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Urban Housing Policies and Housing Affordability in Shanghai 1998-2010

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# Abstract

As part of the establishment of a socialist market economy and the economic opening, China carried out a comprehensive housing reform starting in the 1980s. The housing market was built into an essential pillar of the economy, with a high share of public housing privatized. The thesis aims to comprehensively understand the housing policy reform in Shanghai within its historical context and to categorically evaluate the objectives and instruments established for the immediate post-reform period, emphasizing housing affordability. The research is conducted by a systematic compilation and evaluation of policy documents and scientific literature. The assessment of the policy outcomes is additionally based on the analysis of empirical data. In Shanghai, mainly three instruments were used for the implementation of the housing reform 1998 - 2010: The Housing Provident Fund (HPF) to strengthen demand, as well as two programs targeting affordable housing for different income groups: Economic and Affordable Housing (EAH) and Cheap Rental Housing (CRH). While the HPF achieved good results in Shanghai in the overall comparison across China, EAH and CRH were less successful in the examined period due to some structural weaknesses. Overall, the municipality of Shanghai performed well in achieving the economic objectives of the reform: A stable housing market and the necessary financial instruments were well established after 1998. The homeownership ratio increased to nearly 80% by 2010. However, the establishment of an affordable housing supply system was less successful. Implementing the policy instruments aimed at affordability proved problematic in Shanghai mainly due to the financing structure. Housing prices rose significantly during the examined period, and the price-income ratio increased considerably over the years, mainly in the lowest income quintile. Simultaneously, very few new subsidized or otherwise affordable housing units were built.

Overall, the thesis provides a more nuanced understanding of the complex post-reform housing policy processes in Shanghai and, therefore, a foundation for future research and policy designs.

**Key Words:** Housing policy, policy instruments, policy assessment, housing affordability, housing reform, housing market

# Kurzfassung

Im Zuge des Aufbaus einer sozialistischen Marktwirtschaft und der wirtschaftlichen Öffnung führte China ab den 1980er Jahren eine umfassende Wohnungsreform durch. Der Wohnungsmarkt wurde zu einer wesentlichen Säule der Wirtschaft ausgebaut, wobei ein hoher Anteil der öffentlichen Wohnungen privatisiert wurde. Ziel dieser Arbeit ist es, die wohnungspolitische Reform in Shanghai in ihrem historischen Kontext umfassend zu verstehen und die für die Zeit unmittelbar nach der Reform festgelegten Ziele und Instrumente kategorisch zu bewerten, vor allem im Hinblick auf leistbares Wohnen. Die Untersuchung erfolgt durch eine systematische Erfassung und Auswertung von politischen Strategiepapieren und wissenschaftlicher Literatur. Die Bewertung der Zielerreichung stützt sich zusätzlich auf die Analyse empirischer Daten. In Shanghai wurden im Wesentlichen drei Instrumente für die Umsetzung der Wohnungsreform 1998 - 2010 eingesetzt: Der *Housing Provident Fund* (HPF) zur Stärkung der Nachfrage nach Wohnungseigentum sowie zwei Programme, die auf erschwinglichen Wohnraum für unterschiedliche Einkommensgruppen abzielen: *Economic and Affordable Housing* (EAH) und *Cheap Rental Housing* (CRH). Während der HPF in Shanghai im gesamtchinesischen Vergleich gute Ergebnisse erzielte, waren die Programme EAH und CRH im untersuchten Zeitraum aufgrund struktureller Schwächen weniger erfolgreich. Insgesamt erzielte die Stadt Shanghai bei der Erreichung der wirtschaftlichen Ziele der Reform gute Ergebnisse: der kommerzielle Wohnungsmarkt und die erforderlichen Finanzinstrumente waren nach 1998 fest etabliert. Die Wohneigentumsquote stieg bis 2010 auf fast 80 %. Der Aufbau eines Systems zur Versorgung mit bezahlbarem Wohnraum war jedoch weniger erfolgreich. Die Umsetzung der auf Leistbarkeit ausgerichteten politischen Instrumente erwies sich in Shanghai vor allem aufgrund der Finanzierungsstruktur als problematisch. Die Wohnungspreise stiegen im untersuchten Zeitraum deutlich an, und das Preis-Einkommens-Verhältnis erhöhte sich im Laufe der Jahre erheblich, vor allem im untersten Einkommensquintil. Gleichzeitig wurden nur sehr wenige neue subventionierte oder anderweitig leistbare Wohnungen gebaut.

Insgesamt bietet die Arbeit ein differenzierteres Verständnis der komplexen wohnungspolitischen Prozesse nach der Reform in Shanghai und damit eine Grundlage für künftige Forschung und die Entwicklung weiterer wohnungspolitischer Strategien und Instrumente.

**Schlagwörter:** Wohnungspolitik, Politikinstrumente, leistbares Wohnen, Wohnungsreform, Wohnungsmarkt

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# 1. Introduction

## 1.1. Background

Shanghai has undergone a radical housing market restructuring over the last decades. In the planned-economy era of China, housing was provided mainly by the government and did not have the status of a commodity (Chen et al., 2010). In the early 1980s, around 80% of the housing stock in Shanghai was owned by the state (Chang & Chen, 2013). This changed with the housing reform, in which the housing sector was reformed and liberalized, beginning in the 1980s. 1998 marked a turning point in the reform since the allocation of housing as a welfare good was forbidden.

As a consequence of these new policies, most houses built after 1999 were sold on the free market (Chen et al., 2010). This led to a transformation of the ownership structure of the housing market, with an enormous growth of house ownership in the following years. By 2010, 80% of the housing stock in Shanghai was in private ownership (Shanghai Statistical Bureau, 2011). This restructuring of the housing market from a government-dominated to a market-driven system did not remain without consequences. Shanghai is China's most expensive housing market, and low-income residents especially face difficulties finding adequate housing (Chang & Chen, 2013).

The Chinese government implemented comprehensive regulations alongside the housing reform with the dual objective of commercializing the housing market and mitigating potential social policy effects of such reform. One critical social policy concern was ensuring affordable housing for lower-income households. Shanghai's municipal government introduced in alignment with the national government three main policy instruments, each serving different objectives and target groups: The Housing Provident Fund (HPF) for stimulating the demand for home ownership, the Economic and Affordable Housing Program (EAH) for promoting home ownership amongst lower-income groups, and the Cheap Housing Program (CRH) for supporting the lowest income-groups with rent subsidies.

The following thesis analyzes Shanghai's housing policies from 1998 to 2010, categorically assessing the main instruments and empirically examining the objectives and possible impacts of the policies after 1998. A peculiarity of the research is a broad historical contextualization of the policy-making process, which is valuable for an improved understanding of policy decisions and developments.

The topic of Chinese housing reform and its consequences has been extensively discussed in the academic literature. For instance, works by Wang & Murie (1996), Davis (2003), Gao (2010), and Ye et al. (2010) have explored the process of housing reform in China. Various scholars have also examined the particular housing policy instruments implemented in China after the completion of the reforms in 1998. Burell (2006) and Yeung & Howes (2006), for example, provided a detailed analysis of the development and implementation of the Housing Provident Fund and assessed the drawbacks of the instrument. Deng et al. (2011) described the emergence of a new housing policy framework in China after the housing reform, composed of the three policy instruments HPF, EAH, and CRH, and a restructured housing finance system. Low-income housing programs such as the EAH and the CRP program are examined in a study by Huang (2012), who elaborated on reasons for a deficient supply of affordable housing. Zou (2014) assessed the major national affordable housing programs from 1995-2013, disclosing some constraints regarding the implementation of those programs by local governments.

There is also literature at the municipality level, such as the study by Chen et al. (2010), which used Shanghai as a case study to illustrate affordability trends after the housing reform in 1998. Mostafa et al. (2006) investigated the relationship between housing affordability and economic development, using Shanghai as a case study and considering various housing policy instruments. Wu (2001a) examined the restructuring process of the Shanghai housing market during the reform from a macroeconomic perspective.

Although the topic of the Chinese housing reform and the post-reform era is well studied from different perspectives, there is still a gap in the literature that the present thesis aims to fill. By considering the historical context in which the reform took place in Shanghai and simultaneously conducting a categorical assessment of policy instruments and objectives, the following thesis offers a more nuanced understanding of the policy changes. Therefore, the thesis makes a valuable contribution to the fields of housing research and policymaking by enhancing the understanding of the dynamics of Shanghai's housing market after the far-reaching reform.

Examining and assessing past policy decisions in the complex environment of the economic reform in China helps comprehend the formation and implementation of housing policies and their influencing factors, such as political, demographic, or economic developments. Conducting such research with a broad historical contextualization gives valuable insight into



the complex policymaking process. It allows a conclusion on the level of success of particular policy decisions and, therefore, provides essential learnings for the future.

## 1.2. Research Objectives

The thesis aims to comprehensively understand the housing policy reform in Shanghai within its overall context and to categorically evaluate the objectives and instruments established for the immediate post-reform period.

To obtain a comprehensive understanding of the necessity of the reform and to capture the overall political process of the reform, the thesis initially takes a macro perspective and examines housing systems in China in their international and historical context. This preceding contextualization forms the basic framework for the foundation on which the research questions are posed. The focus is then narrowed down to the City of Shanghai to evaluate the restructuring of the housing market from 1998 to 2010.

The thesis specifically addresses the following two research questions:

- What housing policies and instruments has the City of Shanghai employed to address the issue of affordable housing after the opening of the housing market in 1998?
- Were the economic and socio-political objectives of the 1998 housing reform achieved in Shanghai in the period from 1998 to 2010?

The first research question deals with the instruments implemented by the municipal government after 1998. Thereby, a link is made between the previous housing policy development presented earlier in the thesis and the emergence of the instruments. This ensures that the policy instruments are not viewed as isolated decisions but placed in their proper context. The second research question is closely related to this and answers, with the help of an empirical analysis, whether the economic and social objectives of the housing policies after 1998 could be achieved.

The present thesis provides a new contribution to the existing scientific literature on the impact of Chinese housing policy reform on the city of Shanghai. One unique feature of this study is the embedment of the topic within historical contexts. By contextualizing the housing reform process, the thesis can provide an in-depth understanding of the complex factors of the housing policy reform and the post-reform period in Shanghai.

In addition, the systematic examination of policy documents and scholarly literature, combined with the categorical assessment of individual housing policy instruments, provides an essential foundation for further evaluation of the reform. The assessment of the achievement of housing policy objectives after the reform ultimately yields valuable insights into the process of government interventions and highlights the strengths and weaknesses of the process. The examination of the policy process over an extended period of time allows to connect possible outcomes with other influencing factors such as economic and political developments. This is useful for identifying patterns in the complex process of policymaking.

Overall, with its contextual and empirical approach, the research provides further knowledge on the post-reform housing policy of Shanghai and contributes valuable insights into various aspects of the policy process. The thesis, therefore, offers a foundation for further research in the field of Chinese Urban housing policies.

### 1.3. Methodology and Structure

The research questions are addressed by a systematic compilation and evaluation of existing literature and policy documents. The assessment of the policy outcomes is additionally based on the analysis of empirical data.

The thesis consists of four components: the theoretical introduction to the topic of housing systems, -policies, and affordability as a necessary precondition for the further research; the placement of Chinese urban housing policies in an international and historical context; the analysis of housing policy instruments applied by the City of Shanghai after 1998; and lastly, the categorical and empirical analysis of the instruments as well as the housing policy objectives 1998-2010.

The definition and theoretical discussion of the most important terms used in the thesis are necessary to create a shared understanding for the further research. In addition, the precise definition of the theoretical approach provides a solid foundation for the further parts. By elaborating on the theory, further steps can be clearly defined. Moreover, the empirical analysis later in the thesis is based on concepts introduced in the theory section.

As several scholars in the field of housing studies point out, it is crucial to consider the context when analyzing housing policies (Boelhouwer & van der Heijden, 1992; Doling, 1997; Angel, 2000; Kunnert & Baumgartner, 2012). Housing policy instruments are always developed in the

context of the political, economic, and social systems in which they are applied. Therefore, in order to conduct a sound analysis, it is important to broaden the perspective and not consider housing as an isolated system. For this reason, the second component of the thesis is an embedding of China's urban housing system in an international context, followed by a historical classification of housing policy reforms in urban China. A discussion of the essential policy milestones completes the contextualization.

While the first two sections of the thesis provide the theoretical approach and the research context, the following two parts focus on answering the research questions. The analysis is therefore narrowed down to the time from 1998-2010 and the City of Shanghai. The timeframe was chosen for a thorough analysis, including possible long-term effects, and due to the availability of comparable data. The analysis consists of a categorical assessment of the policy instruments in question. The categories are derived from the findings of the theory part and include objectives, target group, affordability, accessibility, impact on housing quality, implementation effectiveness of local government, and the effectiveness in reaching the target group. In a further step, the assessment of the objectives of the policies after 1998 is conducted through an empirical analysis, which covers the development of different indicators such as house prices, the structure of housing provision, tenure structure, housing affordability, living standards, selling and construction activities of residential housing, and the development of housing finance instruments. The data are obtained from official sources, including the Shanghai Statistical Yearbooks and the China Real Estate Yearbooks.

In alignment with the methods mentioned above, the thesis is structured into four main parts. Following this introduction, Chapter 2 contains a literature review of the theoretical aspects of the thesis and deals with definitions of the most important terms used in the further thesis. The topics of housing systems, housing policies, and housing affordability are addressed and discussed regarding the content. As a precondition for the thesis, the administrative structure of Shanghai and the local household registration system (hukou) are explained.

Chapter 3 addresses the urban housing system in China and provides both the international and the historical context that helps understand the subsequent restructuring of the housing market in its overall policy process. The period from the founding of the People's Republic in 1949 until the commercialization of the housing system in 1998 is covered. The contextualization is conducted by an extensive literature review. In the chapter's last part, the housing reform's policy milestones are addressed by examining relevant policy documents.

The following Chapter 4 deals with the main policy documents that addressed the full commercialization of the housing market, both on the national and municipal levels. Furthermore, the land supply system of Shanghai and the three main policy instruments carried out during the commercialization are addressed.

Chapter 5 finally assesses the policy instruments carried out by the Shanghai municipal government. For this purpose, different categories are applied, according to which all instruments are assessed with the help of systematically conducted literature research. In addition, policy documents and empirical data are also used to complete the analysis and answer the second research question. The second part of the chapter assesses whether the objectives of the 1998 housing reform were achieved in Shanghai from 1998 to 2010. Empirical data, complemented by academic literature, is used to examine the policy outcomes on the housing market, affordability, living standards, and housing finance.

## 2. Theoretical Aspects

The following chapter forms the theoretical basis of the thesis. First, the special characteristics of housing systems are presented. In the second section of the chapter, different housing policy regimes with their possible goals, strategies, and instruments are introduced. The concept of housing affordability is discussed in the third part. The chapter concludes with a brief introduction to Shanghai's administrative structure and the hukou system, which are essential for comprehending the city's housing policies.

This theoretical chapter is crucial for the further research for several reasons. It creates a shared understanding of the terms used in the thesis. Moreover, the theories described in this chapter provide the foundation for the assessment of policies that follow and, therefore, ensure a well-grounded analysis in the further course of the thesis.

### 2.1. Housing Systems

A closer look at the peculiarities of housing is essential to understand the necessity of state intervention in housing.

Housing systems are complex and influenced by many factors, regardless of the political system in which they are embedded. Boelhouwer & van der Heijden (1992) mention the following factors influencing housing systems: social, demographic, and economic developments, the establishment and functioning of financial institutions, governmental land-use and construction policies, technological change, and other socio-economic factors.

Housing is, in most economies, both a commodity and a service. The physical house is a capital asset; the accommodation is a service (Fahey & Norris, 2011).

Considering that, housing has several attributes that distinguish it from other common goods. Kunnert & Baumgartner (2012) propose the following characteristics: non-substitutability, indivisibility, location-dependence, long production periods, high production costs, long durability, and heterogeneity.

The fundamental need for accommodation makes housing non-substitutable. Only after the immediate need is satisfied do consumers have the choice of spending parts of their household income on better housing.

Indivisibility is another characteristic of housing. In case of overcrowded or not fully occupied housing units, consumers only have the choice of moving, which in turn comes with high transaction costs such as house search, moving costs, etc. This is one of the reasons why it is widespread for people to stay in flats that do not fit their current needs, which indicates the low adaptive elasticity of housing.

Another critical factor is the location-dependence of housing. The value of housing is strongly reliant on its position and the features of its environment.

Long production periods, as well as high production costs, are additional features of housing. Due to the long production periods, the housing market cannot react quickly to a change in demand. High production costs cause a close link between the housing and financial markets.

In this regard, the long durability of housing is also worth mentioning. Unlike many other consumer goods, housing generally has a long life cycle (Kunnert & Baumgartner, 2012).

Finally, the heterogeneity of housing is an important characteristic. Housing can be divided into many categories, such as tenure, quality, size, location, etc. (Angel, 2000). This leads necessarily to the emergence of different sub-markets that are not fully substitutable for each other (Kunnert & Baumgartner, 2012; Angel, 2000).

The above-mentioned special features of housing result in particular characteristics and modes of operation of the housing market. Those characteristics preclude the possibility of market equilibrium. Therefore, this is a strong argument for state intervention in the housing market, e.g., housing policies. In theory, market equilibrium is a state in which demand and supply are in balance. This would be desirable for the housing market but, in fact, elusive without intervention.

The peculiarities of housing have certain implications on demand and supply, as Kunnert & Baumgartner (2012) described. On the demand side, the following factors differ from other markets: Firstly, there is no option to refrain from housing. Every household, no matter their purchasing power, needs accommodation. However, compared to other consumer goods, the purchasing costs of accommodation are relatively high, looking at the ownership market. Another difficulty for households on the demand side is the lack of transparency in information. It is impossible to get a complete picture of the housing market in a city or region;

the transaction costs are, therefore, high. Since the supply side usually has better information, there is also an asymmetry. Another interesting aspect to look at are submarkets: While it is usually easier for households to switch from the ownership market to the rental market, renters can only enter the ownership market with enough capital. That being said, the different housing submarkets are not fully substitutable with each other. A further factor on the demand side is the lack of flexibility of the good in case of a change in demand. In most cases, housing units cannot be aligned in size if needed.

The supply side, however, is determined by the long production costs and the long durability of housing. Those factors lead to an extended capital lockup which comes necessarily with uncertainties regarding revenue. In case of market imbalances, the supply side can only react slowly (Kunnert & Baumgartner, 2012).

In this regard, Lundqvist (1991) emphasizes the two factors household purchasing power and dwelling price as crucial for explaining housing systems. Dwelling prices depend on production costs, the quality of the dwelling, and the number of available dwellings. On the other hand, household purchasing power is determined by household income, capital revenues, and financial transfers.

Given that, governments can intervene in the housing market by targeting both or either of the two factors, price and purchase power. A detailed overview of possible policy instruments is provided in section 2.2.

To understand housing systems fully, it is essential to introduce the housing provision process. According to Doling (1997), the provision process consists of four stages: Housing development, construction, allocation, and maintenance. Additionally, every housing provision requires finance and, if applicable, governmental subsidies. In the development phase, the responsible stakeholder (e.g., municipal governments, agencies, etc.) prepares the construction process by planning and ensuring the legal basis for the construction. Housing allocation does not only include the decision on future house owners or renters but also house price determination (Doling, 1997).

To sum up, this section has shown that the housing market is in many aspects different from other markets. This is related to the peculiarities of housing – it is a commodity and a service simultaneously. Considering that every household has a demand for housing at a certain standard, pure market dynamics are insufficient to fulfill these basic needs. Therefore, it is crucial for governments – in every political system – to intervene in the market. The level of

intervention, though, can differ significantly and is highly dependent on the political and cultural context.

## 2.2. Housing Policies

The section above sets the scene for delving deeper into the topic of housing policies. Since housing policies are complex, interwoven with many different fields, and designed and implemented by different stakeholders, Angel (2000) suggests instead defining “Housing policy environments”:

The housing policy environment is the set of government interventions that have a critical and measurable effect on the performance of the housing sector. (Angel, 2000, p. 11)

Housing policies are carried out by every government, but they can differ remarkably. As Doling (1997) argues, the content, the institutional arrangements, and the target group for housing policies are essential for distinguishing and categorizing housing policies. It is a fact that most governments worldwide have developed housing policies in either way. Questions around housing emerge in different contexts: On the one hand, it is a social question: Governments should provide shelter and, in the next step, adequate housing that meets certain standards for all its citizens. On the other hand, the housing market is also a way for governments to guide the economy in a particular direction, since the housing market includes many industries and a value-added chain (Doling, 1997).

According to Doling (1997), there are six strategies of governments to reach a specific policy aim:

1. Non-action
2. Exhortation
3. Regulation
4. Taxation
5. Subsidy
6. Provision



Doling (1997) considers the non-action of a government as a policy as well, since the decision can be taken either deliberately because the government does not feel the need to change the current situation. Therefore it allows market forces as well as social and political processes to shape the housing market. In another case of non-action, the government had indeed set a certain policy target but believes that this target will be met anyway, without any interventions. By following the exhortation policy, governments try to raise awareness amongst the citizens with campaigns, speeches, etc., in order to provoke behavior that follows the policy aims. Conversely, regulations usually set minimum or maximum standards and work with a punishment system in case of misbehavior, including fines, confiscation, or imprisonment. Other very well-known instruments in the policy field are taxation and subsidies. They work in the same way but in reverse: While goods of which reduction is wanted are taxed higher, goods that the government wants to provide are subsidized. A full subsidy, in which the government supplies the good for free, is also possible. Subsidies can be given either to consumers or to producers, depending on the desired outcome. The last instrument would be the direct provision of a good by the government. In the case of housing, this implies the allocation of public housing for free.

All the policy strategies mentioned above must naturally meet specific institutional arrangements. Policies can be delivered, for example, either through the central government, other levels of government (regional or local authorities), or non-governmental institutions such as companies or NGOs. In that case, the government would decide on a policy but give the responsibility to the non-governmental institution. Those companies can also emerge solely by governmental action (Doling, 1997).

For a deeper insight into a housing system, Doling (1997) recommends the examination of the relationship between subsidies and ownership, as shown in *Figure 1*. Cell 1 represents a pure private model, whereas cell 9 is a pure public model. A possible use for the matrix is to classify different policy strategies of countries: Doling, for example, categorizes the US in cells 1 and 4, and Western Europe in 4-6. In the case of China, the general policy strategy was represented by cells 6 and 9 until the economic reform in 1978. That changes rapidly, and since 1998, cell 1 has been predominant. This matrix developed by Doling will be helpful in analyzing different policy instruments in Chapter 5.

