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Summary

This study concentrates on analysing the allocation of affordable housing in Changchun as an example in order to understand how the affordable housing are distributed to intended families on one hand. While on the other hand, it means to study what eligibilities' perception about affordable housing distribution equity.

The research aimed at firstly, an extensive overview of the affordable housing field in Changchun. Secondly, the concrete distribution process including distribution criteria, distribution procedures, distribution outcomes and what equitable perception perceived by the eligible. In the end, this research theoretically explored the choice-based distribution model which first applied in the Netherlands with the expectation to provide positive views to Changchun's case. A case study was conducted to understand research aims mentioned above in Changchun, PRC and two face to face interviews were operated in Delft, NL as a replenish to the CBD model.

Following the introduction of the housing reform carried out in Changchun, several affordable housing policies and regulations constantly have enacted. The municipal government has been taking the lead managing affordable housing including construction, design and allocation. However, in recent years, numerous inequity distribution phenomena of affordable housing appeared in the society in China (Changchun) reported by mass media, national and local newspapers. Lots of grievances arose to criticize that the distribution of affordable housing conducted by the local government and Housing Sectors is unfair and ineffective by both ordinary citizens and eligible applicants. Additionally, it has induced not only great public attention but also local government's focuses.

The research reveals that in Changchun affordable housing policies and regulations are disordered and lack of transparency to the public. In the meanwhile, eligibilities of affordable housing are for a deficiency of distribution procedures, especially applying and lottery comparatively. Furthermore, although most of intended families feel equity about affordable housing distribution, waiting applicants demonstrate less satisfaction with allocation fairness than successful applicants imply. More specifically, waiting applicants deem the housing price, the location of housing are not reasonable and suitable for them. Beyond that, it is undeniable that corruption and political party membership exist in affordable housing distribution in Changchun. In the end, the CBD Model implemented initially in NL shows more transparent, equity and satisfaction that perceived by the public, which is the appreciated experience and reference for Changchun to learn from and to improve the fairness perception in the affordable housing distribution.

Keywords

Changchun, Distribution Process of Affordable Housing, Fairness Perception Theory, Choice Based Distribution Model

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During this year, my academic level and learning capabilities have been significantly improved. My comprehensive capability has also been improved a lot attributed to the assistance and support from everyone around me.

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Abbreviations

IHS	Institute for Housing and Urban Development
GDP	Gross Domestic Product
BMW	Bavarian Motor Works
NL	The Netherlands
U.S.	The United States
U.K.	The United Kingdom
PRC	People's Republic of China
CBD	Choice-based Distribution Model

Table of Contents

Summary.....	iii
Keywords	iii
Acknowledgements	iv
Abbreviations	v
List of Boxes.....	vii
List of Tables	vii
List of Figures.....	viii
Chapter 1: Introduction	1
1.1 General Background.....	1
1.2 Problem Statement.....	3
1.3 Research Aim and Objectives.....	4
1.4 Provisional Research Question.....	4
1.5 Significance of the Study.....	4
1.6 Scope and Limitation.....	4
Chapter 2: Literature review	6
2.1 Housing rights.....	6
2.2 National Regulation Theory	7
2.3 Social Security Theory	8
2.4 Social Housing System.....	9
2.5 Social housing allocation.....	10
2.5.1 Traditional Distribution Model	11
2.5.2 Choice-based Distribution Model (CBD)	12
2.6 Perceptibility of Fairness Distribution Theory	14
2.7 Conceptual Framework.....	16
Chapter 3: Research Design and Methods	18
3.1 Revisit research questions	18
3.2 Operationalization	18
3.3 Research Strategy and Methods.....	20
3.4 Data Collection Methods.....	20
3.5 Sample Size and Selection.....	22
3.6 Validity and reliability.....	24
3.7 Data Analysis Methods.....	25
3.8 Limitation	25
Chapter 4 Research Findings.....	26
4.1 PRC'S Housing Reform and Affordable Housing in Changchun	26
4.2 Affordable Housing Allocation Model in Changchun.....	28
4.2.1 Affordable housing allocation procedure and principles in Changchun.....	28
4.3 Perception of eligible household on affordable housing distribution in Changchun.....	41
4.4 The theoretical exploration of the Choice-based Distribution Model in Changchun	50
Chapter 5 Conclusion	53
5.1 What is the distribution model of affordable housing in Changchun?	53
5.2 How can the fair perception of affordable housing distribution be understood by eligible families in Changchun?	53

5.3 Can the Dutch choice-based distribution model be theoretically applied to affordable housing in Changchun?	54
5.4 What explains the perception of distribution just for affordable housing perceived by eligible applicants in Changchun?	54
Bibliography	56
Appendix 1 Questionnaire Template A.....	61
Appendix 2 Questionnaire Template B.....	66
Appendix 3 Interview Template (Changchun).....	70
Appendix 4 Interview Template of Choice-based Model (In NL)	71
Appendix 5 Questionnaire Scheduling (Gantt Chart) in 2014.....	72
Appendix 6 Table of Experts' Interview in Details.....	73
Appendix 7 Codes of All Interviews	74
Appendix 8 Codes of Questionnaires A	76
Appendix 9 Codes of Questionnaires B.....	77

List of Boxes

Box 1 Operationalization of Research Questions	18
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List of Tables

Table 1-1 Housing Products of 'An Ju Gong Cheng' in Changchun	2
Table 2-1 International Types of Social Housing	10
Table 2-2 Allocation Procedure of CBD	13
Table 4-1 The Descriptive Analysis of 100 Questionnaires.....	31
Table 4-2 Summarization of Households' Conditions of 100 Respondents	31
Table 4-2-1 The Mean and Mode of House Price and House Construction Area of 50 Successful Applicants.....	32
Table 4-2-2 The Pie Chart of Housing Price	33
Table 4-3 Distribution Sequence of Affordable House	34
Table 4-4-1 Pre-qualification Conditions of Ordinary Eligible Applicants	36
Table 4-4-2 Pre-qualification Conditions of Priority Group.....	36
Table 4-5 Checking Departments of Affordable Housing (100 respondents)	38
Table 4-6 Public Announcement Time and Place (100 respondents).....	38
Table 4-7 Lottery Attendance of 50 Successful Applicants.....	40
Table 4-8-1 Lottery Attendance of Other Communities (50 successful applicants).....	40
Table 4-8-2 Lottery Attendance of Other Communities (50 waiting application).....	40
Table 4-9-1 Procedure transparency, Information Announcement Satisfaction, Prequalification Fairness, overall Feeling of Affordable Housing perceived by 100 Respondents	41
Table 4-9-2 Descriptive of Procedure Transparency, Information Announcement Satisfaction, Pre-qualification Fairness and Overall Feeling of Distribution Process of Affordable Housing	42
Table 4-9-3 ANOVA	44
Table 4-10 Frequency*Purchasing Capacity, House Suitability and Quality, Selection Time and Allocation Result of 50 Successful Applicants	45
Table 4-11 Description*Sex for Successful Applicants	46

Table 4-12 ANOVA	47
Table 4-13 Public Announcement Satisfaction for 50 Waiting Applicants	49

List of Figures

Figure 1 Conceptual Framework	16
Figure 2 Map showing studying affordable housing communities—Tuanshan Community and Yuanda Community	23
Figure 3 Map showing Changchun City	27
Figure 4 Distribution process of affordable housing in Changchun	30

Chapter 1: Introduction

In this chapter, the researcher illustrates the main background of the thesis including a brief introduction of the thesis topic, the reason why the researcher studies this research, research objectives that the researcher would like to achieve and the significance of this study.

1.1 General Background

It is well known that the economy of China has developed rapidly in the past 10 years. In the meantime, the living standard and social welfare has stably improved throughout the whole country. Traditionally, there is an idiom “stable housing then work (an ju le ye) which obviously manifests that housing is an essential and overwhelming human right in life. Thus, every municipal government of China adopts a series of actions including establishing and transferring special housing funds for the low-income group, strengthening the construction of low-income housing projects. All of the governmental work has brought about unprecedented changes in China.

Normally, there are two ways which through the general housing market (real estate market) or through the social housing market for people to acquire houses. The real estate market is where people with better socio-economical ability buy a commercial house independently. While the social housing market, which is supported by governments through the way offering subsidies, housing price reduction and accommodation supplement, comes out around the corner to house people who cannot afford the house in the real estate market (Ruosi, 2012; Laiyong, 2011).

In the social housing market, it has developed in urban area for nearly three decades. It changes from the affordable housing to the combination of multi-level housing products which normally contains affordable housing and public/social rental housing (National Seven Ministries and Commissions, 2007; Changchun Municipal Government, Changchun Housing Construction Plan in 2008). Among the multi social housing products, affordable housing with the characteristic of ownership plays a crucial role attributing to the traditional custom in China that the house ownership has the great significance in life,.

According to the national regulation, public rented housing usually targets to address housing difficulty of very low income households, while, affordable housing focuses on middle and low income households, however, at present, affordable housing as a dominant part of social housing system mainly devotes to address housing difficulties of low income households with limited money since 1998 in China. (National Seven Ministries and Commissions, 2007). The former is an ownership type of social housing and the latter can only be rented. Both the two kinds aim at solving the problem of housing affordability of middle income, middle and low income and low income households who are unable to purchase a house in the housing market.

Nevertheless, compared with developed south eastern coastal area in China such as Shanghai, Guangdong Province, development of northeast part compounded of Liaoning Province, Jilin Province and Heilongjiang Province is much slower. Especially in the aspect of the real estate market, the per capital housing area ratio did not rise as visibly as prospected. One of the most important reasons is that there is too much low-income urban population who has not yet been properly housed. What’ more, Jilin Province shows a relatively lower per capital income level. As the capital of Jilin Province, Changchun is ought to give priority to addressing the housing problems of low income urban residents. Furthermore, with the rapid urbanization and economic development, the city becomes more crowded than the past while a majority of people call for dwellings in the urban area.

In order to respond to this challenge, the municipal government of Changchun accelerated a housing program called 'An Ju Gong Cheng' (see Table 1-1) including affordable housing, public rental housing, low rent housing and limit-price commercial housing locally, which has attracted public attention in China (General Office of China's State Council, 2011). This program was intended to on the one hand alleviate the urban housing issue of the middle income, while on the other hand to tackle the housing problem of the low income and the poorest. According to the statistical data of urban family income investigated by the National Bureau of Statistics of China, Changchun Team, at the end of 2011, the percentage of middle and low income people were as high as 76.23%, while 1.4% people were listed as the poverty. Therefore, the housing issue of the middle and the low income level seems particularly severe and hence affordable housing has been regarded as a core solution to address it in Changchun.

Table 1-1 Housing Products of 'An Ju Gong Cheng' in Changchun

Housing products of "An ju gong cheng" in Changchun			
Item	Target group	House ownership	Sale way
Two-limit housing	middle-income group and middle-and low-income group	belong to the purchaser	for selling
Affordable housing	middle-and low income group and low-income families		
Public rental housing	low-income group	belong to the state	for leasing
Low-rental housing	low-income group and the poorest		

Sources: 1. (General Office of China's State Council, 2011)

2. (Changchun Municipal Government, Changchun Housing Construction Plan in 2008)

3. (National Seven Ministries and Commissions, 2007)

In recent year, the public increasingly pays attention on social equity instead of the rapid economic growth and expresses a strong desire justice and fairness in society. They pay more attention to the social affaire such as the income gap between the rich and the poor, the discriminatory treatment between civil servant and ordinary people. When the time that the government highlights the development of economy, it does not conceal the plight of low-income groups which not only intensify their 'deprivation' but also aggravate their sense of 'unfair treatment' (Feng, 2010). The same situation has happened in the housing area as well. And on the one side, there are some shortcomings of legislation and bureaucracy in China nationally and locally. On the other side, in fact, scandals related to social housing such as high income group occupied affordable housing were reported by the mass media frequently. In other words, the low-income group (low income families) who should have access to the affordable housing are excluded, which may cause social inequity.

1.2 Problem Statement

In fact, different cities have different concrete criteria to identify the intended households, but all of them are abided by national policies and regulations. From this point of view, how to make sure affordable houses are indeed pass to target households seems closely related to the way of allocation. And in reality, the distribution of affordable housing as the threshold to judge whether an applicant belongs to the restricted target group plays a profound role to build a sound, effective implementation environment in reality. The outcome of distribution determines whether the affordable housing is expected to achieve its ultimate goal—housing everyone.

In recent years, increasing specialized appeals focuses on the distribution work operated by local governments from eligibilities, the public and scholars. Some scholars put forward that the current social housing including affordable housing allocation need to establish an all-rounded system (Changchun, 1999) including the access and exit mechanism (Zhiqiang, et al., 2012; Jingwen, 2012; Jia, 2011), the income declaration system (Jingwen, 2012; Yuanbin, 2010), the credit assessment system (Ruosi, 2012; Jia, 2011), flexible mode of examination and supervision system (Zhiqiang, et al., 2012; Jia, 2011). On the one hand, there are not enough social housing resources for urban residents in need. On the other hand, lots of negative, unfair cases happened made them feel disappointment at the local government and exaggerated think that the society was even more inequitable. Some news reported that some people who applied to affordable housing owned the Mercedes-Benz, BMW and other luxury cars. In any case, it is impossible for a family to purchase such kinds of car with a low income. In other words, a family who can afford a Mercedes-Benz or BMW must not be the low income based on the conditions in China. Moreover, the news has been extensively reported that people with commodity housing gain the affordable house, which showed a mismatch between the target group and the actual beneficiaries. Even in some cities there are still quite a lot of vacant affordable housing (Xinhua Internet Hubei Channel, 2009).

The negative news not only severely affected the social fairness and justice but also arose certain bitter arguments about the equity, effectiveness of affordable housing distribution. For instance, the affordable housing system is fair or not to every intended family (Jingwen, 2012); has distribution of affordable housing reached the target group effectively; is the distribution process fair or unfair; how do eligible households perceive the outcome of distribution, etc.

What is more, although how to measure a feeling of fairness is a daunting task. The theory of distributive equity (Jinxing & Jie, 2013) has been introduced to measure the fair attitude in this thesis.

All in all, because of the exposure of distributive inequity issues of affordable housing, how to manipulate the allocation of affordable housing to protect the social equity is worth to study. Thus, this thesis is intended to study the equitable perception of affordable housing allocation perceived by eligible households in depth. Here the researcher assumes that the public including eligible households feel inequity about the current state affairs of affordable housing allocation and to some degree, it needs to be improved somewhere. Therefore, in the end of the research, a theoretical exploration of the choice-based distribution model and China would obtain some beneficial enlightenment from the accumulation of European countries' experience and lessons with expectation, to some extent, to improve the fair perception of affordable housing.

1.3 Research Aim and Objectives

Confronting with several negative phenomenon which means that the affordable housing have been distributed to the rich in Changchun, this research sets up to firstly understand the overview of current allocation situation of the affordable housing system. Secondly, it appraises the fairness perception of eligible applicants in the distribution system of affordable housing in Changchun. Besides, based on the theory referenced in the thesis the researcher is expected to explore a more equitable allocation model to improve Changchun's case theoretically.

1.4 Provisional Research Question

Main question:

What explains the perception of distribution justice of affordable housing as perceived by eligible applicants in Changchun?

Sub-questions:

--What is the distribution model of affordable housing in Changchun?

--How can the fair perception of affordable housing distribution be understood by eligible families in Changchun?

--Can the Dutch choice-based distribution model be theoretically applied to affordable housing in Changchun?

1.5 Significance of the Study

Practically, this thesis is not the first one which studies the allocation justice of affordable housing in China and actually, many scholars have conducted various researches not only in China but also all around the world. However, it truly enhanced a new dimension of evaluating the allocation justice of affordable housing which is not so widely-used in current China especially in Changchun. Moreover, because of the difficulty of scientifically measuring the equity issue in collective society, the fairness perception of affordable housing distribution method was introduced to measure the fairness according to eligible applicants' real feelings.

1.6 Scope and Limitation

The scope of this thesis was tantamount to study the distribution of affordable housing in Changchun. How eligible applicants perceive the equity of the whole distribution process and what attitudes they hold. This study also wanted to further theoretically explore the choice-based distribution model with expectation to increase fair perception perceived by eligible applicants.

This research has a few limitations. First of all, in fact, there are various cities in China implemented the affordable housing system as part of solutions to address housing difficulties of the low income. It is impossible and unable to investigate all of them due to the heterogeneity, as a consequence, Changchun is chosen as a case study to research the overall objectives of this thesis. Furthermore, it might lead to several limitations related to the generalization of this study as well.

Secondly, this research was conducted in 2014. The affordable housing system has been made some reformation since 1990s which significantly influenced the evolution of social housing system and the development of social housing policies including affordable housing

policy. In this way, the result of this research cannot show the historical situation of the satisfaction on fairness of the applicants of the affordable house.

Finally, this research was expected to theoretically explore the choice-based distribution model theoretically but there are numerous successful distribution methods of affordable house in the world and this research cannot reflect all of the results using these models.

Chapter 2: Literature review

2.1 Housing rights

Housing right is everyone's right. Residential housing is the most basic content of the right, namely people including the homeless, the vulnerable, disabilities, older people, women and other areas (Padraic, 2008) made mutual aid and social security of the state housing and dwelling through self-reliance. It is of great significant to house everyone around the world equally.

Early in 1845, Marx and Engels (1845) clearly proposed in the literature 'The German Ideology' that clothing, food, shelters are the salt of Human being's life in the world and housing is a fundamental living material for everyone. Later in 20th Century, Maslow presented human beings is a kind of specie who always seeks needs but never gets satisfied and all these needs are based on physiological need including food, drink, residence, sex, sleep and Oxygen which derives from his renowned 'The Hierarchy Theory of Needs'. It is also manifested that housing as one of the most elementary human needs, is a precondition of pursuing a higher level of security, affection and belonging, esteem and self-actualization needs. In 1931, U.S. President Hoover said in the Conference on Housing: 'There is nothing better than residential construction as people strive to contribute to the happiness and social stability' (Laiyong, 2011).

Until in 1948, it was the first time that housing rights had been proposed in the context of international human rights by the United Nations which is a step of epoch-making significance for the whole world. The significance of the Declaration lies in establishing all residents to enjoy a safe environment, suitable shelter of human beings as their basic human rights (Padraic, 2008).

Everyone is entitled to maintain the health and well-being of himself and of his family standard of living, including services, clothing, housing and medical care and necessary social services. When suffering from unemployment, sickness, disability, widowhood, old age or other force major conditions, people have a right to enjoy the protection.

