NEAR EAST UNIVERSITY
GRADUATE SCHOOL OF SOCIAL SCIENCES
ECONOMICS PROGRAM

RELATIONSHIP BETWEEN SERVICE SECTOR AND ECONOMIC GROWTH IN CHINA: SPECIAL FOCUS ON REAL ESTATE AND HOTEL & CATERING SUBSECTORS

VUSAL MURSALZADA

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2020

ACCEPTANCE/APPROVAL

We as the jury members certify the 'Relationship between services sector and economic growth in China: Special focus on real estate and hotel and catering subsectors' prepared by Vusal Mursalzada defended on 07/January/2020 has been found satisfactory for the award of degree of Master

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DECLARATION

I, Vusal Mursalzada, hereby declare that this dissertation entitled 'The relationship between services sector and academic growth in China: Special focus on real estate and hotel and catering subsectors' has been prepared myself under the guidance and supervision of Asst. Prof. Behiye Tüzel Çavuşoğlu' in partial fulfilment of the Near East University, Graduate School of Social Sciences regulations and does not to the best of my knowledge breach and Law of Copyrights and has been tested for plagiarism and a copy of the result can be found in the Thesis.

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DEDICATION

Dedicated to my lovely family

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First of all, I am grateful to my thesis supervisor Asst. Prof. Behiye Tüzel Çavuşoğlu for her guidence, patience and support that she provided me during the research. Conducting such an important academic study is not easy at all. It requires a lot of time, hard work and patience. I am especially thankful to my lecturer Mr. Arash Sharghi, who did his best for me to form a solid academic background prior to this study and all my other lecturers for their kindness, motivation and contribution to me to successfully complete this research. Finally, I want to thank all my friends, who motivated and supported me to conduct this study.

ABSTRACT

RELATIONSHIP BETWEEN SERVICES SECTOR AND ECONOMIC GROWTH IN CHINA: SPECIAL FOCUS ON REAL ESTATE AND HOTEL & CATERING SUBSECTORS

Rapid economic growth of China during the last four decades have reshaped political and economic arena in the world. Under the leadership of Den Xiaoping China realized sets of reforms towards modernization and open economy since 1978 and these reforms helped China to be an economic giant. China's economy is still growing today and a distinct growth pattern and complex economic system and society of China draw interest from all over the world to research and understand what factors trigger such fast grow rates. In this study the relationship between two subsectors of the services sector, namely real estate and hotel & catering subsectors and economic growth in China is analyzed. The study uses quantitative methodology and time-series data acquired from secondary sources. ARDL method in Eviews 10 statistical software is utilized to analyze the data. The findings of data analysis reveal that both subsectors have a significant and positive impact on economic growth in both long run and short run. The findings can be generalized and be referred to the whole services sector and can be claimed that, positive relationship exists between the services sector and economic growth in China.

Keywords: Economic growth, services sector, real estate, hotel and catering.

ÖZ

ÇİN'DE HİZMET SEKTÖRÜ VE EKONOMİK BÜYÜME ARASINDAKİ İLİŞKİ: GAYRİMENKUL VE OTEL & YEMEK HİZMETLERİ ALT SEKTÖRLERİ

Son kırk yılda Çin'in hızlı ekonomik büyümesi, dünyadaki politik ve ekonomik arenayı değiştirdi. Den Xiaoping'in önderliğinde Çin, 1978'den beri modernizasyon ve açık ekonomiye yönelik bir dizi reform gerçekleştirdi ve bu reformlar Çin'in ekonomik bir dev olmasına yardımcı oldu. Çin'in ekonomisi bugün hala büyümektetir. Farklı bir büyüme çeşidi, ekonomik sistem ve Çin toplumunun karmaşık yapısı dünyanın her yerinden bu hızlı büyüme oranlarını hangi faktörlerin tetiklediğini araştırmak ve anlamak için ilgi çekmektedir. Bu çalışmada, hizmet sektörünün iki alt sektörü, emlak ile otel ve yemek hizmetleri alt sektörleri ve Çin'deki ekonomik büyüme arasındaki ilişki araştırılmıştır. Çalışmada, ikincil kaynaklardan elde edilen zaman serisi verileri ile kantitatif metodoloji kullanılmıştır. Verileri analiz etmek için Eviews 10 istatistiksel yazılım programı ve ARDL metodu kullanılmaktadır. Veri analizi bulguları, her iki alt sektörün de hem uzun vadede hem de kısa vadede ekonomik büyüme üzerinde önemli ve olumlu bir etkisi olduğunu ortaya koymaktadır. Bulgular Çin'de hizmet sektörü ile ekonomik büyüme arasında pozitif bir ilişki olduğunu kanıtlamaktadır.

Anahtar Kelimeler: Ekonomik büyüme, hizmet sektörü, gayrimenkul, otel ve yemek hizmetleri

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ABBREVIATIONS

GDP – Gross Domestic Product
USD – United States Dollar
UK – United Kingdom
US – United States
FDI – Foreign Direct Investment
R&D – Research & Development
VECM – Vector Error Correction Model
RSA – Republic of South Africa
VAR Model – Vector Autoregressive Model
OLS – Ordinary Least Squares
NBSC – National Bureau of Statistics of China.
SEZ – Special Economic Zone
WTO – World Trade Organization
ECH – Economical and Comfortable Housing
HPF – Housing Provident Fund
CRH – Cheap Rental Housing
VEC – Vector Error Correction
CPC – Communist Party of China
CSR – Corporate Social Responsibilities
ARDL Model – Autoregressive Distributed Lag Model
ADF – Augmented Dickey Fuller
ECM – Error Correction Model

INTRODUCTION

Background of the study: The 20th century witnessed great changes in the geopolitical arena. Events like World Wars, the Great Depression, replacement of hegemonic powers and the Cold War greatly changed and restructured balance of power among states, causing some of them to become much stronger than before and some of them to end their existence. Balance of power among world actors is rather a political term, but it has paramount implications for economies. Today one of the prominent figures in the World geopolitical arena is China. China has realized miracles in the last few decades and achieved unbelievable economic growth, which has significantly improved its status and power among other states. Economic growth of China is still an actual process and is perceived differently by regional and global actors. Some of them consider China as a most likely threat, despite China's attempts to build peaceful and beneficial relations with its neighbors and other world actors. Some consider China's economic growth exaggeration, blaming China to falsify statistical data covering many fields of Chinese economy. Nevertheless, China's skyrocketing economic growth is a very extraordinary phenomenon and a very interesting case for scholars. Numerable scholars have attempted to explore determinants of Chinese economic growth so far. In this study a quantitave analysis will be conducted to understand the role of the service sector (two subsectors of the service sector - real estate and hotel & catering will be analyzed in this study) in economic growth of China. This study is a valuable source for everyone, who is surprised by economic achievements of China and will help academia to look at the phenomenon from a different and more accurate angle.

Problem statement: Although Chinese economy has achieved significant growth in the last three decades, There have been few studies to examine the role of the services sector in achievement of such a rapid grow. In order to understand, if China will be able to sustain such a high growth rate in the future, determinants of economic growth in China must be researched extensively. On the other side, despite service sector growth is visible over

the years in China, in reality, services growth and academic growth in general are highly regional. Eastern coastal regions develop more than Central and Western regions. This, in turn establishes huge inequalities inside the country. Lack of academic sources and practical problems related to services sector and academic growth require more research on the theme.

Aims of the study: Some of the numerous aims of this study include summarizing previous studies conducted on the subject and present a clearer picture of the researched issue, discovering factors that lie behind the miracle of Chinese economic growth, proving the relationship between the service sector growth and overall economic growth of China and providing recommendations for Chinese policymakers and for those, who have intentions to do business in China.

Research questions:

i. Is there any relationship between the services sector and economic growth in China in the long run and in the short run?
ii. How do the subsectors of services sector, namely real estate and hotel and catering subsectors impact economic growth in the long run and in the short run?

Significance of the study: China's place in the world is strengthening. Economic achievements of the state gained only in the last four decades is simply astonishing. Economic growth of China can have significant impacts for the whole world. China's distinct growth pattern is a new phenomenon for scholarship too. That's why, it is important to do a research on this miracle to understand growth patterns and determinants of growth and enrich the literature, which might have not only economic, but also political implications.

Limitations of the study: The study aims to cover the topic extensively and be a valuable academic source for those, who seeks to explore and understand complex Chinese economic environment. However, some limitations also exist and prevent us from reaching ideal results. Here are some of noteworthy limitations. First of all, sample annual data covers the

time span between 1990–2018. However, some fast, unexpected and hard-to-understand processes are currently going on, such as the recent US-China trade conflict and nature of economy in China can therefore, significantly change very soon. These processes cannot be analyzed in this research as annual data for 2019 is not indicated in statistical databases so far. Secondly, English-langauge literature has been the major source of research. Due to natural language barriers, rich Chinese – language academic resources have rarely been used in this study. Finally, the study takes into consideration only two subsectors of China's services sector and generalizes the findings for the whole service sector as size of the service sector is very large.

Thesis outline: The study is divided into four chapters. In the first chapter the concept of growth, growth theories and how growth is connected to different parts of economic system are explained. The second chapter includes rich literature sources written on economic system of China, services sector and real estate & hotel and catering subsectors. Literature review allows us to consider what studies have been conducted in the field, what points have been researched extensively and what kind of research gaps exist in literature. Chapter three includes data collection and analysis, in other words, methodology that has been used in the study to determine research results. Chapter four will be dedicated to interpreting results and summarizing the thesis. Recommendations for policymakers will also be included in this chapter.

CHAPTER 1
ECONOMIC GROWTH

Economic growth is a very important term for the whole world. While some countries enjoy high standards of living, people in some other countries live in absolute poverty. The subject is so important that, today a field of economics has emerged, which is called growth economics and this field studies standard of living in different countries to understand why there are such inequalities in the world and how poor countries can grow.

Different scholars define economic growth in different terms. Howitt and Weil (2010) interpret the term as an increase in a country's living standars. Economic growth is generally measured by GDP per capita change. Growth can be extensive or intensive. Extensive growth occurs when increase GDP is fully absorbed by population increase, leaving no way for per capita income to rise. Intensive growth happens when there is an more GDP rise than population and it causes rise in GDP per capita (Snowdon & Vane, 2005).

Barro and Sala-i-Martin (2003) present an interesting calculation and comparison to understand what an important factor the growth is, especially sustainable long term growth. Authors make calculations to find annual average growth rate for the US economy. They use real per capita GDP by a factor of 10 in 1870, which equals to 3340 USD in 1870 and 33.330 USD in 2000, both on the base of 1996 dollar value. They find annual growth rate approximately 1,8 %. Pointing this out, authors claim that, if the annual growth rate in the US was 0,8 % (only 1 % less than the number they found)

per capita GDP in 2000 would only be 9450 USD in the US. This growth rate would be similar to the growth rates of countries like Pakistan and India. On the contrary, if growth rate of the US was 1 % more than the actual value (2,8 %), per capita GDP in 2000 in the US would be 127.000 USD, 3,8 times more than actual value in 2000. Not any one country has achieved this growth rate in known history so far, by the way.

As seen from the example above, even small differences in long term growth rates can cause dramatical changes in standards of living across countries. Any policy-making objective that aims increasing long term growth rates, therefore must be understood well in order to contribute to higher living standards (Barro & Sala-i-Martin, 2003).

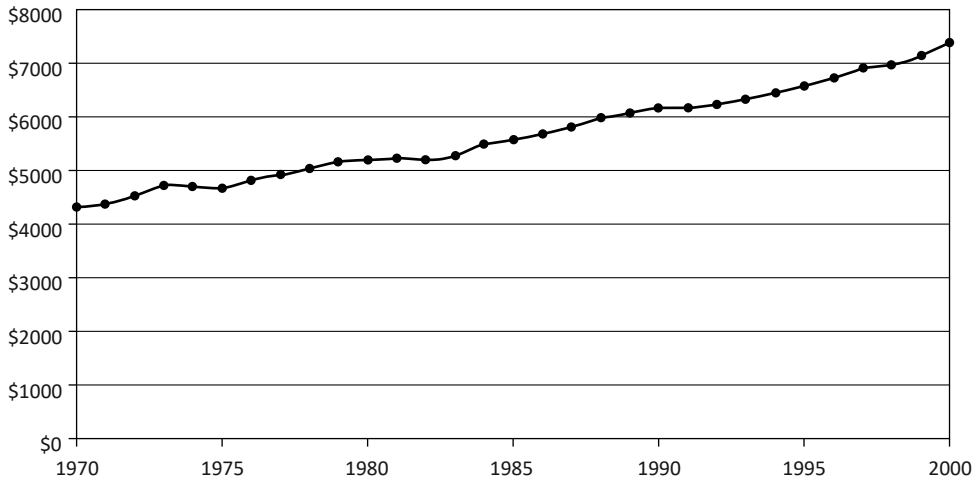

Figure 1.1: World Per Capita GDP, 1970-2000.
(Source: Barro & Sala-i-Martin, 2003)

Figure 1.1 represents per capita GDP change in the world during 1970-2000. Clearly, per capita income for an average person in the world has increased through decades. But does it mean that, all citizens have benefited from income rise? To understand how increase in aggregate GDP has affected powerty, Barro and Sala-i-Martin (2003) estimate income distribution dynamics for the world during 1970-2000. **Figure 1.2** reveals that, a large fraction of Chinese and Indian population lived below the powerty line in 1970. The same conclusion can be made for the whole world population, so that, a large fraction of the World population were poor in 1970.

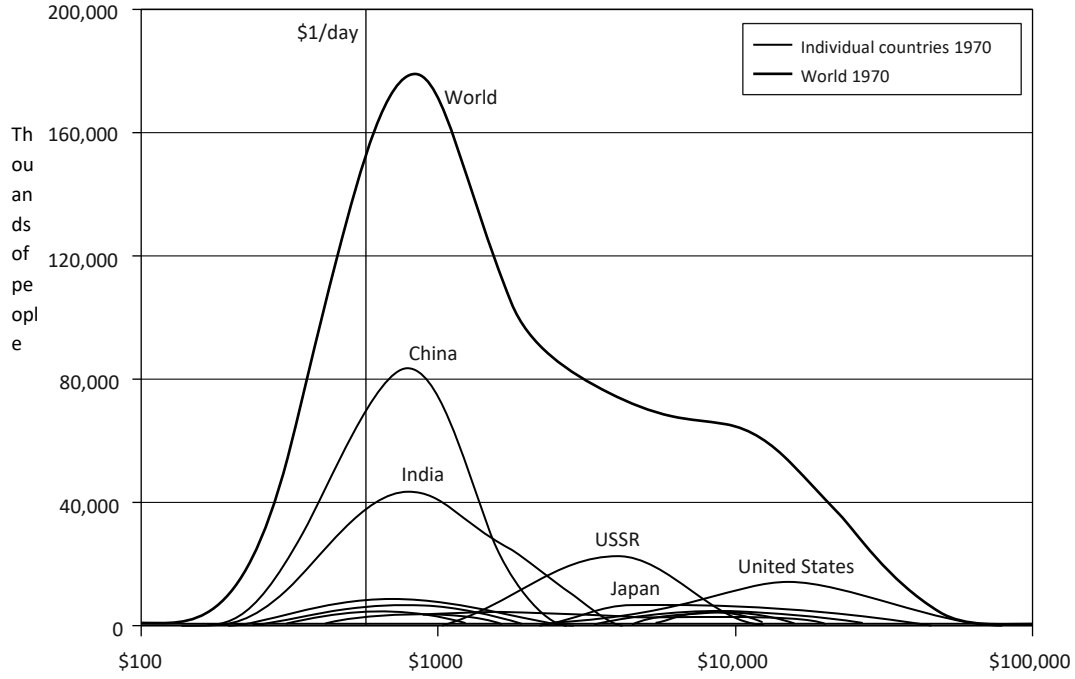

Figure 1.2: The world distribution of income in 1970.
(Source: Barro & Sala-i-Martin, 2003)

Figure 1.3 shows income distribution for individual countries and the world in 2000. The changes are noteworthy. Firstly, income distribution line for the world and many individual countries has shifted right, indicating growth in GDP. However, inequality in income enlarged in some big countries like China over 30 years.

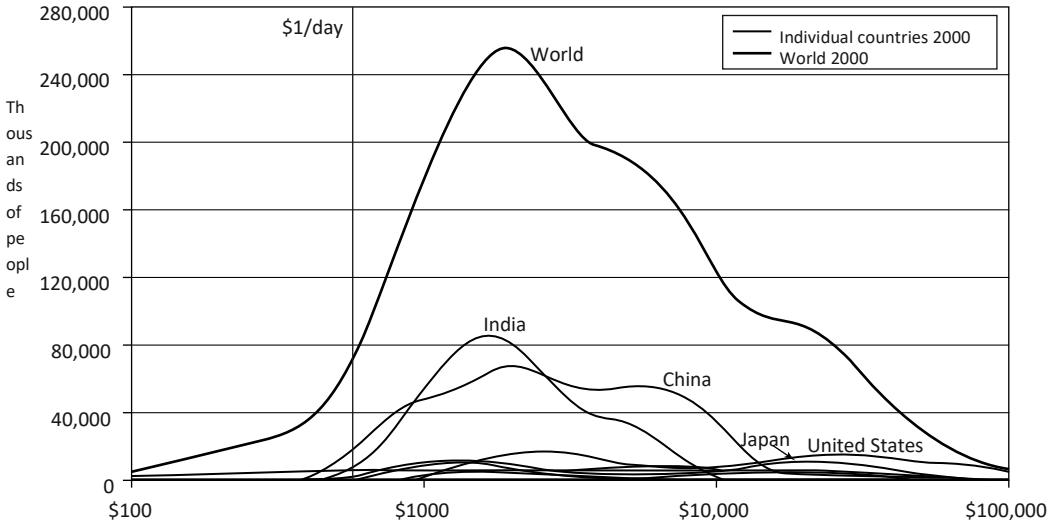

Figure 1.3: The world distribution of income in 2000.
(Source: Barro & Sala-i-Martin, 2003)

Finally, **Figure 1.4** indicates that, a part of poor people, whose incomes lie below the poverty line has decreased sharply between 1970-2000.

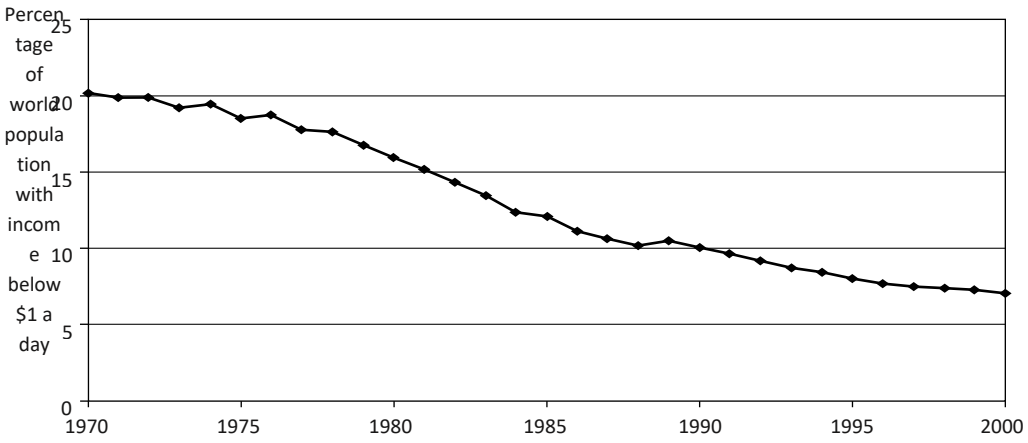

Figure 1.4: World poverty rates
(Source: Barro & Sala-i-Martin, 2003)

Has the world economy continuously grown and evolved throughout centuries? Maddison (2001) answers to this qustion in his studies and notes that, world economic growth started to increase considerably in around 1820 when industrial revolution occurred. He states that, change in factors such as output and population growth level has been unequal through time and space. There were severe catastrophes in the 6th and 14th centuries which caused huge slowdowns in economic system. Also, many countries experienced major recessions in the 17th century. There were several matters that affected population growth in a very negative way. Among them the severest ones were famines, infectious diseases and devastating wars, going on for hundreds of years (Maddison, 2001).

Industrial revolution paved the way for sustainable growth. Starting in the UK, revolution and resulting economic growth spread to the whole world, but not in an equal way. Huge discrepancies started to emerge among country growth rates (Gorlach, 2011). Modern economic growth theory is a helpful tool to understand why such an inequality emerged (Snowdon & Vane, 2005).

Maddison (2001) in his famous study calculated level of economic output for different countries and revealed that, actually there was no growth in the World before 19th century. Modest growth in the World economy accelerated relatively in the beginning of the 20th century and it promoted much faster growth in the latter half of the 20th century, however, inequally in the world. Several factors or events have affected speedy growth rates. Among them the most important ones are technological development, cheap labor etc. (Alfredsson & Malmaeus, 2017). **Table 1.1** presents his calculations on level and rate of growth of GDP in the world and different regions. It is possible to see that, growth levels between 0-1820 and 1820-1998 are significantly different.