Who pays?	Who owns?		
	Private company/ individual	Voluntary organization	State
User	1	2	3
Partial Subsidy	4	5	6
Full Subsidy	7	8	9

Figure 1: Housing ownership and payment. Source: Doling, 1997, p. 52

In addition to the decision about institutional arrangements and general strategies, governments must decide on the recipients of housing policies. Policies can apply to all citizens or some subgroups (which is more likely). Possible subgroups can include income level, ethnic group, age, household structure (for example, young families with children), etc. In many cases, different policies for different subgroups can make sense (Doling, 1997).

Doling (1997) describes two different approaches to evaluating the outcomes of housing policies: The first approach is to identify the consequences of a policy and to measure their impact. However, in many cases, there are only assumptions possible. The second approach is twofold: In the first step, the researcher develops criteria against which to evaluate the performance of a particular policy. Secondly, those criteria are assessed. Criteria could include objectives or specific empirical measures such as residential housing production, floor space per capita, etc.

The assessment of policy instruments and the overall situation of the housing market made in Chapter 4 are based on Doling's evaluation approach.

In general, evaluating the outcome of a particular policy or a policy instrument is very complex because the system in which the policy is operated is complex. Therefore, Doling (1997) emphasizes that correlation is not causation, which is especially true for a highly intertwined system like the housing system of a country. Hence, for the interpretation and evaluation of policy outcomes, it is crucial to consider the context in which a policy is operated and to collect as much data and information as possible. Even if all this is considered, no absolute statements can be made about specific policy outcomes, but statements must be limited to a data- and fact-based interpretation.

As Milligan (2003) claims, explaining outcomes and reasons for housing policies is often hardly possible due to complexity. Instead, the value of a qualitative and quantitative analysis of policy outcomes can be the assessment of general policy strategies and their influence on a system. A similar approach is followed in this thesis in Chapter 5.

### 2.3. Housing Affordability

Housing affordability is a widely studied subject within housing research. Especially since many of the most pressing housing problems, such as overcrowding and poor housing quality, are more or less solved in developed and transitional countries, the topic of housing affordability came to attention. Housing affordability relates to many factors, such as economic, social, political, or demographic conditions (Li, 2014). Therefore, many definitions of housing affordability exist at the same time. Stone (2006) defines housing affordability in a widely cited paper as follows:

What is housing affordability? Most fundamentally, it is an expression of the social and material experiences of people, constituted as households, in relation to their individual housing situation. (p. 151)

In addition to this very general definition, there are many attempts in the scientific literature to refine the concept of housing affordability.

Stone, Burke & Ralston (2011) highlight the importance of the housing standard. Overcrowded housing conditions, insecure tenure, or housing in unsafe locations may seem affordable, but in fact, many households living in these conditions do not do so by choice but as a result of lacking financial possibilities. Consequently, they emphasize the relative character of affordability: Housing is not affordable or unaffordable per se; housing affordability can only be evaluated relative to its users. Accordingly, Stone et al. (2011) propose the following questions that have to be answered in order to give meaning to the term “Affordable Housing”:

1. Affordable to whom?
2. On what standard of affordability?
3. For how long?
4. Meeting what physical standard? (p. 11)

Hancock (1993) is critical in describing housing affordability as a ratio of housing costs and income. She instead suggests a definition that is more concerned with individual preferences, opportunity costs, and unreasonable housing cost burdens:

[...] and clearly this is the essence of the concept of affordability: what has to be forgone in order to obtain housing and whether that which is forgone is reasonable or excessive in some sense. (p. 129)

Stone et al. (2011) name six approaches to defining housing affordability:

- Categorical: a statement of ability or inability of households to pay for market housing, but without a measurement foundation.
- Relative: changes over time in the relationship between housing costs and household incomes.
- Subjective: whatever individual households are willing or choose to spend.
- Family budget: monetary standards based on aggregate housing expenditure patterns.
- Ratio: maximum acceptable housing cost/income ratios.
- Residual: normative standards of a minimum income required to meet non-housing needs at a basic level after paying for housing. (p. 15)

This leads to the question of how to measure housing affordability. The ratio measure is clearly most recognized and applied in housing affordability research. It is an approach that expresses the relationship between housing costs and income. Despite its acceptance in the scientific literature, the ratio measure is criticized for not differentiating between household types or housing standards (Stone et al., 2011). Many housing researchers agree that a normative expenditure-income ratio is unsuitable for drawing conclusions on general housing affordability (Hancock, 1993; Hulchanski, 1995; Stone, 2006; Stone et al., 2011). For using the ratio approach, it must be further refined.

Hulchanski (1995) examined the ratio approach in housing affordability studies further. He concludes that the housing expenditure-to-income ratio is widely used but not always based on theoretical and empirical foundations. He suggests using an expenditure-to-income approach only for the following three cases:

1. Description of household expenditures
2. Analysis of trends and comparison of different household types

3. Administration of public housing by defining eligibility criteria and subsidy levels

(p. 476)

Furthermore, Hulchanski (1995) argues that the expenditure-to-income ratio is often used to define housing needs for public policy purposes or for households' ability to pay. He deems this usage invalid because it neither includes the diversity of household types and their different consumption patterns nor other household resources apart from income.

The first two cases are helpful for the purpose of this thesis. In the first case, data from different times can be used to show the changes in the expenditure-to-income ratio. The second case is a kind of further development of the mere description of expenditure. This is helpful in understanding changes in the house-price-income ratio and, as a further step, making interpretations. Nevertheless, Hulchanski (1995) does not recommend deriving rules from that ratio. Interpretations should only be made in the context of more information and analysis about the case.

## 2.4. Background: Shanghai

In order to build up some background knowledge, the administrative structure of Shanghai and the Chinese hukou system are briefly explained below. Both are important prerequisites for dealing with Shanghai's housing system.

### Administrative Structure of Shanghai

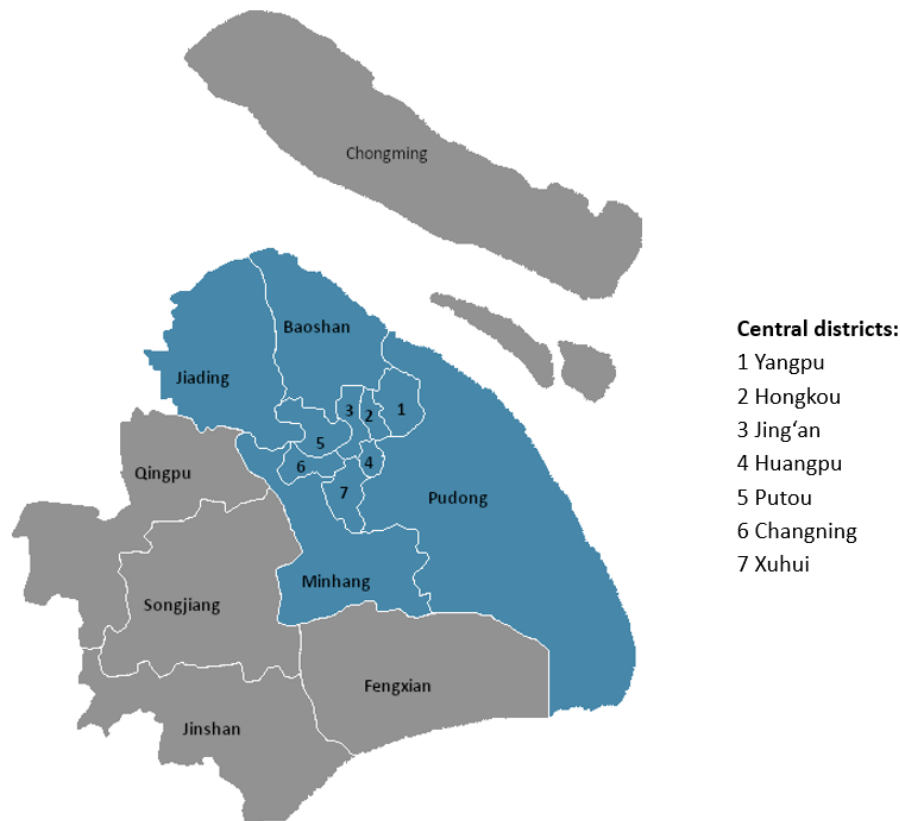


Figure 2: Administrative Division of Shanghai. Own Illustration.

The People's Republic of China is divided into autonomous regions, special administrative regions, provinces, and direct-controlled municipalities. While other large cities are usually the capital of a province, the direct-controlled municipalities are cities and provinces at the same time. Shanghai is, with Beijing, Tianjin, and Chongqing, one of the four municipalities.

Due to this administrative structure, it is necessary to clarify the division of Shanghai. The city is divided into an urban and a rural part (see Figure 2), which is relevant for the data collection of the Shanghai Statistical Bureau.

Urban Shanghai consists of the downtown districts Putou, Jing'an, Hongkou, Yangpu, Changning, Xuhui, and Huangpu and the suburban districts of Pudong, Minhang, Jiading, and Baoshang.

The rural area of Shanghai consists of the districts Qingpu, Songjiang, Jinshan, Fengxian, and the Island of Chongming.

The Shanghai Statistical Bureau collects data usually separately for the urban and the rural regions. Since the thesis deals only with urban housing policy, the data used is only urban data as well. *Figure 3* shows the total population from 1998-2010. The share of the rural population in Shanghai decreased from 37% to 13% in that period (Shanghai Statistical Bureau, 2011).

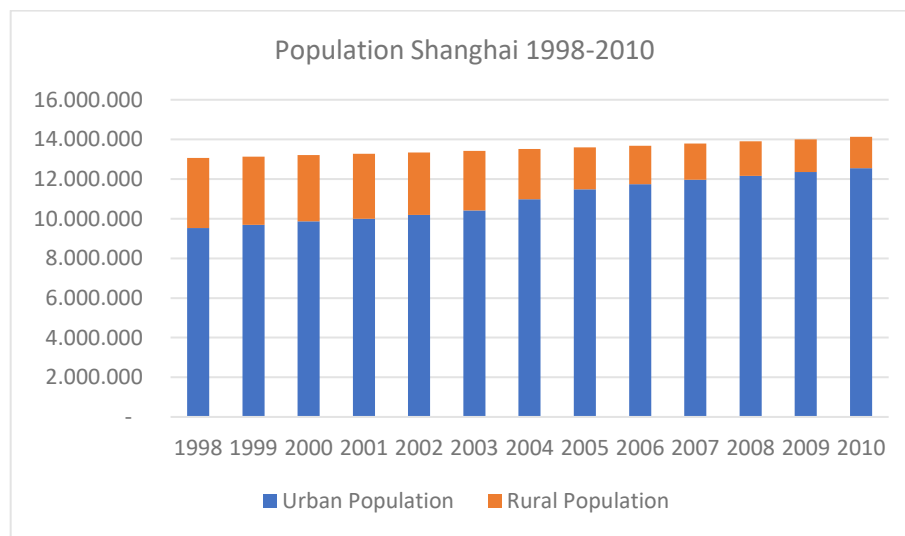


Figure 3: Urban and Rural Population Shanghai 1998-2010. Source: Shanghai Statistical Bureau, 2011.

### Hukou System – the floating population

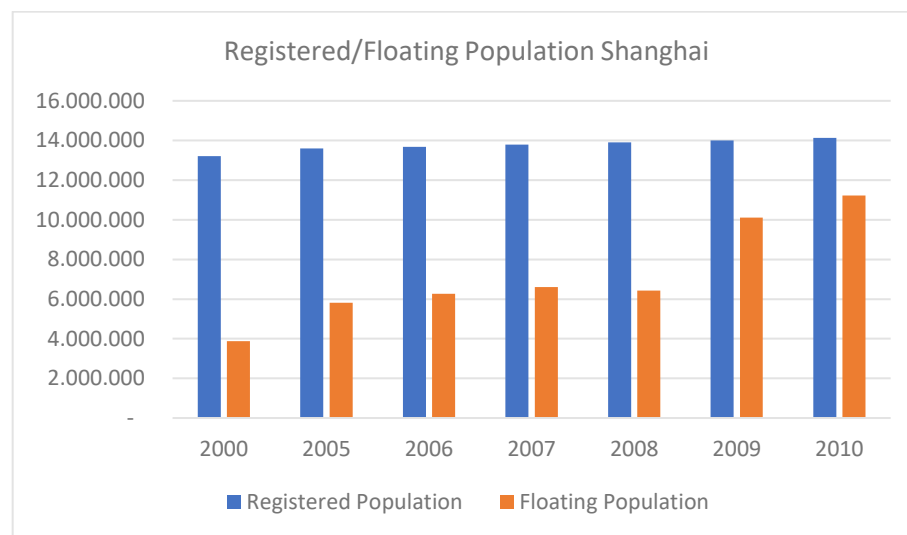
Basic knowledge of the Chinese hukou system is vital to understanding China's socio-political processes. The system has a significant impact on housing policies, too. Therefore, in this section, the hukou system will be introduced shortly. For further information, see, for example, Song (2014).

Types of residents	Hukou status
Urban residents	Local non-agricultural hukou
Rural residents	Local agricultural hukou
Urban migrants	Non-local non-agricultural hukou
Rural migrants	Non-local agricultural hukou

Figure 4: Types of residents according to hukou status. Source: Song, 2014.

The hukou system is a household registration system comparable to a resident permit. The system was first introduced in 1958 in order to control domestic migration. Since agriculture was of utter importance at that time, “agricultural” and “non-agricultural” hukous were

introduced. People working in the countryside would have an agricultural hukou, and it was complicated to change it to a non-agricultural one, which would have allowed them to move to urban areas. The system was strict then, but in the 1980s, the hukou reform started. Since then, municipal governments can decide on their own hukou criteria, which gives them a chance to control the population in- and outflow (Song, 2014). *Figure 4* shows an overview of the types of residents according to their hukou status. The migration policy is less strict as well; non-hukou migration is tolerated. The reason why the hukou status still matters a lot, though, is that almost all social services, including education, social insurance, and social housing, are tied to a local hukou. This is why urban hukous in well-developed cities like Shanghai are still very valuable (Song, 2014).



*Figure 5: Registered and Floating Population Shanghai. Source: Shanghai Statistical Bureau, various years.*

There is much non-hukou migration into urbanized areas. In Chinese statistics, those people are listed under the term “floating population”. *Figure 5* compares the floating population with the registered one in Shanghai. In this graph, the urban and rural populations have been combined. As shown, the number of non-hukou holders in Shanghai is growing. This can lead to several social issues, as discussed widely in the literature (Song, 2014; Li et al., 2010; Wang et al., 2010; Weinstein & Ren, 2009), however, that is beyond the scope of this thesis. Nevertheless, it is important to mention that the policy instruments addressed in Chapter 4 are only eligible for local urban hukou holders. Therefore, a substantial share of the population is left out of affordable housing programs.



## 3. Housing Systems in Urban China in International and Historical Context

The following chapter begins with contextualizing the logic of the housing market in China from an international perspective. Subsequently, it provides an overview of housing policies in China and Shanghai from the establishment of the People's Republic of China until the opening of the housing market in 1998. This historical overview of the development of housing policies is important for a coherent understanding. Given that, the housing situation and the influence of the government right after 1949 are illustrated. This first period, referred to as the welfare period, ended around 1978. After that, the first opening towards an open market started; however, the housing system was still strictly regulated by the government. The year 1998 marked the final year of the welfare distribution system for housing by forbidding all free housing allocation and opening housing to the market.

All in all, chapter 3 provides an international perspective and a historical overview of housing policies in China and Shanghai from 1949 until the start of the market period in 1998 and aims at a deeper understanding of the motivations of the government, the instruments used, and the outcomes achieved.

### 3.1. International Context

Western Europe and North America are overrepresented in housing literature (Forrest, 2003). It is, therefore, important to provide an overview of the housing situation in East Asia before dealing with China.

Some shared features in the housing markets of East Asia distinguish them from the markets in Western Europe and North America. For example, East Asian cities were more affected by urbanization trends during the 20<sup>th</sup> century and at the beginning of the 21<sup>st</sup> century. The population in many cities grew rapidly, which brought many challenges to the housing market that did not exist in Western countries. These rapid changes also led to higher price fluctuations in the housing market than in the West. At the same time, GDP growth in many East Asian countries is much higher than in the West (Forrest, 2003).

Amidst these similarities in the East Asian markets, China is again a special case, mainly due to the Chinese political system.

In communist China, housing production was entirely in the state's hands. However, public investment priorities were elsewhere. From the 1950s until the Chinese economic reform and opening-up policy, the focus was evidently on heavy industry. Since housing did not yield any production profits in the real sense, very little was invested in it. However, the focus on heavy industry is not a Chinese characteristic alone. Other socialist countries at the time also focused their production on it (Tong & Hays, 1996). However, the combination of the low prioritization of housing and rapid urbanization created an additional challenge in China. Between 1949 and 1985, the urban population in China grew from 57.7 million to 384.5 million, an increase of 567% (NSCB, 1990, as cited in Tong & Hays, 1996). The industrialized cities in east and central China, including Shanghai, were particularly affected by urbanization (Tong & Hays, 1996).

Even though China's political development in the later 20<sup>th</sup> century is different from many countries, including East Asian countries, there are indeed similarities in the development of the housing markets.

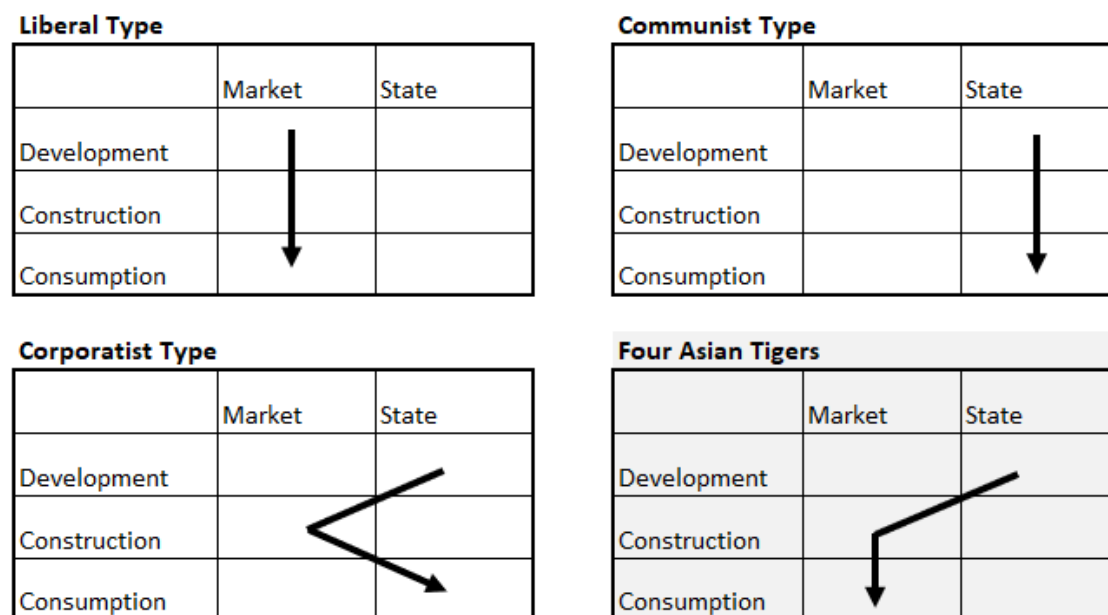
Doling (2012) introduces international housing policy trends in the last half of the 20<sup>th</sup> and early 21<sup>st</sup> century. Even though he does not include China in his considerations, his work is helpful in embedding China in an international context. Doling observes specific global trends within the development of housing policies:

The general pattern of housing policy developments over recent decades, then, has involved some retrenchment of state intervention with a reversion to the market and particularly homeownership. (p. 600)

This is true as well for urban China. Although the commodification of housing started in China relatively late in 1978 and progressed slowly over the following 20 years, homeownership rates were rapidly rising. Nevertheless, the state has always played a crucial role in China.

Doling (1999) developed a typology that serves as a framework for uniting analysis of housing policy regimes in different countries. He focuses on three groups of countries: new industrialized countries in East Asia, namely the so-called "Four Asian Tigers" Hong Kong, Singapore, South Korea, and Taiwan; the old industrialized countries, like western European or northern American countries; as well as former European communist countries. The analysis is based on the question of how housing policies are influenced by the balance of the

market and the state. *Figure 6* shows the housing regime types developed by Doling. It is important to note that those are basic schemes that help understand general tendencies. No country embodies precisely one of the types.



*Figure 6: Housing Policy Regime Types. Based on Doling, 1999, p. 233 & 239*

Although those types were not developed with China in mind, they are still helpful for embedding the countries' housing policy tendencies in an international context. In pre-reform China, the policies represented almost exactly the communist type. The whole housing process was in the hand of the state: Construction numbers and budgets were set up in the Five-Year-Plans, houses were constructed by state-owned companies, and state-owned work units or governmental institutions allocated housing to their workers for no or very low rents. After the economic reform and opening up in China, starting in 1978, the housing policy regime also changed.

Doling (1999) points out that economic growth was one of the driving factors for the "Four Asian Tigers" to focus on developing the housing sector. By controlling housing development, the growth of the economy can be controlled to some extent. Consequently, the East Asian countries withdraw from the logic of the liberal type, which promotes the free market, as well as from the communist type. They rather follow a pragmatic approach, implementing the most effective policies for achieving the overall goal of economic growth (Doling, 1999).

Although the economic growth phase of China started later than in other East Asian countries, similar tendencies can be observed. Globalization and neoliberalism trends in housing markets

took hold of almost all countries worldwide (Doling, 2012). China is, despite its communist history, no exception.

One of the main goals of the large-scale housing reform in China was to boost the economy. The reform certainly helped solve the most pressing housing problems in urban areas by enlivening the housing construction sector. However, after the issue of overcrowded and desolate housing was solved for large parts of the population, little was done to keep housing affordable. Instead, the government focused in the first years after the reform primarily on the commodification of the housing sector and set up programs to enable homeownership for low- and middle-income groups.

One peculiarity of the Chinese housing policy regime is the role of the state. Even though the government promoted a commodified housing market and private homeownership heavily after the reform, the state did at no point in history retrieve from the housing market as seen in Western liberal economies. Instead, when deemed necessary, as in the case of erratic house price fluctuations, the government intervenes on different levels, for example, in the financial market by regulating mortgage conditions or interest rates or in the form of new policy instruments such as housing programs.

### 3.2. Welfare Period (1949-1978)

The founding of the People's Republic of China in 1949 led to far-reaching changes in all areas of society, housing being one of them. A housing system according to socialist values was gradually established. After 1949, the government took over the ownership of all urban land and made it impossible for any private entity to buy land for construction (Zhang, 1997). In 1956, the socialist transformation of all current housing started. Depending on the size of the city, all rental buildings above a specific size (150 sqm in large cities, 100 sqm in other cities, and 50 sqm in townships) were included in the transformation process. In 1966, all these houses were transferred into state ownership. With the beginning of the cultural revolution in 1966, the country faced various substantial changes, and the introduction of socialism led to a structural break in the housing sector. Housing construction in urban areas was very limited because the government rather developed the country's rural areas for both strategic and ideological reasons (Zhang, 1997).

