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Housing Inequality in Urban China: Theoretical Debates, Empirical Evidences, and Future Directions

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Abstract

Within three decades, the urban housing reform in China has changed access to housing from a system of socialist administrative allocation to that of more market-dominated housing development and consumption. Researchers have studied the socioeconomic and spatial consequences of these profound transformations. This review focuses on China's housing inequality literature in relation to the changing origins, spatial patterns, and recent policy responses. The article reveals the unique features of China's transitional economy along with massive urbanization, in which housing inequalities are rooted in socialism and strengthened by institutional changes of a state-led market economy.

Keywords

housing inequality, China, residential spatial inequality, housing policies, housing reform, market transition

China has achieved spectacular growth in urban housing development in the past three decades while moving from a socialist planning economy to a market-oriented transitional economy. Private housing investment surged from 208 billion yuan (30.8 billion US dollars) in 1998 to 3.4 trillion yuan (503 billion US dollars) in 2010 (Yi and Huang 2014). The socialist housing system, dominated by public housing, was replaced by new housing options and improved housing consumptions. While 83 percent of the urban housing stock was publicly owned in the early 1980s (Walder 1986), the private homeownership rate has reached 85.4 percent nationwide by 2010 (Yi and Huang 2014). Per capita floor space of urban households increased from 6.7 m^2 in 1978 to 31.6 m^2 in 2010 and to 36.6 m^2 in 2016. Housing has become the most important source of wealth accumulation of Chinese urban households, with its share in household wealth increasing from 22.7 percent in 1995 to 60.2 percent in 2002 and 76 percent in 2012 (Y. Xie and Jin 2015).

Housing privatization and marketization also facilitated profound social, economic, and spatial transformations at unprecedented scale and speed in Chinese cities (Y. Huang and Li 2014). The urban residential landscape is increasingly polarized, and housing poverty has become visible in the urban landscape. For millions, a decent house in a city is still beyond reach. Fourteen percent of urban households are estimated to be facing housing difficulties in 2012 (Ren and Hu 2016). Housing inequality has had profound and far-reaching implications on many facets of urban life and has become a mechanism of socio-spatial stratification in China (Y. Huang and Li 2014). The origins and processes of housing inequality are challenging our understanding of China's goal to build a *harmonious* society.

China's housing issues have been the subject of numerous studies across disciplines of geography, sociology, and urban planning. They together present the complicated processes of housing reform and real estate development unique to China's emerging market economy. A few review papers that provided synthetic insights have focused on specific topics including urban housing reform (e.g., Y. Wang and Murie 1996, 1999a, 1999b), the new market-oriented urban housing provision system (e.g., L. Deng, Shen, and Wang 2011; Y. Wang et al. 2012), and the affordable housing policy (e.g., Y. Huang 2012; Shi, Chen, and Wang 2016). Few review papers were written on housing inequality, or they are somewhat dated (e.g., S.-M. Li 2005), before the acceleration of real estate development. The ever-increasing empirical studies in recent years, especially the rising focus on equity, call for an updated review on China's housing inequality studies. This article is a response to this call.

In this article, we provide a literature review on the origins, implications, and policy responses of housing inequality in urban China in the context of a transitional economy which

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stresses the equity concerns of China's urbanization and marketization. Needless to say, it would be an impossible mission to even attempt to cover all existing studies on housing inequality in urban China, given the sheer size of the literature and the complexity of the issues of interest. Our purpose, therefore, is to present a critical assessment of state-of-the-art knowledge based on a core, albeit limited, set of extant studies, mostly published in the English language. We hope to identify future research directions that planning scholars can pursue to better understand the role of housing in social–spatial equity and justice.

