding nature of capital, surplus values gained from transforming commodity into money will always be reinvested into reproducing the already-produced commodities, in order to obtain more profits (Foster et.al 2010: 202-203). However, this process is not only dull and dreadful to the workers, but also a major cause of environmental degradations (Foster et al 2010: 196; Gould et.al 2004).

Speth also states that politicians and leaders of nation-states also tend to favor growth-oriented economy because they will be pleased to see “successful” economic statistics. It serves them well as political achievements, and as tools of “boosting approval rates”, maintaining the ruling machine, as well as raising the national standings in the globe. (Speth 2008: 62-63). However, these motivations often lead to irrational

economic strategies. This seems to be very relevant to the case of China, as it is argued in previous chapters that the Chinese government often tends to utilize economic achievements to support its ruling legitimacy.

Human Exemptionalism is a paradigm named by environmental sociologists William Catton and Riley Dunlap. This paradigm refers to a widely existed public opinion which emphasizes the uniqueness of human beings above all other species in the earth. Because of this, the development of human society can continue without any limit, and the human beings have the potential to solve all their existed problems, which are believed by the Human Exemptionalists to be mainly socially constructed (Catton and Dunlap 1978: 42-43).

Environmental sociologists have a clear oppositional attitude against the Human Exemptionalism, and called on to establish a “New Environmental Paradigm” (NEP) to replace it. The NEP views the humans only represent one among many species on earth, rather than superior to all other species. The world has its environmental, biological and resource limits, and the economic and social progress of human society is not infinite. Thus, purposive human actions that interfered with the web of nature may cause unintended consequences (Catton and Dunlap 1978: 45).

According to the opinions of the environmental sociologists, the Human Exemptionalism tends to overestimate the “progress” and ignore the seriousness of environmental degradation. Therefore, it may guide the people to interfere in the natural

world more and more without the awareness of limitations, and could make the planet steps deeper and deeper into the ecological crisis.

For example, the people who hold anthropocentric views toward the climate change issue tend to constantly emphasize the optimistic prospect of human development, and insist on an “it was always like that” attitude. Erle Ellis (2012: 4) emphasizes that the human impacts upon the natural world had existed since the start of human activities, and the human history is itself a process of continuously trespassing natural limits, yet “the human enterprise has continued to expand beyond natural limits for millennia”.

However, this attitude may overlook the dangerousness of the human impacts upon ecology, if considering the unprecedented degree of human impact in the contemporary world. According to the research of Will Steffen and colleagues (2011: 744), world GDP has already increased 27 times during the twentieth century. They also claim that if considering the population growth and technological advances altogether with GDP growth, the human impact upon earth has increased at least 1,000 times in the last one hundred years. Therefore, the situation of trespassing natural limits could not be easily estimated with historical standards. Moreover, the IPCC has estimated that if no significant reduction of carbon dioxide emission will occur in the next 50 years, the average temperature of the globe will rise 3-4 degrees Celsius by 2050 compared to pre-industrial ages. In order to achieve the ideal IPCC’s target of reduction emission, Tim Jackson (2011: 80-82) estimates the carbon intensity of the world needs to be reduced to

30-40g per dollar by 2050 from 768g per dollar in 2007.

The force of Human Exemptionalism also tends to make people underestimate the ecological problem and continue to focus on economic growth. This partially explains why no substantial progress has been achieved toward the emission reduction goals, and the world actually saw a growing trend in carbon emissions several years after the Copenhagen Climate Change Conference in 2009 (Foster 2012: 222).

In conclusion, the environmental sociologists believe that the system of capitalist production that pursues endless growth is the fundamental cause behind the ecological crisis. At the same time, they believe that various systems of thoughts that put human society above all other species and the natural cycles also tend to support the worship of productivity growth.

The Differences between Criticisms of Growth Imperative

Environmental sociological view on the pursuit of growth seems to be characterized by its criticism of market liberal ideologies, particularly neo-liberalism. In other words, environmental sociologists tend to believe that market liberalism is a major ideological force behind the support of unrestrained GDP growth and the opposition of environmental movements, including the denial of climate change (Antonio and Brulle 2011).

Under the perspective of American politics, this point of view is easily comprehensible. As it is pointed out by John Foster, economy under capitalism has a

tendency to endlessly amass more capital. Thus, the self-expanding nature of capitalism would certainly also give impetus to the economy to advance its productivity and GDP statistics (Foster 2010: 39,202). Market liberal ideologies and partisans, with their dogma of “economic freedom” and “free enterprise”, emphasize an unfettered mode of capitalism and strongly disfavor the governmental intervention over the economy (Antonio and Brulle 2011: 196). Whilst, during the long periods of Democratic presidency, the governmental control of economy is often characterized by regulations, taxations that tend to prevent the reckless pursuit of profits, which may lead to the damage of environment, personal rights, welfare, and other factors associated to well-being (Antonio and Brulle 2011: 195-96). Therefore, it is not surprising that under the political system of the U.S., market liberal partisans that tend to mainly oppose the economic intervention of the government are believed to be playing a major role that supports the limitless expansion of productivity growth.

However, an important character of GDP is that it can be accumulated by all categories of economic activities, regardless of quality and variety. Therefore, the means to boost GDP growth is not confined to that of market and private economy; many deliberate actions to boost the national economy are also initiated by the state itself (Speth 2008:50; 62-63), and many of them are meant to achieve certain political goals.

According to Marx, such a phenomenon also exists in capitalist states. It is believed by Marx that the British military force directly participated the enclosure movement to

ensure that lands of rural inhabitants will be turned into (more economically favorable) pasturage. This may be another example of paradox that is beneficial to national economy but harmful to the well-being of the vulnerable groups (Marx 1967: 729-30). The Dutch military force conquered Malacca, Indonesia and other strategically important colonies for its home country, which played a significant role for the prosperity of Dutch commerce and growth of capitalism, but again at the expense of the local people's benefits (Marx 1967: 751-752). The same can be said to all other major colonist or imperialist powers in history. In other words, the will of the states, often represented by the military machine, also has a significant impact upon productivity growth and advances.

In countries that are currently or previously ruled by Communist parties, the state tends to illustrate an even greater role in terms of economic management and control. These countries usually adopted a planned economy system, characterized by the pre-planning of economic goals by the state and governments. Therefore, in these countries, states are originally meant to meticulously manage the economic issues down to the most trivial detail. As the basic measurement of the national economy, the state government often pays a great deal of attention to economic statistics (not confined to GDP), and often worked on improving a certain index of them with nearly all efforts. Historically, these efforts were exemplified by the industrial booms during Soviet five-year plans (particularly Stalin era), and China's Great Leap Forward movement (Niu 1958:

3-6).

Contemporary China may be another example where the state's determination to maintain GDP growth and statistics play a more important role than the market itself. Although China has abandoned the planned economy system and claim to have established a "Socialist market economy", the government still often exerts strong macroeconomic controls, as the Four Trillion investment package and local governments' policies tend to keep up the GDP growth with highly construction-oriented structure of economy.

Overall, despite American environmental sociology's general tendency to attribute the growth imperative to the capitalist market mechanisms and market liberal ideologies, state power also seems to participate on some intentional efforts to advance the productivity and economic growth, shown in the historical examples of Marx's writings and some specific states.

Empirical Backgrounds

In terms of empirical research, the skeptical attitude toward the association between economic growth and happiness or welfare, can be dated back to economist Moses Abramovitz (1959). Abramovitz wrote: "we must be highly skeptical of the view that long term changes in the rate of growth of welfare can be gauged even roughly from changes in the rate of growth of output." (Abramovitz 1959: 21-22)

This statement is generally approved by Richard Easterlin over a decade later.

Easterlin (1974: 89-90) concludes that more empirical studies in the same field are needed, since the empirical research on the relationship between economic statistics and happiness following World War II often appeared to yield ambiguous results. These research were both conducted in the areas of within-country comparisons and international comparisons (Cantril 1965; Inkeles 1960; Rosenstein-Rodan 1961), but their results mostly illustrated uncertain and doubtful interrelationship between GDP and well-being, with no clear evidence could be built to support the correlations between these two variables.

Easterlin also found that the level of happiness often falls into stagnation after reaching a certain economic level or income level, making up the “Easterlin paradox” (Easterlin 1974: 110-111). For example, for US citizens in 1970, the percentage of people with \$10,000-15,000 income that is “not very happy” (3%) is considerably smaller than those with less than \$7,000 income (7-13%). But, the percentage of people with more than \$15,000 income that is “not very happy” (4%) is also slightly larger than those with \$10,000-15,000 income (3%) (Easterlin 1974: 100).

In international comparisons, West Germany, a country with \$1,860 GNP per capita (in 1961) has a happiness rating of 5.3, considerably higher than India’s 3.7, a country with \$140 GNP per capita. However, Cuba, a country with \$516 GNP per capita, has a happiness rating of 6.4, higher than many developed countries (Easterlin 1974: 105). In both two cases, the rising economic level at first seemed to be accompanied by the rise of

happiness level as well, but then the happiness level stopped to grow after reaching certain stages of wealth.

Since then, a lot of research has been dedicated to exploring the relationship between economy growth and well-being, and many of them also make modern China as the subject of case study, represented by Brockmann (Brockmann et.al. 2009), Knight (Knight and Gunatilaka 2010) and Xiaogang Wu (Wu and Li 2013).

Brockmann and colleagues' study on the happiness level of China between 1990 and 2000 basically denies positive connection between economic growth and happiness. World Value Survey results show that life satisfaction scores among Chinese in 2000 fell down significantly in comparison to that of 1990 (in nearly all groups of people regardless of gender, age and income), despite significant economic development took place during the 1990s.

Brockmann thinks that this phenomenon is sufficient to make up a "Chinese puzzle", but slightly different to Easterlin's paradox. In Easterlin's paradox, the average happiness level will remain constant after reaching a certain stage of economic growth. In China, the happiness level virtually fell down according to World Value Survey (Brockmann et.al. 2009: 2-3). In Chapter 2, the survey in *The Blue Book of Urban Competitiveness* also provided a similar result: happiness ratings fell down during the 2000s for both Changsha and Jinan.

Brockmann offered three potential explanations for such a puzzle: Durkheim's

anomie theory (Durkheim 1933), political dissatisfaction (Gong 1994), and relative deprivation (Li 2002). Brockmann believes that relative deprivation explanations may be more relevant to the Chinese case, as the income inequality in China intensified during the 1990s. Thus, the relative financial position of most Chinese actually deteriorated, and financial dissatisfaction became stronger than before (Brockmann et.al. 2009: 1, 16-17).

Knight and Gunatilaka's research (2011) reached some different conclusions. Their dataset of research (a national household survey in 2002) indicates that current income of people (regardless of urban, rural and immigrant) has a "positive and significant" correlation with happiness. However, Knight and Gunatilaka also points out that the higher the income that people aspire, the lower their subjective well-being tends to be. Aspirations are influenced heavily by people's reference groups (Knight and Gunatilaka 2011: 17-18).

A later research's conclusion (Wu and Li 2013) is somewhere between Knight (2011) and Brockmann (2009)'s works. According to a national representative survey in 2005, personal income correlates life satisfaction in a positive way. But at the prefecture level, GDP per capita has no clear association with individual well-being (Wu and Li 2013: 20). Moreover, this result indicates that sharply increasing income inequality (Gini Coefficient) in China seems to be associated with low levels of well-being, in particular (Wu and Li 2013: 3, 21).

Other articles that discuss about the GDP and happiness paradox in developing

countries also often mentioned contemporary China (van den Bergh 2009; Easterlin and Angelescu 2009; Clark and Senik 2011). Van den Bergh states that although income and welfare growth are often correlated in middle income countries, “negative impacts on welfare and health” are often caused by “environmental pollution and resource degradation”, with China’s development as a typical example (van den Bergh 2009: 126). Clark and Senik’s research claims that despite personal income and happiness may illustrate a positive relationship in China (Clark and Senik 2011: 12, 55), the “absence of correlation between (national economic) growth and happiness” also appears, evidenced by declines of happiness trends over time (Clark and Senik 2011: 19, 60).

Easterlin’s own research in recent years (Easterlin and Angelescu 2009: 8) also confirms the Chinese puzzle: time series result shows no significant relationship between rate of happiness improvement and rate of economic growth over nine developing countries, including China, a country with 10% yearly growth rate. China virtually shows a mild decline in life satisfaction (Easterlin and Angelescu 2009: 8). Therefore he basically reached the same conclusion of Brockmann that the happiness levels in China declines over the 2000s.

The environmental damages caused by unrestrained economic growth has caused much de-growth debates across the globe. As China is still a developing country, controversy also arises that whether economic de-growth would harm its well-being. Xue and colleagues believes that de-growth may be unavoidable for China, as reaching the

OECD consumption level for China may exhaust its natural resources. Also, most provincial governments simply pursue double-digit growth at all levels, regardless of regional and social differences. Xue indicates that if priority for growth is given to helping poorer regions, instead of focusing on speed, may actually better benefit the people (Xue et. al: 2012: 85,104-105).