—— The 25th Article of the Universal Declaration of Human Rights, 1948 (United Nations, 1948)

After World War II, the United Kingdom took the lead to reform and re-name its housing law as "Housing Act" which was supposed to serve houses to all persons instead of the initial working class with aims to remedy huge damages in the war (Qun, 2009; Baldock, et al., 2007). In the next thirty years after the war, the U.K. government established a public housing system in order to provide houses to everyone. With the pace of U.K., the British Commonwealth of nations like Singapore, Hong Kong also began to build it. In the 20th century, under the call of the Universal Declaration of Human Rights, a widely campaign to defend the housing rights of the international community had been launched on one hand. On the other hand, in order to tackle the severe housing shortage (Havel, 1996) due to the war, increasing countries constantly enacted national Housing Laws, established Housing Policies and constructed social/public houses (Qun, 2009). Since then, the social housing system had developed rapidly in the Western world based on human rights, housing rights and constantly established Social (housing) Policies (Qun, 2009).

So far, there are more than fifty countries prescribing the housing rights in the constitution (Qun, 2009; Padraic, 2008; Havel, 1996). In China, there is not a specialized national law like Housing Act enacted in western countries so far (Liwen, 2012; Qun, 2009). Nevertheless,

housing rights can be interpreted in the Constitution Law of the People's Republic of China (PRC). For example, in Chapter 1 'General Outline' of Constitution of China, Article 14, Paragraph 3, it stipulates that the State takes responsibility to properly arrange all accumulation and consumption and at the same time, balances the state, collective and personal interests on the basis of developing the production, improving people's physical life and cultural life. In this Act 14, physical life refers to the daily life of the people including clothes, food, housing, transportation (Qun, 2009; Havel, 1996). Moreover, as the first and leading chapter of the Constitution, although it does not possess direct legal binding force, it morally forces the state to fulfill its commitments actively. At last but not least, 'nation respects and safeguards everyone's human rights' has written in Article 33, Paragraph 3 which is the first article in Chapter 2 — civil rights and basic obligation. It not only demonstrates the fundamental principle of constitutionalism is respecting human rights but also highlights the well protection of basic rights of people (Liwen, 2012; Qun, 2009). American scholar Alex. F. Schwartz (2008) explains that housing not only refers to a place for living, personal privacy but also has a close relationship with human health in his book 'Housing Policy in the United States'. Thus, housing rights are one of basic rights for people who must be intended to embrace in this article. Meanwhile, many Chinese law experts also agree that housing rights derive and develop from the basic human dignity and from this point of view, no matter human rights or fundamental rights contain housing rights (Ling, 2009; Qun, 2009). Therefore it eagerly confirms the existence of the housing rights in the Constitution of China (Ling, 2009).

Although, there was not a clear national legal footing like Housing Act in England, China had established its unique housing policy based on the constitution of China that the state has the duty to serve houses to citizens on one hand, and on the other hand, citizens have rights to request houses (Qun, 2009) since it is an essential and fundamental element for everyone living in this world as well as an underlying target of PRC.

2.2 National Regulation Theory

Housing as a kind of commodity in the market follows marketing rules to configure resources optimally. History shows that market failure is the inherent defects of the market mechanism. The operation of social economy cannot merely rely on its regulation (Martino, 2000; Keynes, 1936; Pigou, 1932).

Early in 1776, Adam Smith who is regarded as the father of liberalist economics stated in his masterpiece 'The wealth of Nations' (1776) that the market could achieve the optimal configuration of the national economy solely rely on the market ('invisible hand') without any government interventions (Liwen, 2012; Qun, 2009). After that, the Laissez-Faire economics had been the king of the hill for 100 years (Lina, 2009; Martino, 2000). While, the economic crisis happened in the 1930s, however, makes the economic liberalism give way to the Keynesian theory. Keynesian theory advocates that the market is effective in the macro level but still imperfect and needs government intervention (Shuzuo, 1982). Later in the 1970s, neo-liberalism revived because the Keynesian theory failed to regulate the market caused by economic stagnation. They deem that correspond to 'market failure', 'government failure' also exists in the state intervention. Furthermore, people cannot anchor hopes on the government to overcome the market defects (Bing, 2000). Then at the end of 1980s, the representative of interventionist school Joseph E. Stiglitz proposed that the market sometimes is ineffective such as public goods, externality and monopoly (natural monopoly) so that government intervention in the economy is necessary and justified (Qun, 2009; Stiglitz Eugene, 1998).

Although all these propositions of intervention and anti-intervention replace each other over time, there is a widespread approval that the best approach to achieve an optimized

configuration of market resources is the cooperation of the market and the government because both of them are imperfect. In other words, the relation between the market and the government is not an either-or choice. They both have a chance to promote and improve each other on the basis of their rational division (Liwen, 2012; Yansheng, 2001). Consequently, the national regulation theory, also named 'Three Three Theory' was proposed by Professor Qi Duojun in 1990s. He presents that there are three shortcomings in the market including market barriers, profit-seeking nature of the market and market hysteresis. Furthermore, the government has three ways to interfere in the market: anti-monopoly and anti-unfair competition with the aim to eliminate market barriers, national macro-control and direct state investment. (Duojun, 2000) Thus, the national regulation theory provides a strong theoretical basis to social welfare system such as social housing.

In addition, in the efficient-seeking economic market, market failure tends to occur in social distribution and social housing area (Havel, 1996). For instance, due to the high housing land price and high commercial housing price in the market, families with low income, vulnerabilities and the disable cannot afford such houses. In this sense, the market fails to allocate social resources (housing) to them and makes them feel unfair because housing rights are for everyone without any social exclusion (Shilian, 2006). Therefore, the housing market is in need of government intervention to regulate the market mechanism, remedy market function weaknesses and rectify market function deviations through establishing and enhancing social (security) policy. Social housing as an effective means to adjust the national housing market is used to protect everyone's housing rights internationally. (Shilian, 2006; Yansheng, 2001; Keynes, 1936)

2.3 Social Security Theory

Social security theory has traced back to the 20th century that Arthur Cecil Pigou as one of the neoclassic economic pioneers first proposed in 1920 in his literature named 'The economics of welfare'. He elaborated that at first, welfare is a reflection of the health, happiness and fortunes of a person or group in human society. Second, welfare contains social welfare targeting the entire society in diverse aspects and economic welfare that can be measured by monetary. Furthermore, he also indicated that the realization of re-allocation of wealth and wealth transaction largely depends on the means of taxation, which means the government should tax the better-off and subsidies to the worse-off. And the realization of subsidies to the less wealthy level defined by Pigou (1920) is taking actions to establish all sorts of social service facilities, a free education system, unemployment and medical insurance, social housing system and etc (Qun, 2010). These state actions would compensate for the drawbacks of economic market related to income distribution failure, and social disequilibrium (Pigou, 1932). From then on, welfare economic theory and government intervention concerning welfare constantly developed to mature welfare social security theory. (Liwen, 2012; Qun, 2009)

Later on, British economist William Beveridge (1942) published the well-known article 'Report on Social Insurance' that so called Beveridge Plan, it is reported that social equilibrium is supposed to conclude two fundamentals: one is to guarantee all residents could access to minimum requirements of basic survival materials related to food, house and clothing; second, the social security should take all citizens, people from every social status into consideration in order to achieve a comprehensive security net. What is worth to say is that Beveridge emphasized the housing problem in his plan and proposed to found a particular housing program/system which subsequently adopted and implemented by UK and some European counties. (Zhenyong & Songhai, 2010)

Last but not least, a mainstream of social housing security system has been established on the basis of welfare economic theory.

2.4 Social Housing System

As the industrial revolution that represented a production and technological revolution from human-based manufacture to large-scale factory production in Europe where first led into the era of industrial revolution, a vast number of people swarmed into cities to work in a factory, instead of working individually (Malpass, 2008). In other words, rapid industrialization and urbanization caused by the industrial revolution invokes a huge pressure of urban housing that mainly working people in the cities do not have dwelling because of a housing shortage. The sufficient housing (social housing) provision for workers became a solution of this urgent phenomenon in countries and it is regarded as fundamental initiative to the origin of the social housing system (Malpass, 2008). After that, during nearly a century development of social housing, it reveals a constant change from merely for skilled workers in cities with a broad scope of urban inhabitants with the similar pace of social development.

Social housing system is the way of social welfare in housing area that the government utilizes economic, political and legal tools to protect and fulfill housing need (Lina, 2009; Fitzpatrick & Pawson, 2007). In a broad sense, social housing aims to improve the housing condition of all social members, whilst, in a narrow sense, it is a special security for the group with housing difficulties. Further, special security is a kind of social aid for the poverty and the common security supports people to raise the capacity of housing condition and living standard. On the whole, social housing system reflects the social equity and mutual help. (Lina, 2009)

So far, social housing has formed a housing system including two main sectors: social/public rental housing and affordable housing which targets to provide houses to different client groups in various counties in the world (Lina, 2009; Scanlon, 2008). Social rented housing usually tenures for the poorest in cities in some countries, while in some others it houses the low-income people and middle- and low income classes which cover a wide range of income group with limit rental. On the contrary, affordable housing is a kind of social housing on one hand serving middle- and low-income class, low-income families in urban area with the entire house ownership. On the other hand, it is directly or indirectly subsidized by the national government (See Table 2-1). Thus, social housing is, to a high degree to house the disadvantaged citizens of socially less advantaged groups who have financial difficulties to get market housing. (Jingwen, 2012; Haffner, et al., 2009; Malpass, 2008)

What is more, during the past 10 decades, social housing has developed towards dominantly two directions: the mass model and the residual model (Malpass, 2008). The residual model was regarded as the mainstream in two periods: before 1914 and from the later 1920s to 1939, while during the period immediately after 1918 and between 1945 to mid-1970s, the mass model dominated. Since the mid-1970s, there has shown a trend towards advanced residual model of social housing. (Malpass, 2008)

Further in the first place, the mass model, which refers to serve a better standard housing to the public and embrace a range of lower- and middle-income groups such as skilled workers in the past time and key workers, not just mainly the poorest. It is characterized in Scandinavian countries like Sweden and Western European countries like the Netherlands (Scanlon, 2008). While, in terms of the residual model, it is viewed as a safety net actually which concentrates on housing the least well off namely the poorest including the homeless, the vulnerable and etc. In other words, the focus point of the residual model is the housing provision to the poorest people for whom the market never provides decent affordable

housing as a safety-net approach, while the mass model covers a relatively broad scope ranging from the poor to the middle-income people/families (Malpass, 2008). For instance, in England, Ministers clearly state a commitment that social housing plays a safety-net role from the past till present (Fitzpatrick & Pawson, 2007). While in China, social housing strives to house a wide range of urban citizens (Lina, 2009; National Seven Ministries and Commissions, 2007) which is likely to be the mass model.

According to the analysis mentioned above, it can be deducted that the social housing system in China more tends to the mass model which I elaborate at the beginning of this section. The reasons are as following.

- (1) They both devote themselves to keeping housing security and social safety for everyone through providing accommodations;
- (2) The people of middle- and low-income level together account for more than half of the urban population, are contained in both China's social housing system and the mass model.

Table2-1 International Types of Social Housing

International Types of Social Housing		
Item	Social rental Housing	Affordable Housing
Matter	①non-profit welfare house ②house rental is lower than that in normal housing market	①limit-profit welfare house ②house price is controled and limited lower than commercial housing
Intended	low-income group	middle-and low-income group
Sale way	for leasing	for selling
house ownership	belongs to state or local government or housing association	belongs to the purchaser

Source: 1 (Bramley & Karley, 2005); 2 (Fitzpatrick & Pawson, 2007); 3 (Haffner, et al., 2009)

2.5 Social housing allocation

Since the 'welfare economy' stemmed from European continent, it has spread across the whole world. Early before 1914, a certain number of European countries had started to implement the social housing system as a charity activity to voluntarily help the poorest people by providing dwellings to them (Harloe, 1995). After the World War Two that leads to a heavy damage of the European continent, it destroyed a large number of dwellings, shelters which induced not only a huge housing gap between the housing needs and housing stock but also a housing security issue of states (Malpass, 2008). However, since many European states

decided to widen the scope of social housing from merely targeting to the least well off to embracing the middle and low income classes, several cases such as the poorest and the vulnerable people had been exclusive (Harloe, 1995). Moreover, because of the influence of welfare economy, the government intervened in the market economy to remedy the market failure. In other words, the government is supposed to secure the disadvantaged and less disadvantaged people concerning social housing allocation since these people find even more difficult to find houses in the housing stock. Similarly important, the increasing appeal to the rights of housing also do affect the changing scope of intended people of social housing on one side, on the other side, it also acquires that the allocation work should lead by the state (Jane, 2008). Consequently, the allocation of social housing was operated by the state over time.

Mainly, there are two main types of social housing allocation model namely traditional distribution model and choice-based distribution model. Since allocation model based on housing needs varied among different countries, here in this thesis, much focus is paid on the European continent.

The distribution of social housing and affordable housing refers to on one side, the person who has the prequalifying criteria to obtain the public houses, on the other side, how to allocate houses to eligible applicants (Haffner, et al., 2009).

2.5.1 Traditional Distribution Model

There is a normal and traditional distribution model of social housing named traditional distribution model, which is employed in most developing countries like China and some of the developed countries. For instance, the Dutch social housing sectors had allocated the social rented housing by means of this traditional distribution model early from 1947 to the beginning of the 1990s (Haffner & Hoekstra, 2006). And England also had used this distribution model to distribute social housing for a long time. In fact, the fundamental theory underlying the traditional distribution model is a so-called waiting list system or a queuing system based on needs (Jane, 2008) which means house seekers should subscribe to a waiting list before the actual application (Daalen & Land, 2008). And then, the state estimates the housing needs based on this waiting list and further judges the qualification of house seekers. It is a command and control distribution system indeed (Jinxing & Jie, 2013).

Generally, the traditional distribution model allocates social housing following these steps including registration (waiting list), ranking and verifying, queuing and final distribution by and large. More specifically, firstly, when the households apply to be a candidate for social housing, they have to meet some eligibility criteria including age, household income level, family structure and etc, to register with local housing authorities to create waiting lists. After registration, the authorities verify whether the candidates' conditions are in accordance with the applying criteria. Next step is tantamount to rank the different applicants based on ranking criteria or a so called a score card according to chronology (registration duration, waiting time), conditions of the actual housing situation (overcrowded, lack of housing) and household characteristics (household size) and further to decide who are accepted to rank on the top of waiting lists. Except for the normal ranking criteria, house seekers with some emergency for social and medical reasons can add points to the score card and they could be situated on the top of the waiting list. At last, vacant houses will offer the candidates who rank at the top of the waiting list. (Haffner & Hoekstra, 2006; Van & Idamir, 2003)

With the implementation of this traditional distribution model, lots of debates and problems appeared in western countries, especially in the Netherland. To begin with, in the traditional distribution model, local authorities determine the priority of candidates in the waiting list followed priority criteria and they also have some freedom to select any candidates from the

top of waiting list. In this case, if the waiting list contains their colleagues or friends or relatives they might choose these people to be the first housing receiver (Jeanet, 1997). Second, since the waiting list becomes longer and longer over time, to some extent, house seekers have to wait quite a long time for getting the social housing on one side. On the other side, it has already turned to a time-consuming and expensive process for housing officers to verify whether applicant situations are still the contemporary. Then, the gap between the past application and the late distribution of dwellings might be enlarged and the allocation work may last a few years long. At the same time, desires of housing seekers probably have changed related to housing location, housing structure and conditions which directly lead to an increasing refuses from applicants. Third, due to the ranking criteria of registration time, an increasing number of housing seekers choose to register on this waiting list as early as they can even at that time they do not need houses. In this case, it is difficult to predict the housing needs based on outdated waiting list. Moreover, it is unfair for the applicants that either accept or refuse the social housing allocated by housing sectors. It almost leaves no space for applicants to choose what kind of house they prefer (Haffner & Hoekstra, 2006). In other words, they are the passive dwelling receivers. In the end, the outcomes of allocation have always not been announced to the public which gives quite large space for fraud, self-seeking misconduct by housing officers and immigration discrimination. For example, in the Netherlands, Turkish or Moroccan people sometimes have been skipped on the waiting list and resulted in ethnic discrimination issues. Additionally, in order to escape from the long waiting time, a number of applicants derive to provide priority status by claiming priority credits. And hence the priority criteria acquire to redevelop with a more complicated emergency category in order to identify 'real' urgent applicants (Jeanet, 2002; Jeanet, 1997).

To sum up, during the whole distribution process, it lacks transparency and supervision which give opportunities for fraud, discrimination and corruption and then leads to the mal-distribution of social housing (Jinxing & Jie, 2013; Haffner & Hoekstra, 2006; Jeanet, 1997). Furthermore, the waiting list has hardly reflected housing needs anymore.

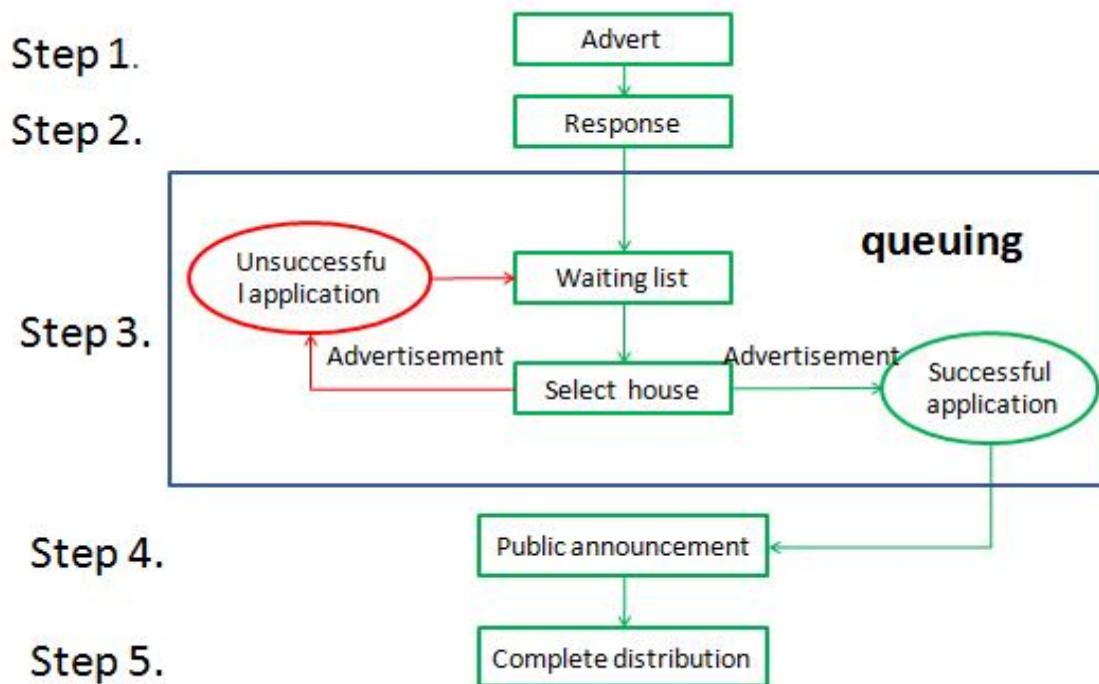
In this context, many housing professionals seek to find an alternative distribution model namely choice-based distribution model to overcome drawbacks concerning the preference of housing seekers, the effectiveness and transparency of the traditional distribution model. At present, the most typical countries who employed the choice-based model are England and the Netherlands. Thus, the introduction of this model focused on these two countries.