To understand the socialist way of housing provision, which was introduced at that time, the concept of work units (*danwei*) must be introduced. Work units were established in communist China from the early 1950s on. The work units were the backbone of society in socialist China and, at the same time, the smallest entity of the communist party. In work units, working and living were connected to one entity. It would typically consist of several multi-story buildings organized into groups. Several of these groups would form the work unit (Zhang, 1997). However, since not every work unit was large enough to house all their employees and their families, some work units provided housing in areas separated from the workplace. This was especially the case when units were short of housing, often occurring in urban China. Generally, every work unit had areas for work, residential housing, and social services such as dining halls, stores, bathing facilities, etc. (Bjorklund, 1986). Most of the social life took place in the work unit, and public welfare, such as health care services, was organized within the system as well. This form of living matched the socialist collective living ideal, implying that welfare services were tied to employment (Zhang, 1997; Li, 2018).

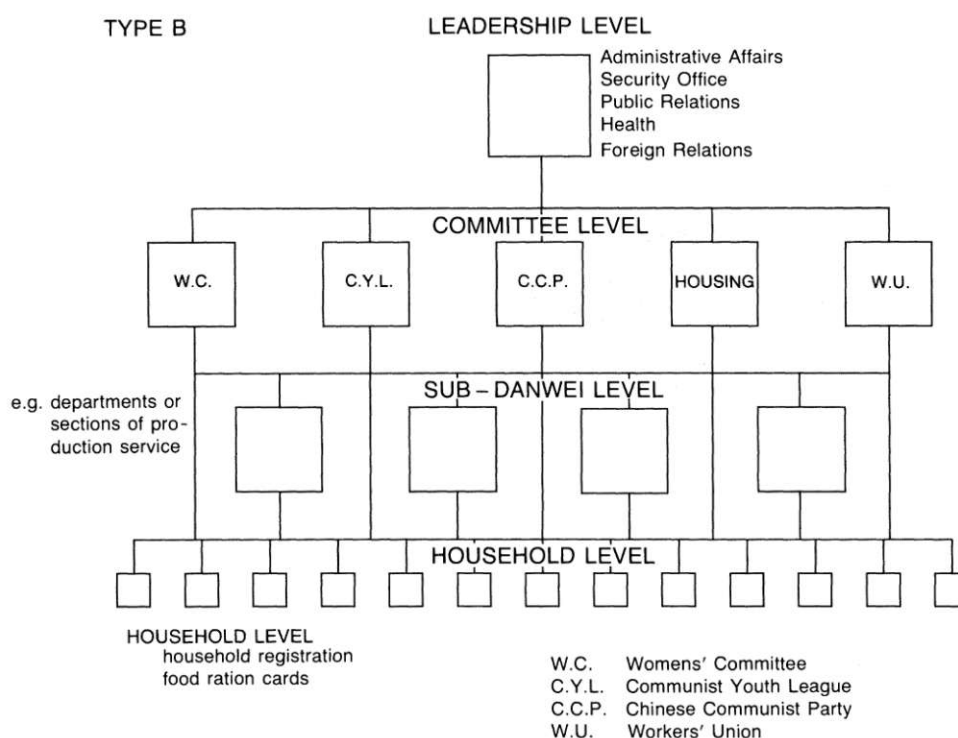


Figure 7: Danwei Hierarchical Structure. Source: Bjorklund 1986

Work units were organized hierarchically; Figure 7 shows an example of one type of work unit, as depicted by Bjorklund (1986). The size of work units varied considerably; the largest ones consisted of several thousand people. The sub-danwei-level shown in Figure 7 only exists in

larger units as an additional organizational division. The housing committee had one of the critical functions within the system; it was responsible for allocating, managing, and maintaining the residential units and the direct contact office for households regarding housing-related matters (Bjorklund, 1986).

Usually, the workplaces provided housing space for their employees, including their families, in a spatially closed system. The type of employer does not matter hereby; the system works the same for industries, governmental institutions, etc. The work unit was responsible for the planning, construction, allocation, and maintenance of the housing stock for their employees (Zhang, 1997). For example, state employees were provided housing by the local Housing Administration Bureaus, which were in charge of building and allocating housing. Other work units received money from the government and free land provision in order to construct and provide housing to their employees (Chiu, 2001).

Tong & Hays (1996) described the operation of the urban housing system in the welfare period. The central government directed the annual budget for housing construction and maintenance directly to the work units. Those would give the building contracts to state-owned construction firms. The budget for the maintenance of work units was necessary for them since the rent from their employees was too low to cover all the maintenance costs (Tong & Hays, 1996).

Even though the work units technically provided the same services to their employees, some inequalities existed within and between the units. First of all, not all the work units had the same level of productivity and prestige. Usually, entirely state-owned companies were wealthier and more respected than collectively owned companies and could, therefore, offer their employees better housing quality regarding availability and living space (Tong & Hays, 1996; Deng et al., 2017). Second, there were differences in housing quality within the work units. Even though housing was considered a welfare good rather than a commodity, and therefore allocated for free or somewhat symbolic rents – as a form of income subsidy - the personal performance in the work unit had an impact on the personal housing situation (Cao & Keivani, 2014; Zhou & Ronald, 2017).

Usually, the work units were free to allocate the housing units to their employees, but the government made specific rules for the allocation. Contributing to society, which means, first of all, work, was the first condition for the right to housing. The more an individual contributed to society, the easier it was to get better housing. To formalize that contribution, a complex rank system with points was established. In that way, the work units used housing as a tool

for managing individual lifestyles and achieving socio-political goals. The most important factors in that point system were the political background of the employee and the years served in the work unit. Other factors, such as household size and living conditions, were considered but less weighted (Zhang, 1997; Deng et al., 2017; Zhou & Ronald, 2017). Another issue were low rents: Usually, work units would allocate housing for very low rents, which were directly deducted from the salaries of the employees (Tong & Hays, 1996). In urban China, the rent was only 2-3% of a household's income. With the income from rents, work units could not properly maintain housing units, which led to poor quality housing and shortages (Wang & Murie, 1996).

The construction activity of housing was deficient in the welfare period. Housing was mainly constructed as a replacement for demolished low-quality units. From 1949-1976, only 9.16M sq m were constructed in total in Shanghai. For comparison, in the following four years, from 1977-1981, 11M sq m were constructed (World Bank, 1982). One explanation for the low construction activity is the central government being the only entity investing in housing construction in all urban areas of China until the late 1970s (Tong & Hays, 1996).

Although housing was guaranteed by the government and allocated by the work units in the early years of the People's Republic of China, there were no minimum standards for housing. This led to very poor urban housing conditions, with the average living space per capita being 3.6 sqm in 1979 (NBSC, 1999a). Moreover, most households did not have a housing unit on their own but instead shared kitchens and bathrooms with others in multi-story dormitories (Deng et al., 2017). Due to the rapid growth of the urban population, housing shortage was a problem during the whole welfare period (Wang & Murie, 1996). Howe (1968) estimated the average living space per capita in Shanghai (*Table 1*). These shallow figures result from fast urbanization and low investment in housing from the government. Moreover, 1.2-1.3 million people in Shanghai suffered from severely overcrowded housing conditions in the 1950s (Howe, 1968).

Year	1949	1956	1957	1958	1963
Living space per capita (sq m)	3.7	2.26	2.11	2.18	2.15

*Table 1: Estimated living space per capita in Shanghai. Source: Howe, 1968*

Another problem during the welfare period was the lack of investment in housing. Since only the government was involved in housing construction, there was always a gap between the

demand and supply of housing. Since the rent levels were extremely low, not even the maintenance of existing units could be financed by them. At the same time, the government limited the budget for housing and invested in other areas (Wang & Murie, 1996; Wu, 1996).

To sum up, housing was a welfare good in the first period of the history of the People's Republic of China. As Chiu (2001) notes, there was no housing market before 1978, and housing did not have an exchange value. The system caused various difficulties, such as a lack of housing investment and, consequently, low construction and maintenance rates. The combination of overcrowded living conditions and an unfair housing allocation system led to growing dissatisfaction in the population, and the central government was increasingly burdened as a sole investor in housing.

### 3.3. Reform Period (1979-1998)

The system of distributing housing as a welfare good was slowly disestablished beginning in 1978. This year marked a turning point in the economic system since it was the start of the Chinese reform policy, which also had large-scale consequences within the housing system (Zhang, 2002). The central government realized that it could not bear the growing costs of housing and was moreover eager to tackle the problem of housing shortage and poor living conditions that became more and more pressing over the country. By initiating a housing reform at the national administrative conference in 1978, the government under the rule of Deng Xiaoping started the slow replacement of the welfare system (Deng et al., 2017).

The effects of the welfare period were also evident in Shanghai, where in 1981, only 10.3% of residential properties were privately owned. The distribution of property ownership was relatively even between the government and work units, with 44.2% of residential buildings owned by the government and 45.5% belonging to work units (World Bank, 1982).

The rent levels were still low after the welfare period. In 1981, the average rent in Shanghai was RMB 0.2 per sq m. Assuming an average flat size of 20 sq m at that time, the rent would be RMB 4.0, which is 6% of the monthly average salary (World Bank, 1982). According to a World Bank report (1982), the rents in Shanghai would be enough to cover administrative and basic maintenance costs, but not more. Since major maintenance could not be financed with the rents, housing quality was, in many cases, poor.



Housing mobility was very low in the welfare period, as well as at the beginning of the reform period. In 1981, only 3.5% of all households moved. Amongst them, only 0.9% moved from one house to another, 2% founded a new household, and the rest was displaced due to rebuilding. These low numbers indicate a shortage in housing. Moreover, the only way to move during the welfare period was by exchanging flats with other households, which rarely happened (World Bank, 1982).

Living standards were difficult as well after the welfare period. Especially in fast urbanized areas like Shanghai, housing was not built at the same speed as population growth happened. In 1978, 58.7% of Shanghai's population lived in the urban area, and the rate was steadily growing: In 1990, 67.4% lived in the urban districts, and in 1998 it was 73% (Shanghai Statistical Bureau, 2011). That led to a very challenging housing situation. In 1985, 38.6% of the population in Shanghai lived in crowded conditions, meaning a living space of less than four sq m per capita. Another 12% lived in inconvenient conditions, meaning all household members shared a single room. In total, 50.6% of Shanghai's population lived in difficult housing circumstances. In the whole of China, the number was lower: 29.01% of the population lived in crowded or inconvenient conditions (NSBC 1985, as cited in Barlow 1988).

After the decision on the Chinese economic reform and opening up, China's further economic development needed to boost investment in housing. Only then could the central government be unburdened as the, until then, sole investor in housing.

Following the political decision of then paramount leader Deng Xiaoping in 1978 to carry out far-reaching economic reform and opening up, there were also implications for housing policy. Wang & Murie (1996) and Gao (2010) provide an overview of the following experimental policy period. In 1979, the first housing policy experiments were launched in selected cities, with newly built apartments sold at construction prices. In a speech in 1980, Deng Xiaoping announced further plans to commercialize the housing market, and more experiments were conducted. However, the demand for those apartments was very low as the costs were too high for most people, and there was no incentive to buy apartments due to the extremely low rents. Therefore, the strategy was changed in 1982, and the sale of apartments in selected cities was resumed with adjusted conditions, this time with more success. Nevertheless, this housing policy experiment ended in 1985 with the start of a new experiment conducted in the selected City of Yantai. In this case, the rents of public housing were essentially increased, and losses for residents were compensated with subsidies in the form of housing coupons. Over the long term, salaries would increase, so coupons were no longer needed. At the same time,

incentives were created to encourage the purchase of self-occupied homes (Wang & Murie, 1996; Gao, 2010).

It was not until 1988 that the housing reform was formalized, with the central government publishing the *Implementation Plan for a Gradual Housing System Reform in Cities and Towns*. This was the first decision to commercialize the housing market nationwide (State Council, 1988). Rents were to be gradually increased, and housing subsidies were introduced to bridge the gap between rents and wages during the transition period (Chiu, 2000).

Since a sudden change to an utterly market-oriented housing system would not have been realizable, two tracks of housing systems existed at the same time. Within the first model, the so-called reformed housing, current households could buy the units they were living in from the government or directly from the working unit at a subsidized price, oriented on the construction costs (Li, 2013; Zhou & Ronald, 2017). The price was set very low to encourage households to buy their dwellings. In Shanghai, the *Housing Reform Implementation Plan* in 1991 set the price at one-third of the construction costs (SMPC, 1991). However, housing bought within the reform track did not include full property rights. Initially, buyers would only purchase the use rights, meaning the property could not be rented or sold. The only way reformed housing could be passed on was by inheritance to relatives. Over time, the rules were adopted. In addition to the right of use, ownership rights could also be acquired, allowing the flats to be rented or sold. Without these ownership rights, the original seller had a right of first refusal or received payments from the profits of the sale or rental (Davis, 2003).

The second model within the dual system included commodity housing from the free market, including full property rights. Real estate developers were, for the first time in the history of the People's Republic, allowed to lease urban land - which was still in the property of the local government – and build dwellings on it to sell them to market prices (Deng et al., 2017).

Especially after 1988, the development of housing on urban land and the consumption of commodity housing was promoted by a series of policies since leasing urban land became an important income source for local governments. At that time, development companies were, for the first time, allowed to sell housing units before completing them, which provided them with more capital for further developments (Deng et al., 2017). However, not only were the rights of developers strengthened, but the demand side was also incentivized. A private mortgage market was opened in 1994, improving the accessibility of the private housing market. In the beginning, only four state-owned banks (Bank of China, China Construction Bank, Industrial and Commercial Bank, Agricultural Bank of China) were allowed to give

mortgages at settled interest rates to potential house buyers, but after several years, other banks got the same rights (Deng et al., 2011; Deng et al., 2017).

Moreover, the central government introduced the Housing Provision Fund (HPF), a compulsory saving scheme, which started as an experiment in Shanghai in 1991, and in 1998 as a national strategy. The HPF was first introduced in the formal public sector and enabled employees to take money from their accounts or loans at low-interest rates for purchasing homes. With those reforms, the house ownership rate in urban China increased from 25% in 1978 to 50% in 1998 (Deng et al., 2017).

Before the 1988 housing reform, the Dual Track system did not play a role in Shanghai. As of 1982, no investments were made by real estate companies in the construction of residential buildings. Instead, 85% of all completed living space was built by the government, with an additional 6% built by work units. Nevertheless, this picture changed rapidly in the following years. By 1990, 18% of completed living space was constructed by real estate companies, while only 36% was constructed by the government and 3% by work units. By the end of the reform period in 1997, 70% of living space was built by real estate companies, while only 15% was built by the government and 2% by work units (Shanghai Statistical Bureau, 1998).

In 1994, with the Economic and Affordable Housing (EAH), a type of tenure was introduced that exists until today. The EAH should provide housing for the lower-middle class who could not afford housing from the free market (Zhang, 2002; Wang et al., 2012). For EAH buildings, the land allocation was regulated as follows: The land use fee for building on government-owned land was not charged to developers of EAH. In exchange, developers must meet specific standards: The size of each housing unit is limited, and certain design standards must be met. Moreover, the maximum investment profit for developers is capped by 3%. House buyers had to meet specific criteria, too. Only low- and low-middle-income households have access to EAH. Those households do not get full property rights for their unit like buyers of commodity housing. (Zhang, 2002; Wang et al., 2012). The government initially planned to have 20% EAH within the whole stock, but that was never realized. It turned out that the EAH was not profitable enough for developers and in some cities – including Shanghai – the EAH lost its significance (Deng et al., 2017).

The government's initial goal to improve living conditions and housing stock was met by introducing a dual-track housing system. From 1979 to 1997, the average living space per capita in urban China increased from 3.6 sq m to 8.8 sq m (NBSC, 1999a). In Shanghai, the

living space per capita increased from 4.4 sq m to 9.3 sq m in 1997 (Shanghai Statistical Bureau, 2011).

Another target of the housing reform, to reduce the state investment in residential housing construction, was met as well: From 1978-1997, the share of direct state investment in construction decreased from 78% to 6% in urban China (NBSC, 1998, as cited in Zhou & Ronald, 2017).

Figure 8 shows the total annual wages in Shanghai from 1978-1997 (Shanghai Statistical Bureau, 1998). Wages and subsidies are shown separately. Although housing subsidies are not listed separately in the statistics, the growth of general subsidies over the years suggests a connection with the housing reform. Moreover, it is clearly visible that wages increased considerably over time, with an average annual growth rate of 16%. The income growth results from the general economic development in this period in China and is closely connected with the economic reform and opening. Moreover, it is an essential precondition for the success of the housing reform.

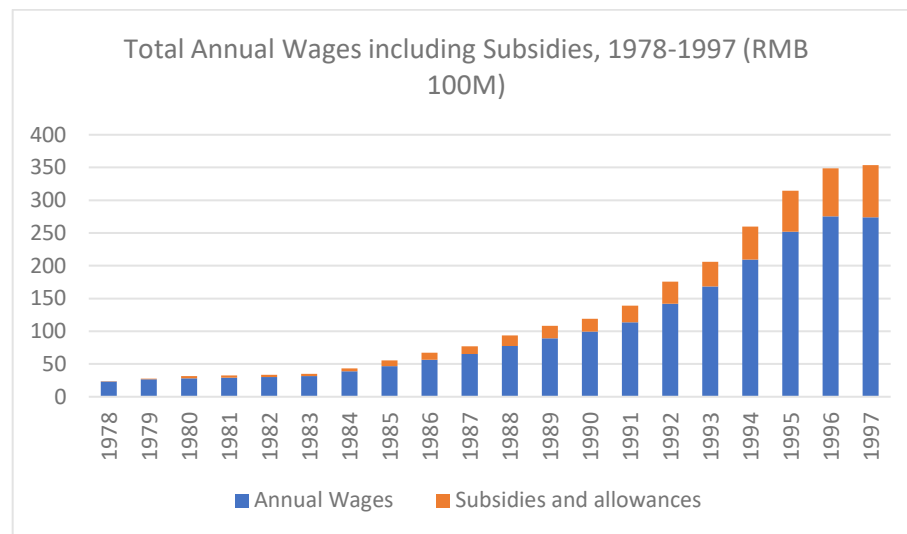


Figure 8: Total annual wages, including subsidies and allowances in Shanghai 1978-1997 (RMB 100M). Source: Shanghai Statistical Bureau, 1998.

However, the reform period had its drawbacks: People who could, for some reason, not buy subsidized housing from the state were forced into the much more expensive free housing market. This means that privileged from the welfare period were carried on into the reform period, and in further consequence in the later period of the free market (Davis, 2003; Deng et al., 2017). Especially citizens without a local urban Hukou were once more disadvantaged

in the housing system. Since they did not have access to work units before 1978, they could not buy subsidized housing (Deng et al., 2017).

### 3.4. Policy Milestones

This chapter discusses the major policy milestones of the Chinese housing reform, including overall national strategies and local regulations of the municipal government in Shanghai. The following strategies were essential precursors of the housing reform, paving the way towards the ultimate abolition of the distribution of housing as an in-kind benefit, as well as the creation of a housing market and commodification of housing.

#### **1988: Implementation Plan for a Gradual Housing System Reform in Cities and Towns**

A nationwide formalization of the housing reform did not occur until 1988 with the publication of a State Council Notice containing the *Implementation Plan for a Gradual Housing System Reform in Cities and Towns*, the first nationwide comprehensive plan for the housing reform.

This document emphasized the tremendous political and economic significance of the housing reform and the potential for economic and social benefits.

It recognized the diverse housing situations across China and granted local governments autonomy in implementing the reform. With the State Council Notice, local governments were called upon to submit their own plans for the implementation of the housing reform. In response to this call, the City of Shanghai presented its *Shanghai Municipal Housing System Reform Implementation Plan* in 1991.

The 1988 policy document acknowledges that the current housing system poses various problems and challenges. It emphasizes that although the government has invested a significant amount of money in residential housing, housing shortages persist. The unfair allocation and distribution of housing are also named as reasons for the necessary reform (State Council, 1988). Thus, the State Council officially responded to long-existing problems.

The overarching goals of the housing reform are defined as follows:

The objective of the reform of China's urban housing system is to realize the commercialization of housing in accordance with the requirements of the socialist planned market economy. Starting with the reform of the low-rent public housing

system, the present physical distribution will be gradually changed to monetary distribution, with households acquiring ownership or use rights through market mechanisms.

(...) to find a new path that is not only conducive to solving the urban housing problem but is also capable of promoting the development of the real estate industry, the construction industry, and the building materials industry. (State Council, 1988)

This is the first official document to specify that housing should be commercialized. In addition to the urgent need to address the urban housing problem, the real estate, construction, and building materials industries are to be developed. China is targeting these housing-related industries to transform them into important pillars of the economy.

Shanghai is explicitly mentioned in the State Council Notice: Shanghai, along with the other two direct-administered municipalities at that time, Beijing and Tianjin, should start the housing reform in 1988, the same year the State Council Notice was published. However, the cities could decide for themselves whether to begin implementation with some pilot projects, a representative district, or similar methods. The timeline was generally ambitious: it was stipulated that the housing reform should start in all cities and towns throughout the country no later than 1990, except for a few economically weak regions (State Council, 1988).

The *Implementation Plan for the Gradual Housing System Reform in Cities and Towns* (State Council, 1988) outlined the following five points to be implemented in the course of the reform:

1. Reasonably adjust the rent level of public housing: Municipalities shall determine a reasonable public rent standard, which should be set at a minimum of RMB 1.0 per sq m.
2. Issue housing coupons (subsidies) based on actual conditions: Due to significant price differences, the amount of housing coupons should be determined by each municipality based on the average income and rent per square meter. The subsidy amount should not exceed 25% of the average income.
3. Streamline housing funding channels and establish a housing fund: Existing funds should be transformed into housing funds. Three funds should be established: an

Urban Housing Fund for the municipality, a housing fund for work units and public institutions, and an individual housing purchase and construction fund for individuals.

4. Adhere to the principle of paying more rent for multiple housing units and benefiting from fewer housing units: A balance between households with high and low incomes should be established. Those with more means should contribute more, while those in need should receive additional subsidies or rent reductions.
5. Actively organize the sale of public housing: Households should be incentivized to purchase housing. Therefore, newly built housing should be sold at construction and land acquisition costs (State Council, 1998).

Upon examining the key reform points, it becomes clear that a fundamental cornerstone for the forthcoming housing reform was laid out. Although there were additional, more detailed regulations in later policies, most of the approaches that later gained significance were already initiated in this document. For instance, an individual housing purchase fund that should be funded by the surplus of individual housing coupons and work units was suggested. A similar principle was first realized in Shanghai in 1991 with the Housing Provident Fund (HPF). A program like the later Cheap Rental Housing (CRH), which aims to support households with low income that cannot afford increased rents, was also already envisioned here. The later Economic and Affordable Housing (EAH) can also be derived from this reform document, as the principle of selling housing units at construction costs was already mentioned here. Therefore, the three most important policy instruments after 1998, guaranteeing affordable housing for various income groups, can already be derived from the first reform provisions in 1988. Of course, all instruments were refined, adjusted, and developed in accordance with the experiences gained in different cities. However, it can be said that the housing reform was consistently implemented throughout its entire duration.