In conclusion, a majority of the empirical research reveals that discrepancy between GDP growth and happiness exists in the contemporary Chinese society. On the other hand, some articles (Knight and Gunatilaka 2011; Clark and Senik 2011; Wu and Li 2013) also believe that income at personal level may have a positive effect upon people's happiness in China. The different meanings between national economy and individual wealth could be one good explanation for this phenomenon.

As most of these empirical works mainly rely on satisfaction surveys to get subjective well-being results, the scores that measures happiness in China may not remain consistent in different surveys. Therefore, this research of mine may make some innovations by introducing some objective well-being indicators to research China's GDP puzzle.

Introduction of Research result

According to my research introduced in the last chapter, I find the disconnections of GDP growth and actual well-being indeed existed in the selected regions of China and Japan.

In the objective well-being research, I found the growth rate of personal income and wages of selected regions show weak correlations with the high GDP growth rate during the construction boom period. This is in accordance with Mishel's findings of productivity-pay gap in the US (Mishel and Gee 2012; Mishel et.al. 2012). Some other indicators, such as the growth of medical and housing infrastructure, is also seems to be independent and lacks correlations with the high GDP growth during the construction boom.

In the subjective well-being research, the regions that had a higher GDP growth rate (during construction booms) show higher trends of relative deprivation and social isolation, and report a lower score in general happiness. Political participation appeared to be almost totally not correlated to a short period of GDP boom.

Therefore, according to the research result of both objective well-being indicators and subjective well-being reports, I would also have many reasons to question that whether GDP boost generated by a construction boom would have clear associations with public well-being.

Discussion of Research Result

In the previous chapters, I have examined the performance of various well-being indices and GDP before and after a construction boom. In the above sections of this chapter, I have also reviewed various sociological theories and literature which also reflects the main point that although GDP tends to grow quickly during the construction

booms, it also appears to be less associated with the majority of well-being indices during the same period.

It seems that the construction economy, although effective at accumulating the GDP (growth), contributes way less in improving the well-being and progress (development) in the area. Thus, this inevitably raises a question: **If construction economy only fosters growth, yet it shows much less associations with genuine development (measured by the substantial improvements in public well-being), why did many areas in China still adopt a construction-oriented route in economic administration?**

In order to discuss this question, I shall analyze the possible reasons for developing construction economy in three aspects. Geographical reasons, sectorial reasons, and political reasons. In China, which has a unique national condition that politics atmosphere interferes frequently in economic development; the political reason may serve as a main consideration. Therefore, I will introduce the political reason with more details.

Geographical reasons

First of all, geographical differences may make some areas more likely to develop a construction economy. Cities located in the coastal areas often achieved great commercial prosperity worldwide, and this factor may be more significant in China.

It is mentioned in the first chapter that the majority of foreign direct investments are focused upon coastal provinces. Furthermore, the three greatest metropolises in mainland

China, Beijing, Shanghai and Guangzhou are all located on or nearby the coast. In the of year 2011, the municipality of Beijing's total amount of fixed asset investments is 34.3% compared to its total GDP. The municipality of Shanghai's total amount of fixed asset investments accounted 25.8% of its total GDP, and the province of Guandong's total amount of fixed asset investment accounted 32.0% of its total GDP. In comparison, the province of Hunan (an inland province, with Changsha as its capital)'s total amount of fixed asset investment reached 60.3% percent of its total GDP (China Statistical Yearbook 2012). Thus, locational advantages in trade and foreign investments may actually make a coastal city more likely to develop a service economy with substantial scale, and much less relied upon construction investments.

Jinan is the capital of the Shandong province, and this province has a long coastline. Although Jinan itself is not a coastal city, it may still benefit from the advantages of coastal provinces in terms of foreign direct investments and commercial development. Jinan was able to achieve a "3-2-1" economic structure (which means the Tertiary Industry, service sector, produces more GDP than the Secondary Industry, industrial sector) as early as the year of 2000 (Jinan Statistical Yearbook 2013: 62). At that year, Jinan city's GDP produced by the Tertiary Industry already reached 43.3 billion RMB, surpassed the GDP produced by the Secondary Industry (41.4 billion RMB). Jinan's service economy is thus performed superior compared to its industrial economy since then.

However, we could also see in the statistical yearbook that Jinan's Secondary Industry also generated more GDP than the Tertiary Industry between the 1960s and 1999 (Jinan Statistical Yearbook 2013:62). Although this is not the main subject of my research, it is possible that a construction boom already took place in Jinan before the 2000s. Despite Jinan has such locational advantages to receive trade revenues and foreign investments, it still, for a long time in history, relied much on the manufacturing sector (accounted for 23.8 billion RMB of GDP in 1996, compared to the total GDP of 58 billion that year) to develop its economy and GDP.

Changsha, on the other hand, was located deeply inland, in the hilly areas of central China. It stands between the metropolis Wuhan (located near the Yangtze River) and Guangzhou (located near the South China Sea), which makes it neither a resource-rich city, nor a transportation center. Despite these locational disadvantages, Changsha's focus on construction and manufacturing still made its GDP growth rate far ahead of Jinan since 2004, as shown in Chapter 1 and 2. This evidence may serve as a great example in illustrating the potential power of construction economy in stimulating GDP growth in a short term.

Therefore, cities with locational and resource disadvantages to develop commerce may tend to rely more upon constructions, in order to maintain its economic growth.

Sectorial reasons

Construction's connection to other sectors may also be an important factor.

Construction is often linked to manufacturing. As already introduced in chapter one, the construction machinery was the top manufacturing sector in the case of Changsha during the 2000s, and many other major manufacturing products such as steel, cement, aluminum and alloy are also massively demanded in construction activities. Thus, by continuously producing these industrial products, the manufacturing sector may generate far more GDP than construction itself.

Therefore, those cities with strong industrial foundations may better support the construction economy. This could be seen typically in the case of Aichi prefecture, which has the largest industrial production in Japan⁴⁹. Thus, Aichi also illustrated an evident trend of construction boom during the 1990s, despite being located along the coastline. The manufacturing-construction connection is also very clear in Changsha, as more than 56 percent of Changsha's GDP is produced by the secondary industry (Changsha Statistical Yearbook 2012). On the other hand, ZOOMLION and SANY, the two largest magnates in the construction machinery market of mainland China, were once both based in Changsha (Changsha Construction Machinery Yearbook 2011).

As it is often covered by media, construction economy is also often linked to real estate markets. For example, Japan's construction boom in the 1980s coincides with the expansion of its real estate bubble during the same period. Thus, the construction boom in China is inevitably often discussed under the context of China's rising house prices.

⁴⁹ <http://stats-japan.com/t/kiji/10720>

It is often suspected that many local governments in China focus their all their efforts to develop real estate business in their respected cities or towns, in order to statistically increasing the GDP (Li 2017: 2-3). Of course, the Chinese government would not want to leave such impression to the external world. It is argued by the officials in the Chinese National Development and Reform Commission that not a single RMB yuan from the Four Trillion Plan (the economic stimulus package of the Hu-Wen administration) is invested to develop real estate markets⁵⁰. However, some official statistics may suggest otherwise. In Changsha, fixed asset investment in 2011 totaled around 351 billion RMB yuan, and from them at least 88 billion RMB yuan is used for “real estate development”. In comparison, Changsha’s total GDP in 2011 is 561 billion RMB yuan (Changsha Statistical Yearbook 2012). Considering that funds from the Four Trillion Plan played an important role for investments all over China during this period, it could be unlikely that the amount of real estate investments of this scale would be completely originated from non-governmental sources.

Therefore, although construction boom is not necessarily totally dedicated towards real estate development (infrastructure building is also an important part of it), real estate investments still definitely serves as an important part of the construction economy. By 2010, the fixed assets investment spent on the real estate development had exceeded two times the new GDP value created by the real estate business itself (China Statistical

⁵⁰ (in Chinese) Zhang, Ping (head of Chinese NDRC). 2010. “Not a Single cent Spent on Real Estate Investments in Four Trillion Investments” <https://finance.qq.com/a/20100306/002326.htm>

Yearbook 2011).

The GDP value created by real estates is also not necessarily the smaller the better, because this number at least represents the outputs and prosperity of the real estate market. The fact that the actual output of the real estate sector in China was much less compared to the investments spent on the real estates in the early 2010s, coincides with many reports that many residential areas established during the construction boom becomes not profitable enough, leaving many empty houses and “ghost towns”⁵¹.

Moreover, for a long time in the 2000s, construction machinery and other important industrial products such as steel and cement, had held a great proportion in Changsha city’s GDP (as mentioned in the first chapter), as well as many other places in China. Without the prosperity of real and estate market and high frequencies of many other construction activities (such as constructing infrastructures of roads and high-speed railroads across China), the manufacturing business are likely to experience the periodical shrinks of capital, and as a result, the amount of its production may be reduced. Therefore, without the support of market demands, these manufacturing sectors would be hard to continue its high growth trend, making the entire Chinese economy likely to step into a slowdown period.

Stephen Roach predicted in 2013 that the slowdown trend of the Chinese economy is unavoidable, because its high growth rate in the 2000s relied too heavily upon the

⁵¹ Jabobs, Sarah. 2017, 12 eerie photos of enormous Chinese cities completely empty of people <http://www.businessinsider.com/these-chinese-cities-are-ghost-towns-2017-4>

expansion of manufacturing and construction sector, making it an unbalanced economic model from the start. If China desires to sufficiently develop its service sector and to complete its structural transformation, the slowdown of GDP growth will be a necessary step⁵². The slowdown of Chinese economy after the construction boom will be discussed in more details in the final chapter.

In conclusion, although constructions itself may not be the biggest contributor of GDP growth, its close connection to many other sectors, especially manufacturing and real estate, may bring both GDP boosts and profitability. Even if the real estate market ceases to be so prosperous, as shown in China during recent years, these steel, cement, aluminum and construction equipment already produced by companies such as ZOOMLION and SANY still contribute a great deal to GDP numbers. Therefore, investments upon constructions can be expected to yield many fruits that are very useful in stimulating the economy and GDP numbers.

Why officials in China would be so obsessed upon GDP numbers? This would be discussed with more detail in the next section.

Political Reasons

Thirdly and finally, political institutions in China and the mainstream guidelines in the Chinese administration that prioritize the GDP growth rate may also drive the city

⁵² Roach, Stephen. 2013. "Long Live China's Slowdown"
<https://www.project-syndicate.org/commentary/why-slower-chinese-growth-may-be-healthy-by-stephen-s-roach?barrier=accesspaylog>

administrators to achieve high speed economic growth by all means.

In China, the cadre management system serves as the basic bureaucratic institution since the founding of the People's Republic of China. This institution can be traced back to Stalin's Soviet Union that rules the entire country with "cadres decide everything" (Manion 1985: 203). In China, governmental posts are also mostly held by party cadres. In the cadre management system, the Chinese Communist Party (the central committee) serves as the spire of the pyramid, which directly manages all important cadres, and indirectly controls all party members. The party has "the supreme authority to screen, investigate, approve, appoint and remove" any important cadres, and exercises "genuine authorities" over cadre selection and elections (Li 2016: 47).

In each level of the Chinese government, the leadership institution is usually constituted by the party secretary (the chief party official) and the government head, to ensure that party had control and supervision over each level of the local government. Also, the cadre management system operates in an "one-level down fashion", that from the provincial level down, each level of local government has full authority to evaluate the leading cadres of their respected subordinate level. For example, the provincial governments are empowered to evaluate prefectural party secretaries and mayors, and similarly, prefectural governments are able to assess any county party secretaries and heads of government in the range or their region (Wang 2013: 4-5).

Therefore, it can be concluded that each official in China is under pressure from both

the party central and their superiors. Since the party has the absolute power to appoint and remove any official at any time (especially seen in recent years' anti-corruption campaign), any local official had to comply with the general administrative goals set by the Chinese central government each year, or it is likely for them to face risks of immediate dismissal. At the same time, they also have to deal with the routine evaluations from their superiors. Not only there could be risks of dismissal and demotion if they did not receive positive comments in their evaluations, they could also be rewarded with possible promotion if they did well in these evaluations. Thus, from the standpoint of the local officials, they should comply with both the requirements of the party central and the cadre evaluations, in order to prosper in their own political career.

For a long time, the standard to evaluate local officials' political achievements has been focused heavily upon economic achievements, measured particularly by GDP growth. According to Pierre Landry's research and his data from Chinese City Yearbook (Landry 2003: 58), municipal performance indicators in the early 2000s China is divided by a total of 100 points. From them, "economic indicators" constituted 28 points, which carries more weight in comparison to "human capital" (17 points), "quality of life" (22 points) and "environmental protection" (18 points). Furthermore, the concept of economic achievement is almost solely defined as GDP achievement, that 24 out of 28 points in "economic development" are exclusively measured by GDP indicators, with the rest of the 4 points measured by the degree of urbanization.

There are also other performance indicators, such as the availability of paved roads, and the utilization of motorized vehicles. Combining these indicators with the tasks of urbanization progress, it may also make many local administrators inclined to implement more constructions.