2.5.2 Choice-based Distribution Model (CBD)

The emergence of choice based model is to solve the problems such as a series of issues caused by the non-transparency distributive information and the unreasonable distributive principles, which induces the low distributive efficiency and inequity of public rent housing of waiting-list distributive model (traditional distributive model) in the beginning of 1990s (Jinxing & Jie, 2013; Haffner & Hoekstra, 2006; Jeanet, 1997). In other words, choice-based model is developing on the basis of traditional distributive model and undoubtedly, it inherits the basic framework but add 'advert' step to adjust the queuing principle, to concentrate on the 'choice' of applicants and further to influence the justice and efficiency of housing distribution (Jeanet, 2002).

Choice-based model (Delft model/advert model) is defined as the municipality or the housing association advert the information, application requirements of vacant public rent houses through several media means (like newspaper, housing website) to offer the eligible applicants choices to respond their housing preference and to finish registration. The allocation procedure is showing in the table below. (Jinxing & Jie, 2013; Haffner, et al., 2009; Jeanet, 2002)

Table 2-2 Allocation Procedure of CBD



Source: 1 (Haffner, et al., 2009); 2 (Jeanet, 2002); 3 (Jinxing & Jie, 2013)

The choice-based distributive model contains five steps as showed above, advert, response, queuing, house selection, public announcement and completing distribution. Compared with traditional distributive model, it adds the advertisement step to announce the information of public rent houses including basic conditions of house, application requirements (income level, age, family structure and etc) and so on, which is the unique characteristic of choice based model. The other steps are similar with need-based model (Jinxing & Jie, 2013).

In general, it has two principal distributive principles including free choice principle and queuing principle. 'Free choice' is the main principle of choice based model and implies three aspects. First, enlarging the geographic scope of public rent housing and rich the selecting possibility of houses; second, through the advertisement of vacant houses, the applicants could choose and respond to their preferred house freely without restriction existed in the tradition model; third, the applicants are not constrained by the refuse time regulated by refuse-or-accept mode during the house selection step, which increasingly enhances the degree of freely housing choice and satisfaction of applicants (Jinxing & Jie, 2013; Jeanet, 2002).

In the new distribution model, new ranking criteria replace the waiting list system in the traditional distribution model. And it divides the applicants into two categories: first time to rent, transfer rent on target to separate the queuing criteria with different kind of applicants to better solve the equity of distribution. In addition, the choice-based model improves the public announcement step that after selecting house, the media publish a set of information including concrete individual conditions of successful applicants, the number of applicants of one house and etc with expectation to reduce fraud and discriminatory through the public supervision. More specifically, through the new form of publicity enables the unsuccessful applicants to make comparison with the success to judge the equity of distribution. (Jinxing & Jie, 2013; Jeanet, 2002)

According to nearly 20 years' employment of choice based model to distribute social rented housing in the Netherlands and England, some advantages and shortcomings have been pointed out by housing professors and researchers.

Advantage is mainly embodied in a variety of benefits from more transparency of the information related to houses and applicants, even the government function in the allocation system (Jeanet, 2002; Jeanet, 1997). More specifically, the advertisement of vacant dwellings gives house seekers opportunity to respond what they prefer and the notification of selection for a unit offers space for unsuccessful applicants to check whether the winner possesses better credentials as well as provide useful information to future applications which is likely to face less competition. This effectively avoids fraud and increases transparency of the distribution of social rented housing (Jeanet, 1997). In other words, on one side, the municipality and housing association provides more effective housing information to the public, which improves the science of government decision-making. On the other side, from the transparent advertisement, the applicants who used to be the passive receivers (usually with a long time to wait) now transfer to the active chooser which means it is more convenient to search a house in line with their preferences by means of choice freedom. In terms of distributive procedure, the information disclosure reduces the opportunities of discrimination, fraud and rent-seeking behaviour and increases the distributive justice and efficiency. (Jinxing & Jie, 2013; Jeanet, 2002)

However, there are several shortcomings of choice based model concerning discriminatory effects, social mix and segregation (Daalen & Land, 2008). Many social housing professionals criticize that some criteria or the combination of criteria restrict the housing choice of customers by means of labelling the letting houses. While with the implementation of choice based distribution model, the regional segregation increasingly shows a remarkable tendency that low demand urban area with fewer resources can only attract the low level house seekers. (Jeanet, 2002; Jeanet, 1997)

All in all, choice-based model remedies some drawbacks of the traditional distribution model as well as improve the allocation situation from only based on 'need' to base on 'need' and 'choice'. It has its own unique value related to allocation of social housing in reality.

2.6 Perceptibility of Fairness Distribution Theory

The word 'perceptibility' is the noun form of 'perceptible' which means the property of being perceivable by the mind or the senses (Longman, 2014). It is a feeling of people when they face something. Since the 'perception' is a new area in the academic area, there is no authoritative and collective definition so far. It is proposed recently based on the extension of equity theory (Wenrong & Baozhi, 2013). The equity theory originated from the idea of social exchange. It focuses on measuring whether or not people were treated fairly through making comparison with each other's input and output. Further forms a personal fairness perception (Wenrong & Baozhi, 2013; Aryee, et al., 2002). And when employing the perceptibility of fairness distribution in social housing realm, it is defined that the equity feeling of eligible families when they apply for affordable housing provided by local governments.

As it is known to all, justice is the primary value in Law. Fairness here mainly refers to the equity of social life, and concentrates on the socio-economic realm. Social fairness requirements are among most of the individuals throughout the whole world. In 1965, John Stacey Adams presented his famous 'Equity Theory' which is also named social comparison theory. He defined equity on the basis of studying the relationship between human motive and consciousness as an incentive mechanism (Jinxing & Jie, 2013; Adams, 1963). This is

the first time that a theory elaborately connects equity with human consciousness and strongly illustrates that the human perspective has highly influenced on motivations. It is logical that people are always likely to compare with each other about gains and losses, success and failure in this society. For example, in the content of social housing, unsuccessful applicants will unselfconsciously compare to the successful applicants about social-economic conditions in order to judge whether it is fair or not. (Anon., n.d.)

Later on, on the basis of Adams equity theory, many scholars and professionals extend studying the inner structure of fairness like influential dimensions of fairness including single-factor theory, two-factor theory, three-factor theory and four-factor theory in turn. Specifically, it is considered that distribution equity and procedural equity affect the sense of fairness (two-factor theory), while, according to three factor theory, interactive justice is embraced in (Colquitt & Shaw, 2005). When it comes down to the four-factor theory, dimensions influenced the sense of fairness compasses distribution equity, procedural equity, interpersonal justice and information justice.

Procedural justice refers to the fair perception of the decision making process including the distribution procedure and the allocation criteria; interactive justice refers to the interactive fairness perception of the distributive process to obtain the result, which comprises interpersonal justice and information justice (Greenberg, 1990); distributive result justice is defined as the fair perception of allocation result (Adams, 1963) focusing on outcome instead of process.

Considering practical conditions of affordable housing distribution that firstly, the allocation work in many countries has been informationized via employing computer software. Interpersonal contact between applicants and government officials who take charge of affordable distribution work becomes less and less. Thus, interpersonal justice here is less important to measure the perceptibility of distribution equity. Furthermore, since the allocation result of affordable housing is directly impacted by the allocation process and the interaction in the process, the allocation result of it direct or indirect being impacted by the allocation process and the interaction in the process, the distributive justice of affordable housing embraces three dimensions: procedural justice (distributive procedure justice, distributive criteria justice), information equity and distribution equity of the result (Hu & Chen, 2013). More details are as follows.

Distributive procedure justice refers to the perception of the decision making process that leads to the allocation outcome (Poon, 2012). Many researches show that there are several key processes highly affected the fair allocation, including the selection of decision agents, the establishment of application evaluation principles known as supporting mechanisms, the collection of applicant information, the decision-making structure(allocation procedures), the establishment of grievance procedure (public notification and grievance) and etc (Leventhal, et al., 1980).Distributive criterion justice refers to the concrete rules and requirements of achieving the allocation result. Due to the direct influence on the interest of applicants, it becomes one of the most significant factors of distributive allocation (Jinxing & Jie, 2013).

Information justice is equal to the communication between main actors and applicants before the allocation process starting, in the process of distribution, and after the allocation such as the way the main actors providing and explaining the relative information to applicants, the reason why an applicant fail to access to affordable housing, how the government manages and administrates the allocation affordable housing resources and what the results of that (Jinxing & Jie, 2013; Colquitt & Shaw, 2005).

Distributive result justice refers to the perception of affordable housing applicants feel based on the distributive procedure, criterion and result in the allocation process. According to Adams (1963) 'equity theory', the applicant always compares self input/output with others to obtain the fairness perception of distribution. For example, the input can be the time of registration, income conditions, while comparative output may be the waiting time of house, house area, house quality and etc (Bramley & Karley, 2005; Van & Idamir, 2003).

In the modern society, it is quite important to make participants feel fair and satisfied. In the similar way, affordable housing as a unique product with nature of social service provided by local governments draws nationwide attention in China. What is more, the fair perception of the distribution of affordable housing perceived by eligible applicants has attracted more concerns from authorities and the public.

2.7 Conceptual Framework

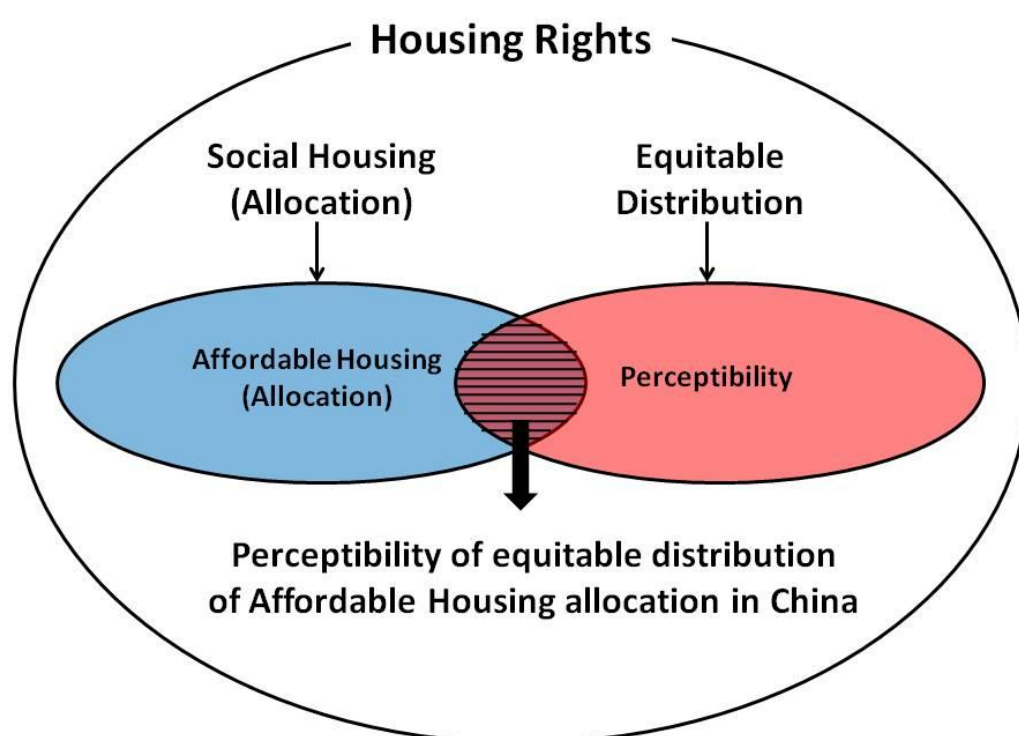


Figure 1 Conceptual Framework

The allocation of housing including affordable housing and social rental housing has always been an important measurement in which social justice presents in civil society concerning housing. Especially, after World War Two, a majority of countries had begun to re-set up the social housing system in order to recover war damages and further to improve the living standard of citizens. The equity of distribution of social housing has constantly become one of the most concerned issues by every citizen and how citizens perceive the distribution justice highly depends on the way governments allocate social housing. In China, affordable housing as an important aspect of social housing, its allocation is also important. How people feel about it is equally important in human daily life.

Actually, allocation justice as a basic aspect of justice plays a significant role in human society and housing rights should be equal to everyone as an essential living element. In

terms of a particular type of housing-social housing aiming at serving house needs for an intended group, the distribution justice illustrates an especially importance.

This study was intended to frame a conceptual framework in order to understand the entire context of the current research. Moreover, from the study, the evaluation of the distribution justice perceived by eligible applicants of affordable housing as a kind of social housing which is targeting to a particular group in Changchun, China can be better explained with the theoretical comparison between traditional distribution model and choice based model. And the fair perception theory developed a new dimension to measure the distribution equity of social housing.

So therefore, this study assumed that eligible applicants of affordable housing in Changchun deemed the distribution inequity and they were not satisfied with the outcomes. In other words, the fair perception of affordable housing distribution perceived by eligible applicants in China including Changchun was at a low level.

Chapter 3: Research Design and Methods

In this chapter, it introduces how this research is designed. More particularly, this chapter sets out the research questions, operationalization, research methods, data collection methods, sampling, quality control methods of the research conducted in this thesis and so on.

3.1 Revisit research questions

Main question:

What explains the perception of distribution justice of affordable housing as perceived by eligible applicants in Changchun?

Sub-questions:

--What is the distribution model of affordable housing in Changchun?

--How can the fair perception of affordable housing distribution be understood by eligible families in Changchun?

--Can the Dutch choice-based distribution model be theoretically applied to affordable housing in Changchun?

3.2 Operationalization

In the following table, it illustrates the variables and indicators of this thesis which are picked up from literature & document review and practical situation.

Box 1 Operationalization of Research Questions

Research Question	Concepts	variables	indicators	Data type	Research methods & data collection method	Notes
Sub Q1 What is the distribution model of affordable housing in Changchun?	Affordable housing allocation model in Changchun	Distribution procedure	apply	Qualitative & Quantitative	Case study incl. close-ended questionnaire and interviews	Questionnaire with eligible applicants; interviews with an official in social housing department and experts working for the government
			checking			
			publicity(time, place)			
			queuing			
			distribution			
		Distribution principles	Prequalification/qualification principle(target group)			
			Three-level checking principle			
			Two-level publicity principle			
			Priority principle			
		Distribution outcomes	transparency of outcomes			

			satisfaction of eligible applicants			
Sub Q2 How can the fair perception of affordable housing distribution be understood by eligible families in Changchun?	Fair perception of affordable housing allocation	Procedural justice	Access prequalification	Qualitative & Quantitative	Case study incl. close-ended questionnaire and interviews	Questionnaire with eligible applicants; semi-structured interviews with an official in social housing department and four experts working for the government
			Applicability criteria (house price and house area)			
			Housing selection principle(selection time)			
			Publicity principle			
		Information justice	Distribution results disclosure(content)			
			Houses information disclosure			
		Result justice	the length of applicability			
			waiting time			
			house area			
			house quality			
Sub Q3 Can the Dutch choice-based distribution model be theoretically applied to affordable housing in Changchun?	Choice-based model in the Netherlands	Distribution procedure	advert (different media means)	Qualitative	semi-structured interview	Semi-structured interview with two experts in TUDelft
			house seeker response (application requirements)			
			waiting list			
			house distribution			
			public announcement			
		Distribution principles	free choice			
			Priority principle			
			ranking principle (queuing criteria: length of residency, during of registration, age)			

			transparency of process and information		
		Distribution outcomes	satisfaction of citizens		
			distribution justice		

In the table of operationalization, there were four main concepts including affordable housing, affordable housing distribution process, fairness perception and the choice-based model in this thesis. First of all, in order to continue the research, it was necessary to clearly define affordable housing within the unique context in Changchun. Secondly, the distribution process of affordable housing and perceptibility of allocation fairness were the core parts of the research. Here, the researcher proposed a hypothesis that the eligible applicants of affordable housing in Changchun deemed the allocation was unfair. As mentioned in chapter 2, the choice-based distribution model was developed from the traditional distribution model and it is widely believed to be more equitable, transparent and humanized. Furthermore, the choice-based model derived from the kingdom of the Netherlands so that the research decided to conduct the research only focusing on Netherland so that it is better to embed the research in the Netherlands. The concrete variables, accounting for 10 and numerous indicators are clearly listed in the above table.

3.3 Research Strategy and Methods

The dominant research strategy employed in this research was case study in Changchun and the research method was also case study plus survey including questionnaires and interviews.

Case study is used as a research strategy when someone would like to study a problem/issue/phenomenon in depth under a similar content which involves an exhaustive investigation to understand the interaction within its context (Piet, 2003). On the one hand, it can offer an overall view of the studied situation while on the other hand it is effectively to cope with a complicated issue which is difficult to be isolated from its context (Dul & Hak, 2008).

In this research, a case study was conducted by the researcher to first study the distribution system of affordable housing with its unique content in Changchun, China and then evaluate it via investigate the fairness perception of it and hence an exploration of the choice-based model implemented in the Netherlands. Actually, in this case study, there was little possibility to control the distribution situation since the distribution work had completed in 2011.

The research method used was case study comprising close-ended questionnaires and semi-structured interviews in Changchun and semi-structured interviews in Delft, Netherlands.

The researcher divided the field work in two parts because it took part in two countries. The first part was organized and operated in Changchun (China) during 1st July to 19th July and another part was undergone from 30th June to 12th August, 2014, in the Netherlands in order to collect primary data of the study.

3.4 Data Collection Methods

The data collection methods obviously refer to the way in which data is collected. In this research, both qualitative and quantitative methods were employed to collect data by the

researcher to achieve a more reliable and believable primary data concerning the contemporary distribution process of affordable housing, eligible applicants attitudes of affordable housing distribution equity in Changchun. Furthermore, this research, in this case was utilized the qualitative data to achieve the exploration of the choice based model in Netherlands based on experts' interviews and secondary data. To be exact, the data collection instrument of qualitative data dominantly relied on secondary data including various local documents, academic literatures, national reports and primary data including interviews and questionnaires.