#### **1991: Shanghai Municipal Housing System Reform Implementation Plan**

Based on the State Council Notice of 1988, the City of Shanghai developed its own *Shanghai Municipal Housing System Reform Implementation Plan*, which outlined a specific plan for the implementation of housing reform in the City.

The fact that the housing shortage was still a major issue in Shanghai in 1991 is made clear by the implementation plan. The continuing housing shortage and the stagnating construction activity for housing are mentioned as reasons to carry out the housing reform as soon as possible. The Implementation Plan set goals for improving living standards through the

reform, including a target for the average living space per person to exceed 8 sq m by the year 2000 (SMPC, 1991).

The Implementation Plan (SMPC, 1991) outlined five measures to be taken to implement the housing reform in the City:

1. Establishment of a Housing Provident Fund: Introduction of a compulsory long-term saving system for employees and work units, who must contribute a monthly share of the employee's wages to the fund. The share was set at 5% in 1991, with an option of yearly adjustment. The fund is to be used for self-occupied housing purchase or renovation by the employee; there is an option to apply for additional housing loans as well. The surplus of the funds can be used by work units for housing construction.
2. Increasing rents and issuing housing subsidies: In alignment with the State Council Notice 1988, the municipal government adopted the increased rent policy in combination with housing subsidies. However, more precise measures were applied: The rents of public housing were doubled, whereas housing subsidies were set at a rate of 2% of the employee's salary.
3. Obligation of renters to purchase construction bonds: When moving to a rental unit, the renter must purchase housing construction bonds from the Shanghai Trust and Investment Company (a company of the state bank People's Construction Bank of China). Per rented square meter, a payment of RMB 20-80 was required in 1991. The bond is repaid to the renter after five years, with an annual interest rate of 3.6%. The bonds can be used by work units for housing construction.
4. Sell public housing at subsidized prices: The selling of public housing was heavily promoted. The principle in the distribution of housing was ownership before rent. This means that people who want to buy the flat are given preference over renters. No less than 20% of all distributed flats should be sold per year from the work units. Strong incentives were given to potential flat buyers. The flats were sold at one-third of the construction costs, and various taxes were waived. A further 20% of the purchase price was waived for direct payment, but there was also the option to pay in installments with low interest rates, but a down payment of 30% was due.
5. Establishment of the Shanghai Municipal Housing Commission: A new state organization, the Housing Commission, was established to implement the housing reform. The Housing Commission covered the following tasks: proposal of policies and implementation plans for further reform of the housing system, planning, and management of housing construction, determination of the use of housing funds,



formulation of housing allocation management methods, and supervising housing allocation (SMPC, 1991).

Shanghai had a clear focus on housing construction at this time. Both the introduction of the HPF and the mandatory purchase of construction bonds for tenants indicate this. The latter is the only measure Shanghai took that the central government did not already prescribe as part of the housing reform. The second clear focus of the implementation plan is the sale of public housing. The benefits that buyers receive are very generous and indicate the intense effort that the government made to establish a private ownership market. It is also clear that the government is slowly withdrawing from the financing of housing and distributing the responsibility to the work units and individuals.

In addition to the Implementation Plan, the housing shortage issue was also dealt with intensively. Further measures were taken by the municipal government in 1991. Among other things, the *Interim Measures to Solve Housing Difficulties* and the *Interim Measures for the Administration of Housing Allocation in Shanghai* were published. These elaborated the existing regulations in more detail.

#### **1994: Deepening the Reform of the Urban Housing System**

In 1994, the State Council issued a new policy document on *Deepening the Reform of the Urban Housing System*. The process of housing reform was a long-term and new task, so the government had no experience to draw on. This explains why adjustments to the reform were necessary.

The 1994 reform addressed the following issues:

1. Change the housing construction investment from the state and work unit to a system of reasonable burdens by the state, work units, and individuals
2. Change the construction, distribution, maintenance, and management of housing by work units
3. The distribution of housing benefits in kind is changed to a distribution of monetary wages
4. Establishment of affordable housing with social security properties for low- and middle-income families, and a commercial housing supply system for high-income families

5. Establish a housing provident fund system
6. Develop housing finance and housing insurance
7. Establish a standardized real estate transaction market and develop socialized housing (State Council, 1994)

A comprehensive examination of the various policy documents from different years shows that the primary goals and instruments have not changed. However, the approaches are refined and differentiated with each update. Moreover, the gradual progress of the housing reform is noticeable. For example, commercial housing for high-income families was mentioned for the first time in 1994. The HPF also takes on a more important role over time and becomes more and more differentiated.

The central government repeatedly took up the experiences of individual cities and adopted successful regulations for national policies. The HPF, for example, was first developed and implemented in Shanghai before it was adopted at the national level due to its success at the municipal level.

In addition, the 1994 State Council Notice laid down detailed regulations on the HPF, rent reform, the sale of public housing, and the development and construction of affordable housing. Especially the regulations on the sale of public housing were very detailed and ambitious. The municipal government in Shanghai took up the issue in the *Interim Measures on the Sale of Public Housing of 1994*, which set out the sale prices and conditions. These were still heavily discounted flats, with sales prices significantly below the market price.

Overall, the housing reform has been carried out consistently since 1988. The increasingly detailed regulations show the progress and learning process that went along with this rather unique housing reform. Moreover, analyzing the development of the reform helps to understand the subsequent steps taken by the government after 1998, when the distribution of housing as a welfare good and the highly subsidized sale finally ended, and a new phase of commercialization began.

## 4. Restructuring Shanghai's Housing Market from 1998-2010

The following chapter describes the policy changes after 1998 in Shanghai based on relevant policy documents. Building upon the central *State Council Notice on Further Deepening the Urban Housing System Reform and Accelerating Housing Construction* (State Council, 1998), the opening policy of the housing market from 1998 to 2010 is discussed.

Afterwards, the main policy instruments that the municipal government carried out are reviewed. Therefore, section 4.2. explains the Chinese land supply system, which significantly impacts the housing market alongside the later addressed housing policy instruments. The subsequent sections deal with the three main housing policy instruments, HPF, EAH, and CRH.

*Figure 9* shows an overview of selected housing policy documents from 1998-2010. For the analysis, policy documents were considered alongside official documents regulating the implementation of the three main policy instruments examined in this thesis. If applicable, both national and municipal documents are taken into account since national regulations usually direct the municipal level regulations in China. Since 1998 marked a significant turning point in the housing system in China, the discussion starts with a review of the corresponding State Council Notice and the municipal equivalent. Afterward, an examination of the State Council Notice 2003 respectively, the municipal document of 2005, which adapted the previous regulations to new challenges, is conducted. Findings from analyzing the policy instrument implementation documents regarding HPF, EAH, and CRH are incorporated in sections 4.3 – 4.5. to complement the description of these main policy instruments.

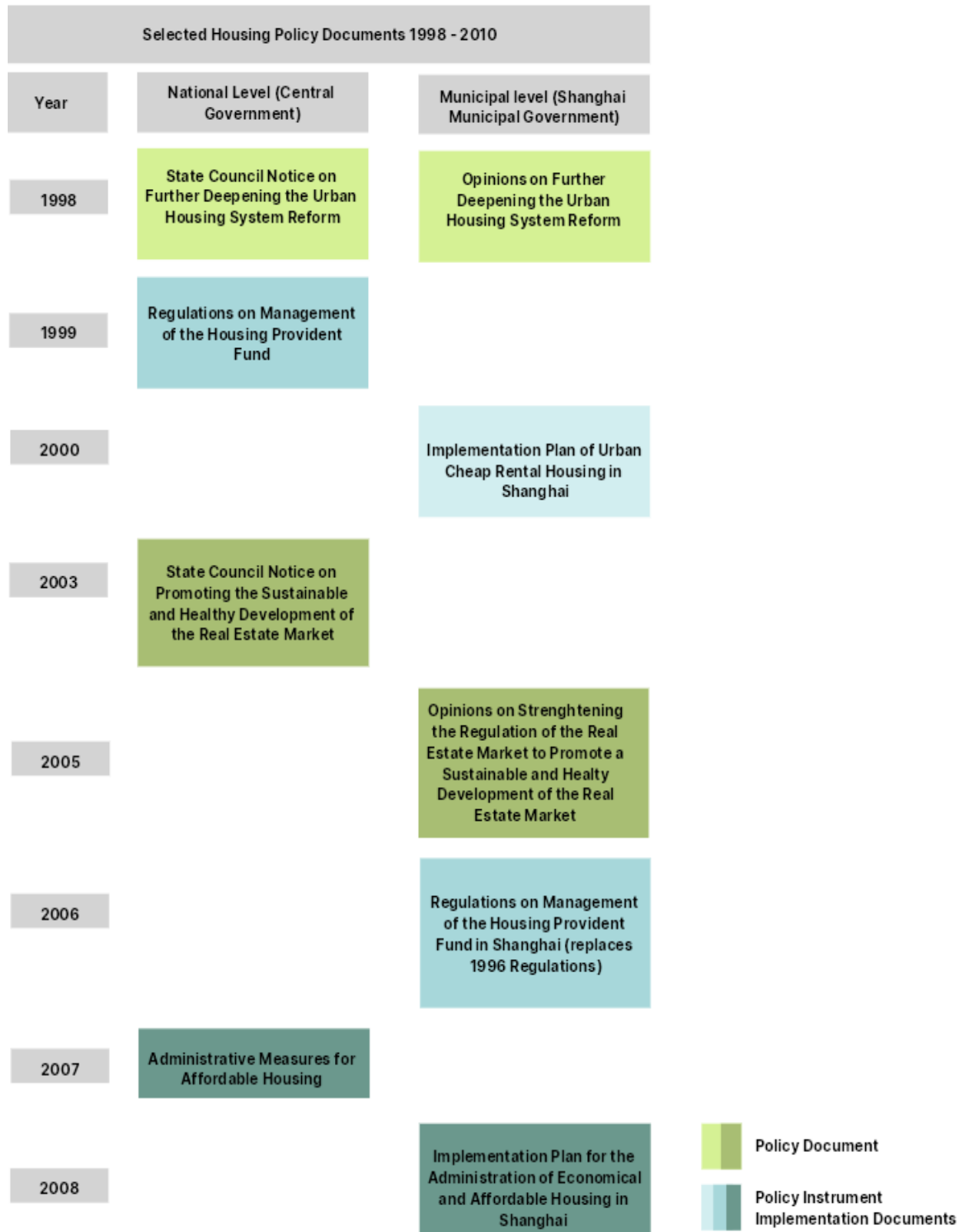


Figure 9: Selected Housing Policy Documents 1998-2010. Own illustration.

#### 4.1. State Council Notice on Further Deepening the Urban Housing System Reform (1998)

The release of the *State Council Notice on Further Deepening the Urban Housing System Reform and Accelerating Housing Construction* in 1998 marked the official end of the dual period, and the allocation of housing by work units was forbidden. The goals of the government in the State Council Notice are stated as follows:

The goals of deepening the reform of the urban housing system are: to stop the physical distribution of housing and gradually implement the monetization of housing distribution; establish and improve a multi-level urban housing supply system based on affordable housing; develop housing finance, cultivate and standardize a housing transactions market. (State Council, 1998)

The steps towards a market-oriented housing system, according to the State Council Notice (1998), are:

- Stop physical distribution of housing and gradually implement monetization of housing distribution
- Establish and improve a housing supply system based on affordable housing
- Continue to promote the reform of existing public housing and cultivate and standardize the housing market
- Adopt supporting policies to accelerate the construction of affordable housing
- Development of housing finance
- Strengthening housing property management
- Strengthen leadership and make overall arrangements to ensure the smooth implementation of the reform (State Council, 1998)

With the release of the 1998 State Council Notice, the government acknowledged the housing industry as an essential pillar of the economy. To support the fast economic development,

housing and home ownership development were promoted and supported with various policies.

While the work units could still offer their employees (monetary) housing subsidies, they were prohibited from independently developing and distributing housing units (Gul & Lu, 2011).

Instead of being a welfare good, housing returned to the status of a commodity once again. Gradually, the government loosened its role in price setting and let market powers control housing prices (Zhou & Ronald, 2016).

The state council notice also described how the process of commodification should take place: Work units were forbidden to give housing to their employees from the second half of 1998. Moreover, affordable housing units were not rented anymore but only sold. The policy document also elaborates how households should finance the purchase of a flat: with wages, the HPF, personal housing loans, and, if applicable, subsidies from their work units. A target for house pricing was set after 1998: The price of a 60 sq m affordable housing unit shall be at least four times the annual average wage of a double-income family (State Council, 1998).

The central government also stated its favorable tenancy type in the 1998 policy document. Rental housing was only meant to be for the lowest-income group as well as for high-income households. The majority of households, namely all low- and middle-income groups, should be enabled to acquire housing property from affordable housing projects. High-income households were meant to either buy the more expensive commercial housing or rent upscale apartments (State Council, 1998).

The abolishment of welfare housing made it necessary for the national government to develop policy instruments to help households bridge the gap between the increased house prices and their salaries. Therefore, policies both on the supply and demand side were necessary (Burell, 2006). With the introduction of the Housing Provident Fund (HPF) on the demand side and the Economic and Affordable Housing Program (EAH) on the supply side, the national government created two tools to tackle the transition from the welfare period to the market period. In addition, the Cheap Rental Housing Program (CRH) was introduced to target the lowest-income groups. Sections 4.3-4.5 attend in detail to those instruments.

## Shanghai

As a reaction to the release of the state council notice on the urban housing reform of the central government, the Shanghai Municipal People's Congress Standing Committee

published the policy document *Several Opinions on further deepening the urban housing system reform* in 1998 as an implementation plan for the housing reform in Shanghai. The plan includes all of the main targets and strategies of the central government; however, there are some peculiarities. While the central government promotes the purchase of economic and affordable housing units for all low- and middle-income households, the Shanghai municipal government mentions additionally that this group can also purchase or rent commercial housing (SMPC, 1998).

Moreover, the work units still play a role in Shanghai, especially in the first years after the stop of housing distribution in kind. First, all work units had to formulate a monetization plan for housing allocation. Secondly, according to the policy document, work units are, together with the municipal government, responsible for providing housing units for rent for the lowest-income groups with severe housing difficulties. The municipal government set the target of solving the housing difficulties for households with less than four sq m per capita by the year 2000 with the help of work units. Furthermore, the role of work units in giving subsidies for housing purchases to their employees was elaborated. Work units were allowed to issue one-time payments, monthly payments, or a combination of them to help employees to purchase a housing unit. According to the policy documents, work units should give subsidies to employees considering different factors such as the employee's administrative or technical position, working years, and current housing area (SMPC, 1998). Therefore, a similar situation to the privatization of public housing was created: Benefits from the socialist area were carried on, and underprivileged households in lower positions or less productive working units were disadvantaged in the post-reform era.

### **State Council Notice 2003**

In 2003, the State Council released another notice concerning the new housing system, which served basically as an alignment of the reform. The *Notice of the State Council on Promoting the Sustainable and Healthy Development of the Real Estate Market* again emphasized the reform's essential points. The commercialization and the housing market as allocation factor is still the guiding principle; however, the note also includes remarks on stabilizing house prices. The government deemed its intervention necessary at that time because the house prices in several cities had increased considerably. Moreover, the notice emphasizes the importance of a housing guarantee for low-income households, encouraging municipal governments to take further action (State Council, 2003).

The municipal government of Shanghai released the local answer to the policy in 2005. *Several Opinions on Strengthening the Regulation and the Promotion of the Sustainable and Healthy Development of the Real Estate Market* included some new objectives. As house prices were increasing drastically in Shanghai, especially after 2003, it was necessary to adjust some regulations. As in the State Notice, the general direction of the reform was not changed. Instead, the local government continued to rely on commercial housing, and that too for the demand of low- and middle-income groups. To realize that, the municipal government guaranteed in 2005 to use two-thirds of land reserved for commercial housing to develop low- and medium-priced housing. Moreover, the municipal government planned some adjustments in order to promote home ownership amongst low- and middle-income households: Those include construction projects with controlled land prices and capped profits as well as mortgage discounts for eligible groups. At the same time, the municipal government tried to curb the ongoing real estate speculations by adjustment of interest rates and other regulations (SMPC, 2005).

## 4.2. Regulations of Land Supply

The regulation of the land supply has been an important instrument for the government to regulate real estate prices.

Similar to the housing market, the state controlled the land market in the period before 1978, and the government allocated all land. With the economic reform, the land supply system changed as well. A significant milestone of the land reform was a constitutional change in 1988 when the transfer of land use rights was first allowed (Wu, 2001b; Qiu & Xu, 2017).

In the late 1990s, land banking systems were slowly established in urban areas. Shanghai was the first City in 1996 to create such a system, with which the municipality has controlled urban development since then. The municipalities have a certain autonomy in designing their land banking system, and Shanghai follows a rather market-oriented approach, which includes price negotiations with existing land users. The municipality also allows land users to sell their use rights when authorized by the local government (Xu et al., 2009).

In general, all urban land in China is the state's property and cannot be sold. However, local governments lease land for a certain period to real estate developers for construction



projects. Revenue gained from land leases became a vital revenue source for municipal governments. This became especially relevant after a tax reform in 1994, which left local governments with less tax income but more fiscal responsibility. Therefore, municipalities are de facto incentivized to focus on profitable commercial real estate development, which yields more income in the form of land leasing fees and other taxes than low-profit affordable housing development (Gao, 2010; Huang, 2012).

In the *State Council Notice on Promoting the Sustainable and Healthy Development of the Real Estate Market* (2003), the national government emphasized the importance of strict control and an improved supply system for the local land markets. In alignment with that notice, the Shanghai municipal government released a document in 2005 in which some measurements for the future land supply system were decided. For example, the government stated to reserve two-thirds of available urban commercial land to develop low- and medium-priced commercial housing.

Although house prices increased slower after these regulations, this was only a short-term effect. Gao (2010) suggests a strong correlation between high housing prices and the current land leasing system, which causes high costs for commercial housing construction.

### 4.3. Housing Provident Fund (HPF)

Shanghai had a pioneering role in the development of the HPF. The municipal government introduced the HPF first in 1991 as a part of a larger housing reform package. However, it was not before 1999 that the HPF got an official, national legal basis. This means that the instrument exceeded the experimental period and was now to be implemented in all cities above county level in China (Burell, 2006).

The basic principle of the HPF can be described as follows: All employees were obligated to contribute a percentage of their salary to the HPF, and employers made contributions as well. Individual employee accounts have been opened at the Construction Bank of China. Currently, employees can withdraw their HPF assets upon retirement or utilize them to buy properties on the private housing market or from affordable housing projects. Although there are differences in how the Scheme operates, HPF is currently implemented in most Chinese cities (Burell, 2006).

As Zhang (2000) notes, the function of the HPF was different when it was first introduced in 1991 from the later stages of the fund. While the collection of the fund stayed the same – just

the percentage of employees' contributions varied slightly between 5-7 percent of salaries over time – the usage of the HPF changed over time. In the beginning phase, the HPF in Shanghai was mainly used to finance affordable housing construction. For example, from 1991 to 1996, the total sum of HPF in Shanghai was RMB 11.2B, from which RMB 8.2B were used for the construction of affordable housing, and RMB 2B were withdrawn from private households as a mortgage loan for housing purchase. At that time, work units were still in charge of providing housing for their employees; therefore, the construction funds were distributed to work units (Zhang, 2000).

The way that Shanghai's local government used the HPF changed with the end of the experimental phase and the decision of the national government to make the HPF an important housing finance tool on a national level. Following that, the procedures of the HPF were standardized for all cities. From 1998 on, the work units lost their significant role in the distribution of housing. In an attempt to quickly develop the private housing market, the HPF was to be solely used to provide mortgage loans to individual households to purchase owner-occupied housing. Therefore, the HPF was an essential tool for the national government to reach its goal of an increased home-ownership rate (Yeung & Howes, 2006).

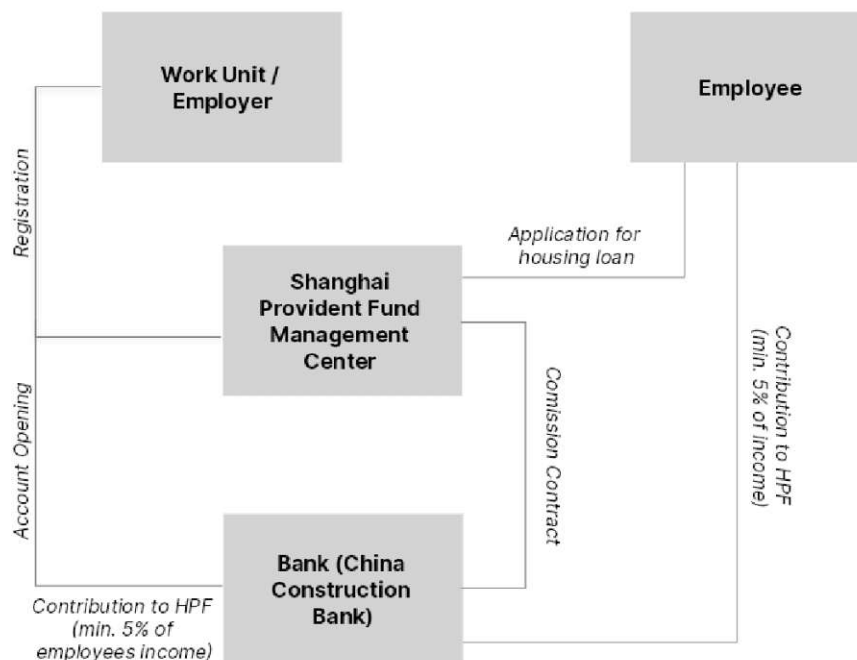


Figure 10: Mode of Operation of HPF in Shanghai. Own illustration.

*Figure 10* shows the mode of operation of the HPF in Shanghai. The HPF is managed by governmental institutions on the municipality level. In Shanghai, the Shanghai Provident Fund Management Center (SPFMC) is responsible for the management and operation of the HPF.

The primary responsibilities of the center include:

1. Compile and execute housing provident fund collection and utilization plans
2. Responsible for recording housing provident fund payments, withdrawal, and utilization for employees
3. Responsible for accounting of housing provident fund
4. Review and approve housing provident fund withdrawal and utilization
5. Responsible for preserving the value of and returning housing provident fund
6. Compile reports on the execution of housing provident fund collection and utilization plans
7. Undertake miscellaneous issues decided upon by the municipal government and the Municipal Housing Provident Fund Management Committee (SPFMC, 2022a)

Besides the management center, there is the housing provident fund management committee (*Figure 11*). It comprises government representatives, workers and trade unions, and representatives of Work Unions. The committee is responsible for formulation measures for the management of the HPF and supervising the implementation. Moreover, it sets the specific payment and deposit rates for the fund (SPFMC 2022b).