	0	***1000***	***1820***	***1998***	***0-1000***	***1000-1820***	***1820-1998***
	(billion 1990 international dollars)				***(annual average compound growth rate)***		
Western Europe	11.1	10.2	163.7	6 961	-0.01	0.34	2.13
Western Offshoots	0.5	0.8	13.5	8 456	0.05	0.35	3.68
Japan	1.2	3.2	20.7	2 582	0.10	0.23	2.75
Total Group A	12.8	14.1	198.0	17998	0.01	0.32	2.57
Latin America	2.2	4.6	14.1	2 942	0.07	0.14	3.05
Eastern Europe & former USSR	3.5	5.4	60.9	1 793	0.05	0.29	1.92
Asia (excluding	77.0	78.9	390.5	9 953	0.00	0.20	1.84
Africa	7.0	13.7	31.0	1 939	0.07	0.10	1.99
Total Group B	89.7	102.7	496.5	15727	0.01	0.19	1.96
World	102.5	116.8	694.4	33726	0.01	0.22	2.21

Table 1.1: Level and Rate of Growth of GDP: World and Major Regions, 0-1998 A.D.
(Source: Maddison, 2001)

Table 1.2 shows Maddison's (2001) calculations on how per capita GDP has changed throughout centuries in the world and major regions.

	0	*1000*	*1820*	*1998*	*0-1000*	*1000-1820*	*1820-1998*
		(1990 international dollars)			*(annual average compound growth rate)*		
Western Europe	450	400	1 232	17 921	-0.01	0.14	1.51
Western	400	400	1 201	26 146	0.00	0.13	1.75
Japan	400	425	669	20 413	0.01	0.06	1.93
Average Group A	443	405	1130	21 470	-0.01	0.13	1.67
Latin America	400	400	665	5 795	0.00	0.06	1.22
Eastern Europe & former USSR	400	400	667	4 354	0.00	0.06	1.06
Asia (excluding Japan)	450	450	575	2 936	0.00	0.03	0.92
Africa	425	416	418	1 368	-0.00	0.00	0.67
Average Group B	444	440	573	3 102	-0.00	0.03	0.95
World	444	435	667	5 709	-0.00	0.05	1.21

Table 1.2: Growth of Per Capita GDP by Major Region, 1000-1998.

(Source: Maddison, 2001)

Economic growth has evolved unequally across regions. North America and Western Europe have managed to have high standards of living in compare to the rest of the World, Japan being an exception. Maddison (2001) compares different countries and phases of growth in these countries. **Figure 1.5** compares China and the UK and shows that, there is a huge and sharp increase in per capita GDP in China after 1950s, but growth in the UK has been steady and continuous in character after the 19th century.

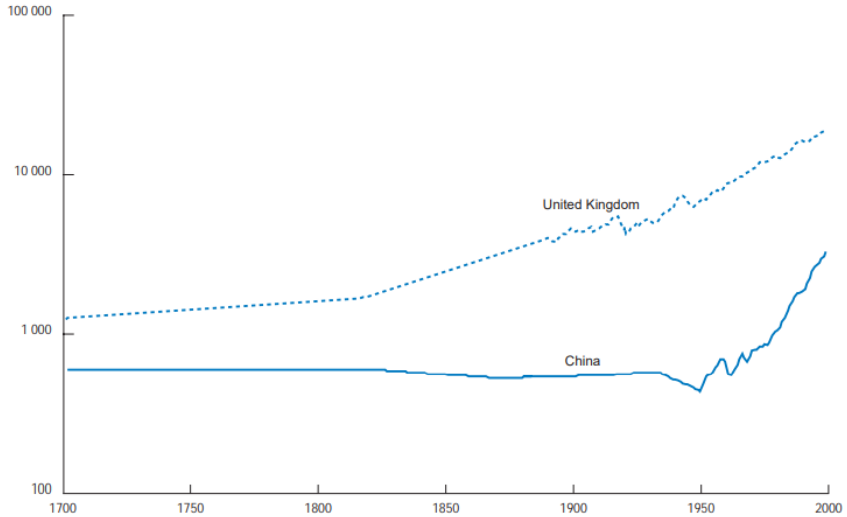

Figure 1.5: Comparative Levels of GDP per Capita, China and the US, 1700-1998

(Source: Maddison, 2001)

In the **Figure 1.6** comparing China and the US, Maddison (2001) shows that, both countries' economic situations were almost the same in the beginning of the 18th century, China's position was even a little better. However the US economy grew steadily ever since compared to long stagnation and then sharp increase in Chinese economy.

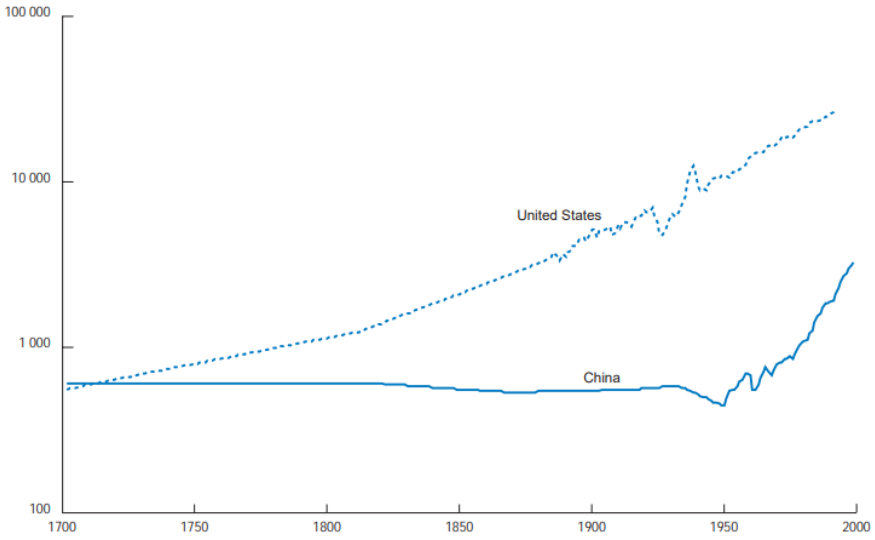

Figure 1.6: Comparative Levels of GDP Per Capita, China and the US, 1700-1998.
(Source: Maddison, 2001)

Maddison (2001) claims that, 1950-1973 interval was the ''Golden Age'' of the world, as rate of growth reached 2,93 % on average, annually.

During the latter half of the 20th century increase in the difference in income distribution between countries has weakened with rapid economic growth in Asian countries. However, income gap proportion between the top richest and poorest countries (mainly African countries) didn's shrink (Evans, 1996). Sala-i-Martin (2006) examines cross- individual income data within-country and comes into conclusion that, proportional income gap inequality among individuals has shrunk in the World significantly during 1970-2000.

Scholars of 18 and 19th centuries saw economic growth as a consequence of increase in basic factors of production, especially capital and labor (Ross

et al., 2009). Classical theory of growth also brings forth the importance of FDI for economic growth by the means of infrastructure development, development in advanced technology etc (Zein, 2006). Today economic growth is already thought as a normal state of economy and policies seek the ojective of growth in many economies (Alfredsson & Malmaeus, 2017).

Relating economic growth and development to external factors, rather than internal factors is the main presumption of **exogenous** growth theories (Tetani, 2016). In neoclassical growth models an important subect is capital accumulation. Positive output is a consequence of rise in human capital and augmented labor. One of the main neoclassical growth models is Solow's (1956) growth model. In Solow model of growth technological innovation overweighs capital accumulation. Technological innovation is referred as Total Factor Productivity and is determined exogenously in the model. (Pollard, Shackman, & Piffau, 2011).

Growth theory has evolved from classical ideas of Smith and Ricardo to neoclassical theories of Solow and Swan and more recently to endogenous theories (Sipuka, 2015). Neoclassical growth model is a starting point of any economic growth study, according to Aghion and Howitt (2009).

Harrod(1939) and Domar(1946) growth model is one of the models that gained fame before the Solow-Swan model. This model approaches capital formation as a contributor to the improvement of living standards, which, in turn empowers economic growth. Model also includes comparison of two kinds of growth rates; natural growth rate which is derived from labor force increase when there is no technological change and warranted growth rate which is based on savings and investment habits of individuals (Nashidengo, 2014). Solow (1956) criticized this model, arguing that, there shouldn't be fixed proportion of capital and labor in the model. Solow argued that, investment growth should be a dynamic process and labor productivity should increase in such a dynamic environment and capital formation should cause this rise in labor productivity. Solow model considers knowledge as an important input in production process. Solow model also considers

diminishing returns to physical capital and exogenous technological improvement. According to these theories, countries with the same options and technology will achieve the same level of income and asymptotic growth if there is no international capital mobility. Factor mobility confirms that capital always flows from capital- rich countries to where capital is scarce. This leads to long-term equilibrium as capital is adjusted according to labor/capital ratios and factor prices (Nashidengo, 2014).

Solow and Swan (1956) claimed that, accumulation of capital alone is not capable of sustaining economic growth. The Solow model claims that, if people save more, it will cause economic growth. And it is a policy option to convince people to save. But the model also asserts that, growth cannot be sustained permanently. The reason is that, in the long term growth rates will be dependent on change in tecnology and it is an external factor to the model. According to the principle of diminishing utility, there will be limits on output produced by a person with increasing capital, rate of technology given externally. The summary of the Solow model has been presented by Kurz and Salvadori (2003) as below:

1) Main tenets of Solow model are production function and capital accumulation. That's why, capital stock is an endogenous factor in this model.

2) Capital stock in this model means sum of all previous investments in the country, including all buildings and equipment acquired in the past.

3) Solow model aims to enlighten us about how growth is acquired, however partially. The model states that, in the long run rising grow cannot be sustained because of diminishing returns of capital. It means that, with increasing capital, depreciation, investment and output also increase. But depreciation increases more than the latter two. At some point new investment is found just enough to counteralance depreciation and capital stock doesn't grow anymore. Output growth also stops thereafter and this is where steady state is experienced.

4)Total factor productivity and investment rates are necessary determinants of the steady state point. Least developed or developing countries have lower levels of these two factors rather than the developed ones.

Solow model has also been interpreted by Gross and Helpman (1994) as below:

1) The economy will move toward a stable steady-state equilibrium.
2) In the steady-state equilibrium, continuous economic growth can be achieved only when there is technological progress.
3) Medium-term growth in per capita output can occur when the economy moves from one steady state to another.
4) If the population growth rate is reduced or rate of savings rise, the economy will move to a higher steady state.
5) If there is an increase in technological progress to aid increasing labor productivity, the economy will experience higher constant economic growth.

The Solow model has an important role in economic growth theories. It has been a reference point for many later models. However, later scholars have challenged this model. Frankel (1962) and Romer (1986) claim that, capital accumulation is a requisite of economic growth. In other words, economic growth depends on capital accumulation via physical capital investment increase. It will create rise in productivity rates and in its turn economic growth rate (Howitt & Weill, 2010).

The role of capital in growth theories strengthened in 1980 and onwards. New growth theories started to emphasize on knowledge. New growth theories tackle with technological knowledge, its transmission, research and development and innovation of technologies and considers all these factors to be the main locomotive of economic growth. (Lucas, 1988; Romer, 1990).
For **endogenous** growth theorists economic growth is determined by internal factors. Economic growth is directly influenced or generated by knowledge and physical capital. Marginal product of capital is an important assumption

of these models. Production function and savings function are straight lines under these models. Savings are considered to be greater than required and thus, people can always invest on capital stock with no technological improvement. Savings and investments are considered as ways to promote economic growth (Tetani, 2016).

According to Solow and Swan (1956) , technological development is an exogenous process and rate of technological prosperity is a scientific process. Thus, long term growth is exogenous to economic system. Jones (1998) claims that, despite neoclassical models mention the importance of technological change, they are mainly based on capital factor. These theories don't provide models for technological change and rate of technological change is derived exogenously.

Endogenous growth theories seek to overcome this shortcoming and provide ways to trace technology change to measurable economic factors. Innovations are the main channels, through which technological change occurs (Howitt, 1999). Howitt claims that, as innovations are generated by R&D, economic policies fostering competition, property rights etc. can affect R&D and result in innovation in consequence (Howitt, 1999). Endogenous growth theories state that, market forces determine technological change, in other words it becomes endogenous factor (Sipuka, 2015).

The latter half of 1980s witnessed a new phase of researches about economic growth. Early works of Romer and Lucas can be considered as initial foundations of new endogenous theories, which endogenized technological growth that was considered as an external factor in neoclassical theories. Some of key studies conducted in the field belonged to Romer (1990), and Grossman and Helpman (1991).

Temple (1999) proposes AK model of growth formuated as: $Y(t) = A(k) K(t)$ and concludes that, K(t) encompasses capital, including human, physical and knowledge. Technological change is indicated as A(k). This model was among the earliest endogenous models. Temple further suggests that,

technological change will be different among nations and will be dependent on numerous factors, such as education level of labour force and types of investment in research and development, technological progress, whether through FDI or learning by adapting or transformation to more flexible, transparent, efficient institutions and organizations (Temple, 1999).

Romer was the first scholar whose works covered topics such as R&D theories and imperfect competition. According to Mare (2004), Romer's (1990) contribution to the development of endogenous growth theories is undeniable. His study is especially influental as the earliest model of the new school has been included to the article.

Mare (2004) states that, Romer's (1990) model has three sectors, of which the first is the research sector. This sector uses labor force and the result is research outputs in the form of licenses or similar 'products'. Later these products are used for production of intermediate sector goods. Inputs of the second sector are used for production of final goods sector. Research sector size determines growth rate in this new model.

Growth models of these scholars claimed that, technological development is a result of R&D activities committed purposefully and unless economy cannot come up with new ideas, growth rate can possible stay positive in the long run. In endogenous theories government plays an important role in achieving long term economic growth via its policies, institutions, protection of rights, ease of trade regularities ets (Barro & Sala-i-Martin, 2003).

New growth theories emphasize that economic growth is the result of increasing revenues generated by new knowledge. The ability to develop the economy by increasing knowledge creates opportunities for almost limitless growth (Cortright, 2001).

New theory of growth is an alternative, non- orthodox view into the economy, which includes two important points. Firstly, it considers technological development as a product of economic activity, unlike the earlier theories that considered technology as a product of non-market power. The new growth

theory is often called the “endogenous” growth theory because it integrates technology into the market’s functioning model. The second important point is that, the new theory of growth claims that, information and technologies are characterized by increasing returns, and increasing returns are what generate the growth process (Cortright, 2001).

The essence of the new growth theory is that, knowledge generates growth. Since ideas can be endlessly transmitted and used, they can be accumulated without restrictions. They are not subjects to diminishing returns but increasing returns and increasing returns to knowledge promotes economic growth. The new growth theory helps us understand the transition from a resource-based economy to a knowledge-based economy. This emphasizes that economic processes that create and disseminate new knowledge are essential to the growth of nations, communities and individual firms (Cortright, 2001).

New Growth Theory challenges the neoclassical model in many important ways. Earlier neoclassical growth models developed by Solow and others did not attempt to explain causes of development of technologies over time. As Romer says: “We now know that the classical suggestion that we can grow rich by accumulating more and more pieces of physical capital like fork lifts is simply wrong” (Romer 1986). As any kind of physical capital will yield diminishing returns, it is not possible to achieve sustainable growth in the long term using physical capital only (Cortright, 2001).

Diminishing returns ocur due to the fact that, physical world and resources are scarce. One of the most important differences between objects and ideas as Romer argued is that, ideas are not limited and they don’t suffer from diminishing returns (Romer quoted in Kurtzman, 1997).
Main tenet of the new growth theory is the role that knowledge plays in the possibility of achieveing growth. Knowledge means all pieces of information we know about the world. There is a particular trait of knowledge that makes growth so critical. As a non-rival good, knowledge is exposed to increasing returns. Non-rival goods are very different from conventional goods and

services that are abundantly mentioned in economics textbooks. The two main features of ordinary goods and services:

- Conventional goods are rival - only one person can utilize them at a given time.
- Conventional goods are excludable - One can exlude others from using the goods that he / she owns.

Goods can be separated into private goods, which are rival and excludable and are produced by markets and public goods, which are non- rival and non-excludable and are produced by governments or non- market powers. Ideas, in this classification can be placed under public goods. But not all ideas are completely public goods. Despite they are non-rival, so that people can use them at the same time, economically valuable ideas are at least partially excluded. Most importantly, their exclusion is not a function of the inherent nature of the idea, but a function of socially determined property rights. Patents, trademarks and copyrights allow individuals to have certain rights on the ideas that they create to prevent others from using them. Idea confidentiality allows trade owners and owners of confidential information to deprive others from their benefits (Cortright, 2001).

Non-rival quality of ideas promotes economic growth. Ideas can be shared by everyone and reused costlessly. Accumulation of more and more knowledge and to understand how we can benefit from the limited resources that the world offers, we allow economy to develop.The knowledge market has different rules than the usual goods and services market. Since knowledge has increasing returns, whoever has the largest market share, achieves the highest profitability. When a leading manufacturer is facing diminishing costs, anyone who is a leader in the knowledge market can maintain its position and expand it. As a result, a leading firm is more likely to dominate or monopolize the market (Cortright, 2001).

A knowledge-based economy is prone to monopolistic competition. Companies compete as monopolies with a particular, but differentiated product or service. Competition is characterized by development of features

of the product such as product variety, quality, and the establishment of new products. This market is very different from the equilibrium based model of the neoclassical economy. Although such competition can have minor consequences for some markets, such as popular music sales, it can have significant consequences for some companies such as operating system or software companies (Cortright, 2001).

New ideas are often created by new firms. New businesses are developing new ideas that break old ones and it is called "creative destruction", named by Schumpeter (1934). An important area of economic policy is the creation of an institutional environment that supports technological change (Romer 1994). Assuming that the economy is a game, institutions are the processes by which the rules and regulations of the game are defined and applied. Official institutions are the constitution, statutes, courts, legislative bodies etc. There are also informal institutions such as social practices, cultural relations and values, interpersonal and business relationships etc (Cortright, 2001). Governments play an important role in structure establishment to aid economies to grow. New structures must be established by institutions to help to overcome new challenges (Thurow, 1999).

The New Growth Theory offers some policy objectives for governments. First of all, economic strategies should aim to create new knowledge in businesses together with conventional knowledge creation institutions. States and communities are able to influence their economic fate. Path dependency trait of growth means that, future growth opportunities depend heavily on existing knowledge and experience that communities has and growth strategies should consider this. All small and large ideas play a role in economic development. Finally, knowledge-based growth can recreate and redefine itself, whereby faster growth leads to additional knowledge and further growth (Cortright, 2001).

Mentioning history of economic growth and different growth theories that have shaped our understanding of economic growth, it is also necessary to add that, growth is not realized in isolation. Economic growth is closely

connected to many fields. Studies seeking to find links between growth and different areas of economy can give us insights to understand how growth is realized.

Medvedev (2005) examines the relationship between economic growth and level of schooling in transition countries. He uses Solow production function augmented with human capital. He finds statistically significant, but negative relationship between the two variables. Although findings of the research might seem unreasonable, several possible explanations have been presented in the thesis for the result, such as slow adoption of innovative technologies and rent seeking.

Tetani (2016) conducts a study on the causal link between exports and economic growth in the Republic of South Africa. Annual data covering 1970-2014 have been used in the study. The author uses the VECM and the Granger Wild test to prove the hypothesis. Any causal relationship between the two variables in the short run is not approved. However, utilising VECM, the study claims that, there is a positive relationship between exports and growth in the long term. As other variables have been used in the study, there are some more interesting results that the author has found. It is claimed that, consumption negatively affects economic growth in the long run. The same thing can be said about government investments. On the contrary, private investments affects growth positively in the long run. According to the author, if the RSA aims to achieve growth in the long run, the country needs to increase exports, cut government spendings and attract investment to the country.

Nashidengo (2014) conducts a study to examine relationship between FDI and economic growth in Namibia. The author uses annual data covering 1980-2012 period for the study. VAR framework is used to prove the relationship between the two variables, together with Granger causality test. Furthermore, the techniques of forecast error variance and impulse response functions have strengthened the findings of the study. As a result, the study finds that, there is a positive relationship between FDI and economic growth

in Namibia during the given period. Some other conclusions have also been made. For instance, the study proposes that, major flow of foreign investment has targeted mining and manufacturing sector of Namibia so far, however, better results can be achieved for the country if other sectors, such as education are also targeted while investing. Furthermore, export-led growth is given as a possibility for the country to boost growth, as a positive relationship has been found between exports and growth.

Al.Taeshi (2016) studies the impact of Inflation on economic growth in Malaysia between 1970 and 2014. Ordinary Least Squares method was utilized to prove the relationship between the two variables and supportive techniques, such as Granger causality, variance decomposition and impulse response functions strengthened the overall analysis. The study finds a positive relationship between inflation and economic growth in the long run. Results show strong evidence that, low levels of inflation tend to negatively affect economic growth in the short run. When inflation rate surpasses the threshold rate, there will be huge decline in economic growth. Another conclusion is that, inflation and imports are the main locomotives of Malaysian economic growth. Increase in imports should be carefully controlled.

Nach (2016) seeks to find determinants of economic growth in the Republic of South Africa using quarterly data, covering Q1 2004- Q4 2014. The study aims to to examine Keynesian aggregate demand variables and their impact on economic growth. OLS method has been used in the study and the independent variables are consumption, investment, government spending and net exports. Results show that, all independent variables are statistically significant and positively related to the dependent variable. Consumption was found to be the main driver of the economic growth. Investment also generated significant amount of growth in a given time period. However, despite government exports and net exports being significant, contributed the least to the economic growth. The study claims that, growth in the RSA economy in the given duration was mainly generated by demand side factors. The study presents some policy recommendations according to the findings.

South African government should promote investment, productivity should rise, diversification and industrialization of economy should increase. Economic growth can also increase by promoting domesting investment. Government spending should decrease for the same aim. Finally, despite net exports have little impact on economic growth, theories prove long term positive relationship between exports and growth. So, export promotion should be a policy objective of the RSA economy.