When it comes to quantitative data, it merely depended on questionnaires conducted by the researcher with assistance from her family. In this term, because of a mass of intended interviewees in Changchun, the researcher trained her family to help collect questionnaire data. Furthermore, since the short time of field work, the researcher also needed her family's assistance to conduct the research including two kinds of questionnaire (Questionnaire A and Questionnaire B) in several different affordable housing communities located in Changchun. Actually, there were two versions of the close-ended questionnaire. Version A was for successful applicants who had already received the affordable house and lived in it. Version B was sent to not-yet successful applicants who are waiting for an affordable house in Changchun. Both version A and version B consisted of three parts. Part one was basic conditions of respondents which used to collect natural information. Part two was comprised questions of current distribution system of affordable housing in China. Part three was opinions of choice based distribution model which used to test the possibility of the introduction of choice-based model. Details of questionnaire A and B are given in Appendix 1 and Appendix 2. In order to control the quality of data, the quality-controlling lessons such as how to recognise the right interviewee and do not bias the respondent, were taught to her family by the researcher. Research in affordable housing communities was all taken leads by the researcher and her mother, father and younger sister were responsible to send out and collect questionnaires.

In the meantime, the semi-structured interview conducted by the researcher, herself, was utilized to gather opinions of experts. In Changchun, the researcher manipulated two interviews consulting what was the affordable housing distribution process, how the municipal government managed the allocation work and hence asking about opinions of choice based model. Moreover, one interview was targeting to one official who works in the Social Housing Department and one aimed at an expert who were specialized in this field and worked for the municipal government. In Netherlands, much focuses were paid to choice-based model and the researcher designed an interview to investigate the choice based model implemented in Holland with two senior researches working in OTB, Delft University, in the Netherlands during the field work. In terms of more details of interviews such as interview templates, interviewees' name, interview dates, organizations, they are available in Appendix 6.

As a matter of fact, anonymity and confidentiality is a significant ethical issue concerning observation. This applied to the data collected from the respondents and the fact that it cannot be traced to them in the report. Normally respondents do not prefer their names to be attached to information given out especially dealing with the issues of asking personal attitudes in the distribution system of affordable housing in China.

During this study, the participants were treated with high respect. The time schedule was adhered to the Appendix 5. This made the participants to have trust on this research and the interview. It was very important that the participants were told about the true nature of study because people need to know why they were being interviewed. This was done through

conformity to contract with the participants. With the above schedule and methods, the participants in this research were all willing to take part in this research and have very well perform whiling answering the research questions.

3.5 Sample Size and Selection

In general, the determination of sample size and how to select samples are quite significant to a good survey (Bartlett, et al., 2001). From this point of view, the researcher administrated sampling with considerations of both the reality and methods. As following, concrete practice is presenting.

In fact, eligible applicants were consisted of two sub groups, one was successful applicants and the other was not-yet successful applicants. In Changchun, there are totally 4538 affordable houses up to now and approximately 4538 successful applications that have already lived in four completely constructed affordable housing communities: Yuanda Community and Tuanshan Community, Jilong Community and Haoyue Community (Changchun Municipal Government, Changchun Housing Construction Plan in 2008). Tuanshan Community, Yuanda Community (See Figure 2) accounted for 3241 houses that completed allocation to the applicants by Changchun Housing Security and Management Bureau. All people who lived in these two communities confirm to the investigated group designed by the researcher in this study. What is worth saying here is that Changchun Municipal Government had taken full responsibility to organize and construct all affordable housing communities since 2008 until 2011. Meanwhile, in this case, it is apparent that in practical, the construction of affordable houses strictly followed the local policies and regulations. However, the number of waiting applicants of affordable housing in Changchun is uncertainty since the name list of them cannot be access by ordinary people (the researcher).

More specifically, the allocation of affordable houses in Yuanda community taken place in 17th September in 2008 and was totally finished at beginning of 2009. In terms of Tuanshan community, the distribution work held from July, 2009 to the beginning of 2011 in batches. Furthermore, Tuanshan Community located at the cross of North Ring Road and Tuanshan Street with 113,000 m² building area while Yuanda Community is situated in the junction of East Ring Road and Yuanda Street which occupies 86,000 m² building area. The average house construction area of affordable houses in these two communities is 61.3 m² and the average unit price is around 2250yuan (\$ 375)/m².

Figure 2 Map showing studying affordable housing communities—Tuanshan Community and Yuanda Community



Source: (Changchun Municipal Government, Changchun Housing Construction Plan in 2008; Changchun City Planning Bureau, 2010)

Due to the reality, it is quite apt to identify successful applicants through going directly to affordable housing communities with a time-saving and reliable purpose, which means practicing the survey face to face based on randomly selecting them inside communities. By contrast, since the name list of waiting applicants was impossible to access, the researcher had to employ a snowball sample selecting method to recognize them via seeking help from successful respondents. After being contacting, some of waiting applicants completed questionnaires through asking questions by telephone, some of them preferred to fill out questionnaires face to face with the researcher. In the end, it is fortunate that the researcher collected totally 100 valid questionnaires including half from successful applicants and the rest half from waiting applicants with the help of family. As a consequence, the researcher determined to investigate 50 successful applicants out of 4,000 population and 50 waiting applicants to answer questionnaires. These two kinds of questionnaires are the representative sample in this research.

On the other hand, based on probability theory, randomly did specific samplings as volunteers from the base to select experts in Changchun. Semi-structured interviews consist of the interview of a government official named Official A and of an expert named Expert A. The former works in social housing department of Changchun while the latter focuses on the entire system of affordable housing and distribution process in Changchun. To be more exact, face to face interview was only carried out with official A. As for the expert, email interview instead of face to face interview was used in order to be time-saved (See Appendix).

In the Netherlands, there were two senior researchers (Senior researcher A and B) from OTB, TUDelft University who have studied the Choice Based Model for many years accepted the interview request in June and August, 2014 and both of them had received the interview template in advance by email. As a result, a face to face interview with senior researcher A were conducted at 30th, June by the interviewer and senior researcher B replied an email interview to the researcher at 13th August.

To sum up, in this study, questionnaires was administered in my person to collect the data of the attitudes of the perception of the participants in the distribution system of affordable housing in Changchun, China.

3.6 Validity and reliability

Academically speaking, the study should meet the requirements of 'validity' and 'reliability'.

Validity refers to the extent to which a study correctly reflects or assesses the specific concept that the researcher sets out to measure (Robert, 2004). To better ensure validity, this research will be conducted by the researcher personally.

The validity of research contains internal validity and external validity. The internal validity means whether the researcher measure what he/she intends to measure and interprets data and findings in the appropriate way, while external validity for a case study is about the possibilities to generalize the findings to other similar situations because it is lack of statistical underpinning of the findings, especially for a single holistic case study applied in this thesis (McGoey, et al., 2010).

Reliability concerns the issue of obtaining consistent results if the study where to be replicated. In other words, reliability relates to the degree to which repeated tests would yield the same results (Robert, 2004). To safeguard reliability, the questionnaires must be designed with the utmost care. In fact, the researcher had ensured that the questions posed in the questionnaires revealed a real and reliable situation of the interviewees. Besides that, the accuracy of questions in the questionnaire was also a significant dimension of reliability. Considering affordable houses in the two studied communities were begun the allocation in 2008 and finished allocation in 2011, however, the researcher asked respondents to answer the questionnaire in 2014. In order to assure the reliability and validity of data, the researcher traced respondents to recall data on 'current' income level, 'current' housing condition of the respondent in this research.

This study reflected both validity and reliability considerations to ensure a high-quality research. Besides these two methods, the research benefited the patience and meticulous attention to detail on the part of the researcher.

Further, it was, of course, necessary to form and maintain good relationships with the respondents. An ethical aspect that arises here is that of informed consent and it was crucial that this was obtained from every participant. This ensured that participation was entirely voluntary or, in other words, that there was no coercion whether physical or psychological which, at any level, would obviously render the research void.

The solution to overcome the validity and reliability issues was to triangulate the data via using different data sources to measure the same thing. According to O'Donoghue and Punch (2003) triangulation is defined as a 'method of cross-checking data from multiple sources to search for regularities in the research data'. So both qualitative and quantitative research was utilized to collect data in order to have a scientific resource in this research. In order to ensure the internal validity, the researcher used different sources of data to measure the same objective and check the results. For example, when the researcher operationalized the

distribution process of economically affordable housing, semi-structured interview of government officials, the questionnaire for two investigation groups were used to verify the identical issue from different sources and various fields (see appendix, table of interview details). In the meanwhile, quantitative elements-the outcomes of questionnaire (survey) added validity to the qualitative data.

3.7 Data Analysis Methods

The quantitative analysis of the study was processed in a statistical program, SPSS 19.0 for Windows. First, the study adopted the simple description of each questions of questionnaires. And then, one-way ANOVA was used to analyze whether there were difference between the perception of the participants between two sub groups in the distribution system of affordable housing in Changchun.

While Atlas ti was employed to analyze the qualitative data on one side clear explain the fairness attitudes of eligible households in the distribution of affordable housing in Changchun, on the other hand, to explore the Delft Model in the end. More important, qualitative data analysis and quantitative data analysis supported each other to provide an accurate position of research questions.

3.8 Limitation

During the field work, due to particular political conditions of China, the researcher could not access to the name listing of not-yet successful applicants concerning affordable housing. So the snow ball sampling was applied to collect data of those eligible applicants. Further in the first place, considering the limited time, budget and other aspects, the researcher had to select two out of the four affordable housing communities to conduct survey in Changchun.

Chapter 4 Research Findings

At the beginning of Chapter 4, the researcher presented the PRC's Housing Reform, the current situation of Changchun to draw an overall picture which showed how the affordable housing forming and developing. And then research findings including questionnaires and interviews were written followed by Changchun's policy review concerning affordable housing and its distribution. At the end of this chapter, there were a theoretical exploration of choice-based distribution model which processes a better reputation and satisfaction.

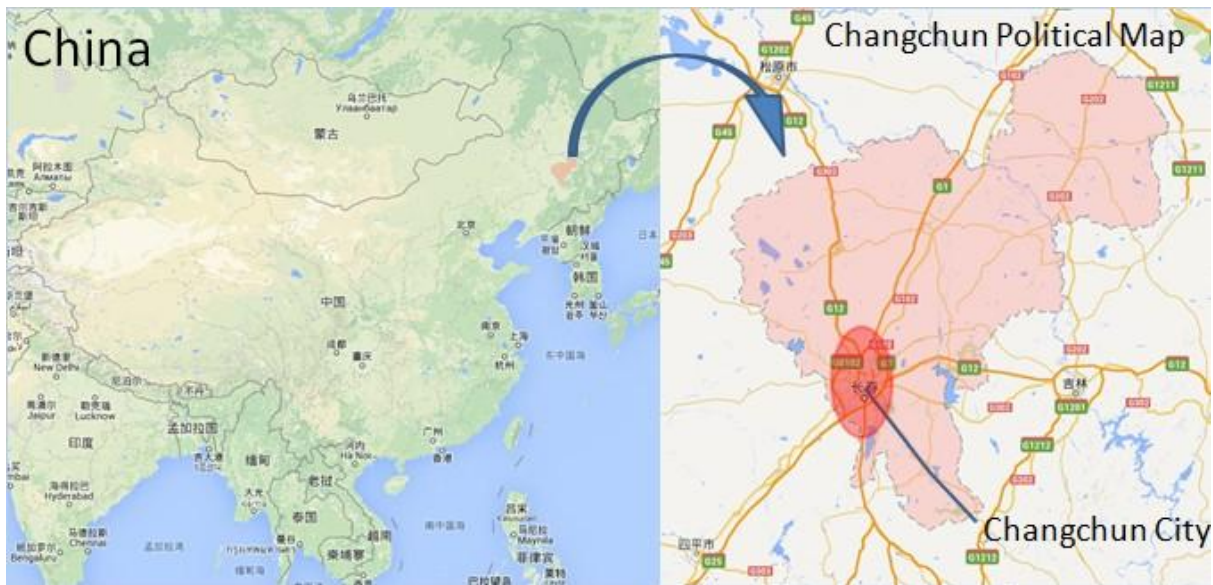
4.1 PRC'S Housing Reform and Affordable Housing in Changchun

The PRC's urban housing system before market reforms was a government funded and government-run welfare housing system. While laws in the PRC regard ownership of buildings as separate from the land, buildings normally could not be sold or bought before the reforms. In other words, there was no normal real estate market, since all land and housing resources were entirely owned, produced, and delivered by the state or state agents, such as local public entities and work units. Furthermore, public housing fell into two categories during the planned economy era: directly managed housing implemented by the local government housing administration; and self-managed housing built, distributed, and managed by state-owned enterprises and institutions for their employees and families (Changchun, 1999). Urban housing supply and conditions before the reforms largely relied on either state investment or the financial situation of individual work units.

In 1978, the PRC's economic structure had been transformed from a planned economy, firstly, a planned commodity economy, then eventually to a socialist market economy. Since the market reforms, the central government has gradually realized that the socialist housing approach did not result in the desired goal of 'housing for all'. To implement a new market-based housing system, the PRC began implementing laws and regulations to permit transferring, leasing, and mortgaging private rights to property, including housing. Until 1990, under this socialist housing policy, most urban families in the PRC including Changchun spent only 1-3% of their total income on rent, with the average rent being only 6.5% of the actual housing expenses by the government. After 1992, the PRC central government gradually shifted the welfare housing distribution system to distribution of pecuniary subsidies as part of the salary. Along with the maturation and development of the real estate market for high-income families, the housing welfare system (social housing system) in the PRC's urban population has set up and then the affordable housing system for low-income households was established.

Changchun, as the study city of this research, is an old industrial city in the 20th century and now the capital city of Jilin Province. It is situated in the middle of northeast part of China (See Figure 3). It is composed of five districts within ChaoYang district, NaGuan district, KuanCheng district, ErDao district and LuYuan district (Central Government of China, 2011) with 3891 square kilometers of the city centre with 3891 square kilometers of the city centre. Recently, with fast developing of Changchun, it shows that during 1995 to 2009, its GDP increased 15.8%. By the end of 2013, the urban population of Changchun was up to 3,623,000 of entire 7,565,000 and city GDP reached 5000 billion nearly half of the provincial GDP (Changchun City Planning Bureau, 2010). In Changchun City, by the end of 2012, there are nearly 60,000 people belong to the low income group (Jisheng & Qinyong, 2012).

Figure 3 Map showing Changchun City



Source: <http://ditu.google.cn/maps?output=classic&dg=ctry> (Google Map)

Changchun as an important provincial city in China experienced a similar situation. According to 'Decision on the Deepening of Urban Housing System Reform' in 1994, the central government initiated more reform measures whose main task was to match housing service with household income levels. The government diversified the housing supply system into three parts: high-income families are expected to purchase housing at market prices; mid- to low-income families and low-income families are qualified to purchase affordable housing at 'full-cost price' or 'standard price'. And for low-income and below families, rental price of low-rent housing (public rental housing) would be much lower. Not until 2001, Changchun has officially implemented this social housing system to house multi-level citizens who have housing difficulties in urban areas. In the same year, low-rent housing, limit-price housing and affordable housing had been embraced into the social housing system in Changchun. What is more, the affordable housing was the dominant type of social housing before 2012. From 2012, Changchun local government changed to vigorously develop low-rent housing. By the end of 2011, there were four affordable housing communities in Changchun described and introduced in section 3.5 with totally 4538 building units, 276,000 square meters (Jingwen, 2012) (Changchun Municipal Government, Changchun Housing Construction Plan in 2008) (Changchun City Planning Bureau, 2010). All these 4538 building units were allocated and sold to low-income families with housing difficulties.

While in the field of policy, the central government unveiled the management measures of affordable housing to better regulate it systematically such as 'The Management Approach of Affordable Housing Policy' (2004). On the local level, Changchun government enacted local regulation and documents including 'Several opinions from the State Council on solving housing difficulties of low-income families in urban area' (2007), 'Affordable Housing Management Approach' (2007), 'The Management Approach of Affordable Housing in Changchun' (2008) and "The affordable housing allocation plan and its implementation" (2008) and etc.

Through these policies, affordable housing refers to a special kind of commercial housing with the nature of social security has two particular characteristics affordability and

suitability, to solve the housing difficulty of low-income family¹ in the urban area. It is obvious that affordable housing is used to sell rather than to rent and the purpose of affordable housing is to serve houses to the low-income household in which the sale price of the house is lower than the normal level in the housing market in order that they could afford it. The sale price of affordable housing is 2200yuan(\$ 358.31)/ m² of a 6-floor building and 2250yuan(\$ 366.45) / m² of a 11-floor building. The housing construction area must be below 60 m². In addition, affordable housing is conducted and refund by the local government and municipality, the real estate company takes charge of constructing it, whilst, the allocation of it is manipulated by Changchun municipal government and Housing Sectors.

However, over years, the affordable housing experienced severe problems, including housing shortages (Changchun, 1999); heavy government financial burdens (Laiyong, 2011); urban zoning issues (Lina, 2009); unfair distribution wherein privileged households manipulated the allocation system (Jingwen, 2012; Zhiqiang, et al., 2012); and corruption in the process of distribution and allocation (Changchun, 1999; Jia, 2011). The municipal government of Changchun temporarily stopped to construct the affordable housing by the year 2012 and concentrated on rectifying and improving the existing affordable housing.

4.2 Affordable Housing Allocation Model in Changchun

4.2.1 Affordable housing allocation procedure and principles in Changchun

Primary data and secondary data (policies and documents)

According to 'The management approach of affordable housing' (2007), the scientific concept of distribution system of affordable housing refers to a mechanism that includes five steps entry requirements, approval examine and verify, publicity, final confirmation. Thus, the homologous procedure of distribution consists of application, vetting, publicity, queuing and allocation (See Figure 3). Whilst, 'The affordable housing allocation plan and its implementation' (2008) further regulates the details on how to allocate affordable housing.