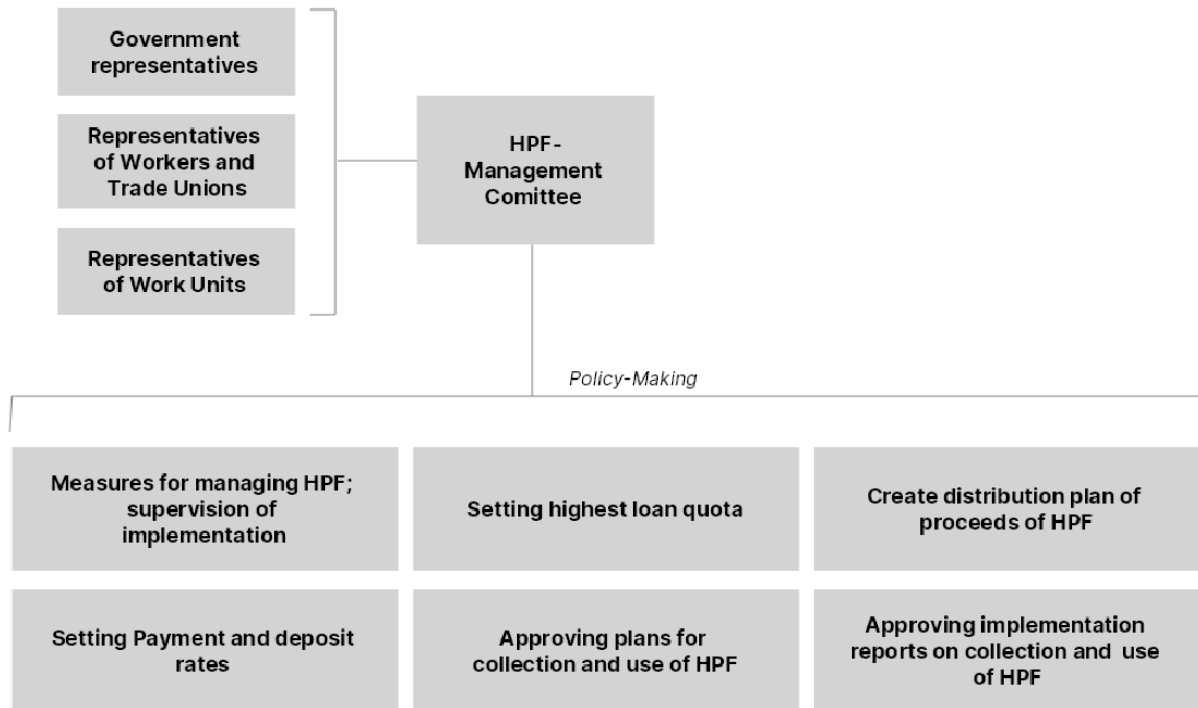


Figure 11: HPF-Management Committee. Own illustration.

The main critique of the HPF, as several scholars agree (Mostafa et al., 2003; Burell, 2006; Yeung & Howes, 2006; Deng et al., 2011), targets the inequality of the instrument. Since the monthly contribution of each individual and their work unit is a certain percentage of their salary, people with higher salaries can save more money in the fund and can afford the down payment for a housing credit earlier than low-paid workers. Some low-paid workers cannot afford a down payment at all, even after years of contributing to the HPF.

Furthermore, Yeung & Howes (2006) documented the following limitations of the HPF: There is an existing gap between more and less economically developed regions and companies: the HPF system was first introduced in Shanghai, one of the economic power hubs of China. Profits and incomes are higher than in many other underdeveloped regions; therefore, a transfer of the system might not work as well as in Shanghai. Furthermore, in the reform period, work units were already expected to increase the wages of their employees, and with higher salaries, HPF employers' contributions rose as well, which could lead to financial pressure. Another critical weakness emphasized by Yeung & Howes (2006) is the underdeveloped banking system in urban China at that time. As mentioned earlier, the individual mortgage market picked up the pace just after 1998, and it took time to develop fully. Because of restrictions in HPF loans through capped loan heights, many potential property buyers needed so-called composite loans, a combination of an HPF loan and a commercial mortgage. Several

issues in the banking system led to difficulties that may have influenced the success of HPF loans.

Another critique concerns the accessibility of the instrument. The contributions to the fund are made by employers and employees equally – which means, in turn, that individuals without regular employment are entirely excluded from the HPF, and employees of less profitable work units are disadvantaged (Yeung & Howes, 2006).

Chen & Deng (2014) observed that mortgages from commercial banks are more popular than HPF loans and attempted an explanation. The main argument is the strict eligibility criteria for HPF loans. The maximum amount of loan is relative to the HPF contributions. In Shanghai, for example, one can borrow a maximum of 30 times the HPF savings, which makes it more difficult for young and low-income employees to withdraw a loan. Additionally, HPF loans are capped; the maximum loan amount is set by the HPF-Management committee and can be adjusted annually. For a single person, the maximum loan amount was RMB 300.000 (SHPFMC, 2010, as cited in Chen & Deng, 2014, p. 946).

#### 4.4. Economic and Affordable Housing (EAH)

After the radical restructuring of the housing market, the national government decided to address the supply side in addition to the HPF. Therefore, the EAH program was introduced.

The EAH program was first mentioned in the State Council Notice (1994), where, among other things, it was specified in Point 5, "Speed up the development and construction of affordable housing", that 20% of newly built housing should be used for affordable housing at substitute prices for low- and middle-income households. The EAH housing units are exclusively for sale, so the state does not have to bear maintenance costs (Deng et al., 2011). To implement the EAH program, local governments were to take various measures, including making land available for affordable housing projects with lower taxes and fees. The national government left the precise implementation of the measures to the individual local governments.

In the State Council Notice (1998), the concept of the EAH program was further detailed. The construction cost would determine the purchase price for units under the EAH program, and sales profits would be reduced to 3%. To sell the units at a low price, local governments would provide land at no cost and reduce fees and taxes. Households with low and middle incomes

should be actively encouraged to purchase EAH units in order to increase the ownership rate (State Council, 1998).

Since the national government's regulations provided much autonomy for local governments to implement the EAH program, the results in the individual cities varied greatly. In Shanghai, the program was initially only implemented hesitantly. Only a negligible number of EAH units were built or made available (Cai, 2017; Wang & Murie, 2011; Chen et al., 2010).

Generally, the program was not particularly successful across China. After an initial surge in the construction of EAH units following 1998, the proportion of EAH units declined dramatically in 2003 due to regulation changes (Huang, 2012). Not until housing prices rose across China and an affordability crisis emerged did the central government attempt to intervene with the *Administrative Measures for Affordable Housing* in 2007, seeking to adjust the program to the new needs. The new regulations specify that only low-income households should benefit from the program, thus limiting the target group (State Council, 2007).

It was not until 2008 that, after these regulations from the national government and more pressure on local governments, an implementation plan for the EAH program was adopted in Shanghai. That plan stipulated that not less than 5% of the land allocated to real estate projects should be reserved for EAH projects (SMPC, 2008).

Among other things, it specified who qualified for participation in the EAH program. The main criteria are as follows: The household member has the permanent urban residence in Shanghai for three years, and the household registration has reached the number of two years in the district where the application is made; the housing area is lower than the prescribed limit (general 15 sq m per person); the disposable income and property are below the prescribed limit; within five years before applying, any member has not had made any housing transactions (Cai, 2017).

A unique feature in Shanghai is the inclusion of a rental option in the implementation plan for the EAH project. Designed initially as a homeownership program, the City was now opening the program to potential renters (SMPC, 2008).

There are specific regulations for the construction of EAH units. The national government set the unit size between 60-80 sq m to counter the trend of increasingly larger units of more than 90 sq m being built, as these can be more profitably marketed. According to Chen et al. (2006), for example, in 2003, only 8% of all newly built units in Shanghai were less than 90 sq m. However, the municipal government in Shanghai, in particular, has not adopted this

regulation. Although there are some construction requirements, the size of the units is not limited (SMPC, 2008).

The municipality of Shanghai grants developers of EAH projects various financial facilitations, such as:

- Free allocation of land and land use rights for EAH construction projects
- Exemptions from administrative fees and various taxes during construction
- Costs of infrastructure construction of EAH projects are borne by the local government
- Preferential tax policies
- Government-supported EAH development loans (SMPC, 2008)

When a unit is purchased through the EAH program, it cannot be resold for a period of five years. Additionally, the owner's rights are restricted, and the unit cannot be rented out. This is intended to prevent the purchase of properties for investment purposes (Chang & Chen, 2013).

While a unit obtained through the EAH program can be inherited, reselling is not easy even after the initial five-year period. The responsible housing company has the right to repurchase the unit from the owner for the original purchase price plus interest. Only if the housing company declines to do so can the owner sell the unit on the open market (SMPC, 2008).

As it was when first introduced nationally, the EAH program still aims at ownership since its (re-)introduction in Shanghai in 2008. The goal remains to increase ownership rates and enable low-income households to build wealth. Therefore, the price of the units should be based on construction costs. However, as Cai (2017) notes, there is no profit cap of 3% of total costs in Shanghai, unlike in other cities. This results in developers preferring to build larger and more expensive units, making it harder for lower-income households to obtain a unit. It is not easy to make conclusions about the EAH program in Shanghai for the period until 2010, which is examined in this thesis, as it was only in 2008 when the municipal government committed to the program (Cai, 2017). Nevertheless, an examination of other cities can provide insight into the general effectiveness of the program.

In order to comprehensively examine the EAH program, it is crucial to understand the context of its origin. When the national government first proposed the EAH program in 1994, initially, the main goal was to establish a free housing market. The real estate industry was seen as an

essential driver of the economy, and economic growth was one of the government's priorities. It can be assumed that, therefore, the EAH program initially aimed to encourage individuals to purchase property and thus enter the market. Therefore, no income limits for the purchase of a subsidized unit were initially established, and even when it was established in the program's 2008 reissue, the income limits were set very generously by many local governments, so many members of the upper middle class are eligible to purchase a subsidized unit (Deng et al., 2011).

When looking at the EAH program, it seems that local governments have difficulties effectively implementing it, so prices stay within a specific range, and units can be made available to low-income households. This is because local governments are responsible for bearing the main costs of the program. For example, the rental of urban land is an important source of income for local governments. So, when EAH projects are built, the municipality misses out on significant revenue.

#### 4.5. Cheap Rental Housing (CRH)

The focus of the new national housing policy in 1998 was undoubtedly on private property. However, it was evident that the impacts of the commercialization of the housing market on low-income groups needed to be cushioned. Thus, the national government determined that households with the lowest incomes should be supported through the Cheap Rental Housing Program (CRH). Unlike the EAH program, the CRH program was promptly implemented by the local government. In 2000, the Shanghai municipal government published an implementation plan to establish necessary measures, and in 2001, it became the first City in China to implement the CRH program (Chang & Chen, 2013).

The CRH system provides subsidized or inexpensive housing to the lowest-income households living in overcrowded conditions. Therefore, the CRH has strict eligibility requirements and is only available to a selected group of individuals (Chen, 2014; Mostafa et al., 2006).

The Shanghai City government established in the implementation plan details on the financing of the program, the selection criteria for applicants, and the regulatory responsibilities.



Households that meet all of the following criteria are qualified for an application for the CRH program:

1. The per capita income must not exceed the subsistence minimum set by the City administration
2. The living space per person must not exceed five sq m (regardless of whether it is owned or rented)
3. At least one of the persons in the household requires an urban Hukou for Shanghai, which has existed for at least five years
4. The members of the household must be in a legal relationship with each other, for example, married or related (SMPC, 2000)

These criteria alone show that the CRH program is relevant only to a small percentage of the population. Just by the restriction to households with urban Hukou, many people are excluded – to illustrate, the proportion of the population without urban Hukou in Shanghai in 2000 was about 19% (Shanghai Statistical Bureau, 2011). Also, the maximum living space of 5 sq m and the subsistence minimum as an income limit clearly show that the program is specifically designed to alleviate the acute housing shortage of the lowest income groups. The average living space per capita was about 9.7 square meters in Shanghai in 2000 (Shanghai Statistical Bureau, 2011).

It should be noted that, as with the EAH program, no funding from the national government was provided for the CRH program. Instead, the City government lists the following sources of financing to fund the program:

1. Special funds from the municipal and district governments
2. Part of the value-added funds of the housing provident fund
3. Part of the net collected funds after the sale of public housing
4. Social donations and funds raised through other channels (SMPC, 2000)

In addition to these criteria, the right to CRH housing or rent subsidies ends when the household income for two consecutive years exceeds the subsistence minimum (SMPC, 2000).

The CRH program was administered by the Shanghai Housing and Land Resources Administration. For the specific implementation, Low-Rent Housing Management Offices were set up in all districts. These offices were contact points for the applicants and were responsible for finding and acquiring suitable housing for the program in their districts. This

could either be existing public housing or housing purchased from the commercial market. The construction of social housing was not planned under the CRH program in Shanghai. Depending on demand and supply, the Low-Rent Housing Management Office could either provide suitable housing with low rent directly or grant a rent subsidy (SMPC, 2000).

As the strict application criteria show, the CRH program was never designed to provide access to affordable housing for a wider population. According to Chen & Chang (2013), for example, only around 61,500 households were in the CRH program in 2009, which is less than 1% of the population. 90% of those received rent subsidies; the remaining 10% benefited from subsidized housing.

## 5. Assessment of Shanghai's Housing Policies from 1998-2010

The following chapter estimates the impact of the three instruments presented (HPF, EAH, CRH). To achieve this, various categories are developed for the assessment of the instruments. This systematic assessment aims to evaluate the extent to which the instruments achieved their stated goals and identify any potential side effects.

To analyze the policy instruments as accurately as possible, policy documents, existing scientific literature, and empirical data are examined.

At the end of the analysis, an empirically supported assessment is made regarding the extent to which the policy change from 1998 to 2010 led to changes in the housing market. The government's goals set in the State Council Notice of 1998 are examined to see if they could be achieved in Shanghai. Particular emphasis is placed on evaluating the goal of housing affordability.

It should be noted that both national and local housing markets are subjected to many influences. Possible changes, such as in the price or supply structure, may be associated with multiple factors, including the general economic development or other national or local policies, such as social or fiscal policy. The following chapter focuses solely on housing policy instruments. Thus, absolute statements regarding the effects of individual instruments on the housing market cannot be made. Nevertheless, a detailed analysis of empirical data and other academic sources allows for some conclusions to be drawn.

### 5.1. Categories of Assessment

The housing policy instruments are examined and assessed in detail in the upcoming chapter. With the following categories, the impact of the policy instruments is estimated and evaluated.

**Objectives:** To understand the individual instruments and the motivation of the governments behind the policy, the goals of the government will be analyzed and, if possible, prioritized.

**Target group:** The target group specified in the respective policy is identified.

**Affordability:** This category determines the extent of changes in housing affordability. This includes affordability for the target group and noticeable changes for other groups of people who may not have been addressed explicitly in the policy.

**Accessibility:** The accessibility of housing, on the one hand, refers to the availability of sufficient housing for a specific target group, such as apartments with low rents for low-income households or the feasibility of financing the down payment and installments for a mortgage on housing property. On the other hand, accessibility can refer to entry requirements for a specific housing program.

**Impact on housing quality:** Housing policies can impact the quality of housing. For example, this can be measured by the number of square meters of housing per person.

**Implementation effectiveness of local governments:** Generally, the central government makes directional decisions about housing policy. This category assesses how effectively the local government in Shanghai is implementing the national regulations and how effective the individual implementation plans are. Closely related is the question of the relationship between the national and local government and how it is influenced by individual policies.

**Effectiveness in reaching target group:** This category evaluates whether the target group named in the policy was reached and whether other or additional groups were reached that were not addressed initially.

## 5.2. Assessment of Policy Instruments

In the following section, the categories described above are applied to the three main policy instruments. The categorization is conducted by systematically compiling literature, policy documents, and empirical data. Subsequent to the categorization, the section discusses the results and draws an interim conclusion on the findings.

### Housing Provident Fund (HPF)

**Objectives:** The main aim of the HPF was to generate demand for the private housing market. By requiring mandatory contributions from every employee, the HPF aimed to encourage employees to use their savings from the HPF to purchase their own homes. This was intended to make homeownership accessible and affordable for a broad population in order to increase the proportion of owner-occupied homes. More broadly, the HPF was a component of creating a commercial housing market.

**Target Group:** The target group of the HPF is not explicitly specified in any policy document, neither at the national nor municipal level. However, it is clear that the HPF targets employees with regular employment contracts. Only individuals in long-term and full-time employment can accumulate enough contributions from the HPF to manage the down payment for a housing loan. This is also one of the major criticisms of the HPF. "In the process of privatization and economic reform, it is expected that the number of laid-off workers will increase. Under the current situation, the unemployed workers will face a severe housing problem" (Yeung & Howes, 2006, p. 353). As Yeung & Howes illustrate in their paper, the HPF is not accessible to many social groups in Chinese society. This could lead to further affordability problems for low- and middle-income groups in the future.

**Affordability:** The HPF aims to increase the affordability of homeownership by providing favorable loans. In practice, better-off households are favored in the system, as higher salaries result in higher personal and employer contributions to the HPF. Households with low incomes often cannot afford a down payment for a housing loan, even with the favorable conditions of an HPF loan. However, as all employees are required to contribute to the HPF, Yeung & Howes (2006, p. 353) argue that "low-income and poor families [...] were in practice subsidizing the better-off families."

**Accessibility:** Only individuals with a permanent employment contract and a local hukou have access to the HPF and its benefits. In 2008, approximately 3.6 million people in Shanghai participated in the HPF program, around 30% of the urban registered population at that time (Deng et al., 2011).

**Impact on housing quality:** The impact of the HPF on housing quality is difficult to measure. One potential effect could be that participants in the program, due to the favorable conditions of HPF loans, purchase or construct larger or better quality housing units. This would result in an individual increase in housing quality for the participants. Duda et al. (2005) showed in a study that this effect exists in Beijing. However, it cannot necessarily be concluded for Shanghai.

Evaluating the improved housing quality for the HPF from 1991 to 1998 in Shanghai is easier. By 1998, a large portion of the HPF was not used for individual housing purchases, as is common today, but for financing affordable housing projects by the City of Shanghai. The construction of the additional housing necessary during this time for households in need with living spaces of less than four sq m per person improved the housing quality for this group of people. Through the Comfortable Housing Project, 74.600 households benefitted from an improvement in their living situation by the year 2000 in Shanghai (Yeung & Howes, 2006).

**The local government's implementation effectiveness:** Shanghai has a unique position in implementing the HPF within China. Before the central government decided to introduce the HPF system nationwide in 1994, the municipal government in Shanghai began implementing this system in 1991, modeled after the Provident Funds in Singapore (Deng et al., 2011). However, the goals of the first HPF program in Shanghai differed; most of the collected HPF was used to finance affordable housing projects (Chen et al., 2006; Yeung & Howes, 2006). Even after the central government established the direction and today's goals of the HPF, Shanghai continued to implement it successfully. Shanghai has one of the highest participation rates in the HPF and one of the highest percentages of HPF loan borrowers among participating employees (Burell, 2006; Deng et al., 2011).

Over time, Shanghai has also developed a well-functioning system to manage the HPF effectively. With the Shanghai Provident Fund Management Center and the superordinate Provident Fund Management Committee, two institutions were established to carry out and control the HPF.

**Effectiveness in reaching the target group:** Since the HPF is a mandatory program for all employees and employers, the target group is naturally reached. All employees pay a certain percentage of their salary (5-7%) to the HPF. An interesting figure to consider in evaluating whether the target group has been reached is the proportion of participants who actually use the HPF for its intended purpose. Deng et al. (2011) found that in Shanghai in 2008, the proportion of HPF participants who took out a housing loan using the HPF during their working life was 67%. This is an exceptionally high and, therefore, a good result in China, considering that the proportion was only 25% in the whole of urban China (Deng et al., 2011). The participation rate among employees and employers was already 98% in 1999, which is the highest rate in the whole of China (Zhang, 2000).

In addition to those numbers, studies are available on which part of the participants actually use HPF loans. Li (2010) conducted a survey on the topic of housing finance in Shanghai in 2006 and 2007. One of the study's findings is that the mean household income of commodity house buyers after 1998, who used the HPF as one of several other financing sources, is RMB 119.300, while the mean household income in the overall sample was RMB 63.000. This finding strengthens the argument of Yeung & Howes (2006), who claim that higher-income groups benefit more from the HPF.

### **Economic and Affordable Housing (EAH)**

**Objectives:** Upon the initial implementation of the EAH program in 1994 and its expansion in 1998 by the central government, the objective was clear. The EAH program aimed to enable a large portion of the middle class to purchase homeownership, thus increasing the homeownership rate. The language in the 1998 State Council Notice suggests that the EAH program was intended for a very broad target audience:

Implement different housing supply policies for families with different incomes.  
Low-income families rent low-cost housing provided by the government or units;  
low- and middle-income families buy affordable housing; other high-income families buy and lease market-priced commercial housing. (State Council, 1998)

At the time, this broad goal made sense in China: On the one hand, there was a housing shortage in many cities, including Shanghai, where the living space per capita was 7.5 sq m in

1994 (Shanghai Statistical Bureau, 2011). On the other hand, the central government's priority was initially to establish a housing market quickly. The construction of EAH units was therefore intended to create housing and build a housing market simultaneously.

It should be noted, however, that Shanghai never really implemented the EAH program, as indicated by the *Several Opinions on Further Deepening the Urban Housing System Reform and Accelerating Housing Construction* (SMPC, 1998), which followed the State Council Notice of 1998 as a local response and implementation plan. The desired form of housing for different income groups is noted as follows:

Gradually form a market-oriented and socialized housing supply mechanism, and implement different housing supply policies for workers and families with different incomes. Low-income families can rent public housing provided by the government or work units; low- and middle-income families can purchase affordable housing, *and can also purchase and rent commercial housing*; high-income families should purchase and rent commercial housing. (SMPC, 1998)

This shows that by 1998, Shanghai had already shifted its focus toward commercial housing more than other cities in China.

**Target Group:** The target group of the EAH program has changed over the years. Initially, when the program was first mentioned in 1994 and further differentiated in the State Council Notice of 1998, it was intended for "low- and middle-income households" (State Council, 1998). At that time, it was only intended for higher-income households to purchase regular apartments at market prices. However, as housing markets became commodified and an affordability crisis emerged for low-income households across China, the central government issued new regulations. Since 2008, EAH units are only intended for low-income households. The regulations of the City of Shanghai, however, still state that the EAH housing is intended for low- and middle-income households with housing difficulties, making the target group in Shanghai larger.