Evolving Origins of Housing Inequality

The literature on the origins of housing inequality in urban China has largely built on the sociological debate of market transition, which has focused on the changing order of social stratification during the transition from a centrally planned economy to a market economy. In his market transition thesis, Nee (1989) proposed that the introduction of market mechanisms undermined the redistributive power of political elites by shifting power, opportunities, and incentives toward players in the market sector. Consequently, social stratification has increasingly favored those who control the capital over those who control the political power (Nee 1996). However, the power persistence theory (Logan and Bian 1993; Bian and Logan 1996) argued that the gradualist market transition systematically reinforced cadres' political privileges, thus predicting the enduring influence of redistributive power on people's access to resources. Thus, the persistent political order continued to be the core mechanism of social inequality in transitional urban China.

Inspired by this theoretical debate, early studies of China's housing inequality (e.g., Logan, Bian, and Bian 1999; Y. Huang 2003; Y. Huang 2004b; Y. Huang and Clark 2002; Y. Huang and Jiang 2009; S.-M. Li 2000, 2005; S.-M. Li and Li 2006; S.-M. Li and Yi 2007) sought to examine whether market transition leads to an increased influence of individual preferences and affordability on housing access (as predicted by the market transition thesis and similar to what is found in Western market economies), or the transition simply reinforces the political order of housing access that dominated the socialist era (as predicted by the power persistence thesis). The general consensus is that, although market factors have started shaping the residential landscape with the declining impact of political power, the institutional divisions inherited from the socialist period are sustaining housing differences and forming new barriers to housing access in transitional urban China.

Persistent but Declining Political Power

Before the market reform started in 1978, urban housing was regarded as a welfare good provided and allocated by the state through a centralized redistribution system (Howe 1968; Y. Wang and Murie 1996). However, welfare allocation did not mean absolute equality in access to housing (Howe 1968). Studies in socialist countries have revealed that political elites holding redistributive power manipulated the rules of resource allocation to favor themselves, their families, and their personal networks (Szelenyi 1983). Similarly, in prereform China, cadres in positions of authority in state bureaucracy and work units, as well as people with strong ties to authorities, benefited more from housing allocation by enjoying the largest and best-equipped apartments (Walder 1986). In the early reform era from the 1980s to the early 1990s, political status and redistributive power continued to have significant predictive power for housing space and quality (Logan, Bian, and Bian 1999). Being a member of the Chinese Communist Party (CCP) or an administrator in work units or having informal ties to people of authority was significantly associated with larger apartment size and better-quality housing.

The persistence of political power is also on the housing provision side, represented by the political status of the work units with which urban residents were affiliated. Work units with a higher rank and more resources were able to build more and better housing for employees, leading to substantial inequality of housing conditions across work units (F. Wu 1996). In the early reforms, employees of higher-ranked work units were less likely to make tenure transition into homeownership because of the reliance on welfare housing allocation (Y. Huang and Clark 2002). Nevertheless, these employees enjoyed greater advantage in access to homeownership during the public housing privatization in the mid-1990s. Powerful and resourceful work units could offer greater subsidies or discounts to employees in terms of pricing and property rights arrangements during that time (Sato 2006; Logan, Fang, and Zhang 2010). Work units with more resources either bought "commodity" housing units and distributed them to employees with heavy subsidies or offered generous monetary subsidies for employees to purchase housing in the market.

After the accelerated housing marketization in late 1990s, the effects of political status on housing access were more mixed. Many studies showed that those who were privileged under the socialist housing allocation system continued to be better off, transitioned from renting to owning sooner (S.-M. Li and Yi 2007; Song 2010), received larger subsidies during public housing privatization (Logan, Fang, and Zhang 2010), owned newer and better housing (Walder and He 2014), lived in better locations (Fang, Logan, and Pal 2015), and even were more likely to own a second home (Y. Huang and Yi 2011). However, Y. Huang (2003) found that there was no significant association of job seniority and job rank with access to public rental housing any more, suggesting a somewhat declining importance of political status. Using a 2001 survey study in the city of Guangzhou, S.-M. Li and Li (2006) also found that job rank failed to predict the tenure change from renting to owning, while the effect of CCP membership persisted.