Rahimov (2013) studies sectoral effects of FDI on the econoic growth of the host country. He concentrates on emerging countries in his research. Time series data that is used for analysis covers 1994-2011. Sample countries in the study are Czech Republic, Mexico, Poland, South Korea and Turkey. Findings indicate that, overall effect of FDI on economic growth is positive, however, different sectors of economies of these countries don't react to FDI increase the same way. Technological change becomes an important distinguishing factor here. Sectors that response technological change swiftly and take advantage of technological innovation will have bigger shares on economic growth. The author finds positive but insignificant effect of FDI in mining and quarrying sector. Manufacturing sector affects growth significantly and positively, according to the author. FDI in trade and financial intermediaries sector has a negative influence on growth, interestingly.

Gamolya (2006) tries to prove links between Ukraine's real and financial sectors. More specifically, relationship between economic growth and stock markets is researched in the paper. VAR method is used in the study, together with some post-estimation techniques. Findings point out that, stock market of the Ukraine at least advances economic activity in the country. However, small and insignificant size of Ukrainian stock market doesn't allow the author to draw definite conclusions about how exactly stock market contributes to the growth. Therefore, Gamolya concludes that, stock market is rather a forecasting than a determining factor of growth. In many developed economies stock market is a strong indicator of growth. For Ukraine, to achieve this sound relationship between real and fiscal sectors a

few suggestions have been proposed by the author, such as improving the market to be more credible and getting aid from abroad.

Liu (2011) seeks to find a relationship between financial development and economic growth in China using time series data covering 1978-2009. Findings of the study indicate that, in the short run development of financial sector will promote economic growth in China. Reverse situation also proves true, meaning that, financial sector will take benefits from increasing growth. The study also forecasts that, if Chinese banks provide too much loan, there will be slowdown in growth. However, study doesn't claim long term positive relationship between two sectors. Author later proposes that, Chinese government should deepen financial reforms to improve banking system. Another policy objective should focus on development of rural financial institutions. Also Chinese government should improve environment for small businesses. Finally China should promote and support stock markets and other newly emerging financial markets.

Another research conducted on the relationship between FDI and economic growth belongs to Miernik (2016). His target region is Central and Eastern European countries. Miernik (2016) finds that, FDI has a positive impact on economic growth. Foreign direct investment is considered as a whole in the study, but dissecting it helps to understand unequal impact of FDI. Efficiency-driven investments based on costs and other benefits are likely to support growth more than market-driven ones.

CHAPTER 2
ECONOMY OF CHINA

2.1 Bacground of the economy of China

Numerous amount of researchers have studied China and Chinese economy from different aspects. In order to understand complex Chinese economy it is necessary to conduct in depth literature review of Chinese economy. However, firstly, it would be helpful to give an overview of the country. Official statistics published by National Bureau of Statistics of China (NBS) for the year 2018 reveals many facets of Chinese economic system. Chinese population have grown from 962,59 million in 1978 to 1,39 billion in 2017. In 1978 only 172,45 million population lived in cities (urban population), which constituted around 18 % of the total population, but in 2017 urbanization rate was recorded to be around 59 %. Main reason of this switch can be tied to better life conditions and employment options developed in urban areas. Annual average growth rate of total population has been 0,9 % . The same indicator for urban population is 4,1 % in 2017, whereas growth rate for rural population has been **– 0,8 %.** Number of the employed in China has been 776,4 million in 2017, of which 209,4 million is working in the Primary Sector, 218,2 million in the Secondary Industry and and the remaining 348,7 million is working in the Tertiary industry. Gross National Income for the state is 82,48 quadrillion Chinese Yuan in 2017. Gross Domestic Product is 82,71 quadrillion Yuan. Primary Industry has contributed to GDP by 6,54 quadrillion Yuan, Secondary Industry by 33,46 quadrillion Yuan and finally, contribution of the Tertiary Industry is 42,7 quadrillion Yuan. Per capita GDP has rosen from 385 Yuan in 1978 to 59660 Yuan in 2017 (China Statistical Yearbook 2018, n.d.).

Total energy production in China was 6,3 trillion tons in 1978. In 2017 this number rose to 35,9 trillion tons. On the other hand, total energy consumption has grown from 5,7 trillion tons in 1978 to 44,9 trillion tons in 2017. China has exported goods and services by 15,3 quadrillion Yuan and imported 12,47 quadrillion Yuan in 2017. In agricultural sector (Primary Industry) total output for grain is 661,6 billion tons. Amount of cotton produced is 5,65 million tons and amount of meat is 86,5 milion tons (2017) (China Statistical Yearbook 2018, n.d.).

In Secondary industry total coal production was 3,5 trillion tons, total crude oil production was 1,9 trillion tons and total natural gas production was 148 trillion cubic metres (2017). Total electricity production has sharply increased over the last decades. Electricity production was 256,6 trillion kwh (Kilowatt) in 1978. In 2000 this number became 1,36 quadrillion kwh. During the following 16 years electricity production experienced a dramatic rise, reaching 6,13 quadrillion kwh in 2016 and 6,5 quadrillion kwh in 2017. Gross value of construction production was 21,4 quadrillion Yuan for the year 2017. Business values of postal and transportation services were 976 trillion and 2,76 quadrillion Yuan respectively (2017). Amount of currency in circulation was 7,1 trillion Yuan. Chinese national banks had 164,1 trillion Yuan deposits and 120,1 trillion Yuan loans. China's expenditure spent on R&D was 1,76 quadrillion Yuan in 2017. (China Statistical Yearbook 2018, n.d.).

Sipuka (2015) states that, China and Chinese economy have gone through major changes in the past, especially in 20th century. People's Republic of China was officially declared in 1949 under the leadership of Mao Zedung. Communist Party of China stregthened its position in the country during 27 years of Mao's leadership until his death in 1976. During these years Chinese economy relied on Communist principles and guidelines. Den Xiaping became the leader of the Communist Party in 1978 and opened a new path in Chinese economy with effective and long lasting positive reforms. China became so strong in this period that, became the biggest manufacturer in the World. Reforms caused a sustainable growth in economy

continuing for decades. Significant growth rate, in turn affected poverty rate in the country and caused significant decrease in amount of poor population. Marxism as a traditional intellectual framework co-exists with modern neo-liberalism in post-1978 China, which has resulted in a mixed form of economic management, that is called ‘market socialism’ (Sipuka, 2015).

China’s stellar economic performance has some specifications. Increasing participation in the world market and huge and favorable employment establishment by private sector can be some elements of Chinese kind of growth. China’s engagement in the World market helped the country to acquire many Western practices and advanced technology. It consequently resulted in growth in productivity (Sipuka, 2015).

There is a need to tie such a complex and giant economy to a well explanatory theoretical bacground. It is a very difficult attempt taking into consideration the mixed character of economic administration in China, many controversions and special cases. Neoclassical theory can be helpful in this case. However, Chinese growth is strongly related and lined to technological factor, thus Solow’s neoclassical model cannot totally simplify this economic reality. New growth theories led by Mankiw, Romer and Weil (MRW) can provide more comprehensive modeling of Chinese economy (Zheng, 2011). Additionally, China’s growth strategy has changed after mid-1990s. If before China relied on capital accumulation particularly, the situation is different now (Zheng & Hu, 2006). Zheng (2011) suggests that as of mid-1990s Chinese economic productivity was a result of policies and reforms and if China cannot keep the ‘reform momentum’, productivity and growth will slow down eventually.

Kupchan (2012) states that, according to the estimations of Goldman Sachs, China’s GDP should catch up to the US GDP by 2027. He also estimates that, USD will lose its dominant position in the multicurrency system where USD, EUR and Chinese RMB will have equal monetary values. His claims are based on predictions of the World Bank.

Iaroshenko (2015) presents some hypotheses on China's rapid economic growth, which is dubbed as 'Chinese miracle'. One of the must well-known hypothesis is the Convergence Theory. According to the theory, as China was a backward and less developed country just after the reforms, growth level of developing countries are generally higher than of developed countries. However, the author denies this theory, for the same reasons some other scholars, such as Russian economist Illarionov (1998) also do. Justification for denial is that, China's economy grew at a rate of around 9% during 1978 – 1980, during and just after reforms and the same growth rate was recorded in 2010-2012 period when it was already the second largest economy behind the US. Another reason for growth is said to be national identity and mentality of Chinese people. It is very difficult to measure indeed. Also, if the case was true, hard-working national character of Chinese people should have caused economic growth in previous centuries too, but China didn't experience rapid growth in previous centuries.

Iaroshenko (2015) considers economic reforms to be cornerstone of Chinese miracle. He conducts a panel analysis, comparatively measuring effects of reforms made in China between 1978-1995 and in Russia between 1992-1997. Based on statements of Illarionov (1998), he claims that, liberal foreign trade policy caused growth rate in foreign trade to rise from 2-3% in 1978 to 17-20% in 1996 in China. During 15 year period after reforms volume of imports rose by 12,5 times and volume of exports by 15.2%. If FDI inflow to the country constituted 0,11 % of GDP in 1978, the number was already 5,08 % of GDP in 1997. Illarionov (1998) shows how reverse protectionist policy affected Russian economy. If in 1994-1995 annual growth rate of exports and imports was 9,7 %, after reforms in 1997 the number fell to 0,5-3,8 % in Russia.

Today Chinese economy has the highest savings rates in the World. Savings rates have continuously risen after Deng's reforms and the process continues today. Average savings rate (including state and private savings) for China in 2018 has been 45,69 %. US gross savings rate has been 17,3 % , estimated

in March 2018. A big gap in savings rate between China, Russia, the EU and the US can be visibly observed in the **Figure 2.1**.

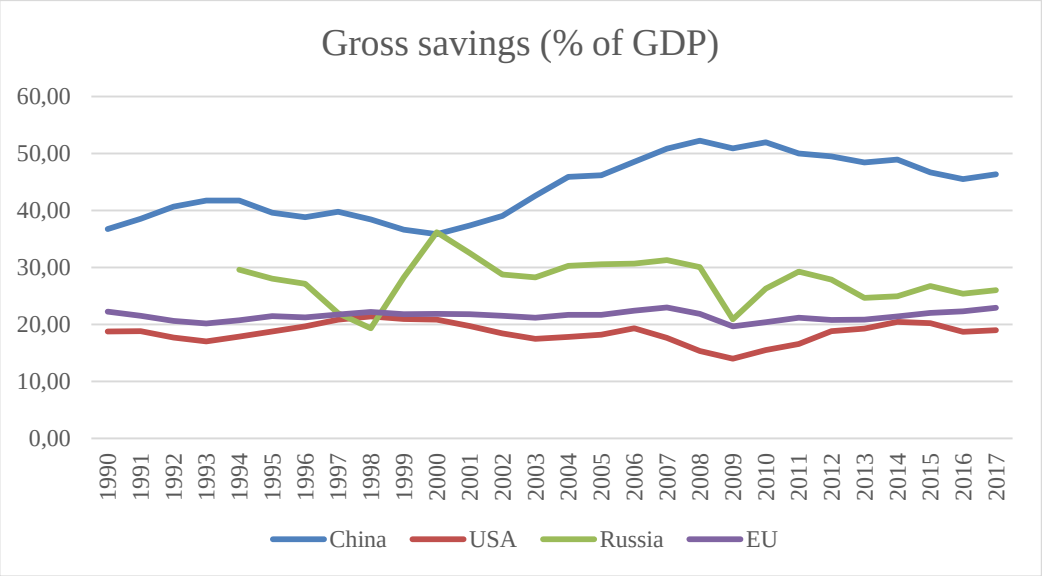

Figure 2.1: Gross Savings (% of GDP)

(Source: Prepared by the author based on data provided by the World Bank)

Another important factor characterizing Chinese economic growth is export oriented policies. “Strong and relentless economic growth was achieved on the back of productive investment, an ample and industrious labor force, relatively low wages and a parabolic rise in exports. In light of this, economists usually refer to China’s economic growth model over the last three decades as investment- or export-driven.” (China – Approaching The End of Export-Led Growth Story?, 2014). Exports are important determinants of growth in several ways. When a country exports, it means more employment generated by more production. Also when exports surpass imports, net inflow of monetary payments realizes, which in turn causes aggregate income to rise (Iaroshenko, 2015).

Coates, Horton, and McNamee (2012) claim that, Chinese kind of growth model has enabled China transmission of new technologies and business know-how to apply to wider economy which has generated more productivity gains. However, export-led growth couldn’t be main driver of growth forever.

Some changes naturally ocur such as rising costs of labor. Furthermore, China's large external trade and current account surpluses show that, this kind of growth model is unsustainable. To keep the growth rate stable and increasing Chinese firms will pay more attention to innovation and technological progress, especially in high value added industries. Coates et al.(2012) claim that, shifting strategy of exports is understandable and also a necessary step in economic development. It is a similar step made by other former export intensive emerging economies.

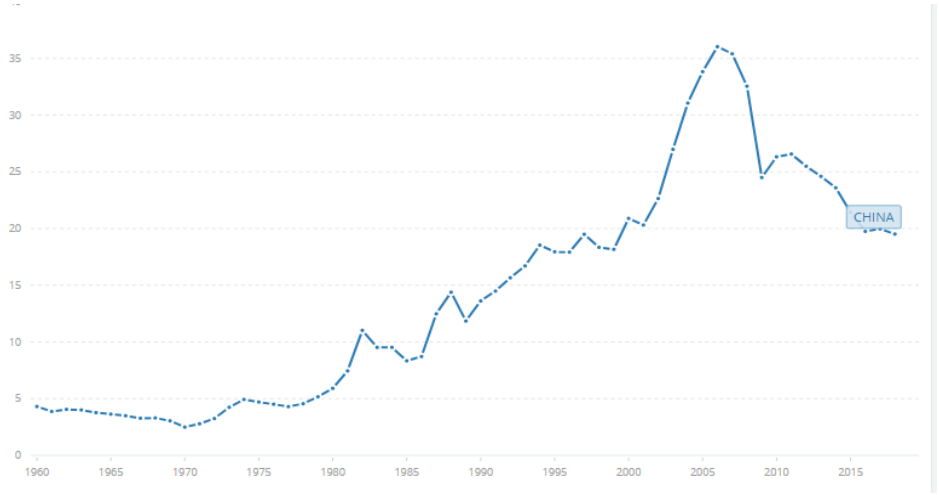

Figure 2.2: Export of Goods and Services (% of GDP) – China

(Source: World Bank Database)

Figure 2.2 displays the path of exports of China during 1960-2016. Sigificant rise in exports has been experienced by China after 2000. China joined the World Trade Organization in 2001 and accession established bountiful chances for exports for China. The main destinations for exports are the EU, the US and Japan. According to Coates et al. (2012), there has been a change in China's comparative advantage in exports recently. If before China had a comparative advantage in low-cost labor and labor intensive manufactures exports which were mainly due to cheap labor and inputs, today because of economic development, especially in coastal regions, labor costs are increasing as well as other input costs. This led to appreciation in value of RMB and all factors above have resulted in an unclear situation about China's future export-led growth policies.

Meanwhile, China's economy is undergoing two other structural transitions in its export sector. The first is China's shift higher up the production value chain and toward greater value-adding activities. The combined value of heavy manufacturing and electronics exports has increased ten-fold in the past decade, and overall, the domestic value-added share of Chinese exports increased from 54 per cent in 1997 to 61 percent in 2007, reflecting upgrades to China's industrial structure (Coates et al., 2012).

China is also making a necessary shift toward expanding exports to emerging markets. Emerging economies accounted for almost half of China's export growth in 2012, due to their growing demand for intermediate and capital goods. From 2000–11, exports of heavy manufacturing goods to emerging economies grew from 4 per cent of total Chinese merchandise exports to 11 per cent, while exports of electronics rose from 3 to 7 percent. Exports to emerging economies will likely continue to rise (Coates et al., 2012).

FDI inflow to the country is another major source of growth. A lot of researches have been conducted on influences of FDI on job establishment, social modernization and capital formation etc.

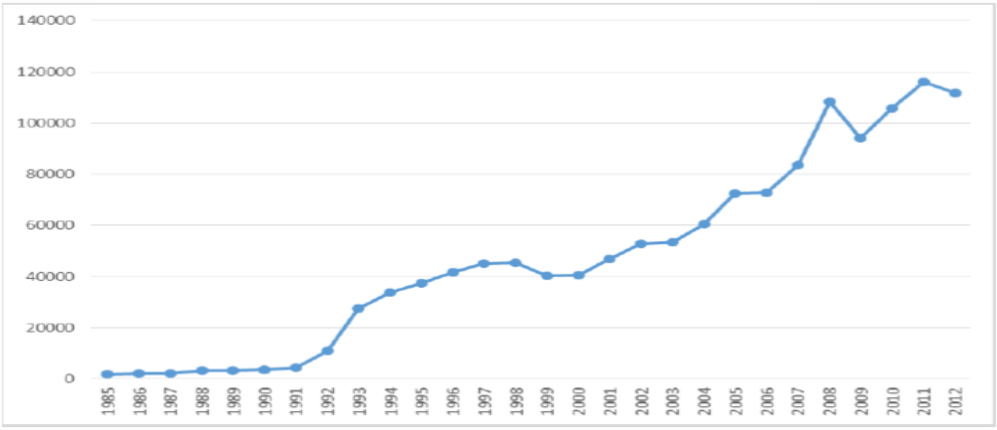

Figure 2.3: Volume of FDI in China's Economy (mln USD).

(Source: World Bank Database)

Figure 2.3 shows how volume of FDI has increased over time and how negatively 2008 financial crisis affected FDI inflow. Of course, foreign investment to the country is much smaller than domestic investment in amount, but not less important than the former. FDI inflow is generally used in more export-oriented industries such as electronics industry. Economic policies favored FDI inflow to the country. Establishment of economic zones was an indication of such policies. Thanks to these policies many enterprises were founded which almost totally relied on foreign investment. There are several reasons that eased FDI inflow. China didn't have huge external debt- this is an important point to mention. Stable political and social system is another factor contributing to the attraction of foreign investment to the country. An interesting fact is that, a huge sum of FDI to the country were invested by ethnic Chinese people living in Hong-Kong, Malaysia, Thailand, Indonesia etc. (Iaroshenko, 2015).

China consists of many regions with discrete characteristics. Discrepancy is visible geographically, socially and economically. From an economic point of view, there is a huge gap in income and living standards among China's urban areas and agricultural areas. (Qian & Smyth, 2008). China's coastal regions are generally urban areas while western and central regions are mainly agricultural districts and this divergence can serve as a destabilizing factor for Chinese economy if the gap is too huge (Zhao & Tong, 2000).

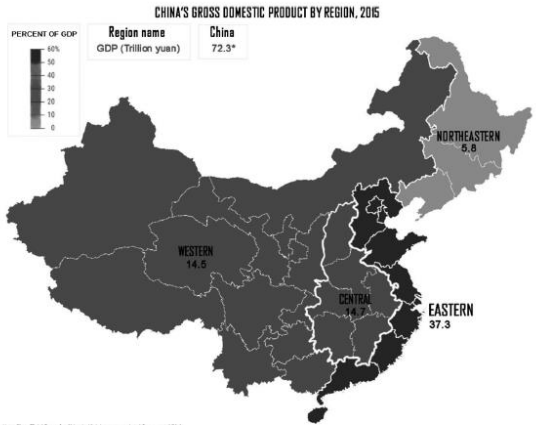

Figure 2.4: GDP by Region – China, 2015
(Source: Crane et al., 2018)

Figure 2.4 shows discrepancy in GDP among regions. Major part of GDP is contributed by the Eastern provinces according to the map.

Lin and Liu (2000) claim that, one of the most important characteristics of the initial reforms was decentralization of government resources and later privatization. Interestingly, this process mainly realized in coastal regions. (Qian, 2000).This development later led to establishment of SEZs or special economic zones. (Zeng, 2010).

Period	Type of reform
1949-60s	Centrally planned economic system
1970s	Beginning of the transition to a socialist market economy
	Decentralization of resources along regional lines
1979	Establishment of three special economic zones (SEZs) in Shenzhen, Zhuhai and Shantou
1980	Establishment of an SEZ in Xiamen
	Fiscal decentralization
1985	Establishment of urban-biased policies
1988	Establishment of an SEZ in Hainan
1997	Increased investment in western regions and industrial centres
1999	Implementation of the western development strategy

Table 2.1: Chronology of Reform Policies.
(Source: Crane et al., 2018)

SEZs are special geograpic areas with separate customs system and are more beneficial under special administration. Laws and regulations are more liberal in these zones (Crane, Albrect, Duffin, & Albrecht, 2018). **Table 2.1** presents chronology of reforms that affected establishment and development of SEZs. By the way, establishment of SEZs theoretically challenged neoclassical growth model's convergence theory (catch up effect), which proved mostly true for Western Europe and the EU but not for China due to contribution of SEZs to regional disparity. (Zhang & Zou, 2012). SEZs have visibly contributed to prosperity of Chinese economy. Income levels of workers in these zones have risen.(Wang, 2012).

Chinese government has tried to reduce disparities with correctly chosen policies. China understood the danger of overreliance on FDI especially after

the 1997 financial crisis (Ahmed & Grewal, 2011) and from then on extra focus has been oriented to inlands and industrial centers in the Western regions. (Fan, 1997). Development centers were established with a goal of spillovers to neighboring regions, however, due to huge distances between centers effect of spillovers couldn't be large. (Chen & Zheng, 2008). China's Western Development Strategy is so far the most effective strategy to aid the development of Western region. Construction of transportation lines, hydropower plants, special treatment of education, tourism and care to attrect FDI to the region are main traits of this strategy. However, attempts were not as strong as establishment and development of SEZs (Sun, 2013). But overall government attempts to lessen inequality achieved its goals to some degree. (Sun, 2013; Zheng & Kuroda, 2013). The most effective solution to the problem of disparity would be establishment of new SEZs in Central and Western China. Also, collaboration and harmony among regions with uneven development can ease solution of the problem (Crane et al., 2018).