Not only the official records (Landry's research on the original accounts in Chinese City Yearbook) hint that GDP should be one of the most important standards for officials' evaluation and promotion, some existing quantitative research also finds some connections between GDP growth and the promotion of officials. Zhou and Li's research (2005) show a positive correlation among provincial GDP growth and their leaders' promotion. Landry's research (2008) found mixed results among prefecture-level mayors, that some of them may be promoted due to the result of their notable economic achievements (Landry et.al: 2017:4). One recent research by Landry and his colleagues still found positive and significant correlations between relative GDP growth and officials' promotion in county level (Landry et.al 2017:44-45), despite the time of research is already in Xi Jinping's administration and the Chinese government had already announced policies to slow down the GDP growth. Therefore, it is likely that achievements of GDP growth would indeed help many politicians in their respected cadre evaluations.

Furthermore, at the beginning of each year the central government of China would also announce a general goal of GDP growth rate (typically 6-8 percent). For example, in

2012, Premier Wen Jiabao announced in the Government Work Report:

“... to increase GDP (of the entire nation) by 7.5%, create more than 9 million new jobs in towns and cities, keep the registered urban unemployment rate at or below 4.6%, hold increases in the CPI to around 4%, increase the volume of total exports and imports by around 10%.” (Li 2016: 24)

However, these kinds of general national goals usually do not specify how much GDP that each local area should grow. Thus, every single local administrator may strive to achieve and surpass the goal of national GDP growth rate, in order to best conform with the requirements of the central government. Thus, many of the local administrators may focus more than necessary energy and resources toward GDP growth, because nobody would be willing to fall behind the general national goal of yearly GDP growth. If they failed to achieve this, it goes without saying, could be considerably disadvantageous for them in the cadre evaluations, and in the impression of national leaders.

This unique character of China's national condition thus created many ridiculous phenomena, such as fake or inaccurate report of local GDPs. It is reported that the central Chinese government sometimes cut down some percentage of GDP numbers in local reports, because they did not believe that the local GDP of some certain areas actually grew that much. It is reported that in 2013, that the sum of GDP in 30 provinces exceeded

the total amount of national GDP 3 trillion RMB yuan that was finally announced⁵³. Regardless of the accuracy of numbers, this situation is also more likely to make local officials over-focus on their objectives of GDP growth and overlook all other aspects of administration, before their task of equaling or surpassing the national growth goal is completed. Thus, it tends to make the actual administration in many local government offices illustrating features such as “GDP worship” and “promotion tournament”, rather than striving to improve the overall qualities of governance (Bulman 2016:6).

Why would the central government in China fetishize GDP so much? I think it could be a combination of vanity and practicality. As introduced in the preface, the GDP became “the only game in town” to reflect a nation’s economic power after the US won the Cold War. Xi Jinping’s “Chinese Dream” theory reflects the CCP (Communist Party of China)’s nationalist ambition to revive China’s global standings, and this goal may make them eager to maximize the GDP numbers. On the other hand, economic achievements are believed to be a source of legitimacy for CCP after the death of Chairman Mao (as introduced in Chapter 1). Also, the GDP’s correlation with lowered employment rate (as introduced in Chapter 2) also makes the Chinese leaders feel that maximizing GDP could help maintain the political stability in China. However, as I point out, if the overemphasis of GDP leads to damages of public well-being, it fails the purpose and it will damage the Chinese government’s legitimacy and political stability instead.

⁵³ People’s Daily Website <http://finance.people.com.cn/n/2013/0804/c70846-22436791.html>

As it is introduced in the previous sections, construction economy has been an effective way of fast accumulating the GDP. Its connections with the real estate and various industrial products could facilitate market and productivity booms in both manufacturing and service sector, making it a desirable way to quickly reach the GDP goals, especially for those regions that lacks geographical and resource advantages. Only by deconstruct existing buildings and infrastructure then constructing new ones, like some officials in China did⁵⁴, is a way that could generate some GDP, and this does not require great delicacies and finesse in administration.

Therefore, as the governmental officials in China are under the two-fold pressure from both the cadre evaluations and the national goals of the central government, it seems a likely choice that they will prioritize on relieving these pressures by adopting construction-oriented economy.

Conclusion

In the first part of this chapter, I have introduced that traditional economic concepts that emphasize GDP and productivity growth is often in contradictions with the well-being of the general populace. In the latter part of this chapter, I have explained that although GDP and productivity does not necessarily improves the actual well-being of people, some local governments still adopted a construction-oriented administration that focus on boosting the GDP, due to various limitations and political pressures. With the

⁵⁴ Hunt, Katie. 2014. "China's 'bulldozer' mayor kicked out of party, handed to prosecutors" <https://www.cnn.com/2014/01/30/world/asia/china-mayor-explulsion/index.html>

result of these two discussions in mind, we may have more insights into the “Easterlin Paradox” and some other paradoxes between China’s economy and politics.

Rothstein believes China has fallen into another paradox that it manages to achieve “high economic achievements” with “low quality of governance”. Rothstein believes that the cadre management of system in China does not meet the standard of the Weberian model of bureaucracy, as it is “mission-oriented”. Under the mission-oriented bureaucracy, The Chinese officials committed to the party doctrine and focused on completing the growth goals and missions set by the party. On the other hand, Weber’s ideal bureaucratic system is “rule-oriented”, that the bureaucracy committed themselves to formal merits and universal rules, such as well-established law and regulations (Rothstein 2014: 15).

The cadre management in China is thus considered to be “low quality” by Rothstein, because it is mission-oriented, yet, Rothstein asserts that it still manages to govern a large modern economy “remarkably” (Rothstein 2014: 1, 16).

I think that the two paradoxes mentioned above, Easterlin’s paradox (happiness stagnated after reaching certain economic level) and Rothstein’s bureaucratic paradox, existed upon the assumptions that both Easterlin and Rothstein treated the definition of “successfulness” of administration or economy, based on the GDP or GNP numbers. The Chinese governance performed well in GDP indicators, because it had prioritized growth above anything else as they are the part of “political missions” and “party doctrines”.

Therefore, it is sure that they could be expected to perform well in the GDP area.

In other words, what is considered a “backward” (the mission-oriented, doctrine-committed way of governance) character of governance by Rothstein, in fact contributed greatly in China’s successes in GDP growth speed, because many local governments in China is so hurried to complete GDP growth goals and tend to overlook many other administrative aspects.

The high GDP growth rate is realized with many costs. Many social and well-being indicators could not catch up the GDP numbers in paper is one important aspect. One another aspect is rampant corruption as Rothstein often mentioned. As introduced above, that the Chinese cadre evaluation for a long time (especially during the 2000s) was performance-oriented, that based on GDP performance. When president Xi Jinping brought in the anti-corruption campaign, the Chinese had disciplined over 1 million officials⁵⁵. This is also evidence that the cadre evaluations in China might for a long time focused way too heavily on GDP performance and ignored the disciplinary standards.

Yet, corruption could create a great grievance among people and in the end weaken the legitimacy of the party. The Chinese respondents scored only 52.3 in the “generalized trust” of Quality of Government dataset in Rothstein’s research (although still higher than many other developing countries), and this could be a reflection of these grievances (Rothstein 2014:4).

⁵⁵ Skidmore, David. 2017. “Understanding Chinese President Xi’s anti-corruption campaign” <http://theconversation.com/understanding-chinese-president-xis-anti-corruption-campaign-86396>

If the administration policy only emphasizes GDP growth and construction investments, it may not only overlook development in other areas and harm people's benefits and well-being. It could also generate risks of financial bubbles, and could be dangerous for the future prospects of the national economy itself. In the final chapter, I shall analyze that how China's current economic mode might influence its future developments.

Chapter 4: Construction Economy's Future Prospects

Summary of Findings and Comparison with Recent Literature

In this dissertation so far, I have analyzed the relationship between GDP and public well-being, and discussed how GDP and well-being tend to disconnect in contemporary China.

In Chapter 1, I argued that the economic boom during the 2000s is accompanied by a construction boom. Particularly, after the announcement of Decree No.18 in 2003, the real estate developments began to serve as the growth engine of the Chinese economy. Therefore, the administration of Chinese governments at all levels illustrates a strong emphasis on constructions in order to pursue GDP growth.

In Chapter 2, I examined the changes of GDP and public well-being indicators (such as income, housing, medical conditions, employment, social communication and happiness) between 1994 and 2014 in two Chinese cases. I found that during the construction boom in the 2000s, the Chinese GDP show remarkably rapid growth, especially in the case of Changsha (the “high construction” case). Yet, the objective well-being indicators (income, wage) in Changsha had a considerably lower growth rate at the same period. Furthermore, the subjective well-being indicators (happiness level, social communication) often show no correlation with GDP growth.

In addition, I also analyzed and compared GDP and well-being indicators of two

Japanese cases between 1975 and 2005, and got similar results: during periods of construction boom, the Japanese GDP also tends to grow in high speed, but the well-being indicators in Japan often fail to show clear improvements.

In Chapter 3, I reviewed that according to the historical examples, empirical research and classic sociological theories, gaps between productivity and well-being often existed in the past. The productivity boosts under the capitalist means of production often lead to more exploitation, expulsions and environmental degradations. I have also discussed that despite these, China still enters a period that seeks to maximize GDP output in the administration. This is partly due to the desire to build a powerful state for the national leaders, and the motivation to receive promotion and ideal cadre evaluations for the officials at all levels.

In general, in my research, the rapid GDP growth often could not transform into public well-being improvements in contemporary China. However, some popular writings and works in recent years argued that the contemporary global society is marked by a rising trend of well-being and happiness. My thesis clearly contradicts some of their main points.

For example, Stephen Pinker believes that the 2010s should not be considered a “dark” time marked by the social turmoil and inequalities, but one of the most progressive age ever existed in history (Pinker 2018: 1-2). He believes that since the Enlightenment in the 18th century, that “brought about” values of reason and science, the

human society had gone through years of continuous progress (Pinker 2018: 10-19, 41-12). Objective well-being indicators, such as life expectancy, health, wealth and safety had been continuously improving throughout the globe, and subjective well-being indicators (such as happiness) also tended to rise worldwide, over the past two hundred years (Pinker 2018: 53-96, 262-289).

Similarly, Angus Deaton believes that the modern history and the contemporary society are marked by a “great escape” of mankind from deprivation, poverty and early death (Deaton 2015: ix-xv). He believes that from the prehistory to the end of World War II, the human society was long plagued by high early death rates; the life expectancy was very low compared to today’s standards (Deaton 2015: 59-100). The well-being of the world has shown great improvements since 1950s in comparison, and the material well-being of the contemporary United States is one of most affluent in the entire history (Deaton 2015: 167-217).

The difference between my research and the works of Pinker and Deaton could be attributed to the following points: first of all, my thesis analyzes a short period of time in contemporary China. In comparison, Pinker and Deaton’s arguments are concerned about the well-being changes over the entire modern history, which involve many comparisons between traditional agricultural societies and the capitalist societies after the industrial revolution. The contradictions between GDP and well-being could be more striking when focused on a more specific research subject.

Secondly, Pinker and Deaton's main samples are concentrated upon highly developed economies, particularly the United States. Finally, one of my main arguments is that although some well-being indicators in China did also improve during the 2000s, their growth rates were still considerably slower relative to the GDP growth rate. Pinker and Deaton's arguments only list the changes of public well-being in the 20th century, and tend to disregard the gigantic productivity advances that took place during the same period.

Therefore, if the general trend of global public well-being is optimistic (as Pinker and Deaton claimed), contrary to my research on contemporary China's public well-being trends, one may be motivated to ask this question: what will be the prospect of China's public well-being and economic development in the future? This final chapter will discuss this issue in depth.

Similarities between the Chinese Construction Economy and Japanese economy

When discussing the future prospect of China, one may easily think about a comparison to its maritime neighbor, Japan. In Chapter 2, I have compared the cases of two Chinese prefecture-level cities to two Japanese prefectures (Aichi and Saitama), because Japan also experienced a prominent construction boom of its own in the late 1980s and early 1990s. In terms of economic positions in the world, China and Japan also share many similarities.

By the end of 2010, the economy of China had reached a historical milestone: its

total GDP (nominal)⁵⁶ surpassed that of Japan, making China the second largest economy in the world. Japan held the number-two position in the capitalist world since 1968, when it overtook West Germany⁵⁷. In other words, Japan had been able to keep that position for more than forty years.

China's rapidly growing economy draws the attention of the entire world, and the process of its ascent shares many similarities with that of Japan. The Japanese economy purportedly "rose from the ashes", as it had been severely damaged during the World War II (Blomstrom et.al. 2001: 3). The Chinese economy also rose from a weak foundation as well, as the country only had a GDP per capita of less than 1,000 dollars in 2000 according to the World Bank⁵⁸. Both countries achieved extremely rapid economic growth rates over short periods of time, with their GDP growing more than 10 percent each year during their fastest periods. Moreover, products made in Japan sold well throughout the world during the rise of Japanese economy, to the extent that export restraints and widespread boycotts against Japanese production had been imposed around the U.S. (Blomstrom et.al. 2001:4). This is also reminiscent of the Sino-US trade war at present.

Both countries experienced a notable construction boom, both took place during their peak of GDP growth. As introduced in Chapter 2, the highest amount of annual

⁵⁶ The GDP of a country converted to US dollar, instead of its domestic currency.