Hukou as Persistent Institutional Discrimination

The household registration system, that is, *hukou*, is perhaps the most persistent institution underlying the housing

inequality in today's Chinese cities (Y. Huang and Jiang 2009; Logan, Fang, and Zhang 2009). Begun in the 1950s, the *hukou* system institutionally divided the population according to place of residence in urban or rural areas and attached a person's rights and entitlements to one's *hukou* status. Under this system, residents with urban *hukou* received benefits including pensions, public education, and health care, while rural citizens were left to fend for themselves (Chan 1994). Before the market reform, urban housing was provided and allocated as government welfare, while rural housing was self-built on collective land. *Hukou* status mattered less for urban housing inequality at that time, since rural and urban households lived apart from each other and did not compete in the same housing system. This situation changed in late 1970s when rural residents began to migrate to cities for livelihood opportunities. When rural migrants settled in cities, they were treated as temporary and "floating" outsiders. Comparing to urban *hukou* residents, millions of migrants do not have equal access to welfare and services including housing (Logan, Fang, and Zhang 2009).

Without local urban *hukou*, migrants working in cities have had little access to subsidized housing, be it old public housing from the former welfare system or the new affordable housing programs that government adopted after the housing reform (Y. Huang 2012). Market-based housing with clear property rights, which is probably affordable for affluent, highly skilled, urban migrants who can purchase housing and obtain homeownership in cities, is hardly affordable for the majority of migrant workers who are low-income. A 2009 migrant survey in twelve Chinese cities showed that only 15.1 percent of temporary migrants lived in formal housing (Z. Liu, Wang, and Tao 2013), while only 3.92 percent owned dwellings in cities (Y. Huang and Tao 2015). The vast majority of temporary migrants live in employer-provided dormitories or rent private housing in informal settlements (Z. Liu, Wang, and Tao 2013; W. Wu 2002, 2004) or underground rental units (Kim 2016). With the escalation of housing prices in recent years, even college graduates have been found to live in informal housing as "ant tribes" (Gu, Sheng, and Hu 2017). Differences in housing access also exist between urban-to-urban migrants and rural-to-urban migrants. Migrants with urban *hukou* from other cities are more likely to become homeowners (W. Wu and Wang 2014; Fang and Zhang 2016). Those with rural *hukou* are more likely to live in informal housing and less likely to live in formal housing (Y. Huang and Tao 2015; Z. Liu, Wang, and Tao 2013).

In the New Urbanization Plan adopted in 2014 (Xinhua News 2014), the Chinese government sought to reform the *hukou* system. On the one hand, medium- and small-size cities removed their *hukou* restrictions for migrants to settle down. On the other hand, larger cities adopted various levels of so-called city entry barriers (CEB; L. Zhang and Tao 2012) as a new and nuanced form of restrictive practices to limit migrant settlement, even though large cities are the most attractive to migrants (Fang and Zhang 2016). Typical CEB measures require continuous enrollment in the local urban insurance scheme and contributions to local pension funds over a number of years. The adoption of CEBs allows large cities to continue blocking rural migrants from full entitlement to urban welfares and services, including equal access to housing. As X. Huang et al. (2014) found, although *hukou* status is not significant in predicting homeownership in less-developed municipalities, having local *hukou* still significantly affects homeownership attainment in more-developed municipalities.

The dual system of land management—which differentiates village-owned rural land and state-owned urban land—also contributes to the sustained privilege of urban populations over rural populations. Since only state-owned urban land is legally allowed for development, city governments possess monopolistic power over acquiring rural land at low prices and leasing it for property development. As a result, city governments are able to capture the large share of land value appreciation while depriving rural households of similar benefits to improve their livelihoods through land value appreciation (X. Shen and Tu 2014).