2.2 The Service Sector

Most large countries have their own industry classification system. China's industrial classification system identifies 95 different industry categories. Industrial classification is a way to group companies into separate areas, depending on their commercial activities. This is a useful way for governments and other agencies to report their economies using statistical methods. The standard GB / T 4754, called Industrial Classification for National Economic Activities, defines three levels of industry - Primary, Secondary and "Third industry" or tertiary industry. Primary industry includes farming, forestry, animal husbandry and fishery industries. Secondary industry includes mining, manufacturing, construction and production and supply of electric power, gas and water. Finally, tertiary industry includes traffic, storage and mail businesses, computer service and software industry, wholesale and retail trade, accommodation and food industry, finance industry, scientific research, technical service and geologic examination industry, education, health industry and so on (Slatter, 2017).

Qin (2006) states that, there has been a big change in shares of three sectors in Chinese economy growth after the reforms were implemented. The share of agricultural sector in GDP has decreased from 19,7 % to simply 10% . On the contrary, share of manufacturing sector has increased from 41,6 % to 46,6 % and share of service sector in GDP has risen from 31,3 % to 43,4% between 1990-2011 (Asian Development Bank, 2013). **Figure 2.5** visually represents how value added of all three sectors as a percentage of GDP have changed between 1960 and 2014.

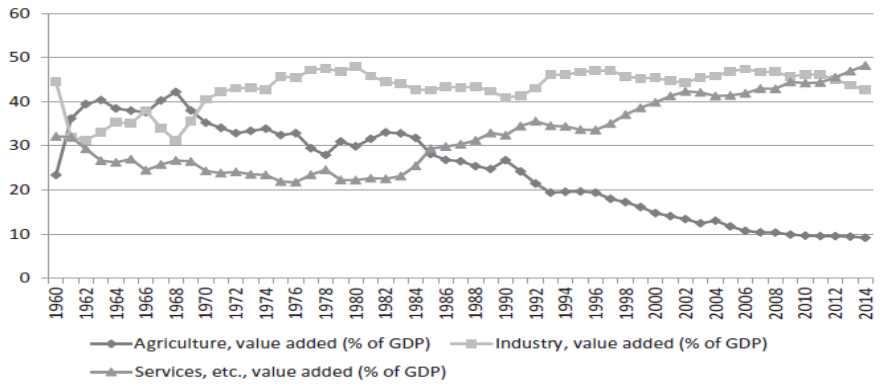

Figure 2.5: Share of agriculture, industry and services to GDP, 1960-2014, China. *(Source: Tham, 2017)*

Figure 2.6, on the other hand shows how shares of the three industries have changed over time in total employment.

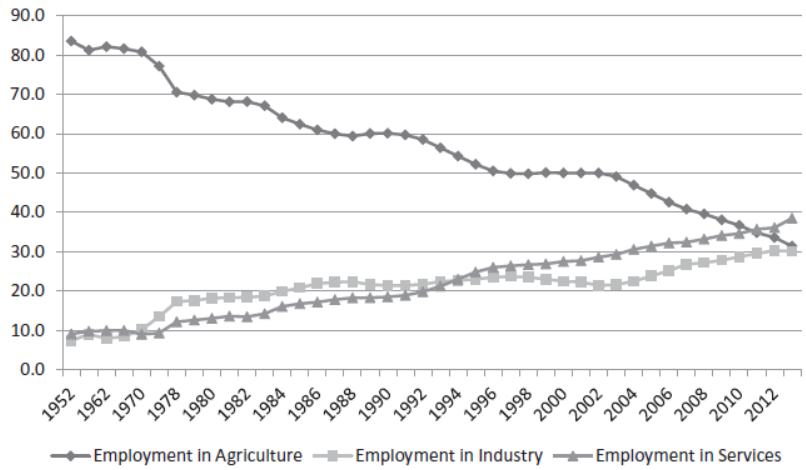

Figure 2.6: Share of agriculture, industry and services in total employment, China. *(Tham, 2017)*

Chen and Whalley (2014) claim that, contribution to growth from services sector will increase more in the next decade.

According to Clemes, Hu, & Li (2016), contribution of the overall services sector to per capita growth has not been researched extensively, however, some researchers have tried to question the relationship between per capita GDP and specific subsector of services sector. Gani and Clemes (2013) and Soo (2012) have researched different aspects of trade in services, China being one of the countries on focus, and these can be considered as initial researches questioning the relationship between services sector and economic growth. Another important question that needs to be researched is what factors drive expansion of Services sector in China. (Clemes et al., 2016)

China is considered as a transformation economy. Wei (1999, 2001) separated China's transition process into three parts, which namely are decentralization, marketization and globalization. Decentralization means delegation of power from central to local governments and it is a strong indicator of transition phase (Oi,1992; Lin, 1995; Wei, 2001). Weakening state control on economy and development of market mechanisms are essential features of marketization process in China. Decreasing amount of people working in state-owned enterprises is an important indicator of marketization (Zhong & Wei, 2017). China has acclaimed open door policy and has increasingly engaged in global markets, realizing the last point of transition-globalization process (Dreher, 2006).

The service sector has been a strong engine of growth in both developed and developing countries. Services are generally characterized by intangibility, heterogeneity, simultaneity of production and consumption, and perishability (Tham, 2017). The World Bank indicates that, for the year 2014 share of service sector in GDP growth arose to 74% in rich countries. For developing countries this number constituted 55% for the same year. However, in China share of this sector in GDP is even lower than developing countries with only 47,8 % in 2014 (Fan, Pan, & Zhou, 2019). The growth of China's service

sector is still behind the World average level, especially behind the most developed countries (Chan and Zhao, 2012). Wang (2009) states that, there was a slight increase in the service sector growth of China between 2000-2011. There are several reasons for weak contribution of the sector to GDP. Clemes, Hu, & Xi (2016) address this issue and try to find answers to this matter from literature and come up with some possible reasons. First of all, the service sector started to grow during inefficient planned economy (Wang, 2009), and Qin (2006) states that, China's service economy will grow steadily with time. Secondly, export and import levels of services sector in China are very low and this sector needs more global integration (Soo, 2012). Export and imports of services trade is much lower than exports and imports of merchandise trade. Also foreign ownership of services sector has been prohibited by the government of China (Wang, 2009),with only small degree of recent liberalization and globalization processes (Kanungo, 2005). **Figure 2.7** compares shares of services sector in China and in the world. Very clearly, share of this sector to GDP is much behind the world level during 2000-2011.

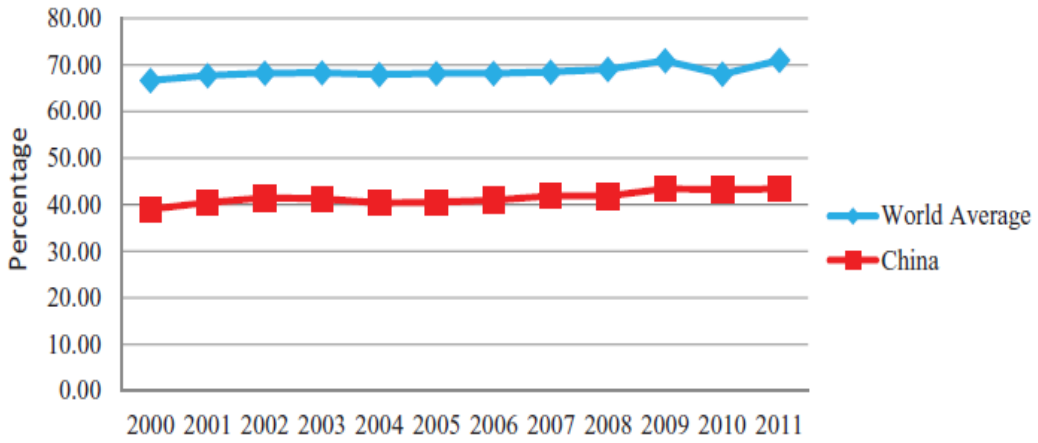

Figure 2.7: Share of the Services Sector to GDP (%) in China and in the world.
(Source: Clemes et al., 2016)

Figure 2.8 displays shares of services sector in GDP in low-income countries, high income countries and finally, China. Services sector constitute a large part of GDP in high-income countries and there is a huge gap, in this

respect, among high-income countries and the others. Shares of services sector in GDP are almost the same in low-income countries and China, according to the figure.

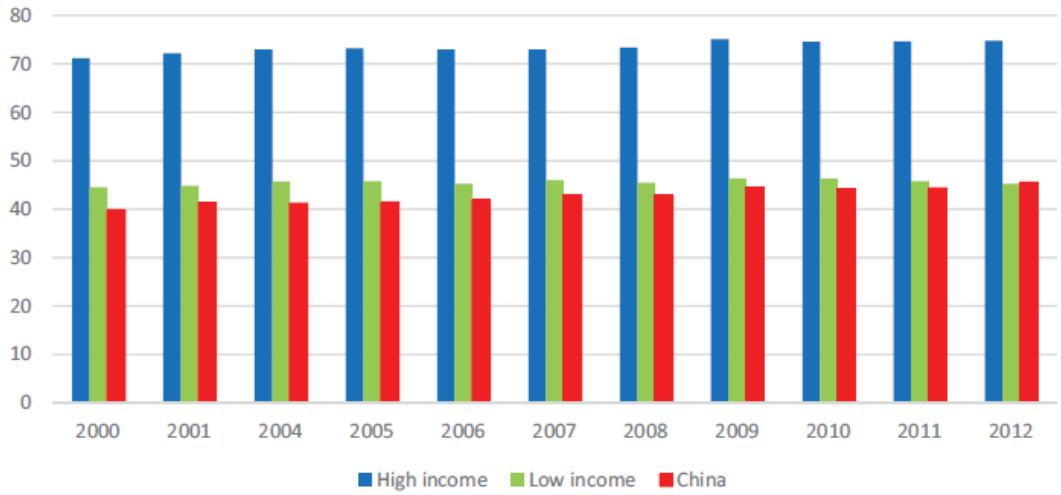

Figure 2.8: Growth of Services Sector in Selected Countries.
(Source: Clemes et al., 2016)

Plank and Clark (1940) state that, there is an interesting trend in evolution of industries in developed countries. As a country develops, labor force shifts from primary agricultural industry to secondary-manifacturing and tertiary-service industries. Fisher (1939) has offered such classification that extraction of raw materials should compose primary industry, manufacturing secondary industry and services- tertiary industry. Galbraith (1967), Gershunny (1978), and Walker (1985) all researched development of service industry and they concluded that, growth of this industry is a result of change in production process. Clark (1940) examined increase in employment in service sector from demand perspective and came into conclusion that, growth occurs mainly because of consumer demand, as demand for this sector is more elastic (income elasticity) than primary and secondary industry products. Baumol (1967) suggested a model where productivity of service sector was not progressive and thus, employment should increase in this sector to maintain balance between secondary and tertiary sectors. The model was called cost-disease model and waas highly regarded in pre-1970 economy. However, the model lost its effectiveness when technology-led

human capital intensive producer services gained prominence in advanced countries as these economies became highly-productive and therefore, ‘progressive’ (Schettkat &Yocarini, 2006). Grubel and Walker (1989), Francois (1990) and Coffey and Bailly (1991) found that, the fastest growing area of the sector was intermediary producer services. There is a strong possibility that, services sector in China will grow up more in the future, mainly because of its late start and low original level (Chamberlin and Yueh, 2011).

Currently, main service industries in China are financial, consultancy, information and communication, tourism, insurance, education and medical services. China’s ministry of Commerce reported in 2014 that, financial services contributed by 66,2 % to total services trade from 2012 to 2013.Consulting and information & communication sectors come next by 19,9 % and 17% respectively.

According to Gani and Clemes (2010), main factors influencing expansion of services sector in China are growth of real output in the manufacturing sector, the growth in services exports and imports, and government spending. Impact of services sector on per capita GDP has been researched for some other regions too. For example, Nayyar (2002) claimed that, this sector played a significant role in economic development of India. The relationship between the services sector and economic growth has been a research theme also in the studies of Gani and Clemes (2010), where the authors examine the relationship in Pacific Island countries and Singh (2010), where the same relationship is examined in India. Anwar and Sam (2008) examines how the services sector impacts economic growth in Singapore. Chen and Whalley (2014) reserach trade in services and its contribution to Chinese economy and conclude that, trade in services is growing and will most probably grow in the next decade.

Clemes et al. (2016) empirically test and prove that, growth in exports and government spending will positively affect value added in the services sector.

Furthermore, the growth of value added in the services industry has a strong positive effect on China’s economic growth.

Wu (2015) claims that, service sector of China is still behind the countries with similar economic progress. Wang, Zhang, and Bai (2007) conducted a research and showed that, there is a positive relationship between qualities of contracting institutions with the proportion of the service sector in GDP. On the contrary, relationship between government expenditures and share of service sector to GDP is strongly negative. Cheng (2013) came up with reasons that cause underdevelopment in this sector without empirically proving them. Hi finds that, less specialized division of labour, a lack of innovation, and inadequate demand are main factors that, negatively affect growth of this sector.

Fan et al. (2019) focus on insufficiency of demand as an important factor to explain underdevelopment of service sector. They show that, share of consumption demand in service industry of China is around 30 % which is less than the US-high income country (over 50%) and even less than India, a low income country (again around 50 %). Consumption demand is a strong factor speeding up growth in service sector and having a low level of consumption demand is a significant factor to contribute to underdevelopment of service sector.

Lu, Liu, and Wang (2006) analyzed Eastern coastal cities of China and their industrial development model and concluded that, export-oriented trade policy contributed a lot to development of local economy, but reduced demand for local producer services substantially.

Cheng (2013) proposes three factors to support and develop the service sector in a country. These factors are division of labor, innovation and demand-induced mechanisms. His empirical tests show that, lack of demand is largely due to the saving preferences of Chinese consumers and China's export-oriented trade structure. Excessive savings limit consumer demand for service products and hinder development of consumer services. Rapid

development of manufacturing trade prevents communication between the local manufacturing and service sectors, reduces the effective demand of the manufacturing sector for local manufacturing producer services, and hence inhibits the growth of producer services.

Tham (2017) asserts that, the character of service sector has changed greatly, thanks to emergence of new Technologies, especially since 1980s. As physical space and presence are already not a 'must' for services, services can be traded more easily now. These new kind of services are more tech-intensive and knowledge based and competitive enough in today's global information epoch. There are several possible reasons that can explain the shift to services sector. First of all, when income grows, demand for services also increase, which in turn increase employment in the sector. So, the shift can be a result of demand. Another possible reason is a productivity gap between manufactoring and services sector (Schettkat & Yocarini, 2003). The third reason might be a structural change in economy. Service activities that were previously produced by a manufacturing firm are now produced by external service firms (Rowthorn & Coutts, 2004). Fourthly, globalization is an important indirect result, whereby low value added activities are moved to developing countries, displacing some manufacturing jobs and enable advanced economies to concentrate on knowledge-intensive productions (Rowthorn & Coutts 2004). Decreases in investment rates might cause share of manufacturing sector to shrink both in terms of GDP and employment. Because much larger share of investment expenditure is used by manufacturing sector in this case (Rowthorn & Coutts 2004).

Development of services were on focus of the 12th Five Year Plan (2011–2015) of the Chinese government. Main aspects of development plan were next-generation information technology and a shift to service-oriented manufacturing (Tong, 2013). Early Chinese reforms at the end of 1970s encouraged manufacturing sector, mainly because of ideological matters, neglecting services sector, as services sector was considered not to contribute to economic growth as the products were non-material and not indicated in national income accounts (Perkins, 2015).

Accession to the WTO in 2001 opened new doors for China and caused its exports to boom. Among China's exports high-tech products such as computers and electronics stand out to rapidly rise in share. In 15 years between 1995-2010 share of high-tech exports increased from 6,8% to 31% in total manufacturing exports. In 2002, foreign-invested firms contributed 79% of high-technology exports, while wholly foreign-owned firms accounted for 55% (Xing, 2012). With increasing FDI flowing into China, these numbers peaked to 86% and 69% and then experienced a slight decrease in 2010, with 82% and 67% respectively (Xing, 2012).

China has huge potential of cheap labor, but as huge demand for labor caused increase in rise in wages, China is losing its advantage in low labor-cost production. Together with wage costs, production costs (land costs ie.) have also risen by 2005 and industries are now moving to countries and regions with lower production costs (Yue & Evenett, 2010). China is attempting to develop its human capital launching projects such as "National Talent Development Plan 2010–2020" and "Recruitment Program of Global Experts" to support fresh graduates and high-skill workers (Wang 2010). Gong (2002) argues that, China's path of labor transition inter-sectors is very similar to that of developed countries, rather than developing countries. However, Lin (2004) claims that, development of the service sector and transition in China didn't follow the Western model of sequental and linear transition, but developed in a unique path, tertiarization and industrialization developing simultaneously. Looking at tertiarization process spatialy in China one can see that, the process in metropolitan areas and the process in the regional and national levels haven't been the same. Furthermore, tertiarization process has had a more successful path in larger cities of China more than smaller cities (Wang, 2009).

Many researchers have argued that, knowledge-intensive business services have unequal character of development, whereby tendency towards spatial concentration is a point to mention (Wang, 2009).

“Decisions on Accelerating the Development of the Tertiary Sector” was issued in 1992 by the Central Communist Party and the State Council which proved to found a strong base to develop services in the country towards the new millenium. One of the ojectives the document was to accelerate growth of tertiary industry over primary and secondary industries in 1990s. It was indeed the first significant policy action to deal with tertiary sector and was an indicator of government’s favorable shift of attitude towards this sector (Gong, 2002). Following the document many new offices for tertiary industries opened in province and local levels (Guo, 2006). Stutz and Warf (2007) state that, in fact service sector has been more successful in employment creation rather than GDP growth. They also state that, tertiary sector in the World level employs more people than secondary sector, thus it is not a surprising fact in China’s case.

Sassen (2006) and Taylor (2014) claim that, knowledge based companies tend to cluster in global cities to benefit already existing high development and global engagement. Zhong (2007) claims that, in China producer service progress and urban hierarchy are closely linked. In the research of Zhong and Wei (2017) authors find that, in China service industry grows more due to producer or intermediate demand rather than final consumer demand.

2.2.1 Real Estate

According to the monthly bulletin pulished by European Central Bank (European Central Bank, 2012) housing investment has had an important share in GDP growth in China in previous years. Numerically speaking, real estate investment has taken up around 25 % of total fixed assets and the latter has caused 50% of GDP growth between 2006-2012. Share of the real estate sector in GDP has risen from 10% to 16% between 2006-2011. The real estate sector plays an important role in the economy, not only because of output it produces, but also because the sector employs many people. Together with construction sector, real estate has empoyed around 10% of workforce in 2012 (ECB, 2012).

Housing prices have increased in recent years in China, as can be seen in **Figure 2.9.** The bulletin takes 35 middle and large cities as sample and and states that, price per square meter of housing has increased by 3 times in these cities between 1999-2011.

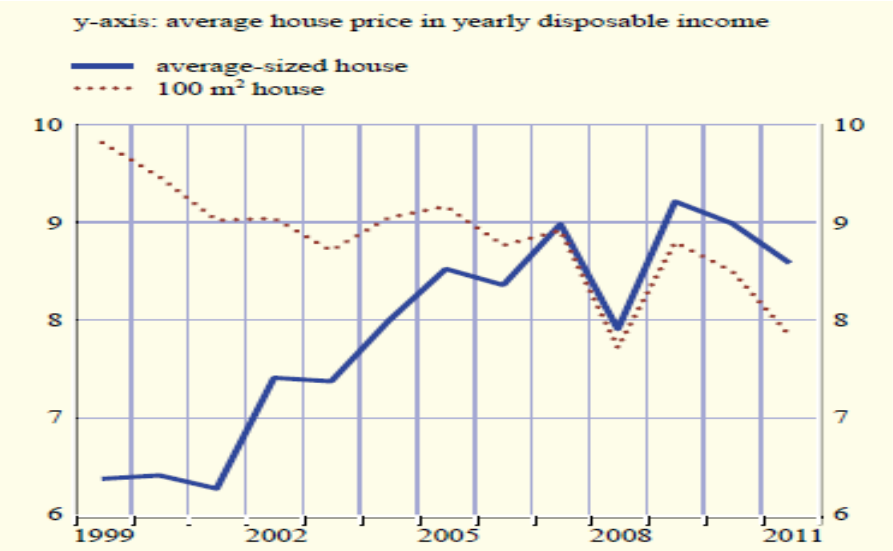

Figure 2.9: Average house prices, 1999-2011, China
(Source: ECB, 2012)

The bulletin also provides necessary information on average house size. It is stated that, average household size in China has decreased from 3,6% to 3,1 % during 1999-2011, whereas average living space has risen from 19,4 m^2 to 32,7 m^2 during the same years. Abovementioned changes imply that, the size of average house has changed from 70 to 101 m^2 between 1999-2011 and it has been accompanied by rise in housing prices from 6,4 to 8,6 (multiples of income) between 1999-2011.