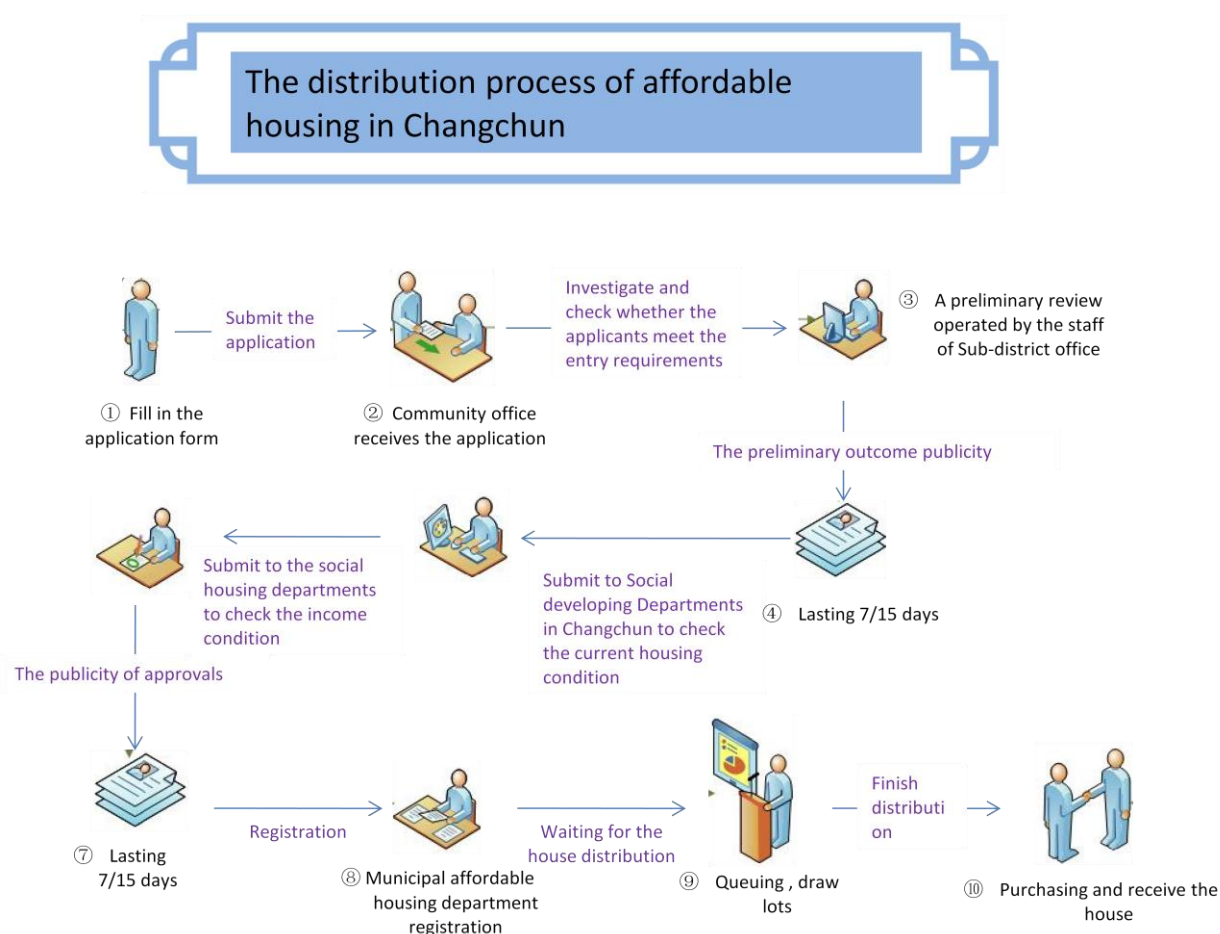
More specifically, first of all, it clearly presents that bodies of the distribution of affordable houses are the local governments and Housing Sectors who provide housing to the target groups. The allocation of affordable housing refers to who has pre-qualification criteria to apply it and how to distribute houses to the applicant who meets the qualifications. When people are intended to apply for affordable housing, they ought to ascertain and show the urban registration of Changchun city (Changchun hukou), the certification of low-income family (below 800yuan, \$ 130.33), the certification of family housing condition (no house or one house but house construction area below 15 m²/person) to the Sub-District Office. These three conditions are called pre-qualification principle. Additionally, applicants who are proven to be the priority group, privilege material must be offered in this stage. Based on national and local policies, special-care recipient, the members of a martyr's, an ex-serviceman, disable people, district-above model worker and the retirees form the priority group. Similarly, prior applicants must fulfill most of prequalification criteria and qualifications except the income pre-qualification and qualification of is below 1300yuan (\$ 211.73) not below 800yuan, \$ 130.33. This is called priority principle. After the applicant passes through the examination of pre-qualification, personal qualifications must be

¹ Low-income group/family with housing difficulty refers to on the one hand, family per capita disposable income per month must be less than 50% of Changchun city's per capita disposable income per month; on the other hand, family per capita living area must be less than 40% of Changchun's per capita living area including no house.—“The management approach of affordable housing in Changchun” (2008)

submitted. Personal qualifications are comprised of applicant's urban registration (hukou), family income certification provided by each family members' corporation to prove his/her family belongs to low-earning household, the certificate of current housing condition certified by the sub-district office and application form to district office for checking. Then if the documents of the applicant are qualified, it will pass to the social developing department, the social housing department and the municipal affordable housing department consequently to examine and verify. This is the two-level advertisement and three-level checking principle. After each level checking, there is a 7-day vetting to advertise the checking outcomes. During each advertisement, applicants without any objections from the public are identified as eligible applicants and automatically enrolled in the eligibility list of affordable housing. Next, when the affordable housing is ready, houses will be allocated to them via lottery. The lottery means that after randomly taking a number, eligible applicants will select houses depending on the numeric order. If eligibilities satisfy the house they selected, the last step is to sign a purchasing agreement with the municipal affordable housing department and pay the money. In addition, successful applicant processes limited property rights and the house cannot be traded in the market in the first five years. Furthermore, the affordable housing is restricted to rent and operates before the owner obtaining its entire property.

According to 'The Management Approach of Affordable Housing in Changchun' (2008), names of eligible applicants without lottery numbers are intended to add to the waiting list. Moreover, the eligible applicant who has not obtained the lottery number for three consecutive years is prior to select and purchase the affordable house. However, almost none of policies present how eligible applicants rank in the waiting list and what are ranking criteria. More details are stated later in this section.

Figure 4 Distribution process of affordable housing in Changchun



Source: (Changchun Municipality, 2008; Housing Sector of Changchun; Social housing department of Changchun; Real estate bureau of Changchun, 2008,2009,2010)

What worth highlighting here is that the beneficiaries of the affordable housing belong to the low-income group and then are the low-income families (National Seven Ministries and Commissions, 2007) (Changchun Municipality, 2008). During the allocation of affordable housing, pre-qualification principle, qualification principle, two-level advertisement principle and three-level checking principle are all used to ensure that, on the one hand, the affordable houses pass through to eligible low-income families. On the other hand, the distribution is equity to the eligible applicants. In other words, the non-eligible applicants could not be allocated an affordable house.

Empirical data (questionnaires and interviews)

As introduced in section 3.5 and 3.6, the researcher conducted close-ended questionnaires from 1st to 20th of July, 2014 in two affordable housing communities named Tuanshan community and Yuanda community. As a matter of fact, affordable houses in Tuanshan community had been distributed during 17th, September in 2008 to December in 2009. Yuanda community started the affordable housing distribution in July, 2009 and ended it up at the beginning of 2011. Because the research conducted in July, 2014, the researcher recalled the questionnaires to ensure the accuracy of empirical data. The income and housing condition of respondents represented the time they had been allocated houses.

According to the empirical data, findings of close-ended questionnaires were presented as following.

Table 4-1 The Descriptive Analysis of 100 Questionnaires

	Items	Samples
Sex	Female	48
	Male	52
Ages	30 and below	1
	31-35	2
	36-40	8
	41-45	29
	46-50	28
	50 and above	32

Generally, in this study, there are two types of interviewees: successful applications and waiting applications. The number of samples is totally 100 including 52 male interviewees and 48 female employees and the vast majority is above the age 41 (Table 4-1). For the waiting applicants, there are 29 males and 21 females and in term of the successful applicants, there are 23 males and 27 females, respectively.

Table 4-2 Summarization of Households` Conditions of 100 Respondents

	Respondents with urban registration	Respondents without urban registration	_____
Number	92	8	_____
	Household income level per person per month ² <800yuan (\$ 130.33)	Household income level per person per month between 800yuan to 1300yuan (\$ 130.33-211.73)	Household income level per person per month >1300yuan (\$ 211.73)
Number	51	42	7
	Respondents without a house	Respondents owning one house but house construction area below 15 m ² /person	Respondents owning one house but house construction area above 15 m ² /person
Number	90	9	1

According to Table 4-2, almost all respondents have an urban registration accounting for 92, however, only 8 respondents are without urban registration. Furthermore, it illustrates that the household income per person per month of 51 respondents is below 800yuan (\$ 130.33) which is officially belonging to the low income group with the income level less than

² The exchange rate in this thesis is based on the rate exposed by China Central Bank on 01-09-2014: \$ 1=6.14yuan.

723.78yuan³ (\$ 117.88). Here, the 800yuan, which is one of the pre-qualifications of applying for an affordable house, is very close to the number 723.78yuan (\$ 117.88), so the researcher ignored the little value between them and regards this group with the 800yuan (\$ 130.33) and below per family member per month as the low-income family. In terms of 42 applicants with 800yuan (\$ 130.33) to 1300yuan (\$ 211.73) income level per household member per month, it is a special rule for the priority group formulated by Changchun municipal government together with local Housing Sectors in 2008 (Social housing sector of Changchun, 2008). Meanwhile, this requirement was adjusted and enacted at the request of citizens of increasing the income limitation to 1300yuan (\$ 211.73). In this case, namely, these 42 respondents are part of eligible applicants. 7 out of 100 eligible applicants are beyond the eligibility.

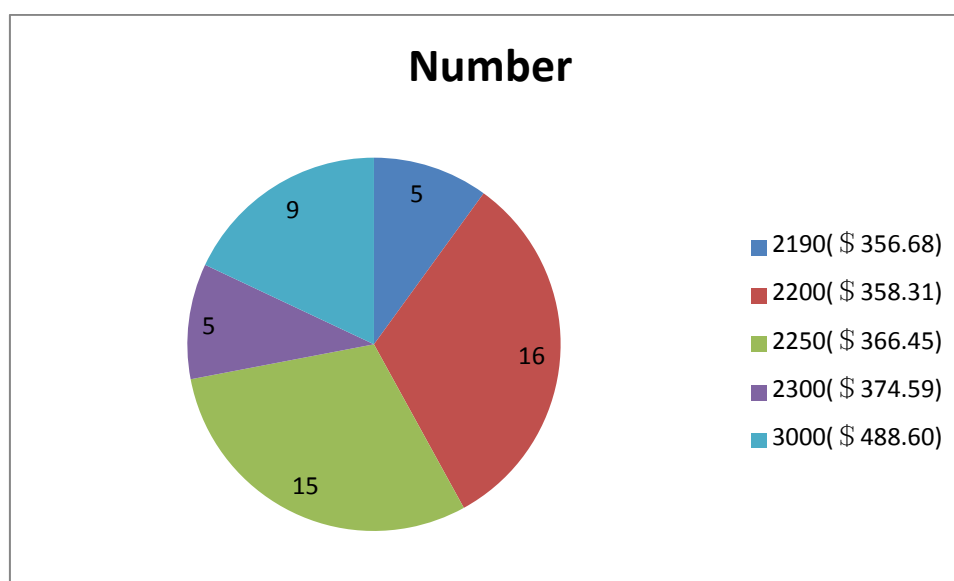
In Table 4-2, it is rather obvious that 90 eligible applicants observed by the researcher had no house before they applied for an affordable house and the housing condition of the other 9 respondents also confirms to the group with housing difficulties—no house or family per capita living area below 15 m² based on <The management approach of affordable housing in Changchun> (2008). Based on the standard of low-income family with housing difficulty, there is one applicant with housing construction area 15 m²/per person are beyond the eligible applicants. By contrast, according to the pre-qualifications of affordable housing, he/she meant not to be an eligible applicant.

Table 4-2-1 The Mean and Mode of House Price and House Construction Area of 50 Successful Applicants

	House price (yuan/m ²)	House construction area (m ²)
Mean	2368 (\$ 385.67)	64.6
Mode	2200 (\$ 358.31)	60

³ Since the allocation of affordable housing in Changchun happened from 2008 to 2011, the writer determines to use the average low income level of these four years as standard in this thesis. The low income group is defined by the municipality of Changchun and the following income number is from the official website of the statistics bureau of Changchun City. $(625.1+669.65+746.75+853.625)/4=723.78\text{yuan}$

Table4-2-2 The Pie Chart of Housing Price



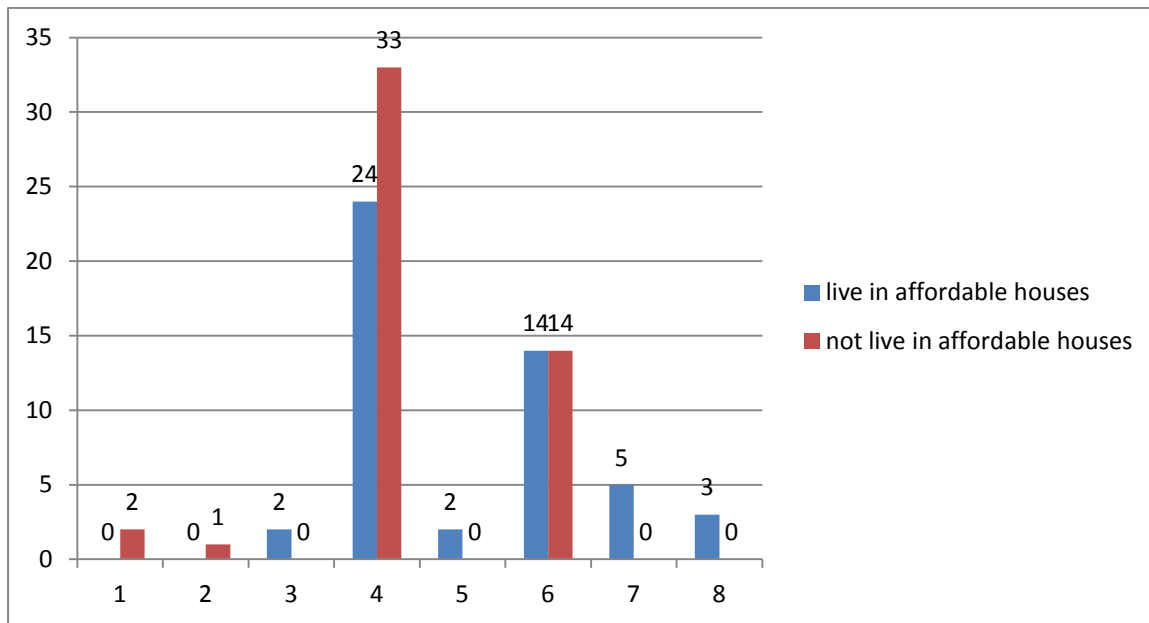
In the questionnaire, the questions of the house price and construction area were only asked 50 successful applicants to answer since they experienced the whole distribution. Because the affordable houses in the two studied community were allocated in the different time, the researcher determined to calculate the mean and mode to show the average level of these two indicators. In Table 4-2-1, the mean and the mode of house sale price are 2368yuan (\$ 385.67) per square meters and 2200yuan (\$ 358.31). The average house construction area of affordable housing is 64.6 m² (mean) and the mode of it is 60 m². More specifically, the mode of them state that the majority of successful applicants purchased a 60 m² affordable house with the price of 2200yuan per square meter which proves that affordable housing is cheaper than commercial housing in the free housing market⁴ at that time, whilst the housing construction area restricts at 60 m².

However, according to Table 4-2-2, 5 successful applicants purchased the affordable house with the price 2300yuan (\$ 374.59) /m² and 9 successful applicants bought a affordable house at 3000yuan (\$ 488.60) /m². Thus, total 14 out of the 50 (28%) successful applicants experienced a higher purchasing price compared with that (2200yuan (\$ 358.31)/ m² and 2250yuan (\$ 366.45)/ m²) regulated by policies.

In the questionnaire, the question: ‘Please rank the following options for how you apply for an affordable house? ①Applying ②Check ③Publicity ④Queuing ⑤Get certificate ⑥House selection was designed to test what the distribution process was in reality.

⁴ In the free housing market, the average sale price of commercial housing in Changchun was 3344.00yuan per square meter in 2008, 4012yuan/ m² in 2009, 5097yuan/ m² in 2010 and 5969.66yuan/m² in 2011. Data.stats.gov.cn/workspace/index?m=csnd

Table 4-3 Distribution Sequence of Affordable House



Note: 1. Apply-Verify-Publicity

2. Apply-Verify-Publicity-Queuing

3. Apply-Verify-Getting a certificate-House selection and purchase

4. Apply-Verify-Publicity-Getting a certificate-House selection and purchase

5. Publicity- Apply-Verify-Getting a certificate-House selection and purchase

6. Apply-Verify-Publicity-Queuing-Getting a certificate-House selection and purchase

7. Publicity-Apply-Verify- Queuing-Getting a certificate-House selection and purchase

8. Publicity- Apply-Verify-Getting a certificate-Queuing-Housing selection and purchase

As can be seen from Table 4-3, it demonstrates that 57 out of 100 eligible applicants experienced the distribution process inclusive of application, checking, publicity, getting a certificate and house selection and purchasing, while 28 respondents went through the process including 'Apply-Verify-Publicity-Queuing-Getting a certificate-House selection and purchase '. However, there is no unified allocation process at practice. It appeared two dominant distribution processes of affordable housing in Changchun.

Additionally, answers of the remaining 15 respondents, various ranking sequences of distribution process are exposed in Table 4-3 like one sequence comprises publicity-application-checking-queuing-getting certificate-house selection and purchasing; another one publicity-application-checking-getting certificate-queuing-house selection and purchasing and etc. Table 4-3 illustrates the details concerning answers of the 15 respondents. Initially, according to both the legitimate distribution sequence of affordable housing above and findings of interviews below, there are four fundamental stages including application, checking, publicity and distribution. Thus, the sequence 'application-checking-publicity' is regarded as an invalid answer and the researcher will not take it into consideration. Second, for respondents who chose 'publicity (3)' as the first step of the distribution process, they probably mistake the publicity phase for the notification of the housing resource before application beginning. In practice, before starting application of an affordable house, the social housing leading group is supposed to make an announcement to the public that a certain affordable housing community would be completed and the citizens could apply for it.

But it is different from the one in the distribution process. In terms of eligible applicants who gave ranking answers without 'publicity (3)', it is most likely that in their mind, they do not know where and when authorities post the notification meant there is no public announcement of checking outcomes.