Emerging Market Forces

The pro-marketization housing policy was adopted in 1998. It was a milestone for the housing production and allocation in Chinese cities, which terminated in-kind housing allocation. Numerous studies have found that since the late 1990s, individual choices based on preferences and affordability have become more observable in explaining differences in housing tenure, housing space and quality, and residential mobility (e.g., G. Chen 2016; Y. Huang 2004b; Y. Huang and Jiang 2009; Y. Huang and Li 2014; S.-M. Li 2000, 2012; S.-M. Li and Yi 2007). Using data from a 2001 survey in Guangzhou, S.-M. Li and Li (2006) found positive associations of tenure change with age, education attainment, and change in marital status. The rising influence of sociodemographic variables suggests the emergence of market-based sorting mechanisms in Chinese cities as housing outcomes are driven more by individual choices based on family life cycles (e.g., age, change in marital status, childbirth, household size), affordability (e.g., income), and human capital (e.g., education, occupation; Y. Huang 2003; G. Chen 2016).

To be sure, even during the socialist period, welfare allocation favored people with higher income, education, and occupational skills (Szelenyi 1983). More educated and skilled workers had higher bargaining power with their work units or were more capable of cultivating informal ties (*guanxi*) with persons of redistributive power to press for better housing (Logan, Bian, and Bian 1999). During the reform, these bureaucratic privileges may have transferred into technocratic competence (i.e., human capital) or their advantages in social networks. Thus, people at the higher rungs of occupational and educational ladders may enjoy double housing advantages in both market and nonmarket processes (Logan and Bian 1993; Yi and Huang 2014). Given the dual-track urban housing reform, the coexistence of both institutional and market-

based mechanisms has remained the core feature of housing inequality in transitional Chinese cities (S.-M. Li 2012).

Socio-spatial Implications of Housing Inequality

By the early 2000s, urban scholars had begun to study the socio-spatial implications of China's changing housing system (Y. Wang and Murie 2000; F. Wu 2004). The unequal housing access could give rise to the social isolation and ecological concentration of the truly disadvantaged, which, in turn, leads to further structural barriers that undermine social organizations and mobility as observed in Western cities (Sampson and Wilson 1995). In this section, we review these social and spatial implications of housing inequality in Chinese cities.

Socio-spatial Differentiation, Segregation, and Poverty Concentration

In the market-based system, the urban socio-spatial pattern is formed when residential land is valued differently in different parts of the city. The pattern can vary either with an affluent center and a poorer periphery (as in many European cities) or the other way around (as in many US cities; Brueckner, Thisse, and Zenou 1999), depending on how people perceive the relative advantages of centrality or suburbanization.

In China, prior to the market reform, most urban residents lived and worked in work unit compounds, which were characterized by a greater social mix, a greater job–housing spatial balance, and proximity to amenities and services (Bray 2005). Therefore, housing inequality was rarely manifested spatially because employees of the same work unit, regardless of their ranks, lived in the same housing compound. Work units obtained land through administrative allocation by the state, thereby resulting in spatial differentiation based on the relative position of the work unit within the institutional hierarchy of the state.

As the dismantling of work unit–based housing supply pushed urban residents to the housing market, the economic reform has unleashed a sudden burst of market forces that interacted with preexisting development history and institutional inequalities, thereby creating a complex pattern and process of socio-spatial differentiation that has few parallels outside China (Fang, Logan, and Pal 2015). Individual households have been sorted to different residential locations according to their capability to afford the market values of land as well as their institutional privilege in access to prime locations in the transitional economy.

Whereas scholars generally agree that postreform Chinese cities begin to show considerable socio-spatial differentiation (He 2013; Z. Li and Wu 2008; Y. Wang and Murie 2000), the patterns are very much a mix. In a typical Chinese city, the historic center includes the historical legacy of traditional residential neighborhoods, the socialist legacy of public welfare housing, and redeveloped neighborhoods with market-price housing. The intermediate ring used to consist of work unit compounds characterized by a considerable social mix within each compound and differentiation across work units. This ring has been gradually dissolved due to the privatization of public housing and the redevelopment of work unit compounds. The residential landscape is even more mixed in the outer ring, with the coexistence of informal rental housing for migrants, mass housing development targeting the emerging middle-class households, displaced inner-city residents, and high-end, single-family villa projects targeting wealthy classes.