**Affordability:** Since the program was not implemented in Shanghai until 2009, not much can be said about the period before. The average price of an EAH apartment in Shanghai in 2009 is indicated as RMB 3.445 per sq m in the China Real Estate Yearbook (NBSC, 2010), while a conventional apartment costs RMB 12.364 per sq m in the same year. This means the price of



an EAH apartment was about a third of that of a commercial apartment, which seems to be a significant relief for potential low-income buyers. It must be said, however, that the target group for the Shanghai EAH program is only low-income households.

A look at the Price-Income Ratio for low-income households in Shanghai in 2009 clearly shows the differences between EAH housing and commercial housing (*Table 2*). The price of a hypothetical standard apartment, 60 or 90 sq m, was calculated as both EAH and commercial housing. The price for 60 sq m was calculated because the central government originally wanted to limit the size of EAH apartments to 60 sq m. However, since the Shanghai municipal government did not implement this rule, the calculation with 90 sq m is more likely to be realistic (Chen et al., 2006).

Price-Income Ratio for Low-Income Households			
2009			
EAH		Commercial Housing	
60 sqm	90 sqm	60 sqm	90 sqm
3.6	5.4	12.9	19.3

*Table 2: Price-Income-Ratio for low-income households (double-income) for different Scenarios in Shanghai 2009. Own calculations. Data: Shanghai Statistical Bureau, 2010, NBSC, 2010*

**Accessibility:** Essentially, the program was designed to be widely accessible to low- and middle-income households. However, this broad accessibility never existed in practice in Shanghai, as the program was introduced only in 2009 after the target group was limited to low-income households.

From 1998 to 2008, no investment, construction, or sale of EAH-Units was conducted in Shanghai (NBSC, 2000-2009).

In 2009, following the release of the EAH-Implementation plan of the Shanghai municipality, the construction and sale of EAH-Units started slowly. The sales EAH-Units earned real estate development enterprises in Shanghai in 2009 RMB 6,59M. At the same time, the total sales of residential buildings were worth RMB 362,02B, of which a revenue of RMB 99,68B came from the sales of villas and upscale apartments (NBSC, 2010 & 2011).

A look at the total number of residential units sold illustrates the low significance of EAH in 2009: Of 237.087 units sold by real estate development enterprises, only 20 units were under

the EAH program. In contrast, 24.986 of sold units were high-priced villas or upscale apartments (NBSC,2010 & 2011).

However, the total investment in EAH construction in 2009 by real estate development enterprises was RMB 3.92B, which shows that the program gained significance. The area of newly started housing construction shows that as well: from 17.21M sq m residential housing, 1.27M were EAH, which is 7.4%. For comparison, 3.29M sq m or 19.1% were villas or upscale apartments (NBSC,2010 & 2011).

This development continued to pick up speed in 2010. While the sold area of EAH was still low – of 29.28M sq m sold residential area, only 1,913 sq m accounted for EAH, which would correspond to roughly 30 Units, assuming an average size of 60 sq m – the construction of EAH-units grew faster: In 2010, 73.14M sq m of residential housing were under construction, of which 6.5M sq m (8.9%) EAH-Units and 15.84M sq m (21.7%) villas and upscale apartments. The total area of newly started housing in 2010 was 21.11M sq m, of which 2.29M sq m (10.9%) EAH and 3.89M sq m (18.5%) villas and upscale apartments. Finally, the area of residential housing completed was 13.96M, of which 130,670 sq m (0.9%) EAH and 3.28M (23.5%) villas and upscale apartments. In 2009 or 2010, there were no EAH units for rent available (NBSC,2010 & 2011).

Despite the low sales numbers of EAH units and their small share in the total residential housing area in 2009 and 2010, the newly started construction area hints at the future direction. In 2009, the share of EAH increased from 0 to 7.4%, and in the following year, the share was already 10.9%. This shows that there has been a change in the municipal government's thinking and that the EAH program is finally being implemented. However, only looking at the period from 1998-2010, the accessibility of EAH units was very poor, since only in 2009 and 2010 a total of 50 units were sold (NBSC,2010 & 2011).

**Impact on Housing Quality:** From 1998 to 2010, the EAH project had no significant impact on the overall housing quality in Shanghai. The main reason is that the project started only in 2009 with a significant delay. Only 50 units were sold, which have no weight in the total housing market.

**Implementation Effectiveness of Local Government:** During the examination period, the implementation effectiveness of the local government was insufficient. For a long time after the central government had demanded all cities implement EAH programs, the City of Shanghai did not carry out any regulations. Only when the central government increased the

pressure and, in 2007, the policy document *Administrative Measure for Affordable Housing* was published, in which existing regulations were adjusted and partially tightened, did the City of Shanghai again take up the EAH program. In 2009, in response to the regulations of the central government, the municipal government published the *Trial Measures for the Administration of Economic and Affordable Housing in Shanghai*. As the program only got underway in the following years, no further statements on implementation effectiveness can be made for 1998-2010.

The question of why the Shanghai municipal government hesitated so long to implement an effective EAH program is essential. As in other cases, part of the answer may lie in the financing structure between China's central and local governments. Shanghai depends on profits from leasing land. This is made difficult by the EAH program, as the land on which the units are built must be provided free of charge by the local government. In addition, there are numerous tax concessions for the construction of EAH housing, leading to losses in the local budget.

**Effectiveness in Reaching Target Group:** The target groups for the EAH housing in Shanghai are "low- and middle-income households with housing difficulties" (SMPC, 2008). There are income and wealth limits for applicants. In addition, there is an upper limit for the size of the housing per person at the time of application to ensure a need exists. These limits are set by the Housing Security and Housing Administration Office of the City of Shanghai. For example, in 2010, the income limit was RMB 60,000 per capita (Cai, 2017). This limit is very high; only 20% of the population in the highest income group earned more in 2010. With 15 sq m per person, the limit for the maximum housing size was more strictly set, given that the average living area per person in Shanghai in 2010 was 16.7 sq m (Shanghai Statistical Bureau, 2011).

### **Cheap Rental Housing (CRH)**

**Objectives:** With the housing reform of 1998, the housing market underwent significant changes. Not all households were able to respond equally well to these changes. In order to mitigate the far-reaching changes for the lowest-income groups, the CRH was introduced — the program aimed to guarantee housing as a fundamental right for low-income households.

**Target Group:** The target group for the CRH program in Shanghai was relatively small: it consisted of households with local Hukou whose income is below the minimum level and who

are suffering from severe housing shortage with living space of less than five sq m per person (SMPC, 2000).

**Affordability:** Affordability was an immediate objective of the CRH program. Therefore, for the very narrowly defined target group, the program could improve affordability, primarily through heavy rental subsidies or, in some cases, free rent (Zou, 2014). However, it should also be noted that CRH played a relatively minor role in the overall housing affordability in Shanghai. In 2009, only approximately 0.4% of the registered population was supported by the CRH program (Chang & Cheng, 2013).

**Accessibility:** Considering the fact that the entrance requirements for the CRH program were very specific, only a few households could benefit from reduced rents or subsidized housing. For Shanghai, there are no reliable numbers available. However, according to Huang (2012), 2.7% of urban households profited from CRH in China in 2010. A case study in Beijing showed that less than 3% of low-income households benefited from the CRH program (Huang, 2012).

**Impact on housing quality:** For the eligible group, the CRH program assumably positively affected housing quality. Usually, households in overcrowded apartments would qualify for the program; therefore, the CRH could have helped to increase the floor space per capita amongst lowest-income households. However, the program did not impact the total housing quality in Shanghai because the municipality decided to use existing housing stock or rent subsidies for CRH rather than building new units (SMPC, 2000).

**Implementation effectiveness of local government:** Shanghai was the first City in China to implement the CRH-Program. In 2000, the local government in Shanghai developed a detailed implementation plan outlining all the program details. Moreover, a management center was opened in each district for the program's practical implementation. Therefore, the local government in Shanghai swiftly fulfilled the guidelines set forth by the State Council Notice 1998 to establish low-rent housing. However, it can be criticized that the local government set the target group very narrowly and thus only met the minimal requirements for a low-rent housing program. Another major criticism stated by Yuang (2012) concerns the financing of the program. The national government stipulated that no less than 10% of net gains from land conveyance should be committed for CRH by local governments. However, in 2006, Shanghai did not provide any of these gains for CRH development at all, and in total, only 4.4% of land conveyance net gains were used for CRH in all cities of China. As the CRH program was only slowly implemented in many cities, the national government saw the need for action and adjusted the CRH regulations in 2007. Nonetheless, Shanghai, along with 22 of 32 cities

reviewed by the National Audit Office, remained below the 10% target from 2007 to 2009 (Yuang, 2012).

Examining the relationship between local and national governments in this context is particularly interesting. Generally, the national government sets regulations that are then implemented by cities to varying degrees of autonomy. There is a significant discussion in China about how policy financing works. Since the 1990s, the central government has increasingly retained a growing amount of the cities' tax revenue, and local governments have had to finance themselves through their own sources of income, such as land leasing revenue (Zou, 2014; Huang, 2012; Gao, 2010). According to Huang (2012), local governments receive 47% of total government revenue but must bear 80% of the costs. It is, therefore, not surprising that conflicts arise and not all central government regulations are satisfactorily implemented. A similar conflict exists with the CRH program. Land leasing is one of the most important sources of revenue for cities, which is why cities such as Shanghai are particularly interested in the real estate business. Social housing programs often result in a loss of revenue. In the case of CRH, management centers had to be planned, built, and financed, as well as the costs for rental subsidies or the purchase or maintenance of CRH housing units. Despite the need, one crucial reason why no new CRH units were built in Shanghai is the financial loss: the corresponding land would be granted for free, and various tax reductions would apply.

**Effectiveness in reaching the target group:** The State Council (1998) specified that "lowest-income families" should benefit from subsidized rents. However, no precise definition of lowest income was given, and the detailed implementation of the CRH program was left to local governments. The target group for the CRH program was very narrowly defined in the Implementation Plan for Shanghai. There is no reliable data on what percentage of the city's population qualified for the program and how many benefited. According to the municipal government's policy 2005 (SMPC, 2005), by the end of 2004, 13.500 households have benefited from the CRH program. More reliable data about the program's effectiveness could not be found in the scope of this study. According to Cao & Keivani (2014), however, the need for CRH in China could not be met. It was found that only 10% of the intended target group was reached in 2005. Huang (2012) stated in his study about low-income housing in Chinese cities that 4M households with minimum living standard assistance needed subsidized rental housing in 2006, but only around 0.55M units were provided by the end of 2006. This suggests that in Shanghai, too, the demand for low-rent housing under the CRH program was higher than the subsidies granted.

### Discussion of policy instrument assessment

Figure 12 shows a classification of the three policy instruments based on Doling (1997), as described in Chapter 2.

Who pays?	Who owns?		
	Real Estate Company / individual	Shared ownership / Use-rights	State
User	HPF		
Partial Subsidy		EAH	CRH
Full Subsidy			CRH

Figure 12: Classification of policy instruments. Own illustration based on Doling (1997).

The three main instruments developed by the central government after the housing reform cover a wide range of policy strategies. While the HPF is a financial instrument mainly aimed at enabling the broad mass of employees to acquire housing from the private real estate market, the CRH program is disconnected from the commercial housing market and is more reminiscent of housing allocation in the communist era before the reform. The EAH program, on the other hand, is in-between, allowing ownership at subsidized prices but with restrictions on use rights.

Looking at the situation in Shanghai, it is clear that the two instruments that do not target the commercial housing market were relatively weak during the period studied, 1998-2010. This can be deduced from the strict selection criteria in the case of CRH and the low construction rates in the case of EAH.

Given the substantial increase in house prices, the conclusion is that Shanghai has not intervened enough in the commercial market and that the necessary programs to relieve low-income households in the increasingly commercialized housing market have been lacking. There are two main reasons for this: Firstly, the focus of the housing reform, especially at the beginning, was firmly on the rapid commercialization of the housing market in order to build it into a pillar of the economy. The City of Shanghai prioritized general economic growth over the implementation of far-reaching affordable housing programs. Secondly, the City's tax system and dependence on revenues from land conveyance gave it strong incentives to rent land profitably to commercial real estate developers instead of promoting affordable housing projects.

### 5.3. Assessment of Policy Objectives

The policy change towards a commodified housing market after 1998 was very ambitious. The objectives of the reform were not only to commercialize housing and establish a housing market and a housing industry as an important pillar of economic growth but also to guarantee housing and ensure housing affordability for different income groups.

In the following section, an assessment of the policy changes from 1998-2010 is undertaken. In contrast to the section above, this chapter deals with the overall development of different factors of the housing reform. The section examines if the general targets of the housing reform could be reached, which challenges the national and municipal government had to take, and which side effects can be observed.

For the evaluation, various empirical data from official sources are used, which are placed in a context with the objectives of the reform. In addition, findings from scientific literature and government policy documents are used to understand and evaluate the interrelationships.

#### Economic development

Before looking in detail at the goals of the 1998 policy paper, it is crucial to comprehend the overall development of the economy in Shanghai at that time. The growth of the GDP, incomes, and house prices are key factors that must be considered when analyzing the overall development of the housing market and housing affordability. Like the whole nation, Shanghai has seen remarkable economic growth after the opening policy and the establishment of a socialist market economy in China starting in the late 1980s.

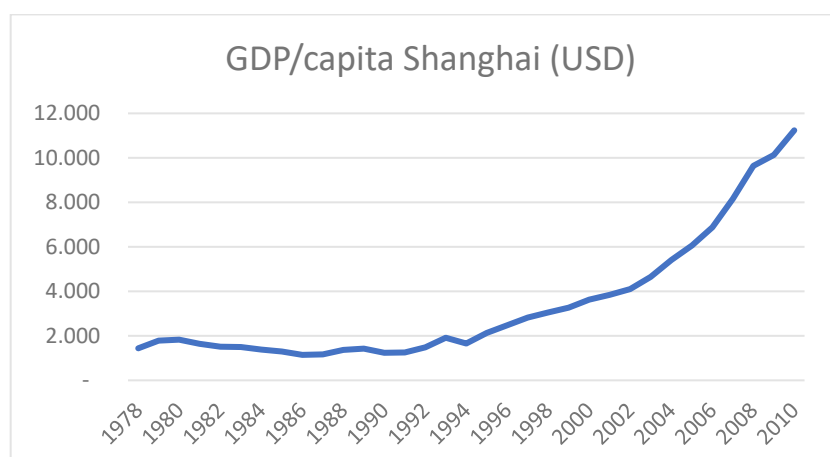
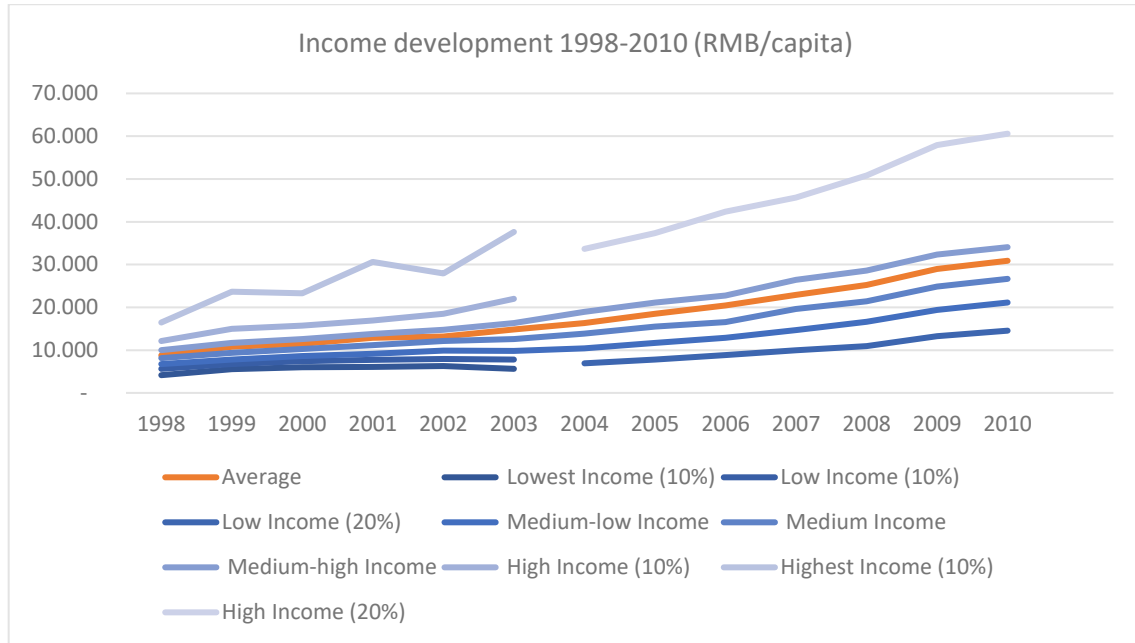


Figure 13: GDP per capita (USD) Shanghai. Source: Shanghai Statistical Bureau, 2011.

Between 1998-2010 the yearly GDP growth per capita in Shanghai was between 5% (in 2009 after the global financial crisis) and 19% (in 2007), with an average yearly growth rate of 11%.

**Income levels**

Accordingly, incomes were also constantly growing, as shown in *Figure 14*. It is important to note that after 2003, the data collection method of the National Bureau of Statistics in Shanghai changed. The former seven income groups were merged into five income quintiles.



*Figure 14: Income levels for different income groups in Shanghai 1998-2010, corrected for inflation (Base year 2010). Note: Change in the method of collecting income data after 2003, the former seven income groups were merged into five (merge of lowest and low-income deciles as well as high- and highest-income deciles into quintiles). Source: Shanghai Statistical Bureau, various years.*

During the period under review, all groups could increase their income. However, there are significant differences between the groups. As seen in *Table 3*, the high-income quintile could increase their earnings by 257% in the period from 1998-2010, while the low-income quintile grew only by 151%.

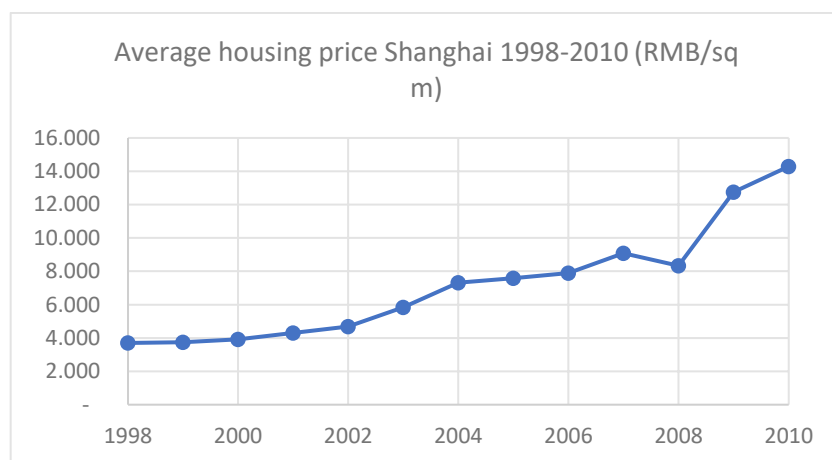
Income Growth 1998-2010					
Average	Low Income	Medium-low Income	Medium Income	Medium-high Income	High Income
197%	151%	164%	176%	187%	257%

*Table 3: Income growth of different income groups in Shanghai. Source: Shanghai Statistical Bureau, various years. Own calculation.*



House prices are a crucial factor in understanding the dynamics of a housing market. Since home ownership is heavily promoted in China, the rental market is relatively small - around 20% in Shanghai in 2010, according to the Shanghai Statistical Bureau (2011) - and less studied since no official rental price data is available. Due to the lack of relevant data, only official sales prices from the China Real Estate Yearbooks (NBSC, 1998-2011) are examined. *Figure 15* shows the house price development from 1998-2010.

### Housing prices in Shanghai over time



*Figure 15: Housing prices in Shanghai 1998-2010, corrected for inflation (Base Year 2010). Source: NBSC, various years; Shanghai Statistical Bureau, 2011.*

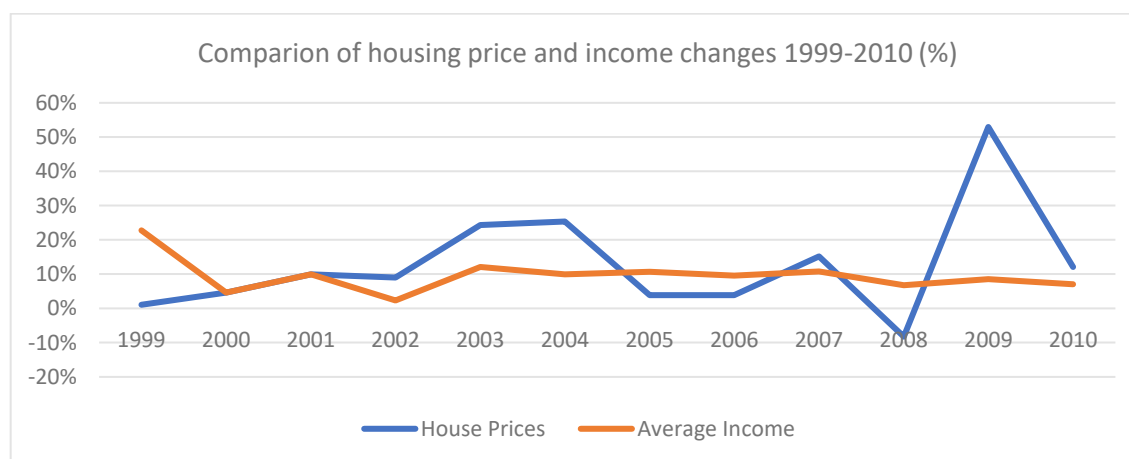
Wu (2015) illuminates in his study about the housing market cycles of China several booms and downturns as well as their main drivers in Chinese cities:

<b>Housing market cycles</b>	<b>Main drivers</b>
<i>Downturn 1996-1999</i>	<i>The tightening of land market and central control and the Asian financial crisis in 1997</i>
<i>Boom 2000-2005</i>	<i>The abolishment of in-kind housing provision and adoption of a more radically market-oriented approach to housing provision</i>
<i>Downturn 2006</i>	<i>The tightening of land and housing market; but slow and quite market without major downwards</i>
<i>Boom 2007</i>	<i>Tough market for manufacturing industries and non-functioning stock market leading to the outflow of capital from manufacturing industries to real estate</i>
<i>Downturn 2008</i>	<i>The global financial crisis and shrinking export market</i>
<i>Boom since 2009</i>	<i>The stimuli package plus investment in housing market, and reducing interest rates, enhancing capital liquidity</i>

*Table 4: Chinese Housing Market Cycles. Source: Wu, 2015, p.11.*

His explanations coincide well with the experience in Shanghai: From 1999 to 2004, housing prices demonstrated an increasing trend. Moreover, between 2002 and 2004, the prices increase rapidly. After the implementation of the 2005 policy by the municipal government, the rapid growth trend of the prices stagnated. This brief stagnation period from 2004 to 2006 was followed by a 15% increase in 2007. Following a brief decline in prices due to the financial crisis of 2008, they surged at a drastic rate of 53% in 2009.