In terms of the absence of 'queuing' phase in some answers, it arises from the ambiguous guidance of government documents to a great extent. Based on 'The Management Approach of Affordable Housing Policy' (2004), 'The Management Approach of Affordable Housing in Changchun' (2008), it notes that when affordable housing is insufficient, queuing (waiting list) is employed to allocate affordable housing. While, some local documents like 'The affordable housing allocation plan and its implementation' (2008) and 'Affordable housing sales and distribution conditions of Changchun' (2008-2010) do not state anything of queuing. Furthermore, official A and expert A noted and confirmed that 'Generally it consists of four main parts including application, checking, public announcement and distribution (lottery meeting and purchasing).' And Expert A added that 'Actually, the practical situation of allocating houses is similar to the distribution process written in documents. What is more, official A emphasized that 'The affordable housing allocation plan and its implementation' (2008) and 'Affordable housing sales and distribution conditions of Changchun' (2008-2010) were only posted inside the social housing departments. The public did not know them. In this way, according to the chaotic documents formulated by various bureaus/departments back and forth, hardly can the public or policy researchers like me and scholars clear grasp which is the most accurate and veracious guidance.' In other words, more than one regulation document related to distribution work of affordable housing formulated by local governments in the same year would inevitably cause coexistence situation of multi-leading documents and confusions.

Some other potential factors like man-made reasons might have influenced the missing of queuing and the misunderstanding of publicity. For example, at first, distribution officials intentionally neglect queuing and publicity steps in order to accomplish the distribution work assigned by the upper within the fixed time. Second, due to the bureaucracy of officials, the queuing and publicity exist in name only. It probably generates misunderstanding of distribution process which affects the success rate of being allocated an affordable house of applicants and still more arises unfair feeling of applicants and the public. Nevertheless, occasionally, corruption, bribery and political party membership could get rid of queuing and directly step into the final purchasing. For instance, applicant A is a relative of the director of the Real Estate Bureau in Changchun. A has a high possibility to overlap the queuing.

In short, from the above analysis, the general distribution process of affordable housing in Changchun including applying, check, public announcement, (queuing), getting a certificate, selecting houses and purchasing.

After elaborating the overall view of the entire distribution process of affordable housing in Changchun, the distribution principles were analyzed deeply below.

There are four fundamental principles pre-qualification principle, checking principle, and publicity principle. Pre-qualification principle reveals that people who would like to acquire an affordable housing should fulfill the following requirements according to local documents mentioned in the last section. All applicants should have an urban registration of Changchun (Changchun hukou). For ordinary applicants, the income of per family member per month must be under 800yuan (\$ 130.33), while for priority group including special-care recipients,

the members of a martyr's, an ex-serviceman, disable person, district-above model worker and the retiree, family income per month per person⁵ should be below 1300yuan (\$ 211.73).

Priority principle refers to a particular right is given to a certain group that they are able to be priority than general applicants in terms of prequalification requirements, simplified allocation process and etc (Wang, 2011). For instance, expert A stated 'priority has several meaning here. In the first place, the government permits the relaxation of restrictions on application requirements for priority groups, such as sometimes they are allowed to apply without an urban registration, the limitation of income level raises from 800yuan (\$ 130.33) to 1300yuan (\$ 211.73); Second, this particular group is enabled to reach the last phase of allocation process straightforward through omitting queuing and getting certificate stages. '

Table 4-4-1 Pre-qualification Conditions of Ordinary Eligible Applicants

	Has	Not has
urban registration	73	6
	<800yuan (\$ 130.33)	>800yuan (\$ 130.33)
family per capita income per month	39	40
	Has one house and per capita house construction area<15 m ²	Not has
House ownership before application	9	70

Table 4-4-2 Pre-qualification Conditions of Priority Group

	Has	Not has
urban registration	19	2
	<1300yuan (\$ 211.73)	
family per capita income per month	21	
	Has one house and per capita house construction area<15 m ²	Not has
House ownership before application	1	20

As you can see from Table 4-4-1 and Table 4-4-2, the total 100 observed eligible applicants are divided into two categories including the ordinary applicants and the priority group, accounting for 79 and 21 separately based on analysis above. It demonstrates that all

⁵ Family income per person per month is identified as how much money does each family member registered in hukou earn per month

investigated eligible applicants meet the requirement of housing condition with 90 who did not have a house before application and 10 who had a house but house construction area below 15 square meters per capita. Nevertheless, in terms of the income requirement and the house condition, results reveal a comprehensive situation. In this case, there are 8 respondents without urban registration including 6 ordinary applicants and 2 priority applicants. That is to say, 6 normal applicants ought not to affirm as eligible applicants based on the pre-qualification principle and for 2 special applicants. It is reasonable since they pertain to the priority group due to the priority principle. What is more, for ordinary applicants, 40 (50%) out of 79 should be regarded as disqualification applicants rather than eligible applicants. Although this question was not designed very proper in the questionnaire, the researcher recalled data and correct it. In other words, the income level of these 40 people is representing the level in the allocation year.

The discrepancy between reality and policies has been noticed by many scholars and officials based on existing literatures. Distribution of affordable housing has always been a dilemma since it established (Ruosi, 2012; Jingwen, 2012; Jia, 2011). Scholar Ruosi Guo (2012), Jinwen Zhang (2012), Zhiqiang Wang (2012) state that fraudulent purchase behaviour of the affordable housing exists many years such as concealing the real family income or faking the prior certification. This is from applicants' side. As in this study taken in 2014, it is quite possible that when these 40 respondents applied affordable houses in 2008/2009, they faked the income condition. But after obtaining the houses, their security fallen and expressed their true income. According to Official A, he also ascertains that such phenomenon has exactly happened for several years because of the shortages of affordable housing, the insufficient supervision of affordable allocation, the imperfect distribution process and the vague of policies and documents.

What is more, from questionnaires, only one question is used to measure the application stage and the question is 'Where did you submit the application form for economical affordable housing'. The result of this question states that 96 respondents exactly ascertained that they were expected to submit the application forms to community offices of registered residence.

In addition, according to local documents and experts' interviews, application stage embraces two steps filling out the application form named 'Application form of affordable housing in Changchun' in the community office of registered residence and submitting personal condition documents (income, house condition, urban registration, marriage certificate and proofs of priority) requested by the community office (Housing Sector of Changchun; Social housing department of Changchun; Real estate bureau of Changchun, 2008,2009,2010).

In short, there is a remarkable difference between the governmental regulations and the fact related to pre-qualification principle and priority principle during the application phase. There are 6 eligible applicants without urban registration who should not be in an eligible group due to the official application requirement. 40 out of 79 (50%) ordinary eligible applicants should not be eligibilities of affordable housing. This is unfair to the other intended eligible applicants which is a deprivation of them.

Checking principle is also named verifying principle and contains three level checking work including the community office and sub-district office checking, social development department of Changchun checking, social housing department and the management office of real estate of Changchun checking (Housing Sector of Changchun; Social housing department of Changchun; Real estate bureau of Changchun, 2008,2009,2010). Similarly, expert A as well as official A expressed completely the same content as what local documents regulate on this stage.

Table 4-5 Checking Departments of Affordable Housing (100 respondents)

Checking departments	Respondents
Sub district office	1
Sub district office, social housing department and management office of real estate	95
Social housing department and the management office of real estate	1
Social housing department, the management office of real estate and civil affair department	1
I do not know	2

When it comes to findings of close-ended questionnaires in Table 4-5, it illustrates 95 respondents insisted that the sub district office, social housing department and the management office of real estate are responsible for verifying and reviewing the application documents of applications; 2 interviewees did not know who would judge the capacity of applying; the rest 3 respondents gave three distinctive answers including only sub district office, social housing department and the management office of real estate, social housing department as well as management office of real estate and civil affair department respectively. However, compared to local policies that sub-district office, social development department, social housing department and the management office of real estate of Changchun, these four departments, take charge of the checking, a significant difference appears between them. Moreover, even no single respondent thinks the same as policies. In conclusion, a dramatic discrepancy indwells between the reality and policies in the stage of verifying.

In fact, the public announcement principle cannot be isolated to the three-level checking principle since after every checking work, reviewing results are supposed to notify to the public by the sub-district office. Based on both local regulation documents of Changchun and experts, there are two times publicities throughout the whole distribution process and each time lasts at least 7 days. In terms of the content of publicity, honestly, very limited information is included. 'It merely reveals the name and the date of birth of the applicant who passes each level checking work' declared by eligible applicants and criticized by expert A.

Table 4-6 Public Announcement Time and Place (100 respondents)

Public announcement time	Respondents
No announcement	1
One time but at least 7 days	65
One time but at least 15 days	16
Two times but at least 7 days	14
Two times but at least 15 days	3
I do not know	1
Public announcement place	Respondents
Sub district office	23

Residents community office	75
Social housing department	1
Others	1

In addition, according to the empirical data, more than half of interviewees approved that the sub district office was the place where posted the official notification of checking results and there is only one time publicity. To be more exact, 81 respondents considered there is only one time public notification while 17 out of 100 states there were two times of notification of the checking result. For the lasting period of public announcement, the answer of 7 days is supported by 80 interviewees. However, as I analyze above, since local documents are overlapping in 2008, it is bound to emerge from this disorder situation that the public confusion about which policy should obey. In other words, there was lack of confirmation concerning policies on the local level. As a consequence, quite a different outcome is coming out related to public announcement time.

In terms of the indicator 'public announcement place', 75 respondents states that the public notification is placed in resident community office and 23 eligible applicants deem that sub district office is the accurate place of notification. On one hand, it exposes that, in reality, public notification has happened mainly in two places including sub district office and resident community office. On the other hand, the reality showed quite a different truth compared with local regulations which stipulate that the public announcement of checking results should be posted in the sub district office after each documents examination of applicants.

On the whole, the implementation of public announcement phase reveals several drawbacks on the basis of the above analyzing and comparison.

The combination of getting purchasing permission and selecting and purchasing the house is regarded as the distribution phase of affordable housing in Changchun since these two steps are consecutive while implementation. What is more, during the distribution phase, local documents regulate that lottery is employed for eligible applicants to acquire the purchasing permission, select the house and decide the purchasing sequence due to numbers they lot. For example, according to the mass media report, the lottery meeting of Yuanda Community were held on 17th, September, 2008 in Changchun municipal committee hall. It was reported that there were 1398 house resources for this lottery meeting and 1626 eligible applicants participated in the lottery. These 1626 eligibilities must attended the meeting with their personal identity card and the number which shows the enter sequence. Next, each eligible applicants choosed the lottery number randomly based on the enter number. After lottery, the chooser must leave the hall immediately. In the next day, eligibilities with lottery number from 1 to 1398 were arranged to select affordable houses. While, the eligible applicants who did not obtain the purchasing permission via lottery, he or she automatically transferred to 'queuing' and wait for the next distribution. (Zhifeng & Ruixue, 2008)

From this point of view, 'queuing' stage is only for eligible applicants who have not yet got a lottery number or purchasing qualification (Housing Sector of Changchun; Social housing department of Changchun; Real estate bureau of Changchun, 2008,2009,2010). Both Expert A and official A responded in the same way based on semi-structured interviews conducted during the field work.

Besides, this report also did not mention concrete ranking criteria of waiting applicants. Official A briefly introduced that the main ranking criteria concluded the family income per person per month, priority group, the application time and the marital status. For instance, the

less the family earn, the higher they rank. The earlier the waiting eligibilities apply for the house, the higher he/she ranks. The waiting applicant who belongs to the priority is listed in front of others. As mentioned in the section 4.2.1, no policies present ranking criteria of the waiting list, it is much likely to be a practical and ethical issue.

Table 4-7 Lottery Attendance of 50 Successful Applicants

		frequency	percentage	Valid percentage	Accumulating percentage
valid	attend	25	50.0	50.0	50.0
	Not attend	10	20.0	20.0	70.0
	I do not know	15	30.0	30.0	100.0
	total	50	100.0	100.0	

Table 4-8-1 Lottery Attendance of Other Communities (50 successful applicants)

		frequency	percentage	valid percentage	accumulating percentage
valid	Not attend	35	70.0	70.0	70.0
	I do not know	15	30.0	30.0	100.0
	attend	0	0	0	0
	total	50	100.0	100.0	

Table 4-8-2 Lottery Attendance of Other Communities (50 waiting application)

		frequency	percentage	valid percentage	accumulating percentage
valid	Attend time	15	10.0	10.0	10.0
	Attend>1	6	12.0	12.0	22.0
	Not attend	38	76.0	76.0	98.0
	I do not know	1	2.0	2.0	100.0
	Total	50	100.0	100.0	

As can be seen in Table 4-7, 35 (70%) applicants who had already lived in the affordable houses were aware of the lottery meeting held in Municipality of Changchun, and 25 (50%) of them attended the lottery meeting while 10 (20%) did not. And even 15 persons (30%) knew nothing about the lottery. Then, according to Table 4-8-1, no successful applicants participated in the lottery meeting of other affordable housing communities and 30% out of 100% did not even know the lottery meeting. For waiting applicants (Table 4-8-2), they were more likely to attend the lottery meeting of other communities to collect information about how distribution work is undertaking compared with successful applicants, with 22% actually. From these three diagrams, it is apparently stated that the distribution work (lottery) of affordable housing is not been advertised enough to all applicants by the municipality of Changchun, social housing department and relevant offices. In other words, there still are a certain number of eligible applicants who know nothing about lottery meeting. It is not transparent enough related to advertising means, times and content.

4.3 Perception of eligible household on affordable housing distribution in Changchun

The fair perception of affordable housing distribution perceived by eligible households would be analyzed via questionnaires and interviews based on justice perception theory introduced in Chapter 1.

For both successful applicants and waiting applicants

In the questionnaires, four same questions related to the perception of distribution process of affordable housing in Changchun were designed for both successful eligible applicants and waiting eligible applicants by the researcher including attitude of the transparency of distribution procedures, satisfaction of all information disclosures during distribution, the fairness of pre-qualification while applying, and the overall satisfaction of the whole distribution. The findings of these four questions are presented in below.

Table 4-9-1 Procedure transparency, Information Announcement Satisfaction, Prequalification Fairness, overall Feeling of Affordable Housing perceived by 100 Respects

	procedure transparency					total
	very unsatisfied	unsatisfied	average satisfied	satisfied	very satisfied	
successful applicants	0	3	13	25	9	50
waiting applicants	1	5	27	17	0	50
total	1	8	40	42	9	100
	Information announcement satisfaction					total
	very unsatisfied	unsatisfied	average satisfied	satisfied	very satisfied	
successful applicants	0	0	19	22	9	50
waiting	1	4	20	25	0	50

applicants						
total	1	4	39	47	9	100
	prequalification fairness					total
	very unsatisfied	unsatisfied	average satisfied	satisfied	very satisfied	
successful applicants	0	1	15	19	15	50
waiting applicants	2	3	28	17	0	50
total	2	4	43	36	15	100
	overall feeling					total
	very unsatisfied	unsatisfied	average satisfied	satisfied	very satisfied	
successful applicants	0	5	12	26	7	50
waiting applicants	1	6	23	20	0	50
total	1	11	35	46	7	100

More specifically, successful applicants expressed a comprehensive satisfaction of checking results and distribution outcomes posted in sub district office (Table 4-9-1), however, not all waiting applicants felt satisfied with it. Based on the interview of expert A, he stated 'it is common that the waiting person would wish to receive as much useful information as possible via two-level publicity phase. But, in fact, the content of each public announcement of checking outcomes cannot give opportunities for them to figure out what they expect to know like what is the income of other applicants, how many advantages they possess compared with the others and etc'. The more information notified the more equity applicants and the public perceived. However, expert A interviewed in Changchun criticized corruption, bribery and political party membership was an underlying reason for the insufficient of publicity of outcomes.

What is more, from the Table 4-9-1, the transparency of the distribution process and justice feeling of the entire distribution of affordable housing are the two most dissatisfied aspects for both subgroups. With the findings mentioned above, we can figure out that the overlapped policy guidance and unclearly notification of dominate regulation announced by social housing sectors are the two reasons for dissatisfaction here. Furthermore, unfair situations realized by applicants also influence the overall fair perception of distribution in Changchun.

Table 4-9-2 Descriptive of Procedure Transparency, Information Announcement Satisfaction, Pre-qualification Fairness and Overall Feeling of Distribution Process of Affordable Housing

	N	mean	std.deviation	std.error	95% confidence interval for mean		minimum	Maximum
					lower	upper		

						bound	bound		
procedure transparency	successful applicants	50	3.8	0.808	0.114	3.57	4.03	2	5
	waiting applicants	50	3.2	0.7	0.099	3	3.4	1	4
	total	100	3.5	0.81	0.081	3.34	3.66	1	5
Information announcement satisfaction	successful applicants	50	3.8	0.728	0.103	3.59	4.01	3	5
	waiting applicants	50	3.38	0.725	0.103	3.17	3.59	1	4
	total	100	3.59	0.753	0.075	3.44	3.74	1	5
prequalification fairness	successful applicants	50	3.96	0.832	0.118	3.72	4.2	2	5
	waiting applicants	50	3.2	0.728	0.103	2.99	3.41	1	4
	total	100	3.58	0.867	0.087	3.41	3.75	1	5
overall feeling	successful applicants	50	3.7	0.839	0.119	3.46	3.94	2	5
	waiting applicants	50	3.24	0.744	0.105	3.03	3.45	1	4
	total	100	3.47	0.822	0.082	3.31	3.63	1	5

According to Table 4-9-2, we can see that M (mean) of these four variables for 100 respondents are M(procedure transparency)=3.5, M(information disclosure satisfaction)=3.59, M(prequalification fairness)=3.68 and M(overall feeling)=3.47 respectively. The total standard deviation of procedure transparency, information announcement satisfaction, prequalification fairness and overall feeling of affordable housing distribution is 0.81, 0.753, 0.876, 0.822, separately. It demonstrates the overall perception of them is on the level of 'average fairness' and amongst, the entire attitude of the distribution process shows the lowest mean.

In general, the perception of one thing is possibly influenced by numerous factors, for example, age, gender and other significant elements. Similarly, concerning justice feelings of the distribution process of affordable housing, it might be affected by whether an applicant acquires an affordable housing or not in this study. Because, compared means of these four aspects in Table 4-9-2, for procedure transparency, M (successful applicants)= 3.8 which is higher than M (waiting applicants)=3.2; for the other three aspects, the same situation comes out with M (information disclosure satisfaction, successful applicants)=3.8 >M(information disclosure satisfaction, waiting applicants)=3.38, M(prequalification fairness, successful applicants)=3.96>M(prequalification fairness, waiting applicants)=3.2, M(overall feeling, successful applicants)=3.7>M(overall feeling, waiting applicants)=3.24 respectively. It is clear that both groups score satisfaction above 2.5 as a mean which demonstrates a positive

bias. And there is a statistical significance between the two groups that successful applicants perceive more just and satisfied than waiting applicants.