Meanwhile, poverty concentration often takes place in the location with continuous disinvestment by the state. Since the market reform, the urban poor have been concentrated in traditional inner-city neighborhoods, which previously had the oldest and most dilapidated dwellings. They have also lived in former housing compounds of bankrupted state-owned enterprises, which have faced delayed or ignored maintenance and renovations since the enterprise reform in the late 1990s. Urban poor have also been concentrated in urban villages (or *chengzhongcun*) in suburban areas as these formerly rural villages were engulfed by urban expansion but remained collectively owned by villagers. Without proper planning and publicly funded infrastructure, these villages became the ground for informal housing development in the ever-expanding Chinese cities. Villagers took advantage of the institutional ambiguity to build substandard rental units for migrants (Y. Wang, Wang, and Wu 2009). These informal housing settlements have become the most important source of low-cost housing for migrant populations in large cities (F. Wu 2004; Y. Wang, Wang, and Wu 2010).

Scholars have debated whether these socio-spatial differentiation processes suggest the emergence of residential segregation in Chinese cities as is seen in Western cities. Earlier studies suggested that Chinese cities do not suffer from severe residential segregation (e.g., Gu, Wang, and Liu 2005) due to the relatively low segregation index revealed in these studies. Later some wondered whether this estimation was accurate. The population census data in China are mostly available at the subdistrict level, which may include hundreds of thousands of residents and cover dozens of square kilometers of land area. Given the crude geographical unit of analysis, previous estimations of residential segregation may have ignored the residential clustering within the subdistricts (Z. Li and Wu 2008; Q. Wu et al. 2014). More recently, using a case study of Xiamen Island, Sun et al. (2017) showed that the smaller the scale of the spatial unit, the larger the spatial differentiation.

With the increasing availability of finer-scale data, scholars have revealed a more-nuanced picture of residential segregation in major Chinese cities. Unlike in Western countries, where race and ethnicity are the main source of residential segregation (e.g., Massey 1985), residential segregation in Chinese cities manifests mostly between the group of poor who live in vulnerable living conditions (Y. Liu and Wu 2006) and the newly emerged affluent urban residents (X. Hu and Kaplan 2001). Based on community-level population census data in both Nanjing (Q. Wu et al. 2014) and Shanghai (Z. Li and Wu 2008), studies have found that newly developed suburban

neighborhoods are more heterogeneous and characterized by mixed social groups, while old communities are more homogeneous, suggesting that market forces accelerate spatial segregation with housing reform. More recently, J. Shen and Xiao (2019) found that the socio-spatial division in Shanghai has grown substantially over the period 2000–2010 and is now comparable to that of large US and European cities.

Accessibility Implications

Scholarly interest in the accessibility implications of housing inequality in urban China was largely inspired by the spatial mismatch thesis developed in the US context (Kain 1968). Planning scholars are especially concerned about whether housing inequalities lead to a widening inequality of access to employment and public services in Chinese cities as observed in the US metropolitan areas. Evidently, the spatial context of the new residential landscape in urban China, in which urban residents access jobs and other amenities and services, has transformed (D. Wang and Chai 2009; Zhao, Lü, and Roo 2011). With the dismantling of work unit compounds, urban residents no longer enjoy spatial proximity between homes and workplaces and services but begin to endure the increasing job–housing separation (Ta et al. 2017).