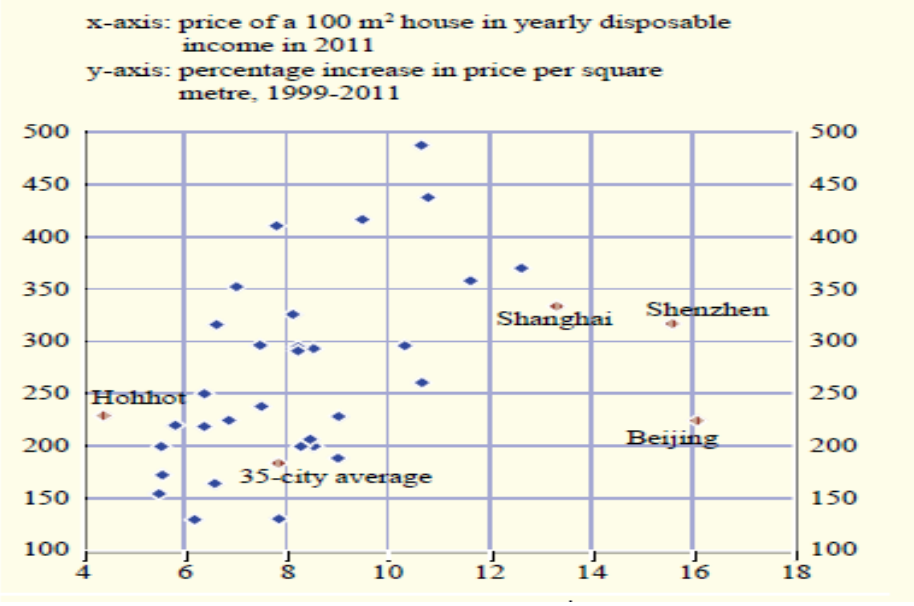

Figure 2.10: House prices across 35 Chinese cities.
(Source: ECB, 2012)

Figure 2.10 depicts house prices in 35 Chinese cities that were samples in the research. Increasing housing prices have increased worries about sharp correction, but according to the bulletin, due to several factors sharp correction seems unlikely. First of all, urbanization process is increasing continuously and thus, there is still a high demand for housing. Secondly, a part of new construction only works on replacement of old buildings and therefore, doesn't add on net housing supply. Additonally, there are administrative restrictions on the sector, especially on the purchase of more than one house. Figure 2.11 shows that, housing loans are the biggest part of loans of Cinese citizens.

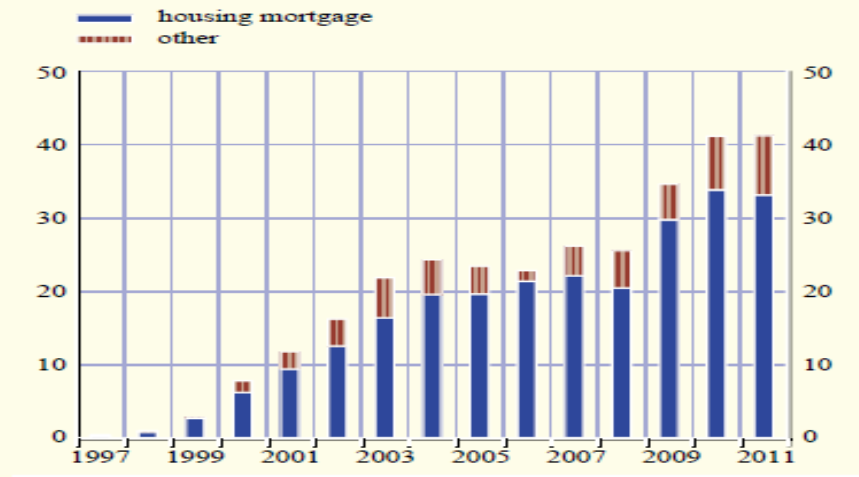

Figure 2.11: Consumer loans as a percentage of disposable income, China.
(Source: ECB, 2012)

Green et al. (2005); Gyourko et al. (2006); Jud and Winkler (2002) have researched real estate prices on the base of national and regional factors. Some other researchers have sought to address the same issue from different aspects such as spatial differences. The research of Wang, Yang and Liu (2011) explores the relationship between urban housing prices and international trade. Wang et al. (2011) state that, China realized a revolutionary housing reform in 1998 and the reform, as other market-oriented reforms, caused sharp development in China's housing market. However, urban real estate prices rose as a result of the reform as well. Statistics of China states that housing prices rose in annual average rate of 4,6 % between 1998-2008. Deng, Shen and Wang (2011) state that, early 1980 housing reform was already an important breakpoint between centrally planned public housing system and market oriented industry. Understanding housing industry with Chinese character is difficult due to mixed political and cultural environment around it. Housing industry in China has been gradually developing with many examples of adjustments, which again make it more difficult to understand what is going on in the sector (Ma, 2002). Recently a new housing framework has emerged in China, which includes three major housing programs and housing finance sector with heavy control. The mentioned programs are the Economical and Comfortable Housing (ECH), the Housing Provident Fund (HPF), and the Cheap Rental Housing (CRH) programs. They have proved to be beneficial for both owners and renters. However, Chinese government also intervenes to the market heavily, especially housing finance sector. Intervention is mainly a result of mortgages provided to consumers by state-owned banks (Deng et al. , 2011). Before the initial housing reforms in 1980 housing was seen as a matter of social welfare and was provided free by some government institutions and work units. As a result there was a little incentive for development in housing industry in the pre-reform period. That's why, housing was in agenda of early reforms in 1978 and during 1980-1987 many eperiments were conducted in this field (Deng et al., 2011).

Implementation Plan for a Gradual Housing System Reform in Cities and Towns, was issued in 1988 and was a beginning for nationwide housing reforms (Huang, 2004). As a result, houses began to be sold to people for much cheaper prices. (Wang, 2001). The Decision on Deepening the Urban Housing Reform issued in 1994 was the second important step taken towards better housing system (Huang, 2004). The document resulted in new incentives for both suppliers and people on the demand side, for example middle and low income families were subsidized, which made their housing purchase easier. 1994 reform had an immediate positive impact on housing sector of the country and housing boom was experienced in the country (Hong, 1999).

A Notification from the State Council on Further Deepening the Reform of the Urban Housing System and Accelerating Housing Construction was issued in 1998 by the central government and it was the ultimate step to end the role of work units in housing industry (Huang, 2004). The document was signed after the Asian Financial Crisis in 1997 and that's why, is reckoned by some scholars to be a strategic step to raise domestic demand as exports slowed down and housing industry was chosen as a new locomotive to pump up growth and rise domestic demand (Lee & Zhu, 2006; Lardy, 2007). Housing programs-ECH and HPF established in 1994 were expanded with 1998 reform. China finally created a housing mechanism with 1998 reform on both producer and consumer side and allowed housing sector to be the engine of economic growth in the early 2000s. Liu, Park and Zheng (2002) assert that, housing reform in 1998, which made housing industry totally market-oriented and special support of the government to real estate sector are two big causes of extremely rapid recent development of this sector. Commercial housing became largest part of real estate investment after 1998 reform. According to The Monetary Policy Analysis Group of People's Bank of China real estate sector accounted for 30% of GDP growth in 2001 in China (Liu, Park, & Zheng, 2002). Living conditions in urban regions developed. The floor space per capita, for example, increased from 18,7 square meters in 1998 to over 28 square meters by the end of 2008 (Feng, 2009). 80 % of

people were home owners in China in 2004 thanks to privatization and strong government support. As a result of reforms houses became most important new form of property in China. (Feng, 2003).

China's accession to the WTO increased its role in the world market. Rate of urban economic openness (economic openness-the ratio between total trade volume (imports plus exports) and GDP) displays the process well. Economic openness increased in overall China from 49,8 % in 1998 to 76% in 2006. Spatial difference between coastal and other inner and western regions is visible in the process. Eastern coastal cities have more openness rate rather than cities in central and Western part of China (Wang et al. ,2011).

Relying on the work of Roback (1982), Wang et al. (2011) claim that, in cities where economic openness is significant, there will be higher rents and real estate prices. The reason is that, in such type of places there are both consumer and producer amenities that improve production and create favorable situation for the locals. The industry is mainly regarded as a non-tradable industry mainly because of fixed location and also management and construction cannot be easily outsourced. (Lu, 2004). Overall, Chinese cities accepted more than 100 mln immigrants between 1998-2008 and 26% of all the immigrants moved among cities. (Wang et al., 2011).

Figure 2.12: Geographical locations of 35 cities in the research of Wang et al. (2011)

(Source: Wang et al., 2011)

Wang et al. (2011) use panel data in their research and data has been collected from 35 large cities (geographical locations of these cities are indicated in **Figure 2.12**) in China during the time span 1998 – 2006. And the research concludes that, according to empirical estimations, from 1998 to 2006, the average level of urban economic openness of the 35 major Chinese cities rose from 49.8% to 76.0%. It drives the real estate prices of these cities up by 14.78% on average, and accounts for 15.90% of the average real estate price appreciation (92.97%) during the same period, suggesting a rather influential impact from urban economic openness on real estate prices. The research also finds that, if there is 1% increase in urban economic openness, urban real estate prices will increase by 0,282 %. **Figure 2.13** displays urban economic openness level during 1980-2005, together with some other indicators.

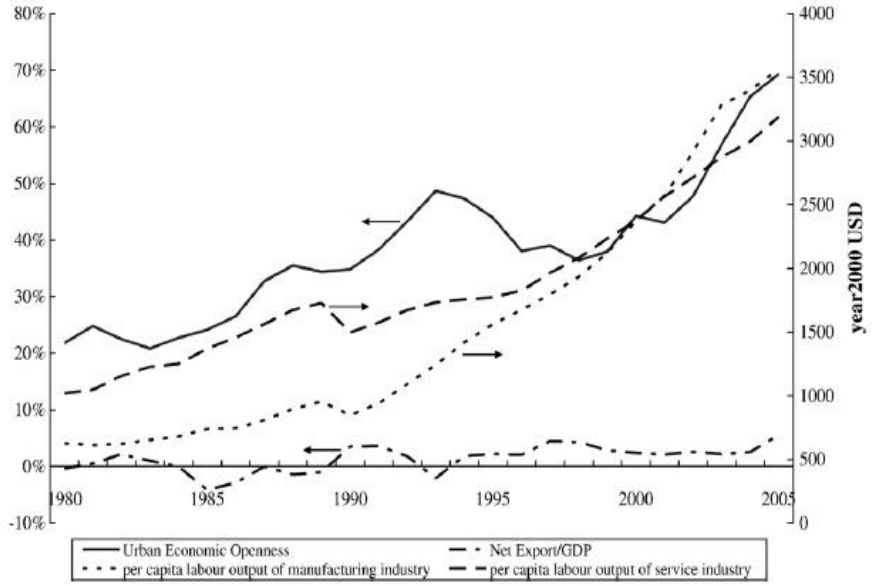

Figure 2.13: Average economic openness and per capita output of manufacturing and service industries.

(Source: Wang et al., 2011)

Housing construction has greatly contributed to GDP growth in China together with urbanization process and living standards of people living in urban regions. However, it has its own shortcomings too. Housing reform in

1998 caused housing prices to increase sharply and as a result, not everyone is able to buy a house in cities which in turn generated inequality and instability among residents (Li & Song, 2012). National Bureau of Statistics of China stated that, there has been rapid increase in real housing prices especially since 2008.

Year	*P* (yuan/m^2)	*S* (m^2)	*I* (yuan)	P/I ratio
1998	2063	18.7	5425	7.11
1999	2053	19.4	5356	7.44
2000	2089	20.3	5399	7.85
2001	2100	20.8	5436	8.04
2002	2100	22.8	5383	8.90
2003	2101	23.7	5431	9.17
2004	2255	25.0	5608	10.05
2005	2390	26.1	5699	10.95
2006	2408	27.1	5784	11.28
2007	2568	31.6	6044	13.43
2008	2371	32.4	6382	12.04
2009	2957	32.5	6328	15.19
2010	3083	32.9	6531	15.53

Table 2.2: Housing P/I ratios, 1998-2010.
(Source: Li and Song, 2012)

According to statistics, during 2001-2010 real housing prices in Beijing grew by 122% and in Shanghai by 137% (Li & Song, 2012). **Table 2.2** presents better indication of situation, using Price/Income ratio. According to the table, housing prices have grown quicker than income of people. P/I ratio reveals a very interesting fact for us. Looking at the ratio in 2010, we can conclude that, generally, people in China had to save their income of 15,53 years to afford a house which means quite low affordability for an average Chinese citizen (Li & Song, 2012).

Many policy actions have been proposed and implemented to prevent prices to increase more. In 2005 '90/70' policy was initiated which required 70% of newly built houses to have an area less than 90 m^2. In addition, mortgage

rates increased too. Some of policies proved to be quite restrictive. For example in Nanjin and Shenzhen those, who already owned two or more property were not allowed to purchase a new one anymore. In some cities purchasing an additional property requires 60 % down payment. Implemented policies worked in some cities and housing prices dropped down, such as in Beijing, where there was 11,3 % decline in housing prices in 2011. However, in general prices kept their high level in China (Li & Song, 2012).

Many scholars have tried to find reasons behind high housing prices in China. Some scholars have approached the phenomenon from supply side, such as the land assignment system (Zheng & Shi, 2011), fiscal structural differences between local governments and the central government (Zhou & Zhang, 2008), and the local government monopoly position in both land requisition and sales (Guo, 2008). Some other scholars have researched demand side factors pushing prices higher such as the rapid urbanization in past three decades (Ren & Bo, 2009), increase in income (Zhou, 2009), investment and speculation (Zhou, 2005), and low cost of carry (Li & Song, 2008). In spite of fewer researches available, cultural and institutional factors also affect housing prices in China (Li & Song, 2012).

According to Dong et al. (2017), volume of real estate investment differs greatly among China's eastern, central and western regions. But there are great intra-region disparities too. Greater levels of housing investment concentrate in Liaoning, Jiangsu, Zhejiang, Guangdong, Shandong in eastern region; Anhui, Henan, Hubei, Hunan in central region; Sichuan; Guangxi, Yunnan, Shanxi located in western region. Also some cities stand out in these regions with higher levels of investment volume, which are Shijiazhuang and Tangshan in Hebei Province, Taiyuan and Datong in Shanxi Province, Shenyang and Dalian in Liaoning Province, Changchun in Jilin Province, Harbin in Heilongjiang Province, Qingdao and Jinan in Shandong Province, Nanjing, Wuxi and Suzhou in Jiangsu province, Hefei and Wuhu in Anhui province, Hangzhou, Ningbo and Wenzhou in Zhejiang Province, Fuzhou and Xiamen in Fujian Province, Kaifeng and Luoyang in

Henan Province, Wuhan in Hubei Province, Changsha in Hunan Province, Guangzhou and Shenzhen in Guangdong Province, Nanning, Guilin and Liuzhou in Guangxi Province, Xi'an in Shanxi Province, Lanzhou in Gansu Province, Yinchuan in Ningxia Province (Dong et al., 2017). It is not only volume of housing investment that shows disparity in concentration, but also volume of sales and housing prices (Hsu, 2016).

Green (1997) shows that, housing investment causes growth in GDP, analyzing time series for the US, also adding that, this kind of investment is not caused by GDP growth, which is reverse of non-housing investment. Furthermore, he adds that, housing investment causes business cycles and he recomends that, to prevent short-run dislocations capital should not be diverted away from housing sector to plant and equipment sector. Coulson and Kim (2000) empirically prove that, housing investment shocks are more important in determination of GDP rather than non-housing investment.

Chau and Zou (2000) research short run and long run effects of both public and private housing investments in Hong Kong on GDP and find that, increase in public investment has a positive effect on long run GDP growth, whereas growth in private housing investment affects short run economic output**.** Wen (2001) finds that, GDP growth is caused by capital formation in the household sector, which later causes capital formation in business sector. Liu et al. (2002) use annual time series data and try to find relationship between housing investment and GDP growth empirically. Data has been collected from trustworthy statistical sources of China and covers 1981-2000 time period. Granger causality test and Johansen cointegration tests are used to prove relationships among variables. Findings of the research state that, growth in housing investment positively affect GDP growth in the short run. However, increase in non-housing investment affect GDP in a rather blurry way. Findings propose that, instabilities in housing investment can generate fluctuations in GDP in China. Long run effects of housing investment on GDP is also found. Furthermore, causality from GDP to housing and non-housing investment has been also found, meaning that, in

the long run GDP growth guides long term housing and non-housing investments.

Real estate industry is also closely tied with financial system in China with more than one channel. First of all, housing holdings are the most important assets of Chinese households. This might be understandable, taking still underdeveloped Chinese financial markets into account. “Local Government Financing Platform” is a programme by Chinese government to raise debt financing and land sales revenues largely act as a collateral. Firms are also prone to using lands as collaterals and they do buy a lot of lands for future investment aims. Real estate industry is also on focus of banks as they lend to firms and households, real estate acting as collateral and therefore, banks can face huge real estate risks. Deutsche Bank reported in Q3 2016 that, real estate related loans in banking sector constituted about 25% of China’s total banking assets (Liu & Xiong, 2018).

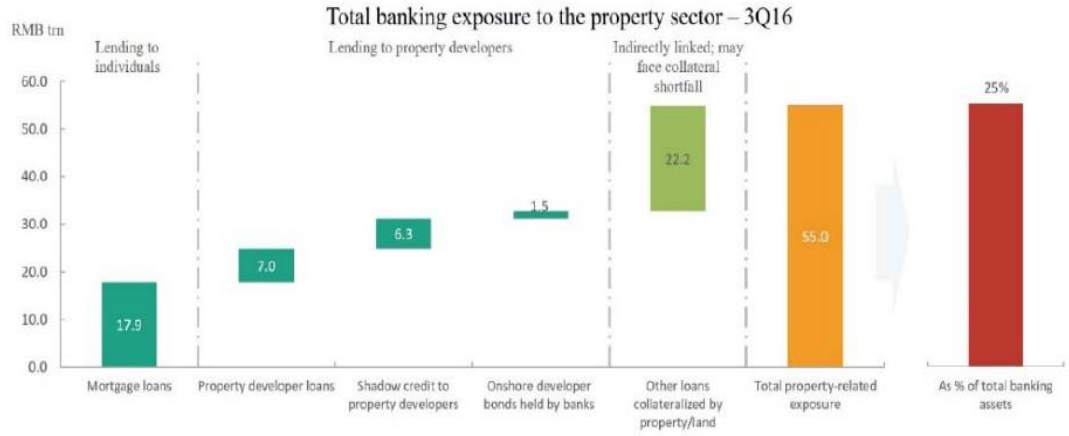

Figure 2.14: Exposure of China’s baning system to the real estate.
(Source: Liu and Xiong, 2018)

Boom in China’s real estate sector after 1998 reform has caused fear that, it can cause huge housing bubbles later on. Privatization visibly caused significant increase in real estate prices (Wang, 2011). Furthermore, privatization was accompanied by increase in number of entrepreneurs (Wang, 2012) and income inequality (Novokmet et al., 2018).

The initial interest rate that People's Bank of China set after the reform of 1998 to allow buyers to get mortgage credits with fewer interest rates lowered 5 times during the following 4 years and it made China 'mortgage paradise' by 2005. At the same time real estate loans got bigger in scope and developers were permitted to pre-sale houses as support to the industry (Liu & Xiong, 2018). 2008 World financial crisis is one of the most mentioned point when development of housing industry in China is thought of. 2008 crisis started in the US as a result of housing crash. Statistics indicate that housing prices index grew by 100 % in the US since 1996 (measured by the Case-Shiller U.S. housing price index). Appreciation certainly is a case for China in even much higher rate. Statistics show that, appreciation in housing prices index has been 250% between 2003-2013 and even more since 2013. That's why, a lot of scholars such as Chen and Wen (2017), Glaeser et al. (2017), and Song and Xiong (2018) presume that, housing bubble in China is not something unexpected. There are opponents of this idea, who state that, housing boom was accompanied by growth in national household purchasing power, which is a good fundament backing up the housing boom. Fang et al. (2016) states that, the case of China is opposite to housing boom and boost cycles happened in Japan and Singapore in 1990s, the countries where household purchasing power grew significantly less than housing prices.

Hukou system, which was implemented to keep rural-to-urban migration under control used to play a negative role in China's labor market and housing industry. 10th Five Year Plan in 2001 set urbanization as a main strategy to boost demand and housing was acclaimed as the main engine of prosperity of economy. Hukou system totally ended in 2014 when rural and urban labels were totally eliminated by the State Council. Now except huge agglomerations such as Beijing and Shanghai, citizens of China can move to any urban areas freely (Liu & Xiong, 2018). Urbanization process is still in progress in China. **Figure 2.15** depicts that, rate of urbanization has steadily

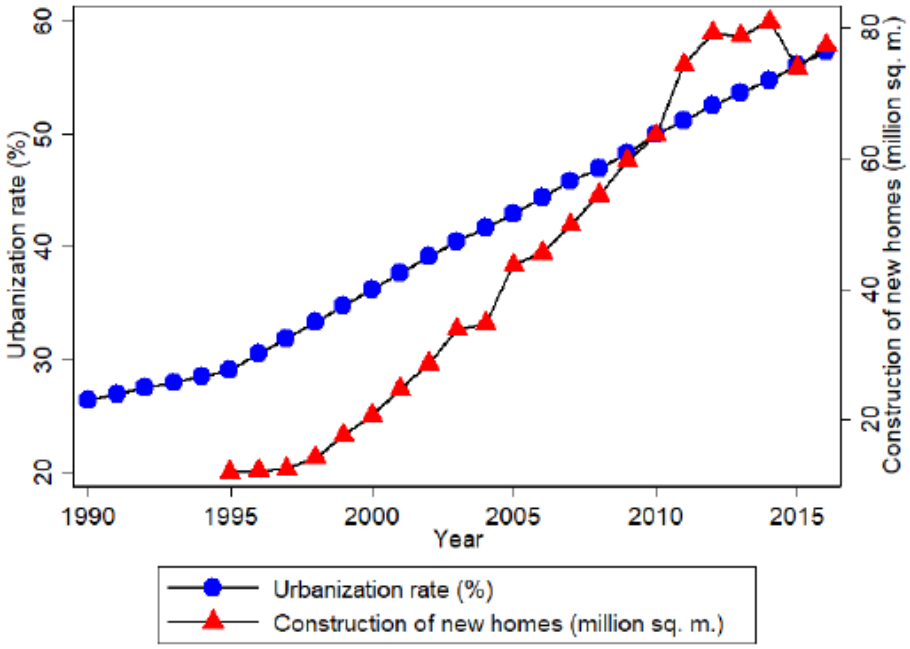

Figure 2.15: China's urbanization process.