⁵⁷ Hosaka, Tomoko A.. 2010. "China surpasses Japan as world's No.2 economy" *Washington Post*

⁵⁸ <http://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=CN>

completed construction value in Aichi took place between 1987 and 1997, as well as metropolitan areas like Tokyo and Osaka. After the highest period of construction investments is over, the GDP of Japan began to stagnate. According to World Bank, the yearly GDP growth rate of Japan languished at 0.1% to 2.8% between 1997 and 2009, and experienced negative growth in several years.

As introduced in Chapter 1, the construction sector in China recorded an average annual growth rate of 23 percent during the 2000s, even higher than its GDP growth rate. The output value of construction machinery in the city of Changsha increased 1,000 percent in five years between 2006 and 2011.

It seems that Changsha in 2000s shared a similar trace of economy compared to Aichi in 1980s. Both cases experienced very high construction investments, which led to impressive GDP performance, yet the disposable income (or prefectural income) in both cases lagged far behind the GDP (shown in Chapter 2). Thus, I compared these two cases in Chapter 2 as representatives of the construction boom for the two countries.

Like it was in Japan during the 1990s, China also began to face an economic slowdown in recent years after the peak of construction investments ended⁵⁹.

Throughout its years of rapid GDP growth, Japan also had shown some structural imbalances between industries. During the 1980s, the relative productivity of finance and

⁵⁹ Hernandez, Javier C.. 2016. "China's Excess Production Has Intensified Slowdown, Business Group Says", *New York Times*, February 22, 2016;
Kessel, Jonah M. 2014. "The Casualties in China's Economy". *New York Times*, December 18, 2014

real estates in Japan had been rising rapidly, compared to the USA during the same period. The relative productivity of construction was also rising faster compared to the US (Weinstein 2001: 38). On the other hand, the relative productivity for other Japanese industries, such as agriculture, transportation and non-manufacturing, did not develop as much as that of the US at the same time.

This imbalance pinpointed that the rapid growth of Japan may become potentially unsustainable in the future (if the construction-related industries that the Japanese relied on could not continue their high growth), which was turned out to be a reality (Weinstein 2010: 41-43). It seems Japan's structural imbalance also shares many similarities with the economy of contemporary China, which had been heavily lean on industries such as construction machinery, steel manufacturing and real estates to maintain its speed of GDP growth, as discussed in Chapter 1 and the Preface.

These similarities between China and Japan during their respected high growth periods make me raise another question: will the kind of economic slowdown and recession that followed Japan's "economic miracle", also take place in China?

Scholars who believe that China may fall into the same kind of economic stagnation and recession in Japan are represented by the economist Richard Koo. He stated that Japan's economic growth failed to sustain after the early 1990s because the whole country had been stuck into the trap of "balance sheet recession". China is considered by him another example that is currently experiencing a balance sheet recession. Therefore,

China is also likely to face the same crisis.

In this chapter, I will use the “balance sheet recession” theory raised by the Richard Koo, as my main theory to analyze China’s future prospect of economy and well-being. I will explain how this economic mode may cause huge financial deficits and loss of wealth, and how these effects might lead to potential long-term damages to the public well-being.

Richard Koo’s theory is not without flaws and controversies, and if he is wrong in judging China to be a contemporary case of “balance sheet recession”, the conclusion that China will also fall into economic and well-being stagnation can be doubtful as well. Therefore, I will also introduce a counter theory after analyzing Koo’s theory, which emphasizes that China’s strong state financial capability and large money reserves could serve as a protective barrier to prevent the recession from happening or limit its damages.

In the end of the chapter, I will discuss an alternative policy and administration focal point that the Chinese government plans to adopt in the future, that may be more beneficial to the well-being of the general public.

The Stagnation of Japanese Economy

The economic boom of Japan appeared to be limitless in the late 1980s, but since then, the rapid growth trend of the Japanese economy came to a halt. Starting from the 1990s, Japan’s GDP not only stuck in stagnation in real terms (GDP numbers measured by its domestic currency, yen), but also fell dramatically from 5.45 trillion dollars in 1995

to 4.52 trillion dollars in 2007 in nominal terms (GDP numbers measured by US dollar)⁶⁰. This long-term economic recession was widely called the “the lost decade of Japan”. The Japanese economy showed some promises of revival around 2007 (Koo 2009: 1-8), but this rebounding trend was quickly reversed after the 2008 financial crisis, and Japan’s GDP continued to fall in nominal terms during the 2010s. The term “the lost decade” is now often changed into “the lost twenty years”, to describe the continuous, long-term stagnation of Japan’s economic growth.

The sudden decline of the Japanese economy after a high GDP growth period is attributed by Richard Koo, Magnus Bloomstrom and their colleagues (Bloomstrom et.al 2001: 1-5) to the formation of asset price bubbles during the construction boom in the late 1980s and early 1990s.

In the early 1980s, the export restraints on Japanese automobiles in 1981 and “Super 301” trade sanctions of the Reagan administration against Japan in 1985 marked the intensity of international pressures for Japan to reduce its trade surplus. In order to maintain the economic growth, the Japanese monetary policy shifted toward a “more expansionary stance” (Bloomstrom et.al. 2001:4-5), and Japan embarked on a construction boom. As introduced in Chapter 2 and previous sections, annual completed construction value in Japan rose rapidly during the late 1980s and reached the height in early 1990s, particularly in regions such as Aichi, Tokyo and Osaka.

The construction boom led to rapid expansion of real estate sector (Weinstein 2001:

⁶⁰ <http://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locations=JP>

38), as a result, the land price in Japan rose dramatically. At the same time, the Japanese firms throughout the country acquired numerous loan portfolios, and invested these loans into the booming real estate market, hoping to earn profits through the rising prices. This exposed them to a considerable risk: the housing market became oversupplied over the country, with millions of housing units were left vacant, yet the firms still continued to invest their money in (Kawaguchi 2009: 1-4). This phenomenon is named by Koo, Bloomstrom, Weinstein and many media as “the bubble economy of Japan”⁶¹.

Finally, the Japanese housing market and stock market both collapsed between 1991 and 1993. The land prices and stock market index both fell dramatically. Japan’s real GDP growth was reduced to less than 1 percent through 1994 and did not break 2 percent until 1996, thus starting a long period of economic slump (Blomstrom et.al. 2001:5).

The stock and asset price collapse in Japan also resulted in huge losses throughout the country. National wealth losses caused by falling land and stock prices alone accounted for 1,500 trillion yen (about 14 trillion US dollar), according to Richard Koo, which equaled to the personal financial assets of the entire country (Koo 2009: 16-17). I have no idea that how could the loss of this magnitude did not bring in a dramatic fall of GDP. This could be another example that GDP often could not represent actual public well-being.

Such a huge amount of wealth losses left many Japanese corporations deeply in debt,

⁶¹ The Japan Times. 2009. “Lessons from When the Bubble Burst”.
<https://www.japantimes.co.jp/news/2009/01/06/reference/lessons-from-when-the-bubble-burst/#.XVSq2-hKgdU>

and as a matter of course, the Japanese companies then moved collectively to repair their balance sheets and pay down their debt. Koo did not specify this move occurred to which kind of Japanese companies. It seems that he believes this was a common phenomenon across the entire Japanese private sector, including the construction sector. I also noted that completed construction value in Aichi reached its height (3,500 billion yen⁶²) in 1996, before gradually fell down (Japan Statistical Yearbook).

The collective action of Japanese corporations to focus on eliminating the debts and recover a healthy balance sheet brought further impediments to economic recovery. The Japanese economy thus suffered from the lack of demand from corporate sectors, and a lack of borrowers. “The fundamental economic mechanism” that “channel household savings into corporate investments” (that people use their savings and available money to invest in business) began to stop working, according to Koo (2009: 17-22). Thus, during the recession period between 1993 and 2005, not only the investments were lacking in manufacturing and construction, but across the sectors of the entire Japanese economy.

Not until the years of 2006 and 2007, did the lending rate in Japan halt its falling trend. The firms began to borrow money and invest in production again. Thus Koo claims optimistically that Japan’s economic recovery may become real (Koo 2009: 1, 8). However, the global financial crisis of 2008 soon took place, creating new debts and led to yet another slump of the Japanese economy (Horie 2015: 118-120). This prediction of Koo proved to be over-optimistic, but the logic of his theory is still valid: the fast

⁶² Approximately 32 billion US dollar.

accumulation of debts could lead to a long-term economic stagnation.

In the next section, I will introduce the balance sheet recession theory and how this kind of recession could heavily disrupt the normal operations of capitalist economy.

Balance Sheet Recession

Economist Richard Koo raised the concept of “balance sheet recession” to describe the long-term slowdown and stagnation in the Japanese economy since the 1990s. He states that following the outbreak of housing and stock market bubble in Japan, at least a trillion dollar of wealth were destroyed. The corporations throughout the country who previously invested in the real estate and stock market were left deeply in debt. As a result, the majority of corporations in Japan were forced to set priorities on paying off the debts and rebuild their balance sheet to a positive status.

Therefore, Japanese corporations and individuals became unwilling to make business ventures and to take new loans (Koo 2009: 16-22). Thus, the GDP growth in Japan is hard to bounce back due to the lack of enough economic ventures and investments. In sum, Japan’s economic troubles started with large deficits in corporate balance sheets, and it took the country many years to recover in order to repair the holes of their balance sheets.

Even today, the Japanese economy still suffered from the debt problems in balance sheet. Although the corporate balance sheet became healthier than before, the public debt of Japan was accumulating rapidly in recent years, which already exceeded 200% of

Japan's GDP.⁶³

The Great Depression and the subprime crisis in 2008 (Koo 2009: 221, 254) is also regarded by Koo to be a typical balance sheet recession. The New York stock market crash on October 1929 also destroyed a huge amount of public wealth and generated a great debt burden for people throughout the country. Prime banker's acceptances fell down to nearly 0% almost immediately, and failed to recover for years. It is not until the breakout of World War II, did the nominal GNP growth of US begin to steadily recover (Koo 2009: 70)⁶⁴. The loan rate was affected for an even longer time, that not until the 1960s did the prime banker's acceptance rate first reached 4% since the Great Depression started. This pattern of "bankruptcy- debt crisis- long recovery" is very consistent with the Japanese pattern that followed after the collapse of its stock and housing market. This illustrates that balance sheet recession may not be a type of crisis that unique to Japan, but could happen to any major economies of the capitalist world in any historical period.

The balance sheet recession, according to Koo, is opposed to economic recessions caused by structural problems that hindered the market supplies. Koo states that the "stagflation" economy in the US before the Reagan era was marked by sufficient demands but not enough supplies. The interest rates during that period were as high as 14% to 22%, showing the people had sufficient motivations to take loans. He believed the

⁶³ Quinn, James. 2010. "When Japan Collapses"
<https://www.financialsense.com/contributors/james-quinn/when-japan-collapses>
<http://www.nationaldebtclocks.org/>

⁶⁴ Koo seems to ignore the period of economic recovery during Roosevelt's new deal (1933-1936) here, and seems to believe the US GNP growth "steadily" recovered after 1939.

problem was “US factories were unable to produce quality goods” amidst frequent strikes and trade deficits. Therefore, the structural reforms of Reagan administration worked to improve the situation (Koo 2009: 13-15). Japan’s balance sheet recession, on the other hand, is marked by inadequate market demands and lack of loans (0-1.5% interest rate), caused by the indebted balance sheets in corporations.

China could also become a possible candidate of balance sheet recession, according to Koo. He asserts that China is also experiencing an asset-price bubble, as “real estate prices in the major cities are surging” and “share prices have also risen sharply”. He states that the surging Chinese stock market at that time was also overheated.⁶⁵ In sum, a construction boom also emerged in China during the 2000s, with rapidly rising real estate prices and surging stock market accompanying a double-digit GDP growth, exactly the same pattern of Japanese economy before the 1990s (Koo 2009: 178-179).

Koo’s observations are very similar to some points made by my research, that the Chinese GDP growth in the 2000s was largely fueled by its real estate industry as a main growth engine (see Preface). Also, as a scholar with a family in Taiwan and rich experience in researching the Japanese economy (Koo 2009: 8), he is one of the few scholars who are familiar with both China and Japan’s languages and economic systems. Therefore, I decide to use his work as the main theory in this chapter, to look into a possible negative outcome that the Chinese economic mode may bring.

⁶⁵ He should be regarding to the stock index in China around 2007. Shanghai stock index has already fallen to less than 3,000 after two stock disasters in 2008 and 2015. More will be explained in later sections.

However, we should also be aware that Richard Koo may not be always right in his research. He predicted that Japanese GDP growth will recover after 2007, which did not happen. His description of the Great Depression tends to ignore the effect of Roosevelt's new deal and he asserts the crisis was solved by the outbreak of World War II. His description of "stagflation" economy and the categorization of it as an opposite type of balance sheet recession may not be entirely accurate as well. When discussing the Chinese economy in the 2000s, he also did not provide sufficient data to support his judgments that China is also experiencing a "real estate bubble".