Table 4-9-3 ANOVA

		sum of squares	df	mean square	F	sig.
procedure transparency	between groups	9	1	9	15.75	0
	within groups	56	98	0.571		
	Total	65	99			
Information announcement satisfaction	between groups	4.41	1	4.41	8.346	0.005
	within groups	51.78	98	0.528		
	Total	56.19	99			
prequalification fairness	between groups	14.44	1	14.44	23.617	0
	within groups	59.92	98	0.611		
	Total	74.36	99			
overall feeling	between groups	5.29	1	5.29	8.413	0.005
	within groups	61.62	98	0.629		
	Total	66.91	99			

In table 4-9-3, one-way ANOVA is employed to perform the significance of the procedure transparency, information announcement satisfaction, prequalification satisfaction and overall feeling of affordable housing distribution. There are two groups in this one-way ANOVA analysis. The sample size of successful applicant group and waiting applicant group is 50 respectively.

(1) Procedure transparency

The null hypothesis: There is no significant difference of procedure transparency between the successful applicants and waiting applicants.

Table 4-9-3 illustrates that the total sum of squares of procedure transparency is 65 including 9 between groups and 56 within groups. The mean square between groups is 9 and that within groups is 0.571. The significance is $F(1,98)=15.75$, $p=0$. Under 95% confidence interval ($\alpha=0.05$), the significance ($p=0$) of procedure transparency is below $\alpha=0.05$ which demonstrates the null hypothesis should be rejected.

Consequently, there is a statistically significant difference of procedure transparency between successful applicants and waiting applicants.

(2) Information announcement satisfaction

The null hypothesis: There is no significant difference of information announcement satisfaction between the successful applicants and waiting applicants.

It demonstrates that the total sum of squares of information announcement satisfaction is 56.19 including 4.41 between groups and 51.78 within groups in Table 4-9-3. The mean square between groups is 4.41 and that within groups is 0.528. The significance is $F(1,98)=8.346$, $p=0.005$. Under 95% confidence interval ($\alpha=0.05$), the significance ($p=0.005$) is below $\alpha=0.05$.

Thus, the researcher refuses the null hypothesis that there is a statistically significant difference of information announcement satisfaction between successful applicants and waiting applicants.

(3) Pre-qualification satisfaction

The null hypothesis: There is no significant difference of pre-qualification satisfaction between the successful applicants and waiting applicants.

Figures in Table 4-9-3 shows that the total sum of squares of pre-qualification satisfaction is 74.36 including 14.44 between groups and 59.92 within groups. The mean square between groups is 14.44 and that within groups is 0.611. The significance is $F(1,98)=23.617$, $p=0.005$. Under 95% confidence interval ($\alpha=0.05$), the significance ($p=0.005$) is below $\alpha=0.05$.

Therefore, the researcher rejects the null hypothesis. There is a statistically significant difference of pre-qualification satisfaction between successful applicants and waiting applicants.

(4) Overall feeling of affordable housing distribution

The null hypothesis: There is no significant difference of overall feeling of affordable housing distribution between the successful applicants and waiting applicants.

Based on figures in Table 4-9-3, it states that the total sum of squares of pre-qualification satisfaction is 66.91 including 5.29 between groups and 61.62 within groups. The mean square between groups is 5.29 and that within groups is 0.629. The significance is $F(1,98)=8.413$, $p=0.005$. Under 95% confidence interval ($\alpha=0.05$), the significance ($p=0.005$) is below $\alpha=0.05$.

As a result, the null hypothesis should be refused. There is a statistically significant difference of overall feeling of affordable housing distribution between successful applicants and waiting applicants.

To conclude, the two groups have a statistically significant difference in means of procedure transparency, information announcement satisfaction, prequalification satisfaction and overall feeling. The attitude of the distribution process of affordable housing is significantly different between successful applicants and waiting applicants.

Table 4-10 Frequency*Purchasing Capacity, House Suitability and Quality, Selection Time and Allocation Result of 50 Successful Applicants

	very unsatisfied	unsatisfied	average satisfied	satisfied	very satisfied
Purchasing capacity	0	5	23	14	8

House suitability	0	0	2	25	15
House quality	0	0	13	25	12
Selection time	0	6	14	21	9
Allocation result	0	0	24	19	7

There are 5 unique questions in the questionnaires for successful applicants. The 'purchasing capacity' measures perceptions of purchasing bear capacity of an affordable house. The suitability of housing they live is coded 'housing suitability' and the quality of the house they live is named 'house quality'. The attitude of the fairness of eligible applicants who can only select the house one time named 'selection time'. The equity of the allocation result that the input and output they invest to apply for an affordable house named 'allocation result'.

As can be seen from Table 4-10, generally, all successful applicants investigated by the researcher deem they satisfy with result of allocation including house living area, house quality and etc. Moreover, no one is unsatisfied about the following five dimensions of affordable housing in Changchun except that on the one hand, 5 successful applicants perceive the house price was not friendly at that time. On the other hand there are 6 successful applicants considering the rule of one time house selection is unfair for them. Similarly, according to the open question, the question 'what do you think you are not satisfied with' is used to ask waiting applicants, they criticized that they could purchase a commercial house nearby the affordable housing community which have much better quality, location and infrastructures with the same price of an affordable housing.

Table 4-11 Description*Sex for Successful Applicants

		N	mean	std.deviation	std.error	95% confidence interval for mean		minimum	maximum
						lower bound	upper bound		
purchasing capacity	Male	23	3.04	.706	.147	2.74	3.35	2	4
	Female	27	3.89	.847	.163	3.55	4.22	3	5
	Total	50	3.50	.886	.125	3.25	3.75	2	5
house suitability	Male	23	3.48	.511	.106	3.26	3.70	3	4
	Female	27	3.67	1.000	.192	3.27	4.06	2	5
	Total	50	3.58	.810	.115	3.35	3.81	2	5
house quality	Male	23	3.83	.576	.120	3.58	4.08	3	5
	Female	27	4.11	.801	.154	3.79	4.43	3	5
	Total	50	3.98	.714	.101	3.78	4.18	3	5
selection	Male	23	3.09	.793	.165	2.74	3.43	2	4

time	Female	27	4.15	.718	.138	3.86	4.43	3	5
	Total	50	3.66	.917	.130	3.40	3.92	2	5
allocation result	male	23	3.30	.470	.098	3.10	3.51	3	4
	female	27	3.96	.759	.146	3.66	4.26	3	5
	total	50	3.66	.717	.101	3.46	3.86	3	5

Table 4-12 ANOVA

		sum of squares	df	mean square	F	Sig.
purchasing capacity	between groups	8.877	1	8.877	14.384	.000
	within groups	29.623	48	.617		
	total	38.500	49			
house suitability	between groups	.441	1	.441	.667	.418
	within groups	31.739	48	.661		
	total	32.180	49			
house quality	between groups	1.009	1	1.009	2.020	.162
	within groups	23.971	48	.499		
	total	24.980	49			
selection time	between groups	13.987	1	13.987	24.652	.000
	within groups	27.233	48	.567		
	total	41.220	49			
allocation result	between groups	5.387	1	5.387	13.039	.001
	within groups	19.833	48	.413		
	total	25.220	49			

When considering there might be a feeling difference between males and females, one-way ANOVA is employed to test it in two subgroups. In Table 4-11, it states that for female, $M(\text{purchasing capacity})=3.98$, $M(\text{house suitability})=3.67$, $M(\text{house quality})=4.11$,

M(selection time)=4.15, M(allocation result)=3.96. For male, M(purchasing capacity)=3.04, M(house suitability)=3.48, M(house quality)=3.83, M(selection time)=3.09, M(allocation result)=3.3. Furthermore, the total mean of the purchasing capacity, the house suitability, the house quality, the selection time, the allocation result is 3.5, 3.58, 3.98, 3.66, 3.66 respectively. The total standard deviation of them is 0.866, 0.810, 0.714, 0.917, 0.717. It is obvious that the female feels more equity and satisfied with five variables than the male. All 100 respondents are most satisfied with the housing quality, while most dissatisfied with the purchasing capacity relatively.

Table 4-12 shows the output of one-way ANOVA that significant of each variable. There are two groups including the female group and the male group. The sample size of the female group is 27 and the male group is 23.

(1) Purchasing capacity

The null hypothesis: There is no significant difference of purchasing capacity between the male and female.

Based on figures in Table 4-12, it states that the total sum of squares is 38.500 including 8.877 between groups and 29.623 within groups. The mean square between groups is 8.877 and that within groups is 0.617. The significance is $F(1,48)=14.384$, $p=0$. Under 95% confidence interval ($\alpha=0.05$), the significance ($p=0$) is below $\alpha=0.05$.

As a result, the null hypothesis should be refused. There is a statistically significant difference of purchasing capacity between the two groups.

(2) Housing suitability

The null hypothesis: There is no significant difference of housing suitability between the male and the female.

It demonstrates that the total sum of squares of housing suitability is 32.180 including 0.441 between groups and 31.739 within groups in Table 4-12. The mean square between groups is 0.441 and that within groups is 0.661. The significance is $F(1,48)=0.667$, $p=0.418$. Under 95% confidence interval ($\alpha=0.05$), the significance ($p=0.418$) is bigger than $\alpha=0.05$.

Thus, the researcher accepts the null hypothesis.

(3) Housing quality

The null hypothesis: There is no significant difference of housing quality between the male and the female.

Figures in Table 4-12 shows that the total sum of squares of housing quality is 24.980 including 1.009 between groups and 23.971 within groups. The mean square between groups is 1.009 and that within groups is 0.499. The significance is $F(1,48)=2.020$, $p=0.162$. Under 95% confidence interval ($\alpha=0.05$), the significance ($p=0.162$) is bigger than $\alpha=0.05$.

Therefore, the researcher accepts the null hypothesis. There is a no statistically significant difference of housing quality between the two groups.

(4) Selection time of affordable housing

The null hypothesis: There is no significant difference of selection time of affordable housing between the male and the female.

Based on figures in Table 4-12, it states that the total sum of squares is 41.220 including 13.987 between groups and 27.233 within groups. The mean square between groups is 13.987

and that within groups is 0.567. The significance is $F(1,48)=24.652$, $p=0$. Under 95% confidence interval ($\alpha=0.05$), the significance ($p=0$) is below $\alpha=0.05$.

As a result, the null hypothesis should be refused. There is a statistically significant difference of selection time during the affordable housing distribution between the male and the female.

(5) Allocation result

The null hypothesis: There is no significant difference of allocation result between the male and female.

Based on figures in Table 4-12, it states that the total sum of squares is 25.220 including 5.387 between groups and 19.833 within groups. The mean square between groups is 5.387 and that within groups is 0.413. The significance is $F(1,48)=13.039$, $p=0.001$. Under 95% confidence interval ($\alpha=0.05$), the significance ($p=0.001$) is below $\alpha=0.05$.

As a result, the null hypothesis should be refused. There is a statistically significant difference of allocation between the two groups.

To sum up, there is significant difference in the mean of purchasing capacity, selection time, allocation result between male and female. Perhaps, for most of female respondents, they are more sensitive about money, time than males so that lead to a quite different perception of distribution of affordable housing. There is no significance in the aspect of housing suitability and quality between the female and male.

For waiting applicants

Specially, for waiting applicants, due to experts' interview, they paid more attention to know reasons why they have to transform to waiting group. Normally, they might access to what they focus through firstly, reviewing their family conditions whether better meet pre-qualifications of affordable housing. Secondly, by means of publicity phase, they could also compare application criteria with other applicants if the notification contains said by expert A. Third, the transparency of each stage concerning allocation work would probably indirectly influence the behavior and perception of waiting applicants.

In the questionnaire, one special question 'To what extent is the distribution result announcements of economical affordable housing comprehensive for you to know what you want to know, for example detailed personal conditions of successful/unsuccessful applicants, why they could/could not get the house and etc?' is designed to consult interviewees whether they feel just about the public announcement of outcomes. We can see that in Table 4-13, generally, most of waiting applicants are satisfied with the publicity of distribution which reveals what they would be interested to know. However, 5 out of 50 respondents express different attitudes that dissatisfied with the content of publicity.

Table 4-13 Public Announcement Satisfaction for 50 Waiting Applicants

	frequency	percentage	valid percentage	accumulation percentage
valid very unsatisfied	1	2.0	2.0	2.0
unsatisfied	4	8.0	8.0	10.0
average	28	56.0	56.0	66.0

satisfied				
satisfied	17	34.0	34.0	100.0
total	50	100.0	100.0	

To conclude, from the above analysis, this research demonstrates that the successful applications have higher satisfaction about the distribution process of affordable house in Chang Chun. The satisfaction of the successful applications is greater than the waiting applications. Nevertheless, not 100% of eligible applicants observed in this study think the entire distribution process of affordable housing in Changchun equity and satisfaction. Furthermore, less transparency of distribution procedures, insufficient public advertisements and low participation of applicants are some drawbacks exposed in this study.

4.4 The theoretical exploration of the Choice-based Distribution Model in Changchun

The entire distribution procedure of CBD shows a more rigorous and consecutive process compared with the traditional distribution model. Based on experts' interviews conducted in NL, the CBD model adds the advertisement step to announce the information of public rent houses including basic conditions of house, application requirements (income level, age, family structure and etc). It has increased advertising links after the registration link that housing information will be published in weekly via local cable TV, Internet, local newspapers, the magazine of the housing association. In other words, the 'advert' step is utilized to adjust the queuing principle, to concentrate on the 'choice' of applicants and further to influence the justice and efficiency of housing distribution.

Second is the interaction in the process of allocation. By increasing the advertising links, it is to provide more applicants vacant housing information. To the active choice, independent of vacant housing information is to feedback and make the choice more human mode. In the publicity section, it is depending on age, proclaiming the successful applicants information such as date of birth. Moreover, the increase of advertising links to ensure that the applicant can obtain more housing information with choice, which is help to improve the interactive fair in the process of allocation.

Third is the fairness of the allocation results. Selection mode in public rental housing applicants is to choose its own opportunities. The model is more effective because the result will also be published openly.

In brief, as referenced in the section 2.5.2, the specific practices of CBD Model and its characteristics of performance in a fair distribution have been proved in many cities (Gelske & Marco, 2008). The CBD model is more transparency of the information related to houses and applicants, even the government function in the allocation system. On the one side, the municipality and housing association provides more effective housing information to the public, which improves the science of government decision-making. On the other side, from the transparent advertisement, the applicants who used to be the passive receivers (usually with a long time to wait) now transfer to the active chooser which means it is more convenient to search a house in line with their preferences by means of choice freedom. In terms of distributive procedure, the information disclosure reduces the opportunities of discrimination, fraud and rent-seeking behavior and increases the distributive justice and efficiency.

According to the findings presented above, some eligible applicants of affordable housing in Changchun are not satisfied with the content of advertisements/publicities. They deem that the information in the advertisement is insufficient for them to judge the outcomes of verifying. Meanwhile, compared with CBD model, the publicity of affordable housing lacks advertising means which only posted in the sub-district office and official website. However, when there is too much personal information contained in the advertisement, it might cause privacy issues. In this way, what should include in the advertisement need considering the practical situation and legal conditions.

Furthermore, although there is an official announcement of affordable housing resources before the distribution work, the eligible applicants do not have the real choice to select houses, while the CBD model offers applicants a better chance to select the house they prefer. Besides, due to the reality, fewer people in Changchun would like to point out disqualified applicants during the two times publicities. This differs from people in NL and England. It is also one of the reasons why 40 (50%) out of 79 ordinary applicants should have been excluded. It is unfair to the eligible applicants which may result in a feeling of deprivation.

In addition, based on the introduction in Chapter 2 and the analysis above the distribution principles of CBD are more reasonable and rigorous than that in Changchun. For example, senior researcher A stated that there is a good income-checking system in NL so that it is quite easy for officers to check the income of applicants. What is more, there is also a flexible auditing system behind the CBD model. Every several years, the authorities who take charge of the checking work verify the income of the housing receivers to judge whether he/she is still suitable to live in this house.

Compared with CBD model, the distribution process of affordable housing in Changchun does not have the phase of registration and the categories of criteria are not as that much categories as in the CBD model. More specifically, the distribution process in Changchun concludes access criteria, suitability criteria, priority criteria, actually. What is more, according to experts' interview in Changchun, at first, nearly all experts hold a positive attitude concerning the introduction of Delft Model to affordable housing system in Changchun. Actually, expert A said 'The character of the CBD model is tantamount to give the people the rights of choosing'. In this occasion, it will improve the fairness of the house distribution in Changchun'. Moreover, he also expressed a positive attitude that they reach consensus Changchun could learn lessons from the way the CBD doing the advertisement of houses, diverse means of publication and the all-side publication content of both successful house seekers and failed house seeker, the complete personal information system and the transparent distribution procedure of social rented housing in the Netherlands. Expert A considers that more openness and transparency of each allocation stage of affordable housing, the more social supervision inserts and the more justice and fairness perceived by eligible applicants.

Nevertheless, the CBD is a distribution model of social rented housing operated in NL and England, it has shortcomings. For example, if people are not aware of why they are still on the waiting list and this is part of the reason for that, the CBD model might even make their access to housing worse. Because the CBD model cannot ensure that every applicant is aware of everything about the distribution and it also depends on the active level of an applicants.

Overall, the transparency of the allocation process, the advertisement of vacant houses, the notification of successful and unsuccessful house seekers and the well-organized personal condition database might be quite helpful for China to learn lessons in order to improve both

the distribution system of affordable housing and the fairness perception of eligible applicants including successful ones and unsuccessful ones.

Chapter 5 Conclusion

In this chapter, it describes answers of the main research question based on research findings and analysis in Chapter 4 and plus a conclusion in each section.

5.1 What is the distribution model of affordable housing in Changchun?

The distribution model of affordable housing in Changchun is more tended to be the traditional distribution model. It allocates affordable housing based on 'need'. Yet, it also has the unique characters and some improvements.

In Changchun, the 'need' means that the affordable housing is only distributed to whom actively apply. Once a person submits an application form, he/she is identified as an applicant. After going through a series of stages including checking, verifying, publicity, the outcome of whether the person is an eligible applicant will come out. Then, eligible applicants attend the lottery meeting to get a number. It is this number that determines the sequence of selecting houses. If a person's number is beyond the number of affordable houses, he/she will be automatically transferred to the waiting group. Sometimes, there is no queuing stage. While in reality, the waiting list and its ranking criteria are not as clear as expected since no national policies and local documents present.

What is more, the two-level publicity adds to the distribution procedure of affordable housing which is different from the traditional distribution model presented in Chapter 2. More specifically, publicity in the Changchun's distribution model which notifies the outcomes of each level to the public.