(Source: Liu and Xiong, 2018)

increased during 1990-2016. The graph also shows that, increase in amount of construction of new homes in China has lowered after early 2010s.

A real worry about China is that, despite there are strict rules imposed by Chinese banks that, 30% down payment must be paid in order to have a mortgage loan, many Chinese citizens have taken huge loans from banks, that are much higher than their annual income with positive expectations that, growth in income will continue in the future. Expectation based decisions of Chinese citizens can damage financial system and housing industry in China in the case of economic slowdown (Liu & Xiong, 2018).

In China lands legally belong to the government and local governments control land supply. That's why the real estate market is closely tied to government strategies on land sales, which is a peculiarity of Chinese real estate market (Liu & Xiong, 2018). There are some financial restrictions that Chinese population face. Certainly, there is difference among wealthier and poorer section of population. Mortgages are good indicators of such inequality. Wealthy citizens are not in deep need of mortgages to purchase a

house. However, mortgages play an important role in many citizens' lives, who are mainly low or middle-income workers. Mortgages in China for first house's purchase require over 30% down payment in big and medium sized cities (Fang et al., 2016). For purchases of the second and more houses down payments are even higher. Down payments and mortgages allow the government to intervene in the housing market. High amounts of down payments in China are opposite to the zero down payments of the US housing bubble in 2000s and high payments reduce the risk of future collapse of the market in China. As an interesting factor, parents of young couples generally pay the down payment in China. As already mentioned, savings rate in China is higher than many developed countries and this is a strong factor to explain why people undergo such heavy financial burdens while buying a house (Liu & Xiong, 2018).

Lands are legally classified due to their usage. Industrial lands are for building industrial and manufacturing facilities. Commercial lands are used for commercial and business purposes and finally residential lands are lands where people reside and use them for residential properties (Liu & Xiong, 2018). **Figure 2.16** shows that, prices of residential and commercial lands have significantly increased, opposite to industrial lands, of which prices haven't changed much.

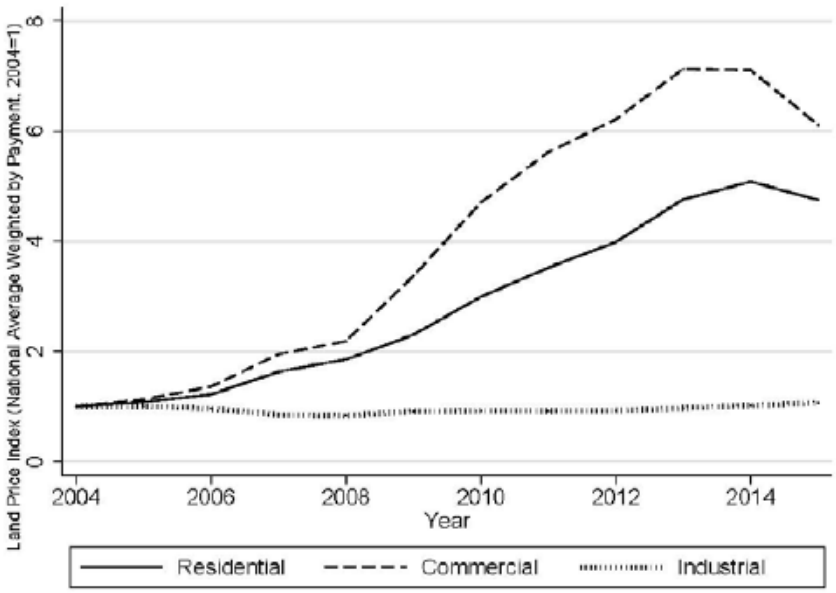

Figure 2.16: Land price index for different types of land sales in China.

(Source: Liu and Xiong, 2019)

Chinese housing market is characterized by high vacancy rates, a peculiar feature of the market in China. High vacancy rates are results of two discrete processes. The first process is that, developers build houses, but houses stay unsold. In the second process houses are sold to citizens but still are not settled in. There are 4 categories or tiers of Chinese cities and classification is based on economic development of these cities. Tier I cities are 4 biggest aggolmerations with highest development, which are Beijing, Shanghai, Shenzhen and Guangzhou. Second-tier cities category includes capitals of many provinces and also some developed cities in prefectures. Smaller cities in prefectures having relatively higher levels of income are considered Tier III cities. Finally, tier IV cities have lower economic conditions, which, however have still large populations in Western standards (Glaeser, Huang, Ma, & Shleifer, 2017). **Figure 2.17** shows that, housing prices have increased in Tier 1 cities more than other cities in China and even the US cities. Three tiers of US cities during US housing boom during 1996-2006 are also indicated in the figure to compare to Chinese cities and the graph shows that, price rise in China is much more significant than in US cities.

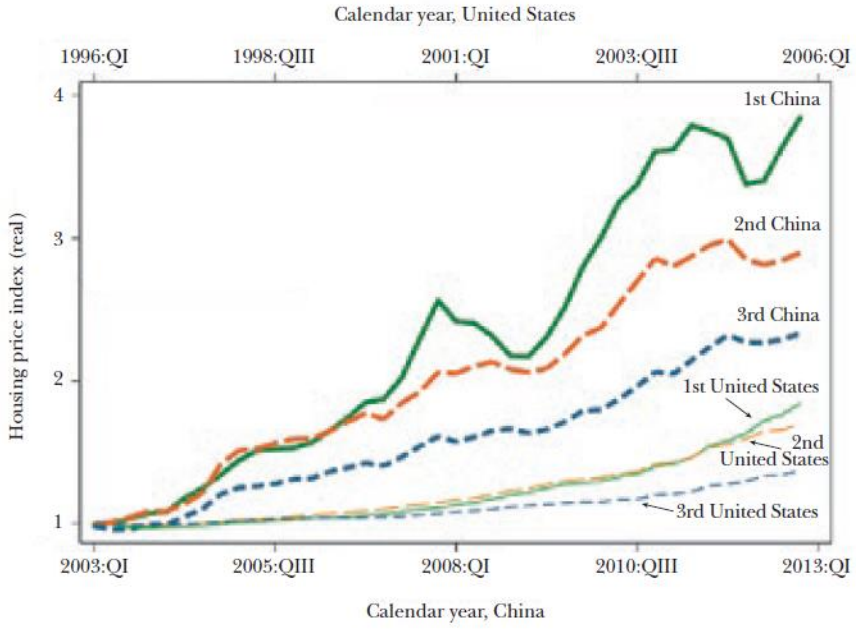

Figure 2.17: Housing price growth by Tier, China and the USA.

(Source: Fang et al., 2015)

Fang et al. (2015) show that, real estate prices have risen by 13,1 % in Tier I cities between 2003-2013.

Figure 2.18 shows vacancy rates for sold but unoccupied houses in China 36 cities that are included in all four tiers. Vacancy rates are calculated dividing number of vacant houses in each city dividing by all owned or occupied housing units in the sample cities.

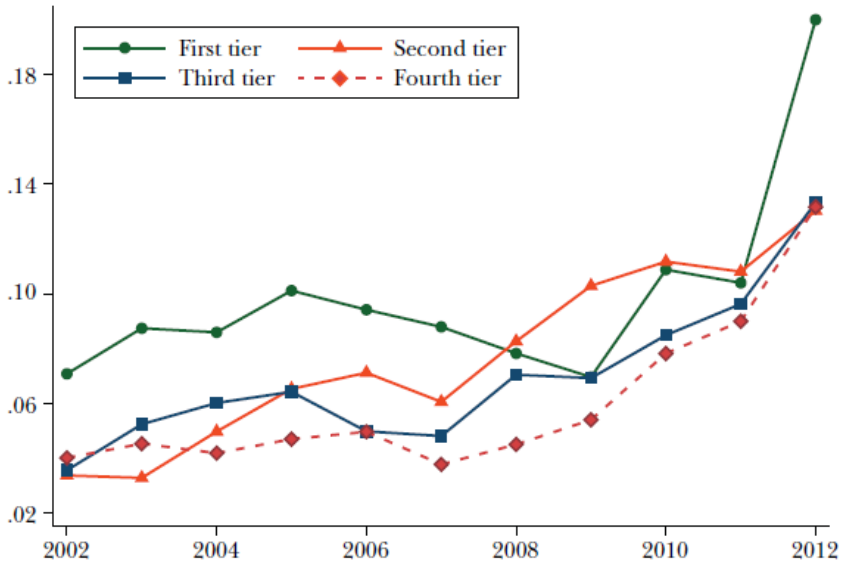

Figure 2.18: Household vacancy rates in China.

(Source: Glaeser et al., 2017)

People, who own a house in China are mostly middle-aged people who have saved enough money for either their retirement or for their children's marriage as house ownership is greatly valued in Chinese society (Glaeser et al., 2017).

Glaeser et al. (2017) conclude that, a housing crash in China is not inevitable, but that the outcome depends on decisions made by the Chinese government. Only if new construction is sufficiently restricted, prices can remain high. Yet the social costs of restricting new housing supply could be

significant, because of both the lower employment and reduced growth of China's hyper-productive cities. This is indeed a real estate boom with Chinese characteristics: like much of modern China, its fate rests ultimately with government decisions.

Yu (2016) conducts a research to find impacts of housing market reform on current housing market formation in China, using VAR model, Impulse Response Analysis, Granger Causality and VEC models. Collected data are monthly data between June 2010 to April 2016. Yu (2016) claims that, real estate investment in the short run will boost aggregate output, in the macroeconomy level. However, in the long run enormous level of real estate investment will prevent other sectors to grow first and then the national economy will stagnate. The author also asserts that, the huge development of real estate sector in China is occuring in the transient period of the country and maybe opportunities and challenges in the sector faced by government could have different solutions in different countries, thus there is a distinct pattern of real estate sector in China and it is difficult to say whether distinct real estate pattern has been successful or not, it is the matter of future to conclude that.

2008 financial crisis gave us an important lesson that, overexposure to one kind of asset together with financial institutions allocating huge investment to this kind of sector can have unwanted results for finance sector. The same pattern of development is evident in China's real estate boom. The research conducted by Zhang, Chai, Liu and Kutan (2016) aims to analyze real estate boom and its possible effects on financial system of China, using a panel of China's regional commercial banks. findings of the research show that, declining real estate market seems to be more harmful to banking sector. That's why, for banks to keep high stakes in real estate market can be very risky. A possible case of instability or shrinking in real estate sector will harm banks with huge loans in real estate sector more. Competition among China's regional banks can therefore, be risky too in the case of real estate market decline at some time, if such banks provide excessive loans in real estate sector.

2.2.2 Hotel and Catering

2.2.2.1 Hotel Subsector

Today tourism sector plays an important role in Chinese economy. The country's reforms post 1978 and openness to the world markets were important generators of such significant development in this sector. China's Ministry of Culture and Tourism has published some tourism statistics in 2018. According to statistics, outbound tourism had the highest rate of growth in 2017, which was 14,7% more than inbound trips in 2017. Domestic tourism also had a higher rate of growth compared to 2017 by tourist trips and by tourism revenue. The slowest growth was recorded in inbound tourism, by trips and by revenue. In total China gained 5,97 trillion Yuan from tourism in 2018 and it is 10,5 % more than revenue in 2017

	Statistics in 2018	**Increasing Rate over 2017**
Inbound Tourism	141.2 million trips	1.2%
Inbound tourism revenue	UD 127.1 billion	3.0%
Outbound tourism	149.72 million trips	14.7%
Domestic tourism	5539 million trips	10.8%
Domestic tourism revenue	CNY 5.13 trillion	12.3%
Total Revenue	CNY 5.97 trillion	10.5%

Table 2.3: Tourism statistics 2018.
(Source: 2018 China Tourism Facts & Figures, 2019)

According to the statistics, Shenzhen, Guangzhou and Shanghai have attracted most inbound tourists in 2018. Myanmar, Vietnam, South Korea and Japan are main inbound tourist sources for China. As mentioned earlier, China tries to build better relations with its neighbors in Asia and it can be a good indicator of this. Asians constituted 76,3% of all inbound tourists visiting China. Tourists mostly visited China for sightseeings and leisure activities.

Talking about outbound tourism, statistics show that, main sources of outbound tourism are Shanghai, Beijing and Guangzhou cities. Main travel

destinations of outbound tourists are Thailand, Japan, Vietnam and Singapore (2018 China Tourism Facts & Figures, 2019). Rural tourism and red tourism have been new points of growth for Chinese tourism sector. Visitors prefer to travel traditional villages in rural part of China, mainly close to borderlines. Tourists also have shown increasing interests to Historical revolutionary bases in China which is called red tourism.

According to statistics provided by Ministry of Culture and Tourism of China, there were 10962 star rated hotels in China at the end of 2017. 9775 of these star – rated hotels have been approved by provincial tourism authorities. Among them 66 are one-star hotel, 1774 two-star hotels, 4721 three- star hotels, 2392 four-star hotels and finally 822 five-star hotels. **Table 2.4** provides a better picture of the hotel segment of China.

	Number of Hotels	Average Room Rate (CNY / Room / Night)	Average Occupancy (%)	Revenue Per Available Room (CNY / Room / Night)	Revenue Per Room (CNY /
Total	9775	352.23	57.71	203.28	38322.09
5-Star	822	634.08	63.68	403.78	80482.08
4-Star	2392	335.44	59.58	199.86	39335.32
3-Star	4721	223.79	53.84	120.49	23381.15
2-Star	1774	167.25	52.64	86.04	15233.84
1-Star	66	89.74	44.15	39.62	8529.94

Table 2.4: Sizes and business statistics of star-rated hotels in China, Q4,2017.
(Source: 2017 China Tourism Facts & Figures, 2019)

From **Table 2.5** it can be understood that, differences exist between room rates of hotels with different rate seven among cities in the same tier. For example, room rates of five-star hotels are higher in Shanghai and Goangzhou more than Beijing and Shenzhen (2017 China Tourism Facts & Figures, 2019).

1-Star		2-Star		3-Star		4-Star		5-Star	
Beijing	287.85	Wenzhou	322.03	Beijing	434.12	Huangshan	545.92	Shanghai	993.67
Ningbo	176.17	Nanjing	311.23	Dalian	421.32	Beijing	533.66	Guangzhou	965.42
Hangzhou	128.96	Beijing	304.96	Shanghai	388.01	Shanghai	517.40	Sanya	938.87
-	-	Tianjin	300.97	Fuzhou	342.25	Zhuhai	441.34	Beijing	854.21
-	-	Shanghai	278.32	Hangzhou	338.39	Hangzhou	422.76	Jinan	757.74
-	-	Suzhou	264.48	Shenzhen	337.58	Fuzhou	420.77	Shenzhen	757.38
-	-	Hefei	259.11	Guangzhou	332.13	Guangzhou	413.97	Xiamen	676.73
-	-	Chengdu	252.40	Lhasa	309.21	Shenzhen	410.19	Qingdao	646.18
-	-	Guangzhou	250.08	Tianjin	275.17	Lhasa	406.93	Harbin	644.25
-	-	Changchun	246.79	Nanjing	272.21	Nanjing	390.16	Hangzhou	626.02

Table 2.5: Average room rate of top tourism cities in China (Yuan / Room / Night), Q4 2017. *(Source: 2017 China Tourism Facts & Figures, 2019)*

Tourism is a relatively young industry in the World and history of tourism in China in this sense dates back only to recent decades. In 1920-1930s travel business developed to a small degree in China for a short period as late 1930s and 1940s were turbulent years in China because of internal and external wars and destabilization. The first **Chinese** travel agency opened in China in 1923 in Shanghai. But at that time travel industry mainly served rich Chinese segment and ordinary people didn't benefit from it much. During 1949-1966 tourism became a political activity as travel services generally served Chinese diplomats and officials to travel to other countries and foreigners with special permits to travel China. Thus tourism at that time was a political, rather than economic activity. Since 'Great Cultural Revolution' started in 1966 international tourism almost faded away in China. Very few foreigners with permits were allowed to enter China as the country closed its doors for foreigners and was busy with internal problems of the state. Until 1978 the situation didn't change and tourism was not a necessary activity in economic system (Zhang, Pine, & Zhang, 2000).

1978 was a lucky year for tourism as Central Comittee of China Communist Party made an important decision about modernization of country's economy and tourism was considered an economic activity. Tourism sector grew significantly between 1978-1985. China became a member of World Tourism Organization in 1983 (Zhang et al., 2000). Since 1986 tourism sector became an important pillar of economic development of the whole country, provinces

and autonomous regions of the country Tourism industry was chosen as one of the growth engines of economy for coming years by CPC in 1998 (Zhang et al., 2000).

China joined to World Trade Organization in 2001 and tourism sector benefited from the accession so much that, according to statistics, if around 89 million visitors visited China in 2001, in 2012 this number reached more than 132 million visitors (Zhang et al., 2000). From having almost no place in world tourism industry until early 1980s China has become one of top destinations for tourists nowadays. Since 1994 China has been among top 10 world tourist destination list. Tourism statistics published by WTO for the year 1998 is indicated in **Table 2.6.**

		International tourist arrivals	Market share
Rank	**Country/region**	**(1,000)**	**(%)**
1	France	70,000	11.2
2	Spain	47,743	7.6
3	USA	47,127	7.5
4	Italy	34,829	5.6
5	UK	25,475	4.1
6	**China**	**24,000**	**3.8**
7	Mexico	19,300	3.1
8	Poland	18,820	3.0
9	Canada	18,659	3.0
10	Austria	17,282	2.8
	Total	***323,235***	***51.7***
	World total	***625,236***	***100.0***

Table 2.6: Top ten world tourist destinations in 1998 (in international tourist arrivals).
(Source: Zhang et al., 2000)

Table 2.10 shows top tourism destinations in 1998 in terms of revenue gained. China is the 7th in the World in the table with 2,8 % of World market share.

Rank	Country/region	Revenue (USD1bn)	Market share (%)
1	USA	74.240	16.7
2	Italy	30.427	6.8
3	France	29.700	6.7
4	Spain	29.585	6.7

5	UK	21.295	4.8
6	Germany	16.840	3.8
7	**China**	**12.500**	**2.8**
8	Austria	12.164	2.7
9	Canada	9.133	2.1
10	Australia	8.575	1.9
	Total	***244.459***	***55.0***
	World total	***444.741***	***100.0***

Table 2.7: Top ten world tourist destinations (in tourism revenue).
(Source: Zhang et al., 2000)

Just after 1978 reforms when China opened its doors to foreign visitors, massive amount of tourists flew to China. At that time the state was unable to deal with so many visitors and thus set limitations for amount of visitors, however, after some time amount and quality of infrastructure improved and it contributed a lot to country's tourism activities. (Zhang et al., 2000). Today many international tourists visit China from neighboring countries of China, due to stronger political and economic bonds established with these countries. Change from centrally planned economy to market oriented economy has influenced tourism sector immensely. Today tourism industry is not under monopoly of few state-owned companies (Zhang et al., 2000).

Today openness in this sector is more obvious so that not only Chinese citizens, but also foreigners can engage in investment and development activities in this sector in China. Hotel industry has successfully attracted foreign capital and overseas management practices together with related industries such as catering and transportation industries. It has been very beneficial for China from many aspects, from getting large amount of foreign reserves to achieving highly trained and skilled personnel (Zhang et al., 2000).

Tourism industry is growing in the whole World. According to statistics tourism industry has been second fastest growing industry in the World. The indusrty has yielded 10,4 % of World GDP in 2018. (Travel Tourism continues strong growth above global GDP, 2019).

As the sector has recently gained significance in economy, scholarly researches on tourism are also relatively new and not in large amount. However, size of literature is enhancing every year (Tsang, Lee,& Gu, 2015). Gross *et al.* (2013) review articles written within past 26 years in Enlish language and find that, topics like how hotels develop and which strategies they apply, management practices and performance of Chinese hotels and business environment analysis topics have been favorite topics for all 115 articles that the have reviewed. Tsang and Hsu (2011) also conducts similar research for the time period 1978-2008, reviewing articles in English language academic journals and give a broad understanding and picture of China's tourism research. They find tourist behaviour the most famous topic in these articles (Tsang et al., 2015). Kong and Cheung (2009) conduct a research about hotel development in China, sampling 66 articles published betwen 1984-2007 and come up with interesting findings. They find hotel strategy and development, marketing, service quality and human resources management mostly researched topics. In the paper of Huang and Hsu (2008) the most famous topics are tourism planning, development and management.

According to Magnini and Ford (2004), as a result of open door policy, today many hotels are joint ventures and it allows Chinese shareholders to understand service quality criterias of other parts of the World. Service quality evaluation is another mostly-researched topic in hotel and tourism researches in China (Engelland, Hopkins, & Larson, 2001). It is stated that, in early years of hotel development in China efforts generally spent on building infrastructures and facilities. Developing softwares were not usual in those years. Researches conducted in those years clearly state that, service quality at that time was very low. (Cai and Woods, 1993; Choy, Guan,& Zhang, 1986). Hotels were operated with Chinese mindset and hotel star rating system was only adopted in 1990. Tourism and hospitality is an industry that, human factor is very important on both supply and demand sides and therefore, service quality is a major theme to strongly concentrate on (Tsang et al., 2015) The 31 papers gathered in this study were published between

1998 and 2013 and as table 2.8 shows, service quality management and evaluation are mostly researched themes in reviewed articles.