Therefore, we also have reasons to be skeptical of his theory if it is not accurate enough to see both the Chinese and Japanese cases as typical examples of "deteriorating corporate balance sheet". For these reasons, I also prepared a counter theory that listed the reasons that China's balance sheet problem may not be particularly overwhelming. Therefore, readers can compare these two theories and receive more comprehensive information.

Damages of the balance sheet recession upon the public well-being will be discussed with more details in the next section.

The Effects of the Balance Sheet Recession: Direct Damages

One of the greatest damages of the balance sheet recession upon public well-being happened when the balance sheets of the corporations and individuals were destroyed. Loss of huge amount of cash at one moment is often sufficient to make large corporations

bankrupt and wealthy individuals unable to pay off the debts. This often leads to tragic outcomes, as corporations can be forced to lay off many of their employees, and individuals can become desperate.

The 2015 stock market disaster of China already illustrated what could happen when people's balance sheets were destroyed at one moment. The Shanghai composite index rose continuously in the spring and reached 5,178.19 on June 12, 2015, which was one of the highest points in the Chinese stock history. Then the massive crash of the entire market took shape, making the Shanghai index lost more than one third of its total value⁶⁶. Virtually, the index plunged to less than 2,700 in August, taking away billions of actual wealth from the investors in just two months. Following this stock disaster, the Chinese economy also seemed to have stepped more deeply into the slowdown dilemma in the year of 2016⁶⁷.

It was reported that Li Hejun, China's richest person before the stock market crash, lost 15 billion dollars in one night⁶⁸. From this, we can imagine the extent of damage this disaster brought to the common people in China, In fact, it is estimated that each stock investor lost 510,000 RMB yuan on average during this event⁶⁹. It was also reported that

⁶⁶ Riley, Charles and Sophia Yan. 2015. "China's stock market crash... in 2 minutes". *CNN Money News*, August 27, 2015

⁶⁷ BBC. 2016. "China's economic slowdown deepens". *BBC News*, August 12, 2016

⁶⁸ Yan, Sophia. 2015. "China's Richest Man Lost \$15 Billion in One Hour". In *CNN Money News*, May 21, 2015

⁶⁹ Shenzhen Commercial Newspaper. 2016. "Stock investors have lost 510,000 yuan per person since the stock market disaster". *Shenzhen Commercial Newspaper*, June 13, 2016

some people committed suicide after the stock market crash⁷⁰.

Needless to say, this kind of incident can be very negative to many people's actual well-being. In numerous difficult times of economy, many people were still able to make a living and accumulate some wealth, such as Japan's growth "from the ashes" and China's early developments after the "Reform and Opening". During the crash of an economic bubble, however, people's hard-earned, previously accumulated wealth is often destroyed in one moment; furthermore, it is often replaced by a massive debt burden for many of them.

Therefore, it illustrates another aspect of dangerousness of a balance sheet recession: economic stagnations with this character usually require a very long period to recover, which could last even longer than the period of economic "boom" itself.

For example, the US also went through a period of debt minimization during the Great Depression (Koo 2009: 85-86, 102, 111). If considering the economic crisis was known to have started in 1929, such a recovery period took more than a decade, as loan rates only seemed to have fully recovered after the outbreak of World War II (Koo 2009: 102). The economic situation of the US by 1939 is also regarded by Koo to closely resemble that of Japan by 2007---- the year which was once believed by Koo to be when Japan finally saw promises of a new economic boom (Koo 2009: 113).

Japan's recovery from the 1980s bubble will last at least twenty years, as it is already

⁷⁰ RT news. 2015. "Man reportedly leaps to his death over stock market crash in China". *RT News*, August 26, 2015

introduced. This is clearly a much longer period than Japan's real estate and stock market boom in the 1980s, which lasted for several years at best.

After the subprime bubble had caused another global financial crisis in 2008, the economic situation in the US failed to show signs of large improvements for nearly a decade, with its annual gross national income growth rate no more than 3% (World Bank)⁷¹.

These examples have all shown that debt minimization after the bubbles could be a long and painful struggle, which require a long term to complete. Thus, if this recovery process becomes intertwined with other social turmoil that may breakout during such a long time, it is likely to make the situation worse and further reduce people's well-being. This is the third aspect of the dangerousness of the balance sheet recession.

Although majority of the social indicators stay on approximately the same level during the period of economic stagnations and recessions, as Marx pointed out, unemployment level often tends to rise. It is also discussed in Chapter 2, that China's Premier Li Keqiang even argued that the major reason for the Chinese government's GDP-centered administration is to maintain the growth of job opportunities (Li 2013). Therefore, after the outbreak of a balance sheet recession, employment situation over the country is also likely to suffer.

The US after the 2008 financial crisis is a good example. The employment rate of the whole country was once as low as 4.4% before the burst of the subprime bubble. It

⁷¹ <http://data.worldbank.org/indicator/NY.GNP.MKTP.KD.ZG?locations=US>

skyrocketed to 10 percent (or more) on October 2009, only a year after the breakout of the crisis (US Bureau of Labor Statistics). This long hard struggle with unemployment rates then continued for several years, and only by the spring of 2017 did the unemployment rate fall back to around 4.7%. People's sense of well-being definitely also suffered when a gloomy economic prospect and high unemployment occur together, which may lead to mass disturbances, such as the Occupy Wall Street movement. Japan's unemployment rate also rose during "the lost decade", as shown in Chapter 2's research.

However, this outcome is also a direct consequence of the bubble economy. It seems to be a destined result when large-scale loans, investments or constructions could not further motivate the GDP growth.

The Effects of the Balance Sheet Recession: Vulnerability to Aging Society

Another example of unexpected risks during the long recovery period in a balance sheet recession may be Japan's problem of an aging society. It was predicted by many scholars that Japan is stepping into an old-age society, due to the continuous reduction of mortality rates, the extension of life expectancy, combined with the continuous decreasing birth rates in Japan (Mason and Ogawa 2001: 49; Bass et al 2012: 3-5). As a result, more and more people were moving into the elderly age, while less and less young people were born.

The most direct negative effect of an aging society toward economic development is that the people of working ages will also decline, which may severely reduce the labor

forces of a nation. Financial and welfare pressures to raise the increasing aged people would also start to emerge.

Scholars' prediction pointed out that Japan's aging society problem would step into a critical phase starting from the 2010s, as the number of elderly people will begin to surpass the number of young people. The number of working age people (age 20-64) also began to decline sharply since the 2000s (Mason and Ogawa 2001: 51; Muramatsu and Akiyama 2011). As mentioned above, it is noticeable that Japan's GDP per capita (in nominal terms) dropped more than 10,000 dollars during the 2010s (from 48,629 dollars in 2012 to 34,523 dollars in 2015) (World Bank), an amount even higher than China's GDP per capita in total. This decline may not totally result from the aging society of Japan, but it is often attributed to the lack of labor force (Sakuragawa and Makino 2007: 57-58).

Due to its one-child policy, China's birth rate had been held at a very low point (at least in its urban areas) artificially with governmental decrees. At the same time, China's life expectancy had been continuously improving, reaching around 75 in the 2010s, a figure close to that of the United States (World Bank)⁷². Therefore, it is believed by many scholars that China is also likely to suffer from every problem an aging society can bring (England 2005: vii-xv, Morgan and Kunkel 2015: 279).

In comparison to Japan, China's aging trend can grow into an even more serious trouble as it is intertwined with so many other social problems, such as the rising public

⁷² <http://data.worldbank.org/indicator/SP.DYN.LE00.IN?locations=CN-US>

debt, persisting gap between rich and poor, inadequate personal savings and pension coverage⁷³. In other words, due to the implementation of one-child policy, China can reach an aging society even before the nation is sufficiently developed. Birth rates were typically lowered down in OECD nations, and relatively high in developing countries⁷⁴. China's national condition, however, makes it more likely to start the aging trend long before becoming a generally-acknowledged developed country. Not to mention the other negative effects this might bring to China, economic fluctuations of around \$10,000 GDP per capita like that in Japan is definitely unacceptable for the Chinese.

In conclusion, the balance sheet recession tends to be a long-term period, which could damage a country's national economy and sustainable development, and prevent them from recovering for several years, or decades, usually a longer period compared to the short-lived GDP boom period. It also tends to lower the well-being of people, especially if combined with other social trouble, such as high unemployment rate and the aging of society.

Japan's economic recession becomes especially evident if compared with China. According to World Bank, the total GDP of China (nominal) made up only 13 percent of Japan's GDP in 1995. After only 20 years, China's total GDP became around 250 percent of Japan's total GDP in 2015. In other words, Japan's GDP figure at its peak of growth

⁷³ Rapoza, Kenneth. 2017. "China's Aging Population Becoming More Of A Problem". *Forbes Opinions*, February 21, 2017

⁷⁴ <http://www.un.org/en/development/desa/population/publications/pdf/fertility/world-fertility-patterns-2015.pdf>

period, was once as astonishing as China's economic figures today.

As I mentioned before, Koo's theory of balance sheet recession may be flawed in certain aspects and may not be completely accurate to predict China's development trajectories. In the next section, I will introduce and analyze an alternative theory that how China's unique national conditions could prevent it from falling into the balance sheet recession.

Counter Theory: China's Financial Policies as Protective Barriers

Judging from the similarities between the construction economy of China nowadays and Japan in 1980s, China could be also vulnerable to a financial crisis that hit Japan during the Heisei era. However, an alternative theory also suggests that China may possess more financial potentials to resist bubble economy. This theory could be concluded from the opinions of Nicholas Lardy, Victor Shih and many other scholars, that China's large reserves of foreign currency and other financial policies may add extra protection for the country against a financial crisis.

Less than 10 years after Japan's Heisei bubble, another financial crisis hit nearly the entire continent in the late 1990s, particularly Southeast Asia. This great financial turmoil was also largely attributed to the existence of real estate bubbles among many Asian countries (Mera and Renaud 2000: 1-17). However, during this continental-wide financial storm, mainland China was left largely unaffected, and China was even able to maintain a relatively high GDP growth rate in 1998 (8%) (Lardy 1998: 78).

This is not because of China did not share a real estate boom at that time, nor because of the Chinese did not accumulate dangerous loans (Mera and Renaud 2000: 6, Lardy 1998: 80-82). It could only be attributed to that China seemed to possess more governmental sources of resistance. Due to China's protective policies on currency, Chinese renminbi (RMB) remained at a stable exchange rate against US dollars, making foreigner's ability to convert RMB back into dollars severely limited (Tse 2000: 160, Lardy 1998: 83). Thus, foreigners own only small amounts of financial assets in China, making China considerably less exposed to risks in external markets. On the other hand, years of large trade surpluses had enabled China to accumulate substantial amount of foreign currency reserves, "large enough to finance almost a year's imports", which also limited the damage during this crisis (Lardy 1998: 84).

It seemed that China continued to preserve many of its sources of financial resistance in the 2000s. This may be exactly guided by the past experience of the Chinese government to deal with the Asian financial crisis in the late 1990s.

First of all, the Chinese government continued to centralize the financial power and continue to resist the temptation to liberalize the banking sector, particularly during the premiership of Zhu Rongji (1998-2003), according to Victor Shih. Shih also believes that these moves of Premier Zhu are primarily designed to reduce financial risks (Shih 2004: 922, 933-934); as we know, both Japan and Southeast Asia's financial bubbles started from the liberalization and deregulation in monetary sectors (Blomstrom et.al. 2001:4-5;

Mera and Renaud 2000: 8-10).

On the other hand, the foreign currency reserves of China continued to grow rapidly. It seemed the Chinese government might aim to accumulate the foreign currency as much as possible. China's international reserves rose to more than 1 trillion US dollars in 2006, which was already more than 20% of the foreign exchange reserves of the entire world at that time (Sell 2007: 32). This amount also surpassed the foreign currency reserve of Japan, making China the first of the world (Li and Tian 2016: 1). China's foreign currency reserve then continued to rise to 2 trillion US dollars by 2008, with an annual increase rate of 37.9% from 1994 to 2008, according to a recent research article (Li and Tian 2016: 1, 5). The authors of this research article also believes that one main "profit" of holding reserves is to resist the risks brought by the increasing amount of "external debts" (Li and Tian 2016: 4).

Thus, we can conclude that despite China may also accumulate a construction bubble similar to that of Japan, protective financial policies of the Chinese government and their gigantic amount foreign exchange reserves may either keep the bubble from growing too dangerous, or reduce the damage that a bubble could make. In other words, by having a central government with stronger financial power and control, China may be able to avoid the negative effects that a balance sheet recession could bring. Which theory would fit better with China's trajectory of development? In the next section, I shall analyze the points of both sides.

Comparing the Two Theories

Among the two theories that had been mentioned above, it would definitely a hard task to judge which one would be more correct, or would be more accurate for the future of the Chinese economy. The balance sheet recession theory has displayed sufficient similarities between bubbles of China and Japan, and Richard Koo himself also regarded contemporary China to be an “ongoing balance sheet recession” (Koo 2009: 178-179). On the other hand, opinions by Lardy, Shih and others also illustrate sufficient uniqueness of China’s national conditions, which may makes China less likely to suffer financial crisis. I would argue that despite some characteristics of financial institutions in China that may protect it from risks of a financial crisis, keeping the nation away from the balance sheet recession should still become one priority for the Chinese.