The house price growth can not only be seen as an affordability issue but as an indicator of economic growth and the development of a real estate market under the common rules of commodification. Therefore, when comparing the changes in housing prices and average income, one should consider housing affordability relative to the corresponding year. *Figure 16* represents trends in housing prices and real average income over the decade.



*Figure 16: Comparison of average house price and average income/capita changes. Corrected for inflation (Base Year 2010). Source: Shanghai Statistical Bureau, various years, NBSC, various years. Own calculation.*

The housing prices in Shanghai increased more than the average income. The average selling price of a commercial housing unit per sqm increased by 286% from 1998 to 2010, while the average income increased by 197%. In 6 of the 12 years under consideration, the increase in house prices exceeds that of average incomes; moreover, while the incomes after 2003 grow steadily at around 10%, the house prices are subject to more considerable fluctuations. Even though the fluctuating housing prices displayed a different trend than the steadily growing average income, the average growth of both values in the whole period is quite similar, with an average increase of housing prices by 13% and income by 10% per year. Examining the shorter period after 2003, however, draws another picture: The average growth of housing prices from 2003-2010 was 16% per year, while the average growth of income in the same

period was only 6% per year. This indicates a growing affordability issue, especially after the house price increase after 2003.

### Policy objectives

In *Table 5*, the main objectives of the 1998 policy resolution are listed. The municipal government refined and tailored the targets for the City of Shanghai.

No	Central government	Municipal government Shanghai
1	Stop the in-kind housing distribution and implement the monetization of housing distribution	Stop the in-kind housing distribution and implement the monetization of housing distribution, establish a new system of open, fair, and just housing distribution; improve the Housing Provident Fund System and establish various forms of housing subsidies for employees
2	Establish and improve a multi-level urban housing supply system based on affordable housing	Implement different housing supply policies for workers and families with different incomes to realize marketization and socialization of housing supply
3	Develop housing finance, establish and standardize a housing transaction market	Develop housing finance and standardize the housing transaction market

*Table 5: Objectives of central and municipal government on the policy plan on „Further Deepening Urban Housing System Reform“. Source: State Council (1998), SMPC (1998).*

### Objective 1: Stop in-kind housing distribution and implement the monetization of housing distribution

The main goal of the housing reform was to stop the distribution of housing as a welfare good and to continue and complete the commodification process of housing. In Shanghai, the in-kind distribution of housing was effectively stopped. While in the first years after the 1998 policy reform, the work units were still providing, in some cases, housing or subsidies, their role diminished quickly (Deng et al., 2011).

*Figure 17* shows how the structure of housing production changed over time. To show the radical restructuring, in addition to the period of 1997-2003, data from 1982 and 1990 were included. There was no construction activity of residential buildings by private real estate development companies at all in 1982, and their share was still low (18%) in 1990. But the situation changed rapidly, and by 2003, 94% of new residential floor space was built by real estate developers. Work units do not play any role in residential construction since 2000, and

the state's role diminished drastically as well, with only a share of 1% on construction in 2003 (Shanghai Statistical Bureau, various years).

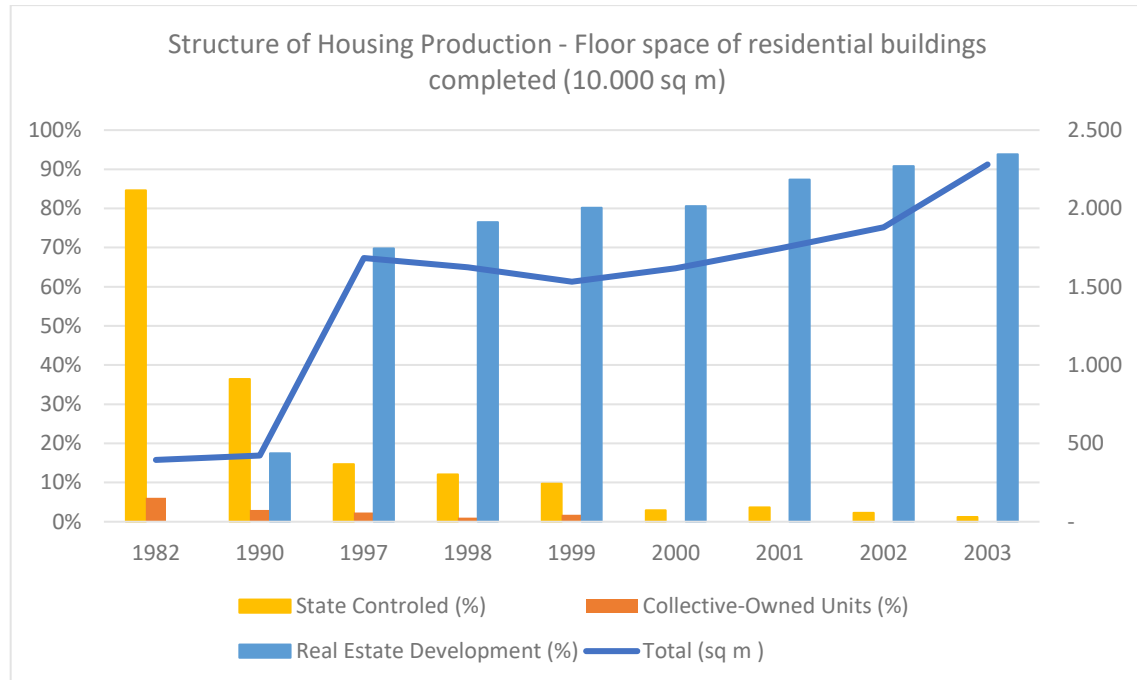


Figure 17: Structure of Housing Production: Comparison 1982, 1990, 1997-2003. Source: Shanghai Statistical Bureau, various years.

Figure 18 shows the tenure types of housing in Shanghai from 2004 to 2010. As shown, the ownership rate is constantly growing, reaching 79.4% in 2010.

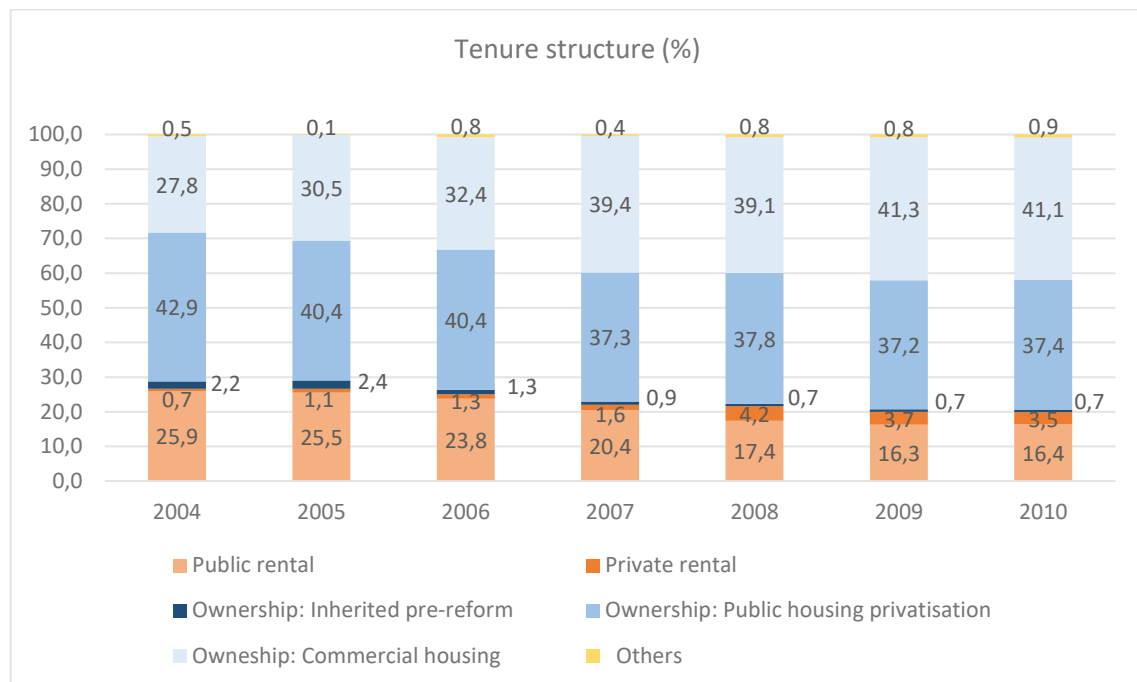


Figure 18: Tenure structure Shanghai 2004-2010. Source: Shanghai Statistical Bureau, various years.

The fast growth of housing ownership in the pre-reform era in the 1990s was only possible because of the privatization of former public housing. Even though the share of ownership from public housing privatization is declining slowly over time, it was still 37.4% in 2010 (Shanghai Statistical Bureau, 2010).

Another target concerning the monetarization of the housing market was the sub-goal to set a suitable benchmark for housing prices: A 60 sq m affordable housing unit should be at least four times the annual average income of a double-income household (State Council, 1998). According to the China Real Estate Yearbook (NBSC, 2000), the average price of an affordable housing unit in 1999 in Shanghai was RMB 2,606 per sq m and RMB 3,102 per sq m for a commercial housing unit. The average annual income was RMB 10,932 per capita. Assuming a Shanghainese average double-income family and a 60 sq m affordable housing unit, in 1999, this family would have to spend more than seven times their annual income to afford an affordable unit and 8.5 times to purchase a commercial unit from the market. The price ratio for a double-income family from the low-income group was 11.4 for the affordable unit and 13.6 for the commercial unit. This evidence asserts that the price ratios in Shanghai are way higher than the benchmark set by the central government, which was determined as four times the annual income. A look into the year 2009 shows that this changed over time, and with the 2009 newly introduced EAH program: As demonstrated earlier in section 5.2., in 2009, a double income-family in the low-income group could afford a 60 sq m EAH unit with their annual income of 3.6 years. However, for a commercial unit of the same size, they would have to save up their annual income for 12.9 years. This shows that the gap between affordable and commercial housing has become more prominent over time. It should be noted, however, that a deficient number of EAH units were available in 2009.

### **Objective 2: Establish and improve a multi-level urban housing supply system based on affordable housing**

The main socio-political goal of the housing reform was the supply of affordable housing. As discussed earlier, the main instruments for doing so were the CRH program for the lowest-income group and the EAH program for low- and middle-income groups. This section examines the general development of housing affordability in Shanghai.

*Table 6* shows the price-income ratio in Shanghai from 1998-2010. The calculation is based on the average living space per capita (see *Figure 22*). As described in Chapter 2, the price-income

ratio should not be used as a normative measurement of affordability. Nevertheless, trends can be observed from the analysis of different income groups over the extended period of 1998-2010. Generally, the price-income ratio rose in the examined period for all income groups. Nevertheless, there are differences between the groups. The lower the income group, the more the ratio increases, which indicates that low-income households are more affected by rising house prices.

Price - Income Ratio Shanghai 1998-2010								
Year	Average Income	Lowest Income	Low Income	Medium-low Income	Medium Income	Medium-high Income	High Income	Highest Income
1998	3,3	7,1	5,2	4,4	3,6	2,9	2,4	1,8
1999	3,1	6,0	4,9	4,3	3,5	2,8	2,2	1,4
2000	3,3	6,4	5,2	4,5	3,7	3,0	2,4	1,6
2001	3,5	7,5	5,9	5,0	4,1	3,3	2,7	1,5
2002	4,0	8,3	6,6	5,3	4,3	3,5	2,8	1,9
2003	4,6	12,3	8,8	7,0	5,5	4,2	3,1	1,8
			Low Income	Medium-low Income	Medium Income	Medium-high Income	High Income	
2004	5,6		13,2	8,7	6,6	4,8	2,7	
2005	5,4		12,7	8,5	6,4	4,7	2,6	
2006	5,2		11,9	8,2	6,4	4,7	2,5	
2007	5,5		12,6	8,6	6,4	4,7	2,7	
2008	4,8		11,1	7,4	5,7	4,3	2,4	
2009	7,0		15,4	10,5	8,2	6,3	3,5	
2010	7,5		15,9	11,0	8,7	6,8	3,8	

Table 6: Price-Income Ratio 1998-2010, based on average income per capita, average living space per capita, and average house price per sq m. Source: Shanghai Statistical Bureau, various years; NBSC, various years. Own calculation.

As elaborated by Chen et al. (2006), households with a price-to-income ratio above seven would not be able to take mortgages from Chinese Banks. Although an expenditure-to-income ratio is not a valid measurement as a criterion for mortgage eligibility, as discussed in Chapter 2, it is a reality that households have to cope with. Therefore, Figure 19 shows the price-

income ratio in a different display, which illustrates the affordability for different income groups over time: 2003 seems to be a turning point. Before 2003, all income groups except the lowest income decile were, in principle, eligible for a mortgage, but after 2003, this only applies to the upper 40%.

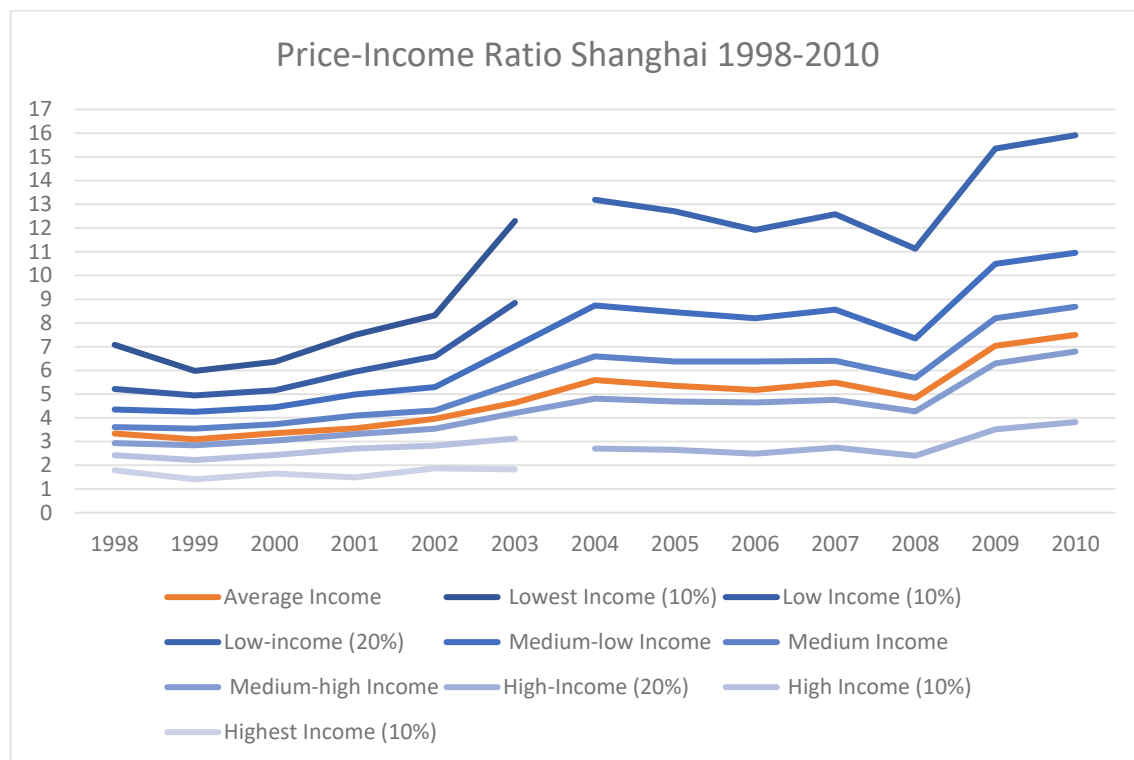


Figure 19: Price-Income Ratio 1998-2010, based on average income per capita, average living space per capita, and average house price per sq m. Source: Shanghai Statistical Bureau, various years; NBSC, various years. Own calculation.

It is essential to mention that the above calculations on price-income ratios are carried out based on average floor space per capita, which ranges from 9,7 sq m in 1998 and 16,4 sq m in 2010 (Shanghai Statistical Bureau, 2011). Newly built houses will likely provide more living space per capita (see Table 9), considering that the average household consists of three people in the examination period (Shanghai Statistical Bureau, 2011). The issue of housing size and availability is discussed in detail below. To estimate the price-income ratio for newly built houses, the price-income ratio for average-priced 60 sq m and 90 sq m apartments are calculated (Table 7 and Table 8).

Based on Chen et al.'s assumption (2006) of an affordability limit of seven, only the upper 20% would be able to afford a 90 sq m housing unit; in the case of a 60 sq m unit, it would be the upper 40%.

Price - Income Ratio Shanghai 1998-2010 – 60 sq m apartment								
Year	Average Income	Lowest Income	Low Income	Medium-low Income	Medium Income	Medium-high Income	High Income	Highest Income
1998	6,7	14,2	10,4	8,7	7,2	5,9	4,8	3,6
1999	5,5	10,7	8,8	7,6	6,3	5,1	4,0	2,5
2000	5,6	10,6	8,6	7,4	6,2	5,1	4,1	2,8
2001	5,7	12,0	9,5	8,0	6,6	5,3	4,3	2,4
2002	6,3	13,1	10,4	8,4	6,8	5,6	4,5	3,0
2003	6,7	17,9	12,9	10,2	7,9	6,1	4,5	2,7
	<b>Average</b>		<b>Low Income</b>	<b>Medium-low Income</b>	<b>Medium Income</b>	<b>Medium-high Income</b>	<b>High Income</b>	
2004	7,6		17,8	11,8	8,9	6,5	3,7	
2005	7,2		17,0	11,3	8,5	6,3	3,5	
2006	6,8		15,6	10,7	8,3	6,1	3,3	
2007	7,1		16,2	11,0	8,2	6,1	3,5	
2008	6,1		14,1	9,3	7,2	5,4	3,1	
2009	8,8		19,2	13,1	10,2	7,9	4,4	
2010	9,3		19,7	13,6	10,8	8,4	4,7	

Table 7: Price-Income Ratio 1998-2010 for a 60 sq m apartment. Source: Shanghai Statistical Bureau, various years; NBSC, various years. Own calculation.

Price - Income Ratio Shanghai 1998-2010 – 90 sq m apartment								
Year	Average Income	Lowest Income	Low Income	Medium-low Income	Medium Income	Medium-high Income	High Income	Highest Income
1998	10,0	21,2	15,7	13,1	10,8	8,8	7,3	5,4
1999	8,3	16,0	13,3	11,4	9,5	7,6	6,0	3,8
2000	8,4	16,0	12,9	11,2	9,4	7,6	6,1	4,1
2001	8,5	18,0	14,3	12,0	9,8	7,9	6,5	3,6
2002	9,4	19,7	15,6	12,5	10,2	8,4	6,7	4,4
2003	10,1	26,8	19,3	15,3	11,9	9,2	6,8	4,0



	Average	Low Income	Medium-low Income	Medium Income	Medium-high Income	High Income
2004	11,3	26,8	17,7	13,4	9,8	5,5
2005	10,7	25,5	17,0	12,8	9,4	5,3
2006	10,1	23,4	16,1	12,5	9,1	4,9
2007	10,6	24,3	16,5	12,3	9,2	5,3
2008	9,2	21,2	14,0	10,8	8,1	4,6
2009	13,2	28,8	19,7	15,4	11,8	6,6
2010	13,9	29,6	20,4	16,1	12,6	7,1

Table 8: Price-Income Ratio 1998-2010 for a 90 sq m apartment. Source: Shanghai Statistical Bureau, various years; NBSC, various years. Own calculation.

Of course, the above-calculated price-income ratios cannot be the only indicators for affordability, nor for the ability of different income groups to buy housing property. Especially in the first years of the examination period, when the private mortgage market in China was still relatively new, only a minor share of house buyers financed the property with a mortgage. Support of families and own savings were important housing finance tools and are so until today (Chen et al., 2006; Li, 2010).

### Construction space and housing availability

Some authors (Chen et al., 2006; Gao, 2010) argue that it is hard to find suitable housing because the newly constructed housing units are too large and, therefore, too expensive. In the China Real Estate Yearbooks (NBSC, 1998-2011), data on the size of residential units sold are available from 2007 onwards. Table 9 shows that in 2007, only 34% of the sold units were under 90 sq m. According to Chen et al. (2006), in 2003, only 7.38% of all new build apartments had a construction space below 90 sq m. However, in the following years, the ratio of smaller units increased. One reason might be the so-called 90-70 policy, which the central government applied to tackle this exact problem. That policy obliged real estate developers to build 70% of their new buildings with a construction space of less than 90 sq m (Gao, 2010). Moreover, the table shows the ratio of sold upscale apartments, which are better equipped and more luxurious residential units. Considering the fact that those upscale apartments are considerably more expensive than regular commercial units (Figure 21), a high share of those units can lead to tensions in the housing market and decreased affordability for certain income groups.

Commercial Residential units sold				
	total number	of which		
Year		under 90 sq m	above 90 sq m	Upscale
2007	84.565	34%	66%	12%
2008	167.494	48%	52%	8%
2009	237.087	42%	58%	11%
2010	125.150	58%	42%	15%

Table 9: Size of commercial residential units sold by real estate enterprises. Source: NBSC, various years. Corrected for inflation (2010).

In addition to the question of the size of newly built units, there is also the question of which target groups they are built for. The China Real Estate Yearbooks collect data not only on conventional commercial housing units but also on upscale apartments. Figure 20 illustrates the annual newly started construction of residential buildings, showing the total area and the construction size of upscale apartments and EAH units. The share of upscale apartments in the total newly built residential area ranged from 11% to 21% between 2002 and 2010, with an average of 16% over the period (no data are available for 2004). The construction of new EAH units only began in 2009 (see Chapter 4), with the share of EAH buildings in newly constructed residential buildings reaching 9% in 2009 and 11% in 2010 (NBSC, various years).

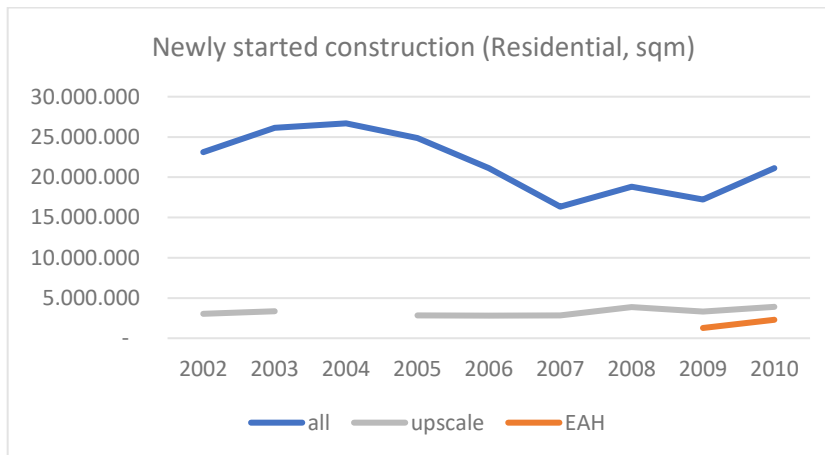


Figure 20: Newly started construction of residential buildings per sq m and type. Note: No data available for upscale apartments in 2004. EAH-program started in Shanghai in 2009. Source: NBSC, various years.