Main theme	Chinese-language articles	(%)	English-language articles	(%)	Total	(%)
Service quality management	7	28.00	—	—	7	22,58
Service quality evaluation	6	24.00	1	16.67	7	22,58
Satisfaction	2	8.00	2	33.33	4	12,90
Perceptions and expectations	2	8.00	2	33.33	4	12,90
Issues and problems	3	12.00	—	—	3	9,68
Consumptive psychology	2	8.00	—	—	2	6,45
Review paper	1	4.00	—	—	1	3,23
Destination competitiveness	—	—	1	16.67	1	3,23
Sustainable tourism	1	4.00	—	—	1	3,23
Tourism resources utilization	1	4.00	—	—	1	3,23
Total	25	100.00	6	100.00	31	100.00

Table 2.8: Research themes of the reviewed papers

(Source: Tsang et al., 2015)

Researches also show that, researches in tourism sector mainly concentrate on hotel sector, outshining other tourism-related sectors such as catering services, airline and cruise sectors. Very limited amount of researches have been conducted in these subsectors. Even researches on hotel sector have narrow scopes and they concentrate generally on particular hotels in particular regions, such as Beijing or Yangtze river (Tsang et al., 2015)

Hotel development in China has successfully increased over the last decades, when China opened its doors to foreign visitors and investors. The first joint-venture hotel (Jianguo Hotel) emerged in China in 1982 (Pine et al., 2000). China and its hospitality sector have experienced significant growth ever since and of course, it has attracted many scholars to do researches on this sector. Kong and Cheung (2009) review English-language articles published in ProQuest Basic Search, EBSCO Host Web and Emerald Management Review on hotel development. 66 refereed journal papers were examined covering the time span of 1984-2007. They show that, *overseas investment and foreign hotel cooperation and management* have been initial topics to be researched in hotel development studies. Hines (1984) notes that, China sought to attract foreign investment and know-how to apply its hotel industry to help developing its standards to reach international level.

However, joint administration of hotels generally caused dissatisfaction and were not successful. Causes of poor performance included underdeveloped infrastructure and restricting laws and regulations. (Cook, 1989). It was the time that, star-rated standardization was introduced for hotels in 1990 by China National Tourism Administration (Liu &Liu, 1993). Pang et al. (1998) noted that, it was important for multinational hotels operating in China to combine their corporate culture with Chinese culture for better quality and success. Lee (2002) notes that, China's accession to the WTO increased scholarly interest in its hotel sector.

Kong and Cheung (2009) show in their review that, another field of interest in hotel sector of China is *marketing* related issues. Siu and Fung (1998) claims that hotel advertising should focus on people people more to be successful. Another article written by Cai (2004) notes that, brand affiliation should be a strategy that both state-owned and private hotels pursue. Hsu et al. (2004) note importance of websites to attract and keep tourists. The overview of the reveiewed articles on marketing are given below:

Authors/year	Field of study	Major concepts/variables	Methodology
Siu and Fung (1998)	Hotel advertisement	Print advertisement and advertisement illustration with people	Qualitative
Yu (1998)	Ownership structure, market changes and potential business opportunities	Performance analysis and comparison, budget hotel development and market changes	Conceptual
Cal (2004)	Brand development	Budget hotels, state ownership, network forms and brand affiliation	Qualitative
Hsu *et al* (2004)	Marketing strategy	Hotel web site, market strategy and contents and transaction capabilities	Quantitative

Table 2.9: Selected literature on marketing

(Source: Kong and Cheung, 2009)

Service quality is another broad field that, scholars have researched extensively (Kong & Cheung, 2009). Wang and Pearson (2002) show employee friendliness and willingness to provide services to be important steps in improving service quality. Qu and Tsang (1998) found that, there is a gap between expectations of hotel guests about quality of the service and bitter reality about it in Chinese hotels. Magnini and Ford (2004) see Western

kind of service training as a necessary point of improvement in service quality.

Human research management is also found to be one of broad areas to be mostly researched in studies (Kong and Cheung, 2009). Early stages of studies concentrated on employees' training, motivation and so on. Later studies, however, focused more on cultural factors influencing hotel sector, such as cross-cultural management and role of foreign managers, culture shock that foreign emplyees face, impact of cultural differences on employee behaviour and so on (Kong & Cheung, 2009).

Despite the rapid growth of hotel industry of China, the sector still faces challenges in finding high-skilled staff and staff turnover. In addition fresh graduates are not willing to work in this sector too much. Senior management is another challenge in the sector (both to find high-skilled foreign manager and to improve skills of local managers) (Dolven, 2004). To find talents in such competitive environment, to hire and keep them are still difficult for Chinese hotels (Gu et al., 2006), taking low possibility of career development and promotion into consideration (Kong & Cheung, 2009).

Chen (2017) researches linguistic aspects of hospitality sector in China and comes up with interesting findings. He first notes that, studies on hospitality have generally been conducted in English. Therefore, there are several assymmetries in the meaning and understanding of the term 'hospitality' in English-language literature and its equivalents in Chinese language, both linguistically and culturally. The reason might be linked to the fact that, industrial hospitality didn't exist in traditional Chinese culture or hospitality had Chinese character throughout centures that were different than Western hospitality practices. Practically it implies that, hotel managers and operators should be well aware of cultural attributes of hospitality among Chinese customers to provide better service. Additionally, foreign hospitality companies entering domestic Chinese market should know that, they can be faced with cultural resistance and cultural differences, so their human

resources management and training processes should be carefully tailored to Chinese culture.

Today domination of international chain hotels and restaurants is clearly visible in the World. As they have enough resources to attract customers and keep them, they strenthen their positions and most probably will achieve it further in the future. The study conducted by Tibbits (2003) assumes that, the situation of such chain hotels and restaurants will resemble those in other countries, chain hotels and restaurants capturing major market share and weaken positions of independent enterprises. The trend is described as "Chainizing of China". However, taking China's complex and unique character, it will not happen instantly, according to the study.

According to the article, between 1997-2003 nomber of four-star and five-star hotels have increased from 193 to 386 and from 57 to 282 respectively. Chain hotels acoounted for 16% of hotels in China in 1997. Most of chain hotels were 3,4 or 5 star hotels and they accounted for 11,3 % of sales in 1999. China has been an attractive destination for chain hotels due to rapid develoment of state. Potential for development of tourism is very high in China. Sheraton opened its first hotel in China in 1985 under the name 'Great Wall Sheraton'. Other big names such as Holiday Inn, Shangri-La, Ramada etc. became new chain hotels in China after Sheraton (Tibbits, 2003).

There are differences in professional practices, techniques and reservation systems as well as hygienic standards between domestic hotels and international chains. This provides incentives for many domestic independent hotels in China to go reflagging. It is easier to reflag as banks provide easier financing schemes knowing that, new flag will belong to an international chain. Domestic hotel management companies are also developing, the first one being White Swan Hotel Management Company opened in 1998. However, international chains grow faster than them. Government has shares in majority of domestic hotel chains and introduction of international chains made them face harsh competition and modernize to survive. Reservation systems are huge advantageous factors for international hotel

chains to draw customers from all over the World. The solution for domestic chain or independent hotels is to link with Pegasus Solutions, Leading Hotels of the World, Preferred Hotels Worldwide and among others, Lexington Services Corporation; but the in-house, global reservation systems of the Marriotts, Hyatts and Six Continents continue to remain a competitive advantage (Tibbits, 2003).

Tourism sector is an interesting field as it links many sectors to operate (Lejarraja & Walkenhorst, 2007). **Table 2.10** shows some of tourism-related sectors and their share in tourism industry. There are flows of transactions between tourism- related sectors and other segments of economy. Thus, for tourism planning it is important to understand links between tourism-related sectors and other sectors of economy (Khanal, Gan, & Becken, 2014).

Tourism-related sectors	Tourism-related components	Tourism proportion (%)
Catering	Catering services	12.252
Accommodation	Hotels	37.882
Transportation	Railway transport, road transport, water transport, air transport, and urban public traffic	11.882
Sightseeing	Tourism, business services, management of water conservancy, environmental management, and management of public facilities	5.051
Shopping	Wholesale and retail trades	7.926
Other tourism	Journalism and publishing activities, broadcasting, movies, televisions and audiovisual activities, cultural and art activities, sports activities, and entertainment Post, telecom, and other information transmission services Insurance, leasing, services to households, other services, public management, and social organization	5.989

Table 2.10: Tourism-related sectors and components in the 2007 China's I-O table.
(Source: Zha et al., 2019)

Combining network analysis technique with China's Input-Output tables for 2002, 2007 and 2012 years Zha, Shao and Li (2019) come up with some findings. They find that, direct economic ties among tourism-related sectors have been relatively weaker than other sectoral groups. Secondly, despite the initial limited effect of tourism industry on China's economy has evolved through years and backward-linkage effects of the sector have grown over time. Linkages between sectors have changed in an unequal manner. Transportation industry, for instance grew very rapidly and its ties with other industries grew strongly too. This industry had medium ability to control the

resource flow between related sectors. Sightseeing sector also strengthened ties with other sectors, however, sectors like shopping sector developed weak backward linkages. Also, these sectors proved to have low intermediary capabilities to control resource flows in their networks. Zha, Shao and Li (2019) recommend policy makers to strengthen ties between tourism related sectors and other sectors more.

Shi, Zi, Wang and Li (2016) state that, expansion of star-rated hotels have a positive impact on inbound tourism. Again, there are differences among regions whereby, some regions accomodate more star-rated hotels than others. In the regions where expansion of such hotels, labor productivity development should be priority thorugh technical progress and hotels should be encouraged to go abroad. Regions with middle expansion of star rated hotels should still focus on labor quality development and should avoid traps of tourism resource curse. Finally, regions with lower level of expansion should encourage foreign investment to support establishment of star-rated hotels. Hotel operators should take special care of competition strategies to achieve sophisticated competition. Operators can consult with foreign correspondents for better ideas to improve service quality and brand name and to apply such know-how in local hotels.

2.2.2.2 Catering Subsector

The study of Akhtar, Sun, Ahmad and Akhtar (2019) investigates non-verbal messages of Halal restaurants in China to Muslim tourists that might be perceived aggressively. The term ‘Halal tourism’ encompasses anything that Islamic law or Sharia permits them to do. Data collected from 622 Muslim tourists visiting Halal restaurants in Shanghai, Beijing and Xian. Findings show that, interaction adaptation can lead to offensiveness and in turn it can generate appropriate behavior patterns. Consumers’ offensiveness strongly affects negative word-of-mouth. On the contrary good experience with Halal restaurants minimizes consumers’ offensiveness and leads them for future purchase.

The article written by Dai et al. (2018) investigates impacts of cooking activities of restaurants on air quality. Data were collected from 8 different restaurants (Szechwan Hotpot, Hunan, Shaanxi Noodle, Chinese Barbecue, Chinese Vegetarian, Korean Barbecue, Italian, and Indian) in Northwestern China in 2011-2012. Chemical investigation for airborne carbonyls showed that, highest carbonyls per capita were found in Indian restaurant, which can be linked to bake of spices and thermal cooking processes. Lead and nickel were abundantly found in these restaurants. Finally, taking all findings into account plus Canser Assessment Risk on the toxic elements, findings show that, such work environments pose threat to health. Foods, ingredients, oils, cooking methods, fuels, implements and tableware can contribute to the variations of emission profiles for airborne carbonyls, particulate-bound PAHs and heavy metals.

The matter of interest in the study of Zeng, Go and Vries (2012) is a dilemma faced by tourism enterprises, including restaurants to pursue standardization or differentiation in services they provide. Standardization means implementation of routines in service production, which is very beneficial for enterprises and allows them to expand to larger areas. On the contrary, differentiation or authenticity motivates consumers strongly (Cohen, 1988; MacCannell, 1973; Naoi, 2004; Kolar and Zabkar, 2010).

Year	2005	2006	2007	2008	2009
Groups	300	349	358	453	426
Restaurants	9748	11,360	12,743	12,561	13,739
Employees (thousands)	501	557	626	661	652
Business area (in thousands of m^2)	4781	5882	6293	6519	6916
Seats (thousands)	2458	2748	2801	2531	2489
Turnover (billions of RMB)	45.436	56.375	64.000	80.691	87.932
Purchases (billions of RMB)	17.150	20.120	27.491	27.159	36.200
Unified delivery purchases (billions of RMB)	10.910	12.750	16.880	19.252	23.984

Table 2.11: Size and number of Chinese restaurant groups.
(Source: Zeng et al., 2012)

Table 2.11 presents a general statistics on restaurants in China. Findings show that, large restaurant groups in China apply certain standardization level, it is important for managing them. Many restaurants don't apply standardization or authenticity in a structured way. This kind of restaurants constitute majority of the cases investigated and as there is no central control

and command system in these restaurants, there is always space for good ‘climate’ which consequently lead to customer satisfaction. For those restaurants that adopt authenticity as their main strategy over standardization expansion becomes limited as they generally focus on preservation of authenticity in subsidiaries but lack good management to control those subsidiaries. On the contrary expansion is easier for restaurants choosing standardization over authenticity due to economies of scale, certain rule of work and certain expectation of customers. These are restaurants that seek to attract masses (Zeng et al., 2012).

Meng, Zhang and Kang (2017) do a research about diners’ conversation behaviours and acoustic perceptions in 6 typical Chinese restaurants. Different dining styles, such as centralized, disperse and separate are compared, crowd density and bacground music to be taken into account. Findings of the article are noteworthy. Firstly, they find that, dining styles affect conversation behaviour. Centralized dining increase frequency of conversation according to the article, so that, when there are 4 or more people in a table, frequency will rise and more interestingly, frequency of conversation will increase more when there is bacground music rather than no background music, keeping dining crowd the same. Additionally, with crowd density increasing, sound pressure rose as well.

The study of Wright et al.(2016) tries to research how US chain restaurants affect China and South Korea ecologically. Dunn, Sharkey and Horel (2012), Fleischhacker, Evenson, Rodriguez and Ammerman (2011) and Lee (2012) have all researched negative effects of food consumption from such restaurants. Negative effects of food served in these restaurants are results of high calories and high fat levels contained in these food and cancer, diabetes and heart disease are well known eamples of accompanying diseases. Despite all negative implications, chain restaurants are having larger and larger reaches and Asia, specifically China and South Korea have been new marketplaces for these restaurants. Consequently, traditional diets of people in these countries have shifted from low fat containing fish and

vegetables to higher fat and calories containing food, especially offered by restaurants like Mc.Donald's and KFC (Wright et al., 2016).

Food consumption behaviours however, are very complex and many factors can influence people's choice of food. Ecological perspective can be a good framework to examine this subject. Obesity and weight management are essential variables in the study of Wright et al. (2016) and effects of factors like popularity of US chain restaurants in China and South Korea, frequency of food consumption in these restaurants, depression, willingness to communicate about diet or weight, self- efficiacy in weight management, Body Mass Index and self-perception of obesity stigma on obesity and weight management are sought to be examined. Fast food chain restaurants have rapidly grown sine 1970s in the US and later have spread to the whole World and South Korea and China have been new market destinations of these restaurants in Asia. China is especially a very lucrative market due to its high growth rate of economy and hugeness of market. Today McDonalds is a World leader restaurant chain in the World with 35000 restaurants in 118 countries, followed by KFC with 18875 restaurants in 118 countries and China and South Korea are host countries to many of these restaurants.

Ji and Cheng (2008) state that, there were more than 1600 McDonalds restaurants in 2008. Hill, Wyatt, Reed and Peters (2003) state that, introduction of US chain restaurants in China has caused increase in obesity rates in these countries. Zhou and Hui (2003) claim that, food consumption in US chain restaurants is linked to higher social status in many countries, including China. There are important and interesting findings of the study of Wright et al. (2016). First of all, findings show that, willingness to talk about weight and obesity to others results in better management and control of one's obesity and diet issues. Findings further suggest that, frequency of US chain restaurant food consumption and obesity stigma can increase depression level. Furthermore, in both China and South Korea perception of survey attendees about chain restaurants proved to be almost the same.

Ye et al.(2013) investigate knowledge and attitutes of migrant women working in restaurants in Guangzhou, China. Data was collected from 428 samples and analysed. Article results show that, on average attendees scored 19,6 out of 26 maximum points in terms of their knowledge about HIV/AIDS. 8,2 % of participants had poor knowledge about the diseases, 42,5 % had fair knowledge and 49,3 % of all participants proved their good knowledge about mentioned diseases. Participants with unmarried status, the ones under 30 years old and the ones having higher levels of education had better knowledge about HIV and AIDS. Interestingly 57,7% of participants who had prior sex experiences answered that they either don't use condom or rarely do use them. Condom use was more common among young and unmarried women rather than married women above 30 years old. These findings show that, there is still space for much broader education for female migrant workers in China.

Ma and Ghiselli (2016) explore green practices, implementation and impacts of it in medium sized restaurants in China. Environmental effects of tourism have been broadly researched so far. Food waste is one of problems that still prevails over tourism. In fact, this waste can be reused and restaurants should make efforts to reuse food waste. Size of operations of restaurants in China are generally smaller than restaurants in the US, many of restaurants in China being privately owned. Even if these restaurants are not under public scrutiny, competition and consumer demand strongly force even small restaurants to adopt green practices (DiPietro, Gregory, & Jackson, 2013).

The research of Ma and Ghiselli (2016) explores costs and benefits of some solutions that might be practically useful for restaurant owners. In the article green practices are divided into three-solid waste management, energy usage management and water usage control. Comparison group approach has been used to find costs and benefits of possible solutions. Findings of the article show that, 'rescue recipes' using fish could be adopted to reduce costs (i.e using fish 'scraps' to make a new dish). This would have helped to gain greater revenue for the restaurant. Additionally, reutilization of cooking oil left at the bottom of 'finished' bottles could save both money and oil waste,

being financially and environmentally beneficial. Furthermore, one of the findings is that, greater cost cut can be achieved limiting the time and length of opening refrigerator doors and preventing temperature losses. It would cause 1,83 kWh of electricity save and 2,15 Yuan cost save. Controlling concentration of chemicals in cleaning solutions is another way to save water and money.

Liu, Jiang, Travers, Li and Hammond (2013) examine influences of different smoking policies that have been adopted by different restaurants and bars in China. China has adopted World Health Organization Framework Convention on Tobacco Control in 2006. Thereafter, Beijing administration has adopted a policy restricting or banning smoking in big restaurants. Field observations were conducted in 79 to 94 restaurants in Beijing between 2006 and 2010 (excluding 2009). Patron smoking behaviour and fine particulate matter from secondhand smoke (SHS PM) in these restaurants were closely monitored. Additionally, in the final year restaurant server's personal nicotine usage and area nicotine usage in peak patronage times were also investigated.

According to observation, smoking was banned or limited in 18% of restaurants observed in 2006 and in 11% of restaurants in 2007. For 2008 and 2010 the numbers are 83% and 69%. However, despite high limitation indicators in 2008 and 2010, smoking was observed in 40% of the monitored restaurants in 2006, 24 % in 2008 and 31% in 2010. Median (SHS PM) concentration has been 53, 83,18 and 27 μg/m3 in 2006, 2007, 2008 and 2010 respectively. SHS PM concentration decreased in 2008 but slightly increased in 2010 again. In conclusion it can be said that, restrictions and prohibition of smoking in big restaurants of Beijing couldn't end smoking in these venues 2 years after its adoption. Proportions of venues with different nominal smoking policies and observed smoking each year are indicated in **Figure 2.19**.

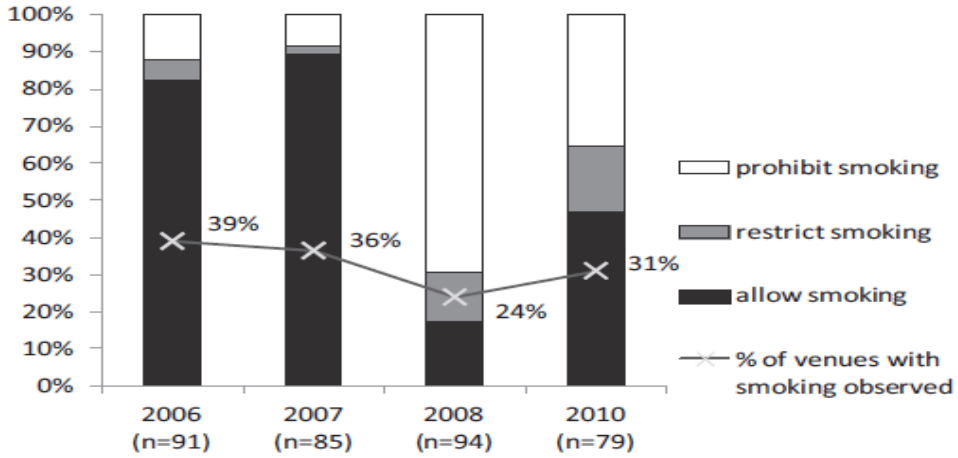

Figure 2.19: Proportions of venues with different nominal smoking policies and observed smoking each year.

(Source: Liu et al., 2013)

Qin, Prybutok and Zhao (2010) research attributes and factors affecting service quality in fast-food restaurants in China. Findings of the research show that, reliability, recoverability, tangibles, and responsiveness are all reckoned as part and parcel of service quality. Furthermore, food & service quality and perceived value positively influence customer satisfaction and lead to appropriate behavioral intentions.