First, we could compare the total amount of China’s foreign currency reserves and the total amount of Chinese debts. Despite years of growing, China’s foreign currency reserves now stayed at the level of around 3 trillion dollars. It was also noticeable that a sharp decline of 0.2 trillion dollars already took place on January 2017⁷⁵. On the other hand, China’s national debt has amounted to 30 trillion RMB (4.6 trillion dollars), as mentioned in the above sections. The debt owned by the local governments alone counted for 24 trillion RMB (3.6 trillion dollars). Therefore, unlike in previous years, even the gigantic amount of foreign currency reserves in China now could not bail out its debt holes at one time, not to mention that all debts have interests, which is growing in large

⁷⁵ <https://tradingeconomics.com/china/foreign-exchange-reserves>

numbers with every passing minute, yet the foreign currency reserves may reduce. This indicates that China's debt problem may get even more troublesome in the future.

Thus, it is doubtful that the recent research by Li and Tian (2016: 1) claims that China's foreign exchange reserve "began to exceed the appropriate scale". Even for an amount of financial reserves that considered "too large to be appropriate" by some external researchers, it is still considerably less compared to China's total debts. This also illustrates how rapidly the local debts had expanded under the economic mode of China in the past several years.

Another reason is that the economic foundation of Japan already gave itself more advantages to resist financial bubbles. As a highly-developed country since the 1980s with robust wealth foundations, Japan was able to avoid a total breakdown of its economy after the burst of bubbles. It managed to keep its GDP at approximately the same level before the recession for many years (Koo 2009). However, stepping into the 2010s decade, the GDP per capita in Japan in nominal terms still dropped more than 10,000 dollars compared to its peak days (World Bank)⁷⁶.

The bursting of a bubble as great as Japan's Heisei crisis may become a complete disaster for China. As of the year 2015, China's GDP per capita in nominal terms remained at around 8,000 dollars in total (World Bank), with the western regions and rural areas in this country having weaker economic foundations than the GDP level indicates. Thus, a trillion dollars of actual wealth loss (as during the break of Japan's

⁷⁶ <http://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=JP>

bubble), and the aftermath of such destruction, might bring in a direct cliff-like decline of the Chinese economy and people's well-being, instead of a long stagnation like Japan's "lost twenty years". Even if it only leads to a long stagnation, it would still not be something that the Chinese would want to repeat.

Although there are some aspects of the China case that are consistent with the counter theory, China's trajectory still highlighted some important characteristics of the balance sheet recession theory. Given the damages associated with this pattern, the experiences of Japan offer potential lessons for the Chinese government and indicate that policy changes are advisable to minimize the negative outcomes of the recession.

However, since China currently holds a huge amount of financial reserves, the Chinese government would neither lack funds nor too late to take some measures. Rather than continue to accumulate the debts and forming the bubbles, China could do something to improve people's actual well-being. Perhaps different to the national conditions of US and Japan, China may possess another engine of economic development, by improving its poorer regions in the country. It seems to me that China used to realize a successful long-term economic growth years ago without triggering an economic bubble through this route, and this will be discussed in the next section.

China's Restarted Mission to Benefit Everyone

In the previous sections, we have analyzed that the current economic mode of China could actually leads to a financial bubble and debt problem. Therefore, it seems necessary

for the Chinese government to make policy changes and its GDP oriented-administration in the 2000s.

Many scholars believe that the Chinese government should switch to another economic focus, such as Stephen Roach's point that China should focus more on the service economy that was insufficiently developed⁷⁷. Many others suggest that China should implement new economic reforms to increase the efficiency (Yang 2016). This approach was no doubt once very popular among the Chinese officials, that the politics textbooks I learned in high school highlighted the quote of "*efficiency first, with due consideration to fairness*".

It is difficult to judge whether applying these approaches or suggestions are correct choices or not. One thing I have more certainty is that large economic reforms could also become considerably risky. For example, the shock therapy that aimed to reform the Russian economy was unsuccessful at the start, and brought great turmoil to the national economy of Russia (Reddaway and Glinski 2001: 233). The Japanese and Southeast Asian financial bubble also started from financial reforms that liberalized the monetary sector (Blomstrom et.al. 2001:4-5; Mera and Renaud 2016: 8-10).

On the other hand, I have argued the irresponsible accumulation of debts is unwise because the risks could be too huge, and the damage could be too great if not handled properly. Therefore, if the alternative economic approach to replace it also bears great

⁷⁷ Roach, Stephen. 2016." Will China's shift to a consumer-oriented economy succeed?
<https://www.pbs.org/newshour/economy/will-chinas-shift-to-a-consumer-oriented-economy-succeed>

risks, it fails the purpose of avoiding the potential damage that a bubble could bring to the whole society. It also does not seem to be the most rational choice to replace risks with another great risk.

Furthermore, more capitalization process is not necessarily beneficial to people's well-being, as emphasized by Marx (introduced in Chapter 3). The sentence "*efficiency first, with due consideration to fairness*", also implies the meaning that "fairness can be sacrificed in order to improve the efficiency". During the 2000s, the Chinese government did not seem to act exactly according to this doctrine, on the contrary, adopted the strategy of "Guo Jin Min Tui" (national enterprises advance, private enterprises concede) instead (So 2013: 128). This move could be attributed to the awareness of Chinese government that more privatization reforms may also get risky and could be harmful to many people's benefits in some aspects.

Therefore, why not just focus on "fairness" and working on to improve majority of people's well-being instead? Next I shall introduce the three reasons of the Chinese government to implement policies on this direction.

First of all, historically China had achieved a successful economic development during the Reform and Opening that benefited the entire populace, yet without triggering a financial bubble. Therefore, the economic development in China during 1980s was widely regarded by Chinese scholars as a "Pareto Improvement" (Lin et al. 2003: 327).

This achievement was realized largely by improving the actual well-being of

majority of people in China. The economic reforms first started in countryside areas and encouraged the founding of township and village enterprises (Huang 2008: 68-69, 79). This policy capitalized the agriculture sector and motivated the farmers with private gains, this made China successfully break through the limits of traditional agriculture and, as a result, brought one of the most rapid income gains for Chinese peasants in history (Huang 2008: 56).

It is often argued that one main achievement of the Chinese Communist Party is to make millions of people in rural China to be lifted out of poverty, which is unprecedented in world history. However, this achievement was completed mainly in the early stages of the Reform and Opening. In the 10 years from 1978 to 1988, the number of poor people in China (by Chinese government's definition) was reduced by 154 million, and the education in rural China was also greatly improved (Huang 2008: 104-105, 244-245). On the contrary, Jiang Zemin's administration in 1990s and the Hu-Wen administration in 2000s became dedicated upon GDP growth goals and concerned less about genuinely improving the status of the poor. During these years, the growth of personal incomes began to lag behind the GDP growth, some educational and health indicators in rural area actually fell behind, and the problem of income inequality and corruption intensified (Huang 2008: 238, 246-252, 275-276), more importantly, the simultaneous growth of GDP and debts brought about fears for financial bubbles. Therefore, it is definitely reasonable to assume that China could strive to reestablish its administrative feature in

the early reform era that used to be good at helping the poor.

Secondly, if the Chinese government's dedication upon GDP growth goals is to legitimize itself and to rise its national standings, focusing upon improving the well-being of poor people will also increase the GDP and repair its legitimacy.

As mentioned previously by environmental sociologists, GDP is an indicator that could be accumulated in many aspects. Therefore, by lifting people out of poverty, as well as increasing the wealth of people with low income also increases the GDP, and perhaps even more effective in terms of GDP per capita. The strategy of repeated construction and real estate expansion is not the only way that could raise the GDP level, and perhaps not the wisest way at all. As Adam Smith expressed famously, a genuine successful economic development is to “provide a plentiful revenue for the people” and “enrich both the people and the sovereign” (Smith 1778: 1).

Also, just as it is explained in Chapter 1, although economic achievements may serve as a form of competency to establish legitimacy, it could only be maintained by the general satisfactions of the people. The income inequality, corruption, as well as the break of stock bubbles in recent years all actually led to great grievances of people in China, as previously introduced. Therefore, GDP-oriented policies that disregard the well-being would fail the original purpose of maintaining legitimacy.

Finally, the fact that the Chinese government still owns a huge amount of foreign reserve currency, also serves as an appropriate reason that China should still have plenty

of funds to embark on projects of supporting the poor, rather than continue to fill in the construction bubbles. Nor it is too late to take measures of changing policy directions.

It seems that the central government of China has already realized this situation and has made some new decisions. It has been reported that the current president of China and leader of Communist Party, Xi Jinping, has ordered the subordinate government “focus their power” to implement the “accurate poor-aiding”, and has set a goal to completely eliminate poverty in China by 2020⁷⁸. This move may hint that the Chinese government could gradually cease to make maintaining GDP growth as its most prioritized policy orientation.

There is a fundamental difference between China and other Asian countries’ financial bubbles, as discussed in the previous chapters. The other Asian countries, such as Japan and Thailand, expanded their bubble without limits mainly because of market incentives, especially, the infinity of capitalist money circulation had motivated the greediness of investors, making them go on regardless of all risks. On the other hand, China’s expansion of construction economy is largely influenced by the GDP-oriented policy of the government. The officials and politicians were motivated to pursue GDP at all costs, because their political achievement had been tightly associated and measured by the statistics of GDP growth. However, if the central government’s goals and decrees change into a completely reserve direction, it is also possible that the expansion of financial

⁷⁸ CCTV. 2017. “Xi Jinping demands to Say Fareware to Poverty in 2020” <http://news.163.com/17/0615/21/CN0JLUHB000189FH.html> (in Chinese)

bubble associated with over-construction and accumulation of local debts may be stopped more effectively.

Therefore, it is worth observation that whether the China's dangerous trend of construction bubbles that may lead to a balance-sheet recession would be reversed in the future, and whether the actual well-being of the people would be better improved under a new economic strategy. This progress would also be tightly associated with the future and economic stability of the world.

Conclusion

On March 22, 2018, U.S. President Donald Trump directed the US trade representative to level tariffs on about \$50 billion worth of Chinese imports, which is regarded to be the start of the Sino-U.S. trade war⁷⁹. The tariff on \$34 billion Chinese exports start to take effect on July 6, 2018⁸⁰, which marked that China began to face considerable external pressures on its national economy, which had already shown slowdown trends in recent years.

This unexpected new situation, combined with many other factors, may contribute to the fact that China may have gone through one of the worst years of its GDP growth since the 1990s. With official records which published on January 2019, the real GDP growth rate in China during 2018 was only 6.6%, even with this rate, it would be the lowest year

⁷⁹ Diamond, Jeremy. 2018. "Trump hits China with tariffs, heightening concerns of global trade war". CNN <https://www.cnn.com/2018/03/22/politics/donald-trump-china-tariff>

⁸⁰ BBC. 2018. "China hits back after US imposes tariffs worth \$34bn" <https://www.bbc.com/news/business-44707253>

of growth since 1990 according to the World Bank. Xiang Songzuo, an economic professor of China Renmin University, declared the actual growth rate could be 1.67% or negative in his public speech on December 2018. The GDP growth rate in China has been constantly positive and was never below 2% since the end of Cultural Revolution in 1976.

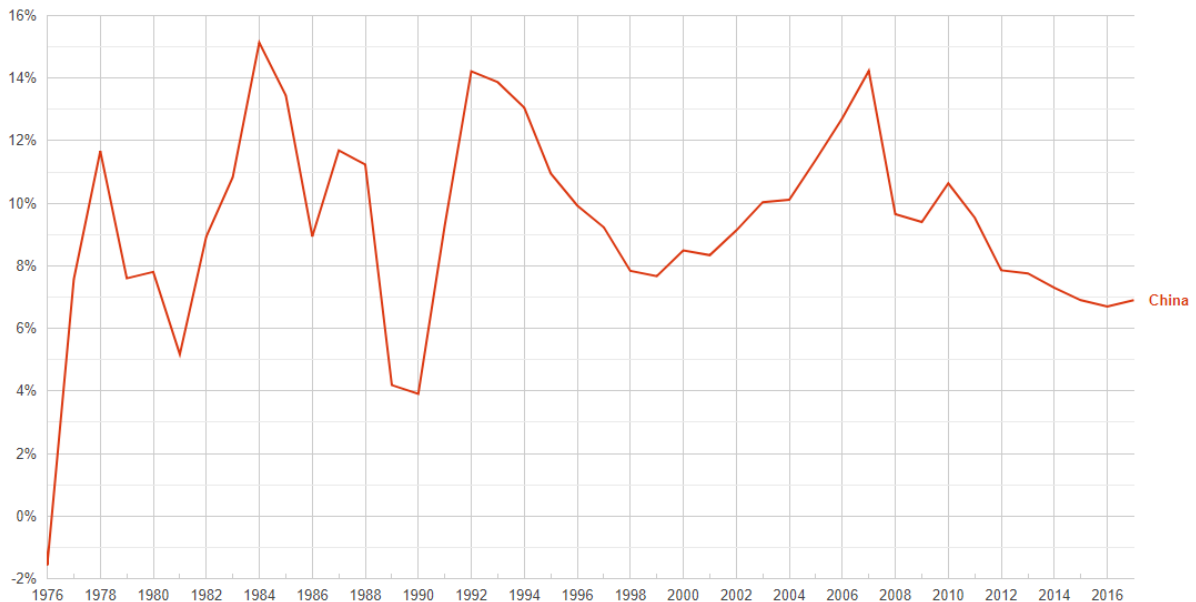


Figure 1: Yearly changes of Chinese real GDP growth rate (Source: World Bank)

To illustrate the seriousness of Chinese economic situation, Xiang Songzuo further supports his points by claiming that corporate debt default could exceed 120 billion RMB in 2018, and “many businesses have gone bankrupt [sic]”⁸¹. This includes Bohai Steel, a manufacturing magnate once listed in the Fortune Global 500, declared bankruptcy on August 2018 with a tremendous debt (as high as 192 to 280 billion RMB). Ofo company, once the leading power of China’s bike-sharing business, was also in crisis during 2018

⁸¹ Xiang, Songzuo. 2018. *A Great Shift Unseen Over the Last Forty Years*
<https://chinachange.org/2018/12/28/a-great-shift-unseen-over-the-last-forty-years/>

and considered several times to declare bankruptcy⁸². With these examples, one can imagine the recent difficulties and challenges faced by numerous smaller enterprises in China.