5.2 How can the fair perception of affordable housing distribution be understood by eligible families in Changchun?

First of all, not the entire 100 eligible applicants feel equity about the distribution of affordable housing. In details, due to the analysis in Chapter 4, 50% of the ordinary eligibilities who is not the priority earned more than 800yuan (\$ 130.33) in 208/2009. They should have not meant the eligibilities of affordable housing. There are 6 respondents without urban registrations (hukou) but obtaining the affordable houses. Furthermore, 28% successful applicants bought the house at a higher price 2300yuan (\$ 374.59) per square meter and 3000yuan (\$ 488.60) per square meter than the regulated price for 2200yuan (\$ 358.31) /2250yuan (\$ 366.45) per square meter. All these data demonstrate that the distribution of affordable housing is unfair not only to some of the successful applicants but also to the waiting applicants.

Second, almost all respondents satisfy with the transparency of distribution procedure, the announcement of distribution outcomes and the fairness of pre-qualification. However, making comparison among these three factors, 9% respondents think that the distribution procedure and process are not transparent. Specifically, nearly nobody is aware of the official distribution procedure exactly and a majority of eligibilities do not know the step of queuing. Moreover, coexistence of multi-guiding distribution documents leads the public hardly to identify which one is to follow. 6% respondents including 5% waiting applicants and 1% successful applicants feel the pre-qualifications are unfair to them. 5% respondents (waiting applicants) are dissatisfied with the announcement of outcomes because they cannot find out

the reason of being a waiting applicant. They think the applications' information listed in the announcement is not enough to compare.

Thirdly, successful applicants perceive a higher satisfaction and equity of the affordable distribution than the waiting applicants, while women express more satisfied than men in this research.

5.3 Can the Dutch choice-based distribution model be theoretically applied to affordable housing in Changchun?

As has been said, CBD Model's superiorities are the transparency, effectiveness and fairness of the whole distribution process in the Netherland regardless of some racial discrimination. It is exactly what Changchun needs in order to the more fairness and transparency of affordable housing distribution in reality.

On the one hand, it reduces the opportunities of corruptions, briberies and political party membership in the distribution process due to the fuzzy distribution situations. On the other hand, consumer choice-based model is more humanization to all applicants since it enables them better exercise human rights to a certain extent.

And equally important, how they post and spread house information in advance and checking results afterwards including house details, eligible applicants details by numerous means of magazines, newspapers, house association websites and etc are worth Changchun learning lessons from.

To sum up, the choice-based distribution model in the Netherlands can partly employ to affordable housing distribution process in Changchun. At first, an advertisement of the new affordable housing and the existing resources is able to employ. To some degree, it can increase the effectiveness of the allocation since the potential applicants who dissatisfy with these houses would not apply for it. Secondly, the various means of the advertisement and the concrete information of applicants can be learned from by Changchun's case. Furthermore, the transparent of the distribution process is also what Changchun needs. At last, the perfect supporting systems such as the tax system which is used to check the personal income are a good example for Changchun.

5.4 What explains the perception of distribution just for affordable housing perceived by eligible applicants in Changchun?

Depending on the definition of mass model which targets on a wide scope of residents, it can be deducted that the social housing system in China more tends to the mass model. The reasons are, firstly, they both devote themselves to keeping housing security and social safety for everyone through providing accommodations. Secondly, the people of mid- and low-income level together account for more than half of the urban population are contained in both China's social housing system and the mass model. Overall, the whole social housing system by and large covers most of the people in cities who need helping related to housing issue according to a broad social objective that 'everyone has a room to live'.

As mentioned in Chapter 2 and 4, social housing in China at present concludes two dominant categories: the public rental housing and affordable housing. In other words, affordable housing has taken over most nature of social housing which belonging to the mass model within the social housing system. Furthermore, both of them need authorities take full charge to design, construction and allocation.

However, affordable housing allocation in Changchun adopted the traditional distribution model which is against the main goal 'housing for all'. To be exact, the mass model is

intended to house not only the least wealth off but also a larger scope consisted of middle class, middle and low income people which is quite different from the residual model that concentrates on serve houses to the least wealth off (Malpass, 2008). While the traditional distribution model allocates affordable housing based on needs is inclined to house the most needed people. This traditional 'need' model is likely to be an inequity to the other intended people to some degree. In other words, the word 'needs' presents thoughts from authorities' side instead of the actual situation of the intended group. And also it reserves no space for intended group to exercise the right to choose like where and what kind of houses they really need and prefer which lead to certain dissatisfaction and complain (Jinxing & Jie, 2013; Haffner, et al., 2009; Jeanet, 2002).

Therefore, when reviewing the social housing model and the distribution model in a whole, a mismatch comes out that the mass model with aims to meet the majority's housing need is in conflicts with the traditional distribution model focusing on housing the most needy. Outcomes of affordable housing distribution, therefore, expose unfairness perceived by intended applicants at present theoretically. That is why the researcher assumed that eligibilities of affordable housing in Changchun perceived inequity of the allocation.

To sum up, according to research findings elaborated in chapter 4, it ascertains that from the eligibilities' point of view, they are not aware of the distribution procedure of the affordable housing very well. There exists a discrepancy between the practice and policies. For instance, most of the eligible applicants deem that 'applying- verifying- publicity- getting a certificate- housing selection and purchasing' is the distribution sequence, while in policies, queuing is added between the publicity and getting a certificate. Viewed from the authorities' angle, the local government lacks announcing the local distribution documents to the public, which leads to the eligible applicants misleading the place where they should submit application forms.

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Appendix 1 Questionnaire Template A

Personal details

1. Gender: Male ☐ Female ☐
2. Age: 18-22 ☐ 23-25 ☐ 26-30 ☐ 31-35 ☐ 36-40 ☐ 41-45 ☐
46-50 ☐ 50 and above ☐
3. Urban registration in Changchun: Yes ☐ No ☐
4. How many people in your household? 1-2 ☐ 3-4 ☐ 5-6 ☐ >7 ☐
5. Are you belonging to any special group list as follows?
Special-care recipient ☐ The members of a martyr's ☐
An ex-serviceman ☐ Disable person ☐
District-above model worker ☐ The retirees ☐ None of those ☐
6. Do you live in an economical affordable house? Yes ☐ No ☐

1. Household Income per month per person before tax (RMB):
800 and below ☐ 800-1300 ☐ 1300-2000 ☐ 2000 -3500 ☐ 3500 above ☐
2. Before you got house, did you own a house? If yes, what is the unit size? How many people lived in it?
No house ☐ one house ☐ m² and persons
More than one house ☐ m² and persons
3. When you bought the economical affordable house, how much did you pay per square meter?
RMB /M² I do not know ☐
4. What is the unit size of your current economical affordable house?
 M²

5. Please rank the following options of how you apply for an economically affordable house?

①Applying ②Check ③Publicity ④Queuing ⑤Get certificate

⑥House selection and purchase economical affordable house

6. Where did you submit the application form for your current economical affordable house?

Sub-district office ☐ social housing department ☐

civil affair department ☐ Others ☐

7. Which departments is responsible to check and examine your eligibilities? (Multi-choice)

Sub-district office ☐ Social development department ☐

Social housing department ☐ Civil affair department ☐

8. When you applied for an economical affordable house, how many notifications are there and how long are they lasting?

No publicity ☐ One time and 7 days ☐ One time and 15 days ☐

Two times and 7 days/time ☐ Two times and 15 days/time ☐

I do not know ☐

9. Where is the official NOTIFICATION of economical affordable housing placed/advertised/announced?

Sub-district office ☐ Residents community office ☐

social housing department ☐ newspaper ☐ I do not know ☐

certain websites☐ (name) Informal ways☐

10. How do you find out about economical affordable housing?

Governmental official websites ☐ News paper ☐

TV programs ☐ Radio ☐ friends and relatives ☐

Others☐

11. After you passed the check phase of personal qualified, did you wait for your turn to select the house?

Yes ☐ No ☐

12. How many times have you gone to the site to watch the lottery process which is a part of distribution process of economical affordable housing?

Never ☐ One time ☐ Two times ☐ More than two times ☐

13. How long did the process take from the initial application to finally obtain the house? _____ Months

Please answer these questions using the different marks to show the different degree:

14. Do you think the process of getting your house was clear and transparent?

1 2 3 4 5

extremely not _____ very transparent and clear

15. Do you think the distribution information including the information of houses, the detail announcement of successful applicants/unsuccessful eligible applicants and etc that government informs clear and adequate for you?

1 2 3 4 5

extremely not _____ very clear and adequate

16. Do you think the access prequalification is fair to you?

1 2 3 4 5

extremely unfair _____ very fair

17. To what extent does the price of economical affordable houses within your purchasing capacity?

1 2 3 4 5

far beyond that _____ easily affordable

18. To what extent is your house suitable for your family to live in like the unit size, the location and the quality, etc?

1 2 3 4 5

not suitable _____ very suitable →

19. Are you satisfied with the building quality of your current house?

1 2 3 4 5

very dissatisfied _____ very satisfied →

20. Do you find it fair that you can only select an economical affordable house only once?

1 2 3 4 5

extremely unfair _____ very fair →

21. Do you think the distribution outcome, which means your inputs and output, of the economical affordable house satisfy you?

1 2 3 4 5

very dissatisfied _____ very satisfied →

22. As a general view, do you perceive the distribution (the process, the allocation way, and the outcome) of economical affordable housing equitable?

1 2 3 4 5

very inequity _____ very equity →

Assume that at present the distribution approach of affordable housing will be modified through involving more citizens in order to appeal to a more equitable perception of house distribution. Please answer the following questions with the nature of your true feeling.

23. Imagine before you apply for an economical affordable house, the government adverts a certain number of these houses, would you like to respond and apply for it when you find some houses meet your needs and preference?

Yes ☐ No ☐

24. If possible, would you prefer to choose the economical affordable house based on your preference?

Yes ☐ No ☐

25. If possible, do you want the whole distribution of economical affordable housing more transparent, openness and equitable?

Appendix 2 Questionnaire Template B

Personal details

1. Gender: Male ☐ Female ☐
2. Age: 18-22 ☐ 23-25 ☐ 26-30 ☐ 31-35 ☐ 36-40 ☐ 41-45 ☐
46-50 ☐ 50 and above ☐
3. Urban registration in Changchun: Yes ☐ No ☐
4. How many people in your household? 1-2 ☐ 3-4 ☐ 5-6 ☐ >7 ☐
5. Are you belonging to any special group list as follows?
Special-care recipient ☐ The members of a martyr's ☐
An ex-serviceman ☐ Disable person ☐
District-above model worker ☐ The retirees ☐ None of those ☐
6. Do you live in an economical affordable house? Yes ☐ No ☐

1. Household Income per month per person (RMB):
800 and below ☐ 800-1300 ☐ 1300-2000 ☐ 2000-3500 ☐ >3500 ☐
2. Do you own house at present? If yes, what is the unit area and how many people live in your household?
No house ☐ one house ☐ m² and persons
More than one house ☐ m² and persons
3. Please rank the following options of how you applied for an economically affordable house based on your experience?
①Applying ②Check ③Publicity ④Queuing ⑤House selection
⑥Get certificate and purchase economical affordable house
4. Where did you submit the application form for economical affordable housing?
Sub-district office ☐ social housing department ☐

civil affair department ☐ Others ☐

5. Which departments is responsible to check and examine your eligibility as far as you know? (multi-choice)

Sub-district office ☐ Social housing department ☐

Civil affair department ☐ I do not know ☐

6. When you applied for an economical affordable house, how many notifications are there and how long are the notifications lasting?

No publicity ☐ One time and 7 days ☐ One time and 15 days ☐

Do not know ☐ Two times and 7 days/time ☐

Two times and 15 days/time ☐ I do not know ☐

7. Where is the official notifications of affordable housing placed?

Sub-district office ☐ social housing department ☐ newspaper ☐

I do not know ☐ Residents Community Office ☐

certain websites☐ (name)_____ Informal ways☐

8. How do you find out about affordable housing?

Governmental official websites ☐ News paper ☐ TV programs ☐

Radio ☐ friends and relatives ☐ Others ☐

9. How many time have you gone to the site to watch the lottery process which is a part of distribution process of affordable housing as a potential successful applicant?

Never ☐ One time ☐ Two times ☐ More than two times ☐

Please answer these questions using the different marks to show the different degree:

10. Do you think the distribution process of affordable housing you experienced so far is clear and transparent enough for you?

1 2 3 4 5

extremely not _____ very transparent and clear

11. Do you think the distribution information that government informs as far as you know is clear and adequate for you to refer to?

1 2 3 4 5

extremely not _____ very clear and adequate

12. Do you think the access prequalification is fair to you?

1 2 3 4 5

extremely unfair _____ very fair

13. To what extent is the distribution result announcements of affordable housing comprehensive for you to know what you want to know, for example detailed personal conditions of successful/unsuccessful applicants, why they could/could not get the house and etc?

1 2 3 4 5

Extreme incomprehensive _____ Very comprehensive

14. As a general view, do you perceive the distribution of affordable housing including distribution procedure, distribution way and distribution principle equitable as far as you know?

1 2 3 4 5

very inequity _____ very equity

Assume that at present the distribution approach of affordable housing will be modified through involving more citizens in order to appeal to a more equitable perception of house distribution. Please answer the following questions with the nature of your true feeling.

15. Imagine before you apply for an affordable house, the government adverts a certain number of these houses, would you like to respond and apply for it when you find some houses meet your needs and preference?

Yes ☐ No ☐

16. If possible, would you prefer to choose which the affordable house you would apply freely?

Yes ☐ No ☐

17. If possible, would you like to know more about how government allocates the affordable houses?

Yes ☐ No ☐

Open question:

Why are you not yet successful to obtain an affordable house or where do you think you are not satisfied with of affordable housing in Changchun?

- ☐ Because the house price is too high for me to afford.
- ☐ Because the location of the house is not convenient for me.
- ☐ Because the waiting time is too long. I cannot wait any more.
- ☐ Because the number of houses is not sufficient at present.
- ☐ Because the inequity of the distribution of houses which made me fail to access to.
- ☐ I am not clear about why I failed to get a house because no one tell me about reasons.

If you do not find an accurate for your situation above, please write yours down. It will be very useful and helpful for my thesis.

Appendix 3 Interview Template (Changchun)

Interview Template (Changchun)

1. Affordable housing
 - What is affordable housing?
 - What is the target group of it?
 - What is the main feature of it?
 - What is the distribution process of it?
 - What are the principles behind the distribution process?
2. Fair perception of affordable housing distribution
 - What is your feeling of affordable housing distribution?
 - Do you think the procedure, principle and outcomes are equitable?
3. Choice-based Model
 - What do you think about more active participation of citizens including both applicants and non-applicants in the allocation process of the affordable housing?
 - What do you think about putting the advertisements of the affordable housing in advance to give the opportunities for applicants to choose which house they need freely?
 - What do you think about making the whole distribution more transparent to the public through public announcement held by the municipality?

Appendix 4 Interview Template of Choice-based Model (In NL)

Interview Template of Choice-based Model (In NL)

- What are the main features of Choice-based model?
- What is the distribution process of Choice-based model and what principles behind it?
- What are the advantages and disadvantages of Choice-based model?
- What are the distribution outcomes of Choice-based model?
- Is it satisfied the applicants? Do applicants think the distribution outcome is fair?

Appendix 5 Questionnaire Schedual (Guntt Chart) in 2014

Questionnaire Schedule (Guntt Chart) in 2014			
	20th-25th of June	26th-30th of June	1st-20th of July
Questionnaire Design			
Questionnaire Test			
Questionnaire Sending			
Questionnaire Recycling			

Appendix 6 Table of Experts' Interview in Details

Experts' Interview						
	DATE	NAME	WORKING PLACE	POSITION	INTERVIEW METHOD	CONNECTION
Expert A	02-07-2014	----	Jilin University	Doctor, Professor of public administration	E-mail interview	13331668451
Official A	25-06-2014	----	social housing department	Manager	face to face interview	15843011009@163.com
Researcher A	30-06-2014	Joris Hoekstra	TU Delft, OTB	Senior Researcher	face to face interview	J.S.C.M.Hoekstra@tudelft.nl
Researcher B	16-08-2014	Andre Ouweland	TU Delft, OTB	Senior Researcher	E-mail interview	A.L.Ouweland@tudelft.nl

Appendix 7 Codes of All Interviews

Code-Filter: All

ADVANTAGE_1

ADVANTAGE_2

ADVANTAGES_checking work&income

ADVANTAGES_consumer choice

ADVANTAGES_efficiency&shorter waiting time

ADVANTAGES_shorter waiting time

ADVANTAGES_transparency

ADVERTISE_details

ADVERTISE_house seeker response

ADVERTISE_main content

CRITERIA_income&saving

DEFINITION OF DELFT MODEL

DELFT MODEL_key piont

DESK TABLE_traditional vs delft

DISTINGUISH_Old vs Delft

DISTRIBUTION ATTITUDE_1

FEATURE & ADVANTAGES & FEELING

FEATURE_conclusion

FEATURE_difference part VS China

FEATURE_income condition of people

FEATURE_private housing association

FEATURE_private HS_details

FIRST STEP_categories

FIRST STEP_details

FIRST STEP_registration

FIRST STEP_registration_active vs normal

FIRST STEP_registration_categories of house seekers

LOCAL LAW_housing association

NATIONAL LAW_income level

OUTCOMES_choice-based model

PREQUALIFICATION OF DELFT MODEL

PREQUALIFICATION_criteria

PRINCIPLES OF DELFT MODEL

PRIORITY PRINCIPLE_exception

PRIORITY PRINCIPLE_special group

PRIORITY PRINCIPLE_the very needy/urgent house seekers

PROCEDURE_advertise &response

PROCEDURE_allocation

PROCEDURE_conclusion

PROCEDURE_flow chart

PROCEDURE_registration

PROCEDURE_verifying

PROVISION_1

RARE CASES

SUGGESTION OVERALL

SUGGESTION_2

This is a Code

TRADITIONAL DISTRIBUTION

UNFAIR PART_1_registration

UNFAIR_registrition time

Appendix 8 Codes of Questionnaires A

Sex
Age
Urban registration
Family member
Priority group
Affordable house
Family income per month per person
House ownership
House price
House area
Application sequence
Application submission
Checking departments
Public announcement time
Public announcement place
House information
Queuing
Lottery attendance
Lottery attendance other communities
Waiting time
Procedure transparency
Information announcement satisfaction
Prequalification fairness
Purchasing capacity
House suitability
House quality
Selection time
Allocation result
Preference respond
Preference choice
'Sunny' government

Appendix 9 Codes of Questionnaires B

Sex

Age

Urban registration

Family member

Priority group

Affordable house

Family income per month per person

House ownership

House area

Application sequence

Application submission

Checking departments

Public announcement time

Public announcement place

House information

Lottery attendance

Lottery attendance other communities

Procedure transparency

Information announcement satisfaction

Prequalification fairness

Public announcement satisfaction

Overall feeling

Preference respond

Preference choice

'Sunny' government

Open question-reasons