Xu (2014) examines how fast-food diners in China perceives Corporate Social Responsibilities (CSR) and their expectations, selecting McDonald's as the sampling brand. The study finds CSR performance to be the most influental factor to affect customer loyalty. To be environmentally sustainable, adding more importance to customer well-being and nutrition were found to be major expectations of diners.

CHAPTER 3
METHODOLOGY

3.1 Introduction

This chapter will discuss and explain the variables, sources of the variables and the econometric methodology used in the study. This includes providing names of the variables, their calculations, explanation about the unit root testing procedure, ARDL Bounds test procedure, interpretation of short run and long run results and so on.

3.2 Data Collection

China's National Bureau of Statistics is a great source for anyone that seeks to find statistical data on various fields of economy. NBSC regularly publishes Statistical Yearbooks and Yearbooks on specific sectors of economy or regions. Annual time series data have been used in this study, covering 1990-2018 time span. For the purpose of the study, data have been collected on three different variables. These variables are Nominal Gross Domestic Product, value added of hotel and catering industry and value added of real estate industry between 1990 and 2018.

3.3 Data Analysis

Data has been analysed in Eviews 10 Student Version statistical software. Previously**,** cointegration tests proposed by Johansen (1991), Engle and Granger (1987), Gregory and Hansen (1996) and Johansen and Julius (2009) have been widely used in quantitative researches. However, these tests require variables to be in the same order/rank. Furthermore, these tests proved to be vulnerable and not yielding precise results when small sample

sizes were used. The Bounds Test approach allows to overcome these challenges and therefore, the method is getting more popularity nowadays. ARDL methodology developed by Im, Pasaran and Shin (2003) will be used in this study. As mentioned above, ARDL methodology doesn't require variables to be integrated of order on the same level and yields effective results in the case of small sample size.

In this study the relationship between overall economic growth and service sector growth of China will be examined. Economic growth is expressed by change in annual nominal GDP (instrumentalized as 100 billion Chinese Yuans). The Service sector is represented by two subsectors, which are the real estate and the hotel & catering sectors. Analyzing overall services sector would be possible as well, however, the sector combines many discrete subsectors and it is better to concentrate on smaller fields inside the sector for more accurate and detailed research. In a nutshell, value added of real estate and hotel & catering subsectors will be analyzed and the results of analysis will be implemented to the general services sector.

3.4 Research Model

The research model of the study will be as below:

$$GDP = f(REA, HOT)$$

Transforming this simple model to linear equation, the equation below is obtained:

$$GDP_t = \beta_0 + \beta_1 REA_t + \beta_2 HOT_t + \varepsilon_t$$

Here $\mathbf{GDP_t}$ signifies economic growth at the time t, $\mathbf{REA_t}$ represents value added of Real Estate sector at the time t and $\mathbf{HOT_t}$ represents value added of hotel and catering sector at the time t. $\boldsymbol{\beta_0}$ is the constant of the model. $\boldsymbol{\beta_1}$ and $\boldsymbol{\beta_2}$ are coefficients of variables in the model. Finally, $\boldsymbol{\varepsilon_t}$ is the error term of the model equation.

All variables are transformed into natural logorithms in the model. Therefore, final version of our model can be presented as:

$$LnGDPt = \beta_0 + \beta_1 LnREA_t + \beta_2 LnHOT_t + \varepsilon_t$$

3.5 ARDL Methodology and Bounds Test Approach

ARDL method requires variables to be stationary at whether I(0) or I(1) levels (Pasaran, Im, & Shin, 1995). According to Narayan and Narayan (2006), it is possible to get both short run and long run results using ARDL Bounds Test Approach.

ARDL approach allows us to examine whether there is cointegration among variables or not. In order to conclude about it, acquired F-statistics needs to compared to I(0) lower and I(1) upper critical values obtained by conducting the Bounds Test. If the value of F-statistics is bigger than I(1) upper critical value, we can ascertain that, there is cointegration among variables. Thus, the null hypothesis can be formulated as 'there is no long run cointegration among variables' and alternative hypothesis can be expressed as 'there is long run cointegration among variables'.

3.6 Unit Root Test

Different tests will be used during empirical analysis of the study. First of all, stationarity of the variables must be checked. Unit root tests are broadly used tests to check stationarity. Augmented Dickey-Fuller test will be used in this study to check the unit root at both level and the first difference. ADF test results are presented in **Table 3.1** and **Table 3.2**:

	ADF at level (intercept)		ADF at level (trend and intercept)	
VARIABLE	T-statistic	Prob*	T-statistic	Prob*
LGDP	-0,836418	0,7903	-4,605173	0,0055
LREA	-2,304918	0,1774	-3,139969	0,1201
LHOT	-5,917088	0,0000	-5,501978	0,0006

Table 3.1: ADF test results at level

(Source: Author's own computation in Eviews 10 software)

	ADF at 1st Difference (intercept)		ADF at 1st Difference (trend and intercept)	
VARIABLE	T-statistic	Prob*	T-statistic	Prob*
LGDP	-5,029405	0,0005	-4,669908	0,0055
LREA	-3,814400	0,0076	-4,434003	0,0081
LHOT	-3,933574	0,0057	-4,410216	0,0085

Table 3.2: ADF test results at 1st difference

(Source: Author's own computation in Eviews 10 software)

The null hypothesis in the ADF test is that, LGDP, LHOT and LREA have unit roots at 5% significance level. ADF test results show that, despite LGDP has a unit root at the level (intercept) and LREA have unit root also at level (intercept and trend & intercept), none of the variables have unit root at the 1st difference. That's why, it is possible to assert that, LGDP and LREA are I(1) variables, whereas LHOT is I(0) variable. This result provides a favorable condition to fulfill requirements of ARDL Bound Test approach.

3.7 Bounds Test Long Run Results

In the next phase long run results derived from Bounds test will be examined. **Table 3.3** displays the results of Bounds Test:

Significance	I(0) Bound	I(1) Bound
10%	2,63	3,35
5%	3,1	3,87
2.5%	3,55	4,38
1%	4,13	5
F-statistic	11,02723	

Table 3.3: Bounds Test results

(Source: Author's own computation in Eviews 10 software)

According to rules of ARDL method, obtained F-statistics value must be higher than I(1) upper bound in order to prove co-integration among variables. It is clear that, obtained F-statistics in the model is greater than upper bound in all significance levels. Thus, It is possible to claim that, there is a long run relationship and cointegration among economic growth and value added of real estate and hotel & catering sectors. The test also presents numerical values of independent variables in the long run, as indicated in **Table 3.4:**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LREA	0.622930	0.042559	14.63691	0.0000
LHOT	0.260582	0.055512	4.694163	0.0002
C	3.545184	0.031014	114.3095	0.0000

Table 3.4: Long run coefficients of the independent variables
(Source: Author's own computation in Eviews 10 software)

Long run results show that, valued added of both real estate and hotel & catering subsectors are significant to explain nominal GDP growth. Both real estate industry and hotel and catering industry positively affect economic growth in the long run. To be more specific, 1% increase in value added of real estate subsector will increase nominal GDP by approximately 0,62% in the long run. At the same time, 1% inrease in value added of hotel and catering sector increases nominal GDP by 0,26 %.

Following equation can be derived from long run results of the Bounds Tests.

$$LGDP = 3{,}545184 + 0{,}622930\ LREA + 0{,}260582\ LHOT$$

3.8 ECM Short Run Results

ARDL methodology also makes it possible to check short run relationship among variables via Error Correction Model. The results obtained from the ECM model is presented in **Table 3.5**. First of all, short run results indicate

significance of both independent variables and lags of the independent variables. According to **Table 3.5**, coefficient of Real Estate is 0,321199. It means that, 1% increase in value added of real estate sector increases country GDP by around 0,32 %. Lag of Real Estate also has positive and significant impact on overall country GDP.

ECM Regression
Case 2: Restricted Constant and No Trend

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LGDP(-1))	0.411857	0.070328	5.856248	0.0000
D(LREA)	0.321199	0.040698	7.892308	0.0000
D(LREA(-1))	0.138055	0.047608	2.899838	0.0095
D(LHOT)	0.208239	0.057278	3.635555	0.0019
D(LHOT(-1))	-0.233878	0.048853	-4.787345	0.0001
CointEq(-1)*	-0.536841	0.074836	-7.173590	0.0000

Table 3.5: Error Correction Model Results

(Source: Author's own computation in Eviews 10 software)

What effect does hotel and catering sector have on economic growth of China in the short run? ECM results show positive and significant effect of this sector in the short run, with a positive coefficient of 0,208239. The result implies that, 1% increase in value added of hotel and catering sector will increase GDP by around 0,21 %. However, coefficient of lag of this variable has a **negative** sign, despite being significant. The coefficient of Error Correction Model in our model is negative and significant. ECT coefficient is estimated as -0.536841.

3.9 Diagnostic Tests

3.9.1 Heteroskedasticity Test

Breusch-Pagan–Godfrey test will be used to check whether there is heteroskedasticity in the model. The null hypothesis is that, there is no heteroskedasticity in the model and the alternative hypothesis supports

existence of heteroskedasticity in the model. **Table 3.8** shows heteroskedasticity test results. As probabability is greater than 5% significance level, the null hypothesis cannot be rejected and therefore, It can be accepted that, there is no heteroskedasticity in the model, in other words, the model is homoskedastic.

Heteroskedasticity Test: Breusch-Pagan-Godfrey
Null hypothesis: Homoskedasticity

F-statistic	0.494188	Prob. F(8,18)	0.8446
Obs*R-squared	4.862303	Prob. Chi-Square(8)	0.7722
Scaled explained SS	1.814528	Prob. Chi-Square(8)	0.9862

Table 3.8: Breusch-Pagan-Godfrey test results

(Source: Author's own computation in Eviews 10 software)

3.9.2 Serial Correlation Test

In order to check serial correlation Breusch-Godfrey Serial Correlation LM test will be used in our study. The null hypothesis in this test is that, serial correlation is absent in the model. On the contrary, alternative hypothesis supports that, there is serial correlation in our model. Serial Correlation LM test results are indicated in **Table 3.9**:

Breusch-Godfrey Serial Correlation LM Test:
Null hypothesis: No serial correlation at up to 2 lags

F-statistic	1.234895	Prob. F(2,16)	0.3171
Obs*R-squared	3.610454	Prob. Chi-Square(2)	0.1644

Table 3.9: Breusch-Godfrey Serial Correlation LM test results

(Source: Author's own computation in Eviews 10 software)

Test results show that, the null hypothesis cannot be rejected, as probability is greater than 5% significance level and it means that, there is no autocorrelation in the model up to 2 lags.

3.10 Stability Tests

Besides the abovementioned diagnostic tests, CUSUM and CUSUM of Squares stability tests were also conducted to check if the model is stable. CUSUM and CUSUM of Squares test results are indicated in **Figure 3.1** and **Figure 3.2** respectively.

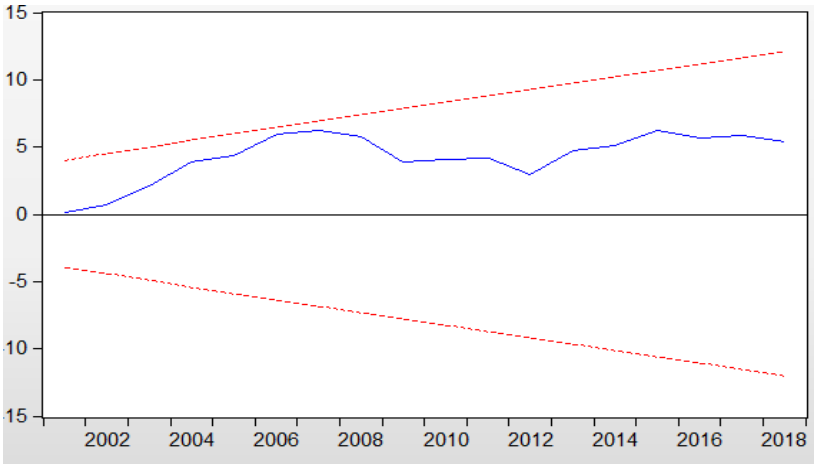

Figure 3.1: CUSUM test results

(Source: Author's own computation in Eviews 10 software)

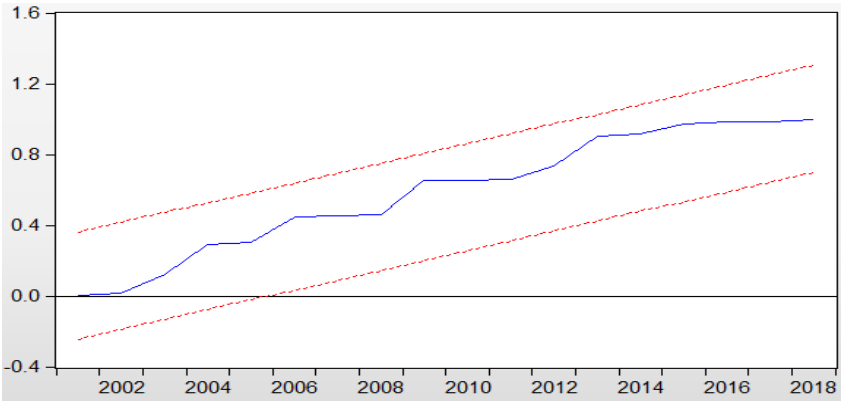

Figure 3.1: CUSUM of Squares test results

(Source: Author's own computation in Eviews 10 software)

Both test results clearly depict that, the model is stable and our results can be used for policy making processes.

CHAPTER 4
FINDINGS, CONCLUSION AND RECOMMENDATIONS

4.1 Findings

Time-series data for nominal GDP, value added of real estate sector and value added of hotel and catering sector covering 1990-2018 were collected to conduct this study. Data was analyzed in Eviews 10 Student Version and ARDL methodology was utilized to analyze the collected data. Different methodologies could be used to analyze the data, but ARDL has some advantages such as providing more precise results for small sample data, possibility to check both short run and long run relationship and possibility to use variables integrated in different orders. Different tests were used to strengthen findings of data analysis. First of all, ARDL Bounds Test results showed that nominal GDP in China and value added of real estate and hotel & catering industries are cointegrated in the long run. It means that, there is a long run relationship between nominal GDP growth and growth in value added of real estate and hotel & catering industries in China. Furthermore, value added of real estate and hotel & catering subsectors are significant enough to explain nominal GDP growth in China in the long run and finally, both real estate and hotel & catering subsectors have a positive effect on economic growth in China in the long run. Numerically speaking, 1% increase in real estate will increase GDP by approximately 0,62% in China in the long run. At the same time, 1% inrease in hotel and catering sector increases total GDP by 0,26 %.

In order to obtain short run results Error Correction Model was used and the results of the ECM showed that, value added of real estate and hotel

& catering subsectors are significant to explain nominal GDP growth in China and there is a positive relationship among value added of real estate, hotel & catering subsectors and nominal GDP growth in the short run. Numerically, in the short run 1% increase in value added of real estate sector increases China's GDP by around 0,32 %. The results also imply that, 1% increase in value added of hotel and catering sector will increase China's GDP by around 0,21 % in the short run.

Short run and long run results of the research prove that, value added of two subsectors of the services sector positively and significantly affect economic growth of China. The findings are is in line with the findings of Green (1997), Chau and Zou (2000) and Liu et al. (2002).

The findings of data analysis can be generalized and be referred to overall services sector of China. In other words, the findings prove that, services sector positively affects economic growth of Chinese economy. The study approves the findings of previous literature on contribution of the services sector on economic growth, such as studies conducted by Clemes et al.(2016) and Nayyar (2002).

4.2 Conclusion

This study is a drop in an ocean of literature written on Chinese economy. Resources written in both English and Chinese offer valuable insights to Chinese economy. However, almost all sources indicate how complex and hard-to-understand the Chinese economic system is. This study focused on Chinese economic growth miracle and tried to explain the role of the services sector, specifically two sub-sectors of service sector- real estate and hotel and catering sector in realization of growth. Economic growth has long been a subect of interest among scholars. Why some countries grow and get rich while others suffer from poverty is one of the mostly researched questions in economic scholarship. China's fast and continuing growth has awakened interest in the subject and many scholars have conducted researches on economic growth. However, researches on the role of service sector in

economic growth of China are very rare. That's why this study will carry special importance in academics.

4.3 Recommendations and Further Research Areas

The results have practical implications for policymakers in China. Below are our recommendations for policymakers based on the research findings:

i. Further efforts must be made to develop the service sector in China as development of this sector is still behind the world average level. Further development of the sector will result in larger contribution to economic growth in the country.
ii. Policies and regulations must be established by the government to eliminate or at least decrease inequality of development among different regions of China. Review of literatute clearly pictures that, the service sector and overall economic growth is highly regional, which might hinder further growth in China.
iii. Not only real estate and hotel and catering, but also other subsectors of the services industry should develop. Many of subsectors of the service sector in China are highly interconnected and simultanous growth of various subsectors can promote higher growth of the service sector.

Several suggestions can be made in order to enrich the literature on the theme. First of all, number of existing studies researching **catering sector** in China is very limited and needs more academic attention. At the same time **trade in services** in China needs an in depth analysis. Especially recent developments in services trade and trade patterns should be attentively researched, as recent developments might reshape the future of China's economic growth.

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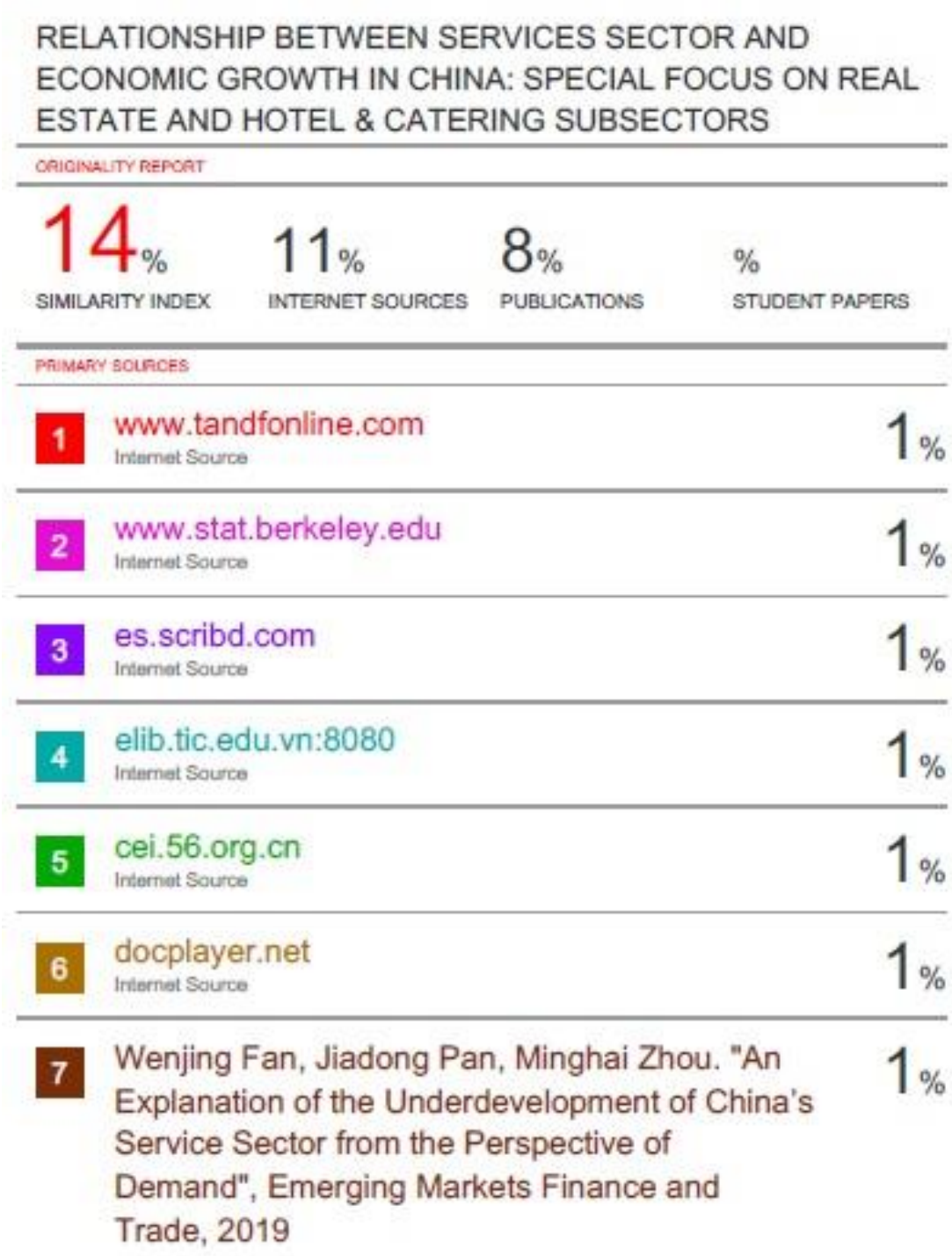

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ETHICS COMMITTEE APPROVAL

YAKIN DOĞU ÜNİVERSİTESİ
İKTİSADİ VE İDARİ BİLİMLERİ FAKÜLTESİ

NEAR EAST UNIVERSITY
FACULTY OF ECONOMICS AND ADMINISTRATIVE SCIENCES

7/01/2020

To Near East University Graduate School of Social Sciences,

Our student Vusal Mursalzada studied the topic 'Relationship Between Service Sector and Economic Growth: Special Focus on Real Estate and Hotel & Catering Subsectors' in his thesis and used secondary data for his analysis. Since the only secondary data used for the estimation other methodological application of the thesis it does not need to apply for ethics committee.

Thesis Supervisor,

NEAR EAST UNIVERSITY GRADUATE SCHOOL OF SOCIAL SCIENCES 1988

Asst Prof Dr Behiye Çavuşoğlu

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