These recent difficulties in Chinese economy and public well-being furthered my thoughts on the interrelationship between GDP and well-being. According to Marx, public well-being often fell far behind the productive force during a great economic boom such as the industrial revolution, as it is discussed in Chapter 3. On the other hand, a great economic crisis or GDP downturn would almost surely damage the public well-being. Because, during the prosperity of the market and the expansion of the production, more and more workers were hired into the factory system; but when the market breaks down and the production withers, large numbers of workers will no longer be needed and will be expelled almost immediately. The bankruptcy of one large enterprise will lead to the unemployment of almost all of its workers. The attraction and expulsion of the workers in the factory systems is also periodical, in accordance with the periodical expansion and retreat of the market and production (Marx 1967: 454). Thus, the collapse of a bubble will severely endanger the public well-being of working class and commoners yet again.

As the research of this paper shows, many indicators of public well-being fell behind the surficial GDP statistics during the Chinese GDP boom in the 2000s, yet the

⁸² Reuters. 2018. “Chinese bike-sharing startup Ofo considering bankruptcy”
<https://www.asiaone.com/business/chinese-bike-sharing-startup-ofo-considering-bankruptcy>

unchecked expansion of Chinese construction and production had planted enormous hidden dangers for the sustainable development in the future and a great risk of recession. Also, the fail of the Chinese economy could be too great a blow for the global economy, making the prospect for the prosperity of the entire world thoroughly overshadowed by fears of a global slump⁸³.

Therefore, it should be fair to say that the importance of a “high quality growth” that Xi Jinping recently promoted, and the danger of a GDP-oriented production overexpansion that disregards well-being and bubbles, are for a long time overlooked among administrator in China (and many other parts of the world). This is due largely to the worship of GDP and the making of it as the dominant institutional framework over the globe that guided nearly all economic management in the last two decades, after the end of the Cold War makes the statistical standard used by the US Department of Commerce “the only game in town” (Fioramonti 2017: 50-54). To achieve a genuine successful economic development that truly benefits the public, the decision makers over the world should seriously rethink about the balance between GDP and well-being.

⁸³ The Guardian. 2019. “Global economy fears rise as manufacturing growth slumps in China” <https://www.theguardian.com/business/2018/dec/14/global-economy-fears-rise-as-manufacturing-growth-slumps-in-china>

References

Abramovitz, M. 1959. "The Welfare Interpretation of Secular Trends in National Income and Product". In *The Allocation of Economic Resources: Essays in Honor of Bernard Haley*. edited by M. Abramovitz et.al. Stanford University Press

Alatartseva, Elena and Galina Barysheva. 2015. "Well-being: Subjective and Objective Aspects" in *Social and Behavioral Sciences 166*

Altvater, Elmar. 1979 "Some Problem of State Interventionism: The 'Particularization' of the State in Bourgeois Society" in *State and Capital: A Marxist Debate*. edited by John Holloway and Sol Picciotto. University of Texas Press

Antonio, R.J. and R.J. Brulle. 2011. "The Unbearable Lightness of Politics: Climate Change Denial and Political Polarization." *Sociological Quarterly 52*

Bass, Scott et.al. 2014. *Public Policy and the Old Age Revolution in Japan*. Routledge

Birdsall, Nancy and Christian J. Meyer. 2015. "The Median is the Message: A Good Enough Measure of Material Wellbeing and Shared Development Progress". *Global Policy 6:4*

Bivens, Josh and Lawrence Mishel. 2015. "Understanding the Historic Divergence between Productivity and a Typical Worker's Pay: Why It Matters and Why It's Real". Economic Policy Institute Briefing Paper #406

Blomstrom, Magnus et.al. 2001. "Introduction" in *Japan's New Economy: Continuity and Change in the Twenty-first Century*. Oxford University Press

Bonefeld, Werner and John Holloway (eds). 1995. *Global Capital, National State, and the Politics of Money*. St.Martin's Press

Bulman, David J. *Incentivized Development in China: Leaders, Governance, and Growth in China's Counties*. 2016. Cambridge University Press

Brockmann, Hilke et.al. 2009. "The China Puzzle: Falling Happiness in a Rising Economy". *Journal of Happiness Studies* Volume 10:4

Broudehoux, Anne-Marie. 2011 "Delirious Beijing: Euphoria and Despair in the Olympic Metropolis" in *Evil Paradises: Dreamworlds of Neoliberalism*. eds. Mike Davis and Daniel B. Monk. The New Press

- Bryson, Jay H. 2015. "Will Construction Take Down the Chinese Economy?" Wells Fargo Economics Group Special Commentary
- Campanella, Thomas J. 2012. *The Concrete Dragon: China's Urban Revolution and What it Means for the World*. Chronicle Books
- Cantril, H. 1965. *The Pattern of Human Concerns*. Rutgers University Press
- Catton, W.R. and R.E. Dunlap. 1978. "Environmental Sociology: A New Paradigm". *The American Sociologist* 13
- China Center Associates. 2012. "Foreign Direct Investment Continues to Expand West". *China Comment*
- Clark, Andrew E. and Claudia Senik. 2011. "Will GDP Growth Increase Happiness in Developing Countries?" Institute for the Study of Labor, Discussion Paper No. 5595
- Corradini, Piero. 1987. "Notes on the Shangshu departments in the Chinese Central Administration". *Monumenta Serica: Vol 37*
- Cowgill, Matt. 2013. "A Shrinking Slice of the Pie: The Labour Income Share in Australia". Australian Council of Trade Unions MPRA Paper No. 46209
- Currie, Candace et.al. 2012. Social determinants of health and well-being among young people. Health Behaviour in School-aged Children (HBSC) Study: International Report from the 2009/2010 Survey. World Health Organization Europe. Edited by Currie, Candace et.al
- Dahl, Robert A.. 1998. *On Democracy*. Yale University Press
- Darst, David M. 2013. *Portfolio Investment Opportunities in China*. John Wiley & Sons
- Dicken, Peter. 2015. *Global Shift, Seventh Edition: Mapping the Changing Contours of the World Economy*. Guilford Publications
- Dikötter, Frank. 2010. *Mao's Great Famine: The History of China's Most Devastating Catastrophe, 1958-1962*. Bloomsbury Publishing USA
- Draper, Hal. 1977. *Karl Marx's Theory of Revolution, vol. I*. Monthly Review Press

Dufour, Mathieu and Ellen Russell. 2015. "Why Isn't Productivity More Popular? A Bargaining Power Approach to the Pay/Productivity Linkage in Canada". *International Productivity Monitor* 28

Durkheim, E. 1933. *The Division of Labour in Society*. New York: Free Press
Easterlin, Richard. 1974. "Does Economic Growth Improve the Human Lot? Some Empirical Evidence". In *Nations and Households in Economic Growth: Essays in Honor of Moses Abramovitz*. edited by Paul A. David and Melvin W. Reder. New York: Academic Press

Easterlin, Richard A. and Laura Angelescu. 2009. "Happiness and Growth the World Over: Time Series Evidence on the Happiness-Income Paradox". Institute for the Study of Labor, Discussion Paper No. 4060

Ellis, E. 2012. "Planet of no Return: Human Resilience on an Artificial Earth". *Winter*

England, Robert Stowe. 2005. *Aging China: The Demographic Challenge to China's Economic Prospects*. Greenwood Publish Group

EU SME Centre. 2015. *Report: The Construction Sector in China*

Feuerwerker, Albert. 1995. *Studies in the Economic History of Late Imperial China: Handicraft, Modern Industry, and the State*. Center for Chinese Studies, the University of Michigan Ann Arbor

Fioramenti, Lorenzo. 2017. *The World After GDP*. Polity Press

Foster, John Bellamy et.al. 2010. *The Ecological Rift: Capitalism's War on the Earth*. Monthly Review Press

Frey, Bruno S. and Alois Stutzer. 2010. *Happiness and Economics: How the Economy and Institutions Affect Human Well-Being*. Princeton University Press

Gao, Peiyong. et.al. 2017. *Research on China's Public Finance Construction Index System*. Springer

Gereffi, Gary. 2009. "Development Models and Industrial Upgrading in China and Mexico". *European Sociological Review* 25(1).

Gong, T. 1994. "The Politics of Corruption in Contemporary China: An Analysis of Policy Outcomes". *The China Journal* 71(35):151

- Gordon, Jenny. 2016. "Australia's Productivity: Some Insights from Productivity Analysis". *Asia and the Pacific Studies* vol. 3:1
- Gould, K.A. et.al. 2004. "Interrogating the Treadmill of Production: Everything You Wanted to Know About the Treadmill but Were Afraid to Ask." *Organization and Environment* 17(3)
- Glaesar, Edward et.al. 2017. "A Real Estate Boom with Chinese Characteristics". *The Journal of Economic Perspectives* 31(1)
- He, Canfei and Junsong Wang. 2012. "Regional and sectoral differences in the spatial restructuring of Chinese manufacturing industries during the post-WTO period". *GeoJournal* 77
- Helliwell, John. 2003. "How's life? Combining individual and national variables to explain subjective well-being". *Economic Modelling* vol.20:2
- Hendriks, Martijn. 2017 "Happiness Insights into Migration Policy and Choice Behavior of Immigrants" in *New Dimensions in Community Well-Being*. edited by Patsy Kraeger et.al. Springer
- Holloway, John. 1995. "Global Capital and the Nation State" in *Global Capital, National State, and the Politics of Money*. edited by Werner Bonefeld and John Holloway. St.Martin's Press
- Hong, Liming. 2014. "The Dynamic Relationship between Real Estate Investment and Economic Growth: Evidence from Prefecture City Panel Data in China". *IERI Procedia* 7
- Horie, Masahiro. 2015. "Budgeting in Japan after the Global Financial Crisis: Postponing Decisions on Crucial Issues". In *The Global Financial Crisis and its Budget Impacts in OECD Nations: Fiscal Responses and Future Challenges* eds. Wanna, John et.al. Edward Elgar Publishing
- Huang, Yasheng. 2008. *Capitalism with Chinese Characteristics: Entrepreneurship and the State*. Cambridge University Press
- Hung, Ho-fung. 2015. *The China Boom: Why China Will Not Rule the World*. Columbia University Press
- ILO (International Labour Organization). 2001. *The Construction Industry in the*

Twenty-first Century: Its Image, Employment Prospect and Skill Requirements. Tripartite Meeting on the Construction Industry in the Twenty-first Century, Geneva

Inkeles, A. 1960. Industrial man: The relation of status to experience, perception, and value. *American Journal of Sociology* 66

International Monetary Fund (Asia and Pacific Dept). 2017. *People's Republic of China: Selected Issues*.

Jackson, Tim. 2011. *Prosperity Without Growth: Economics for a Finite Planet*. Routledge

Kawaguchi, Yuichiro. "Japan's Real Estate Crisis". Paper presented at Hong Kong Institute for Monetary Research.