To provide an overview of what "upscale apartment" means in terms of price, Figure 21 compares the annual average prices of upscale, conventional, and EAH residential units (only available for 2009). The figure clearly illustrates massive differences in the mean prices. The

calculations of price-income ratios in *Table 6*, *Table 7*, and *Table 8* were conducted using the prices of conventional commercial housing units. The average prices of upscale apartments are between 54% and 79% higher than the average commercial housing prices depending on the year. EAH units in 2009 were 72% cheaper than apartments on the commercial housing market.

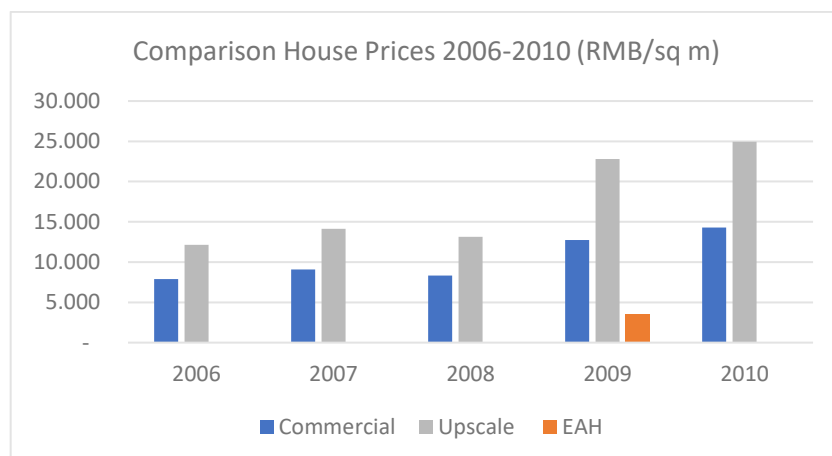


Figure 21: Comparison of house prices (commercial, upscale, and EAH units). Source: NBSC, various years. Corrected for inflation (2010).

### Living standards

One sub-target of the 1998 policy in Shanghai was to solve the overcrowding situation of households with a living space of less than four sq m per capita.

Share of households by housing size (2002)								
Floor Area per capita (sq m)	<= 8	9-12	13-16	17-19	20-29	30-39	40-49	>=50
Share of Households	16%	13%	12%	7%	21%	11%	7%	13%

Table 10: Share of households by floor area per capita 2002. Source: NBSC, 2004.

Table 10 shows that in 2002, 29% of households in Shanghai had a living space of less than 13 sq m per capita, which is less than the average floor in the same year (13,1 sq m). Moreover, 16% lived in less than eight sq m per capita (NBSC, 2004).

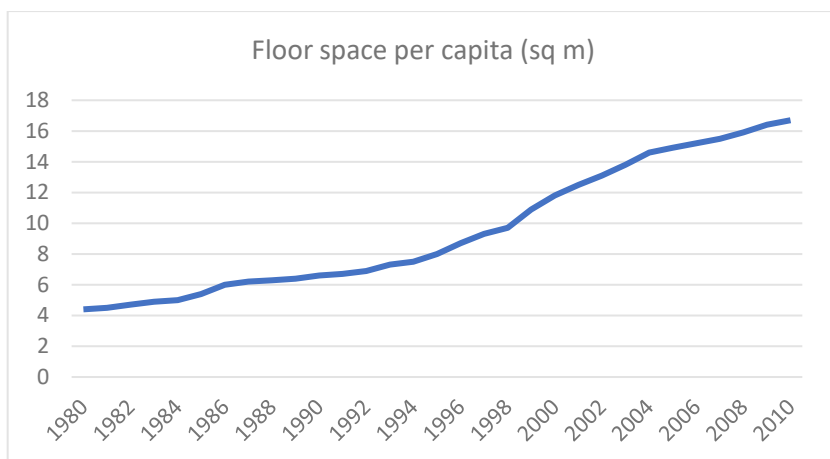


Figure 22: Floor space development per capita in urban Shanghai 1980-2010. Source: Shanghai Statistical Bureau, 2011.

The average floor space per capita in Shanghai indeed increased from 1998 to 2010 by 53%, with a sharp increase of 12% between 1998 and 1999 and another increase of 8,3% between 1999 and 2000. However, it should also be noted that the floor space increased by 56% in the previous 12 years, from 1987 to 1998 (Shanghai Statistical Bureau, 2011). As the GDP and the living standards in Shanghai improved after the economic opening, the general housing conditions also did. The floor space per capita rose from 4,4 in 1980 to 9,7 in 1998 and finally to 16,7 in 2010 (Figure 22).

The increase in floor space per capita is, therefore, rather explained by the general economic growth and various economic factors in the context of the economic opening of the Chinese economy than by the housing policy changes in 1998.

### Objective 3: Develop housing finance, establish and standardize a housing transaction market

Housing finance in China was primarily regulated at the national level by the central government. Partly due to the high costs of housing production, it was important for the government to withdraw from housing financing slowly. Zhang (2000) discusses three financing sources that have been used since the post-reform era, including funds as a policy instrument (such as the HPF, urban housing funds generated from tax earnings and public housing sales revenues), individual or work units' savings, and informal loans, for example from relatives. Although informal loans supposedly play an important role in private housing financing, as suggested by various authors (Chen et al., 2006; Zhang, 2000), they are not examined in the scope of this thesis. Instead, the private housing loan market and the HPF are discussed.

Like the housing market, the Chinese housing finance system has its own peculiarities. Mortgage loans for homebuyers were first introduced nationwide in China in 1994, but the market was initially very limited, and due to strict criteria set by state banks, it was almost impossible for individual homebuyers to obtain a loan (Deng et al., 2011). This changed in 1998, following the Urban Housing Reform resolution, which stated that the scope of personal housing loans should be expanded and that banks should remove restrictions for individuals. In addition, the loan terms for private housing loans should be loosened (State Council, 1998). The result was a steady increase in the volume of private housing mortgage loans since then, as shown in *Figure 23*.

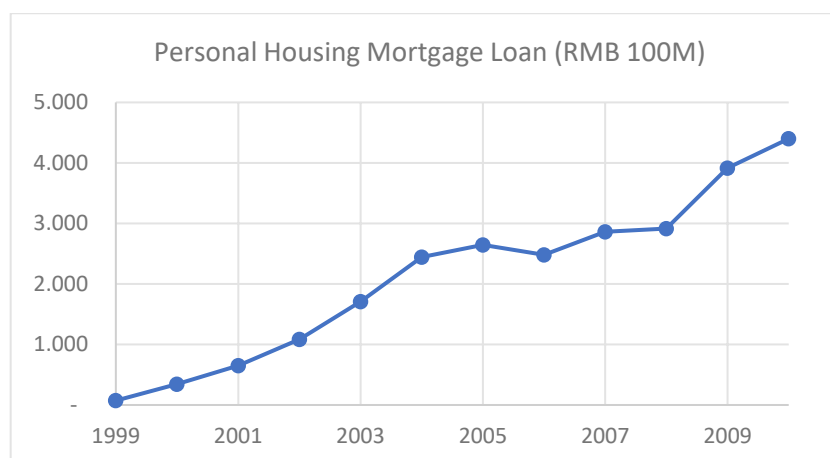


Figure 23: Development of personal housing mortgage loans in Shanghai, 1999-2010. Source: Shanghai Statistical Bureau, various years.

Although the prevalence of mortgage usage increased after 1998, several notable peculiarities apply to the whole of China, as Deng et al. (2011) elaborated. The mortgage rate for all borrowers was determined by the central bank of China until 2005. Since then, the central bank has set a baseline for mortgage rates, which allows banks more flexibility, but they cannot offer rates lower than 90% of the baseline. Furthermore, approximately 90% of private mortgages are issued by four state-owned banks: the Bank of China, the China Construction Bank, the Industrial and Commercial Bank, and the Agricultural Bank of China. Therefore, despite the development of the mortgage market, the central government still has significant regulatory power over it. In the past, the possibility for governmental intervention was regularly used to stimulate demand or lower housing prices by adjusting the mortgage rates (Deng et al., 2011).

In addition to the mortgage market, which was developed similarly in the whole of China, the development of the HPF is more specific to Shanghai. As discussed earlier, the HPF was a crucial policy instrument for the successful implementation of the housing reform. Shanghai was especially successful in implementing the HPF, which possibly derives from the fact that the fund was developed originally by the Shanghai municipal government.

By 2010, a cumulative amount of RMB 265,14B had been collected in the HPF, compared to RMB 141,73B of cumulative withdrawals. 4,07 million employees participated in the HPF in 2010. In total, from the introduction of the HPF until 2010, 1,46 million loans were issued from the HPF to private households for housing purchases (SPFMC, 2012). Li (2010) analyzed the financial sources of housing purchases in Shanghai through a survey in 2006 and 2007: Among loan users, the HPF loan contributed only a share of 3,5% on average to the financing; another source was the withdrawal of HPF, with a share of 2,1%. The largest share comes from commercial mortgage loans (36,3%), followed by personal savings (28,1%) and parental contribution (18,2%).

To conclude, a housing finance system was successfully established in Shanghai after 1998, mainly through the quick establishment of an individual mortgage loan system, primarily supported by four state-owned banks. This private mortgage system is the most important financial source for new home buyers in Shanghai. The HPF plays compared to that a minor role in private housing finance.

### Transaction market

According to several authors, the Asian Financial Crisis in 1997 was one factor for the Chinese government to use the housing industry as a new economic growth engine (Chen et al., 2006; Deng et al., 2011; Fang et al., 2016). Consequently, the cultivation of a functioning housing market was crucial. As part of this, transactions should also be standardized; for example, there should no longer be different types of use rights or property rights for regular commercial houses, as was the case for the sale of public housing before the reform.

Figure 24 shows the floor area of completed residential buildings. While there was a decline after 1997 due to the Asian financial crisis, a surge in the construction of residential buildings is clearly visible.

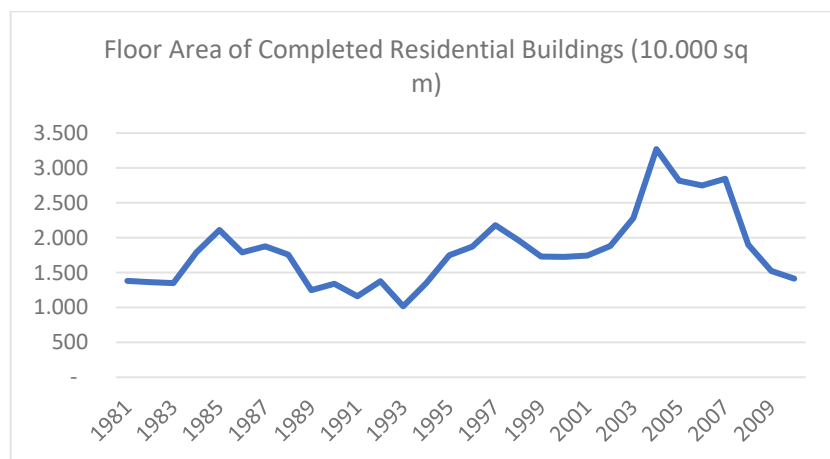


Figure 24: Development of residential buildings floor area completed (10.000 sq m), 1981-2010. Source: Shanghai Statistical Bureau, 2011.

The decision to restructure the housing market is also visible in the investment in residential housing (Figure 25). The housing reform was announced in the late 1980s, and more detailed regulations were introduced in the following years. In 1994, the central government published an implementation plan for the reform, which might be the reason for the sharp increase in investment in residential housing at that time. The Asian financial crisis led to a decline in investment after 1997, but after 1999 the investments grew again. The decline in 2006 can be explained by the 2005 regulations of the Shanghai municipal government. Despite several ups and downs, real estate investment and construction are generally growing. Although the housing market in Shanghai is, in global comparison, still unique, mainly because of the extensive intervention options of the central and municipal governments, the establishment of a housing market was achieved.

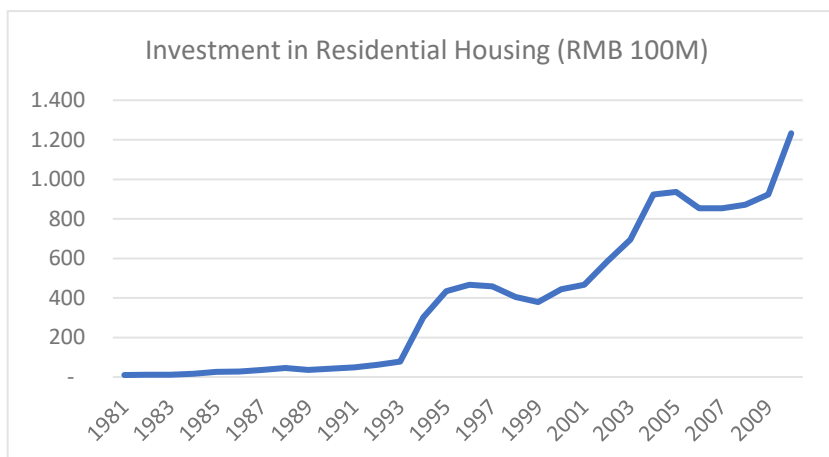


Figure 25: Development of investment in Residential Housing (in RMB 100M) 1981-2010.  
Source: Shanghai Statistical Bureau, 2011.

#### 5.4. Discussion of Policy Assessment

Several conclusions can be drawn by assessing different aspects of the housing market in the context of the housing policy reform.

On the one hand, some of the government's goals were achieved. The distribution of housing in-kind was effectively stopped. In addition, the real estate market was extensively commercialized, and the state withdrew from real estate investments as planned. The commercial housing market was boosted, and investment and construction activity steadily increased. To achieve this, housing finance instruments were successfully introduced. The HPF was established, and a private mortgage market was built up. Overall, Shanghai has achieved the goals related to the development of the housing market as part of economic prosperity.

On the other hand, regarding the socio-political goals, the results look different. The goal of establishing different affordable housing programs for different target groups was only partially achieved during the review period. Flats from the affordable housing programs EAH and CRH accounted for only a tiny part of the total number of flats. High price-income ratios characterize the conventional commercial housing market during the period. Different scenarios show that, especially after 2003, it was difficult for a considerable part of the population to obtain housing from the commercial market. In addition, there is a relatively high share of upscale flats as well as larger flats with over 90 sq m in the newly built flats. This also increases the pressure on the affordable housing market.



To sum up, the housing reform improved the living standards of large parts of the population, e.g., floor space per capita increased steadily, and the problem of overcrowding and poor housing conditions was largely solved. At the same time, however, little was done after 1998 to improve the housing affordability of low- and middle-income groups. In this context, a closer look at the pre-reform period is critical: Through the privatization of public housing, relatively high shares of ownership could be achieved even before 1998. In 2010, this was almost 80%, with 37.4% being privatized public housing. This suggests that the affordability issue, which is unmistakably present, mainly affects households that did not have the opportunity to acquire state-subsidized housing before 1998. Therefore, the policy change in 1998 was drastic and only marginally cushioned by the new instruments introduced for more affordability.



## 6. Conclusion

This thesis addressed housing policies in urban China during the economic reform era after 1978, focusing on housing policies in Shanghai following the complete commercialization of the housing market in 1998. The aim of the thesis was to contribute to the understanding of the restructuring of the Chinese housing system in response to this significant policy shift. Through the analysis of policy documents, academic literature, and empirical data, the study assessed the outcomes of governmental housing policies between 1998 and 2010, with a special focus on housing affordability.

In the first part of the thesis, theoretical concepts related to Housing Systems, Housing Policies, and Housing Affordability were initially explained. This review could help to build on a common understanding in the course of the thesis. In addition, essential further steps of the research, such as the categorization of policy assessment and the empirical analysis, were based on it.

In a subsequent step, the Chinese housing system and policy regime were contextualized within an international and historical framework. This step facilitated the analysis of the post-reform housing policies in Shanghai since it provided valuable insight into the housing system and its influencing factors. The transition from a communist housing policy regime to a commodified housing market emphasizing homeownership occurred relatively slowly. Specific transitional measures during the reform phase, such as the subsidized sale of public housing, helped to mitigate some of the effects on low-income households. Additionally, the restructuring of the housing market took place amidst China's overall economic reform and opening up. The central government planned to build up the real estate market as an important pillar of the rapidly growing economy. Hence there was a significant emphasis on selling public housing and increasing demand for homeownership.

The first research question was concerned with which housing policies and instruments the City of Shanghai used to address the affordable housing issue after the opening of the housing market in 1998. In Chapter 4, those policy instruments were addressed together with corresponding policy documents. In the following Chapter 5, the main instruments were assessed by a systematic compilation and evaluation of existing literature and policy documents, complemented with empirical data. The HPF was introduced in Shanghai as a compulsory housing finance tool to increase demand and incentivize households of all income levels to purchase housing property. On the supply side, the HPF was planned to be

complemented by EAH, a program targeting low- and middle-income households for homeownership. The third instrument was the CRH, a rental program for the lowest-income groups with significant housing difficulties. The categorized and systematic assessment of the three policy instruments concluded that the two policy instruments aiming mainly at affordability, the EAH and the CRH program, were implemented only to a limited extent in Shanghai during the examination period. In the case of the CRH program, the target group was very narrow, and the EAH program was implemented in Shanghai with a significant delay in 2009. The HPF, although successful on other levels, had some drawbacks in terms of equality and therefore was not suitable for improving housing affordability.

The second research question was whether the objectives of the 1998 housing reform were achieved in Shanghai from 1998 to 2010. The assessment was undertaken with empirical data from official sources such as Shanghai Statistical Yearbooks and China Real Estate Yearbooks. The analysis included an assessment of the general economic development and a structural examination of the main objectives of the housing policy concerning the housing market, affordability, living standards, and housing finance. While the post-reform policy's economic goals could be met, namely regarding the commercialization of housing and the establishment of housing finance, there are indications that housing affordability declined during the examined period, particularly among lower- and middle-income households.

In summary, the commercialization of housing in urban China has led to far-reaching consequences. The entire housing system, including the investment and property rights structures, has been completely changed. The Chinese central government has consistently pursued the goals of housing reform since the first set of objectives in 1988, despite various policy experiments. Successful experiments such as the HPF in Shanghai have been developed into national strategies. Shanghai, one of China's most important economic cities, pursued an even more market-oriented approach than many other cities. During the housing reform, public housing was heavily subsidized for sale, enabling lower and middle-income groups to purchase property. However, after 1998, few social housing programs were established. Households that did not have the opportunity to purchase discounted housing before 1998 are now increasingly exposed to rapidly rising housing prices in Shanghai.

This thesis showed several experiences in the housing policy process that can be valuable learnings for future policymaking, not only for China but also for other countries. The results indicate that it is essential for the success of a policy to align the objectives of the national and municipal governments. In that way, the implementation of national policies in a centralized

system like China is facilitated for municipal governments. Moreover, China's scale-up policy approach, especially at the beginning of the housing reform, indicates favorable results. The HPF in Shanghai is an example of a municipal policy scaled up to the national level due to its success. However, it remains crucial to align with local peculiarities since housing markets can differ significantly between cities.

With its categorical analysis of housing policies, this thesis achieved to provide a more nuanced understanding of the housing policy-making process in Shanghai from 1998-2010 and its consequences. The long-term empirical analysis, which considered the historical context, allowed drawing valuable learnings from the thesis.

In addition to the existing literature, this thesis considered not only separated factors but viewed the development of housing policies as a complex process with a wide range of influencing factors. The categorized assessment of policy instruments employed by the City of Shanghai allowed a structural insight into the development process of the policies, together with an accurate analysis of the benefits and drawbacks of the instruments in different categories.

Analyzing the objectives of the government revealed the close interconnection of economic development and housing affordability and contributed to a better understanding of the complex housing system of Shanghai. The assessment of policy objectives revealed trends in different categories of the housing system over an extended period, giving valuable insight into the interconnected fields of policymaking and economic development. Overall, the detailed examination of policy processes in the past provided a foundation for future innovative policy designs.

### **Research Limitations and Outlook**

The following section reflects on the limitations this thesis – as with most research projects - faced and presents a brief outlook on possible further research on the topic.

The first restriction concerns language barriers and cultural background. Since this research was conducted by an Austrian student without Chinese language skills, the extensive literature on the topic in Chinese was not included in the thesis. Source material such as policy documents and data are partially only available in Chinese language, making it challenging to access the information. Moreover, cultural differences may have affected the interpretation of findings.

Apart from that, there were several methodic constraints, mainly regarding data availability. Official data on the housing market in Shanghai is limited due to the unavailability of data on rental housing; the rental market was not considered in this thesis. Moreover, data on housing and housing prices are limited, restricting the interpretation of some policy outcomes.

Regarding population, the research is restricted to permanent residents with local hukou. Although non-hukou holders make up a considerable share of the population, they are not included in most official statistics, such as income statistics, due to their non-permanent residential status. The housing programs discussed in this thesis are also restricted to permanent residents.

The study of housing affordability encountered limitations because necessary data, such as data on housing distribution or income-related housing expenses, were not available for the conduction of this research.

Nonetheless, even given these limits, the present thesis's strength is contextualizing the housing reform and the systematic categorical assessment of the policy instruments and objectives. By pointing out the general policy strategies of the municipal government of Shanghai, it was possible to show how housing policy tools influence the government's overall objectives and vice versa.

Despite these limitations, it is possible to identify various topics for further research.

One possible interesting research area could be the impact of the commercialization of housing on the population without local urban hukou in Shanghai. With economic reform and growth, it has become easier for these migrant workers to move to large, economically powerful cities like Shanghai, and they are also increasingly needed as a workforce there. Despite the importance of this group, there is little data available. Therefore, possible research on the topic would first have to focus on data collection. Fang & Zhang (2016) examined the tenure decision of non-hukou holders in large Chinese cities and the restrictions they are facing. Further research on this topic is desirable, for example, by considering the rental market. Since people without local hukou are not eligible for most social housing programs, and buying housing property from the market is not affordable for many non-hukou-holders, they must rely on the rental market.

Investigating the development of the private rental market in Shanghai regarding the housing reform and affordability would be a second interesting research area that could be addressed in a further study. Given the limitation of data availability, this would require data collection,

for example, through private rental portals. Li et al. (2019) provided an interesting study in this field, analyzing Shanghai's private rental housing market by collecting and analyzing data from a real estate website. This method seems promising for further research, especially for differentiating spatial patterns of rent prices and population distribution, which could be used to analyze the effectiveness of policies targeting housing affordability.





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