Knight, John et.al.2009. "Subjective Well-being and its determinants in rural China". *China Economic Review* Volume 20:4

Knight, John and Ramani Gunatilaka. 2011. "Does Economic Growth Raise Happiness in China?" *Oxford Development Studies* vol.39:1

Koo, Richard C. 2009. *The Holy Grail of Macroeconomics: Lessons from Japan's Great Recession*. John Wiley & Sons

Kristof, Nicholas D. 1993. "The Rise of China". *Foreign Affairs* 72(5)

Landry, Pierre F. 2003. "The Political Management of Mayors in Post-Deng China" in *Journal of Asian Studies* 17

Landry, Pierre F. 2008. *Decentralized Authoritarianism in China: The Communist Party's Control of Local Elites in the Post-Mao Era*. New York, NY: Cambridge University Press

Landry, Pierre F. 2017. "Does Performance Matter? Evaluating Political Selection along the Chinese Administrative Ladder" in *Comparative Political Studies* 51(8)

Lardy, Nicolas R. 1998. "China and the Asian Contagion". *Foreign Affairs* Vol. 77

Lawrence, Susan.V. and Michael F. Martin. 2013. "Understanding China's Political System". CRS Report for Congress. March 20, 2013

- Li, Jinzao, 2017. *Farewell To China's GDP Worship*. World Scientific
- Li, Peilin. 2002. "Changes in Social Stratification in China Since the Reform". *Social Sciences in China XXIII*
- Li, Suizhou. 2016. "The CCP, the State and the Cadres in China". *Chinese Public Administration Review* 4:1/2
- Li, Xing and Tianhai Tian. 2016. "A New Cost-Profit Model for Measuring the Optimal Scale of China's Foreign Exchange Reserve". *Mathematical Problem in Engineering* Volume 2016
- Lin, Justin Yifu. et.al. 2003. *The China Miracle: Development Strategy and Economic Reform*. Chinese University Press
- Lipset, Seymour Martin. 1981. *Political Man: The Social Bases of Politics, revised edition*. Baltimore, MD: Johns Hopkins University Press
- Liu, Guoguang. et.al. 2008. *The China Economy Yearbook, Volume 1: Analysis and Forecast of China's Economy*. Brill.
- Liu, Junmin. 2006. Reflections on Some Policies of Housing System Reform in China. *China Economic Times*, 2006-07-17(8)
- Lu, Ding. 2012. *The Great Urbanization of China*. World Scientific
- Ma, Xiulian. 2017. "Housing Challenges in Chinese Cities Under Urbanization" in *Urbanization and Urban Governance in China: Issues, Challenges, and Development*. Springer
- Madisson, Angus. 2003. *The World Economy: A Millennia Perspective*. Peking University Press
- Man, Joyce Yanyun. 2011. *China's Housing Reform and Outcomes*. Lincoln Institute of Land Policy
- Manion, Melanie, 1985. "The Cadre Management System, Post-Mao: The Appointment, Promotion, Transfer and Removal of Party and State Leaders". *The China Quarterly* 102
- Mars, Neville and Adrian Hornsby. 2008. *The Chinese Dream: A Society Under Construction*. 010 Publishers

- Marx, Karl. 1967. *Capital Volume I*. International Publishers, New York
- Marx, Karl. 2000. *Karl Marx: Selected Writings*. Oxford University Press
- Marx, Karl and Friedrich Engels. 2012. *The Communist Manifesto: A Modern Edition*. Verso Books
- Mason and Ogawa 2001. "Population, Labor Force, Saving and Japan's Future". in *Japan's New Economy: Continuity and Change in the Twenty-first Century*. Oxford University Press
- Mehran, Hassanali. 1996. *Monetary and Exchange System Reforms in China: An Experiment in Gradualism*. International Monetary Fund
- Mera, Koichi and Bertrand Renaud. 2016. *Asia's Financial Crisis and the Role of Real Estate*
- Minzner, Carl. 2011. "China's Turn Against Law". *The American Journal of Comparative Law* vol. 59:4
- Mishel, Lawrence. 2012. "The Wedges between Productivity and Median Compensation Growth". in *The State of Working America (12th Edition)*. Cornell University Press
- Mishel, Lawrence and Kar-Fai Gee. 2012. "Why Aren't Workers Benefiting from Labour Productivity Growth in the United States?" *International Productivity Monitor* 23
- Moore, Barrington. 1966. *The Social Origins of Dictatorship and Democracy: Lord and Peasant in the Making of the Modern World*. Boston: Beacon Press
- Morgan, Leslie A. and Suzanne R. Kunkel. 2015. *Aging, Society, and the Life Course, Fifth Edition*. Springer Publishing Company
- Mueller, Wolfgang and Christel Neusuess. 1979 "The 'Welfare-state Illusion' and the Contradiction between Wage Labour and Capital" in *State and Capital: A Marxist Debate*. edited by John Holloway and Sol Picciotto. University of Texas Press
- Muramatsu, Naoko and Hiroko Akiyama. 2015. "Japan: Super-Aging Society Preparing for the Future". *the Gerontologist* 51(4)
- Nathan, Andrew J. et.al. 2013. *Will China Democratize?*. JHU Press

- Niu, Chung Huang. 1958. *China will Overtake Britain*. Foreign Languages Press, Peking
- O'Connor, James. 1984. *Accumulation Crisis*. Basil Blackwell.
- Ohlenroth, Patricia. 2007. *Up from the Ashes: Rebuilding Japan After World War II*. Lucent Books
- Overy, Richard. 2005. *Collins Atlas of 20th Century History*. Collins Books, HarperCollins Publishers
- Reddaway, Peter and Dmitri Glinski. *The Tragedy of Russia's Reforms: Market Bolshevism Against Democracy*. US Institute of Peace Press
- Rigby, S. H. 1998. *Marxism and History: A Critical Introduction*. Manchester University Press
- Rosenstein-Rodan, P. N. 1961. "International Aid for Underdeveloped Countries". *Review of Economics and Statistics* 43
- Rothstein, Bo. 2014. "The Chinese Paradox of High Growth and Low quality of Government: The Cadre Organization Meets Max Weber". *Governance: An International Journal of Policy, Administration and Institutions*
- Sakuragawa, Masaya and Tatsuji Makino. 2007. "Labor Force Ageing and Economic Growth in Japan". In *Ageing Ageing and the Labor Market in Japan: Problems and Policies* eds. Hamada, Koichi et.al. Edward Elgar Publishing
- Samuelson, Paul A. and William D. Nordhaus. 2008. *Economics*. People's Posts and Telecom Press
- Sell, Friedrich L. 2007. "Anticipated Effects of Foreign Currency Reserve Diversification in Asian Countries: Do China and India Matter for Coordination?". *CESifo Forum* Spring 2007; 8,1
- Shen, Jianzhong. 2005. *The Basic System of Real Estate and Policies* (房地产基本制度与政策, in Chinese). China Architecture & Building Press
- Shih, Victor. 2004. "Dealing with Non-Performing Loans: Political Constraints and Financial Policies in China". *The China Quarterly*, 2004

Simon, Julian L. 1995. "The State of Humanity: Steadily Improving". *Cato Policy Report* September/October 1995

Smith, Adam. 1778. *An Inquiry Into the Nature and Causes of the Wealth of Nations, Volume 2*. W. Strahan and T. Cadell

So, Alvin Y. 2013. "The Global Capitalist Crisis and the Rise of China to the World Scene" in *Beyond the Global Capitalist Crisis: The World Economy in Transition*. Ashgate Publishing (ed. Berberoglu, Berch)

Song, Xiaoxiao. 2013. (in Chinese) "Performance Evaluation of the Four Trillion Investment" *Journal of Zhengzhou Institute of Aeronautical Industry Management* 31(1)

Speth, James Gustave. 2008. *The Bridge at the End of the World*. New Haven and London

Sridharan, Vishnu. 2007. *Construction Market and Construction Firms in China: Strengths, Weaknesses and Development Trajectory*. Collaboratory for Research on Global Projects, Stanford

Standing, Guy. 2016. *The Precariat: The New Dangerous Class*. Bloomsbury Publishing

Steffen W. et al. 2011. "The Anthropocene: From Global Change to Planetary Stewardship." *Ambio* 40

TUSIAD (Turkish Industry & Business Association). 2011. "China Construction Industry Overview 2011"

Unel, Bulent and Harm Zebregs. 2009. "The Dynamics of Provincial Growth in China: A Nonparametric Approach". *IMF Staff Papers* 56(2)

UKCG (UK Contractors Group). 2009. *Construction in the UK Economy: The Benefits of Investment*

van den Bergh, Jeroen C.J.M. 2009. The GDP Paradox. *Journal of Economic Psychology* 30

Veenhoven, Ruut. 2008. "Sociological Theories of Subjective Well-being" in *The Science of Subjective Well-Being*, edited by Michael Eid and Randy Larsen. Guilford Press

Wang, Zhen. 2013. "Who Gets Promoted and Why? Understanding Power and

Persuasion in China's Cadre Evaluation System". Paper presented at the Annual Meeting of the American Association for Chinese Studies

Weber, Max. 1968. *Economy and Society: an Outline of Interpretive Sociology*: New York: Bedminster Press

Weber, Max. 1946. *From Max Weber*. Oxford University Press, New York (edited by Gerth and Mills)

Wei, Mengxing. 2012. (in Chinese) "The Growth Benefits Analysis of the Four Trillion Investment: an Application of 'Counterfactual' Method". *Contemporary Finance and Economics* 336(11)

Wei, Yigang et.al. 2014. "The effects of monetary policy on real estate investment in China: a regional perspective". *International Journal of Strategic Property Management* 18(4)

Weinstein, David E. 2001. "Historical, Structural and Macroeconomic Perspectives on the Japanese Economic Crisis". in *Japan's New Economy: Continuity and Change in the Twenty-first Century*. Oxford University Press

Western, Mark and Wojtek Tomaszewski. 2016. "Subjective Wellbeing, Objective Wellbeing and Inequality in Australia" *PLoS ONE* 11(10)

Wu, Xiaogang and Li Jun. 2013. "Economic Growth, Income Inequality and Subjective Well-being: Evidence from China". Population Studies Center Research Report, July 2013. University of Michigan Institute of Social Research

Xia, Yuzhen and Jiang Lihua. 2004. *The Tutorial of Political Sociology*. Central China Normal University Press.

Xue, Jin et.al. 2012. "Is the Degrowth Debate Relevant to China?". *Environment, Development and Sustainability* 14

Yang, Yunshan. 2016. *Introspection and Prospect: Socialism Market Economy Theory and Practice* (in Chinese). Jilin University Press

Young, Melody W. 2015. "The Aftermath of Peng Yu: Restoring Helping Behavior in China". *Pacific Rim Law & Policy Journal* (2013)22

Zhang, Hong. 2005. *Real Estate Economics* (房地产经济学, in Chinese). Qinghua

University Press

Zhang, S.B. and Lei Zhang. 2003. *Construction Industry and Enterprises in China --- A Comprehensive Overview*. CIB TG 23 International Conference, Hong Kong

Zhang, Wenjuan et.al. 2008. "The Construction Industry in China: Its Bidding System and Use of Performance Information" in *Journal of the Advancement of Performance Information and Value* 1(1)

Zhou, Li-An and Hongbin Li. 2005. "Political Turnover and Economic Performance: the Incentive Role of Personnel Control in China". *Journal of Public Economics* 89:9-10

Zhu, Rongji. 2015. *Zhu Rongji on the Record: The Road to Reform: 1998-2003*. Brookings Institution Press

Zhu, Xiaodong. 2012. Understanding China's Growth: Past, Present, and Future. *Journal of Economic Perspectives* 26(4)

Documents:

Bureau of Statistics of Changsha. *Changsha Statistical Yearbook* (长沙统计年鉴) 1995, 1996, 1997, 1998, 1999, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013. China Statistics Press

Bureau of Statistics of Jinan. *Jinan Statistical Yearbook* (济南统计年鉴) 2000, 2008, 2010, 2012, 2013. China Statistics Press

Changsha City Government. 2007. "The Program for the Development of Six Major Industry Group in Changsha" (In Chinese) (http://www.changsha.gov.cn/xxgk/szfxgkml/ghjh/qsfgzh/200810/t20081031_10873.html)

Chinese Construction Machinery Association. 2011. *China Construction Machinery Yearbook 2011* (中国工程机械年鉴 2011). Machine Industry Press

Li, Keqiang. 2013. *Economic Situation Report in the 16th National Assembly of Chinese Trade Union*. (in Chinese). <http://cpc.people.com.cn/n/2013/1104/c64094-23421964.html>

Long, Gangyue. et.al. 2004. "The Inspirations of Changsha's Industry First Strategy to Strengthen the City"(长沙实施“兴工强市”战略的启示) in *Changsha Evening Newspaper* (长沙晚报), January 14, 2004

National Bureau of Statistics of China. *China Statistical Yearbook* (中国统计年鉴) 2012, 2013, China Statistics Press

Ni, Pengfei. 2011. *Blue Book of Urban Competitiveness 2011* (城市竞争力蓝皮书 2011), Social Science Academic Press

Renmin University of China, *China General Social Survey* (中国综合社会调查). 2003, 2013

Statistics Bureau of Japan. 2012. *Japan Statistical Yearbook (Historical Statistics of Japan, electronic version)*. Ministry of Internal Affairs and Communications.
<http://www.stat.go.jp/english/data/chouki/index.html>

The State Council of China. 2003. *Circular of the State Council on Promoting the Continuous and Healthy Development of the Real Estate Markets*

The State Council of China. 2008. “Ten Measures to Increase Domestic Demands and Facilitate Economic Growth” (In Chinese)
(http://www.gov.cn/jrzg/2008-11/10/content_1143831.htm)

Wen, Jiabao. 2004. Government Work Report 2004 (also in 2005, 2006, 2008)

Zhu, Rongji. 2001. Government Work Report 2001