Scholars have used population and economic census data to estimate, on an aggregate level, the scale of job–housing mismatch. In general, Chinese cities have an overall better job–housing spatial balance compared to major US cities (S.-M. Li and Liu 2016). Some suggest that Chinese cities may not experience severe spatial mismatch because they are not plagued by racial segregation, low-density urban sprawl, or overreliance on automobiles as is the case in US cities (Fan, Allen, and Sun 2014). Nevertheless, job accessibility has indeed declined since the turn of the century (L. Hu, Fan, and Sun 2017). Disadvantaged populations such as low-skilled, low-education groups tend to face a greater decline in job accessibility (Fan, Allen, and Sun 2014). Additionally, in contrast to US cities, inner-city districts have better job accessibility than suburban areas, in part due to the monocentric employment distribution in most Chinese cities (S.-M. Li and Liu 2016; L. Hu, Fan, and Sun 2017).

Another line of research, mostly relying on cross-sectional survey data, focuses on understanding how the unequal housing access, coupled with the changing urban spatial structure, affects the commuting outcomes of urban residents, particularly disadvantaged populations. Empirical results have been mixed. Some found that low-income workers in Beijing spend shorter time commuting by living in a location with greater job–housing balance (Zhao 2015). Others, however, found an inverse U-shape relationship between the subdistrict-level job accessibility index and commuting time for low-income residents (Z. Liu and Wang 2011). Meanwhile, migrant populations were found to have a more-balanced job–housing relationship than local *hukou* holders in the sense that they live closer to workplaces and spend less time commuting (S.-M. Li and Liu 2016). This pattern could be originated from the fact that either lower-paid jobs are relatively more spatially dispersed (L. Hu, Fan, and Sun 2017) or low-income households, being mostly renters, are more sensitive to commuting costs and are more mobile to relocate closer to job opportunities (S.-M. Li and Liu 2016).

Social Implications of Housing Inequality

Housing inequality has had profound social implications for many aspects of urban life as well. The gradual process of housing marketization has had a significant cohort effect on temporal housing inequalities in urban China (Fu 2016). Younger generations, who started working after the termination of welfare housing allocation in 1998, were no longer able to obtain housing from work units but had to buy or rent housing in the market. Consequently, they were put in a disadvantageous position in access to housing compared with older generations. The skyrocketing housing prices further widened the intergenerational wealth disparity as older generations enjoy asset appreciation from owning subsidized housing units.

For young generations, particularly young professionals, financial support from parents has become an important source of support for obtaining homeownership (S. Li, Sato, and Sicular 2013). These parents were often public sector professionals and managers who had benefited from public housing privatization in the 1990s and later housing asset appreciation in the 2000s (Or 2018). Zhu (2018) argue that the intergenerational transmission of economic resources has contributed to the reproduction of housing and social inequalities in urban China, similar to what has been found in the West (Helderman and Mulder 2007). The rising housing cost, along with the Chinese social norm of owning a home as a prerequisite for marriage, also contributes to delaying marriage and a falling marriage rate among young adults in China (Wrenn, Yi, and Zhang 2019). Because men are expected to provide housing in the marriage, the rising housing price also strengthens the importance of the economic prospects of men in entering into marriage (Yu and Xie 2015). It reinforces the gender gap in housing asset holdings and women's dependence on marriage (W. Deng, Hoekstra, and Elsinga 2019).

More recently, there has also been a growing literature on the health and subjective well-being implications of housing inequality in urban China. Overall, being a homeowner significantly predicts individuals' greater happiness (Feng Hu 2013) and residential and life satisfaction (F. Zhang, Zhang, and Hudson 2018). Living with small housing space, particularly in high-poverty communities, is significantly associated with poor psychological well-being (Y. Hu and Coulter 2017). Housing disadvantages—such as poor housing space and quality—also have negative mental health implications for rural migrants (S. Xie 2019). Overcrowding, high housing cost burden, and living in informal housing with insufficient facilities are all associated with high levels of perceived stress among rural migrants (J. Li and Liu 2018). Some scholars have argued that disadvantageous housing access, along with residential segregation, has affected the social integration of rural

migrants (L. Liu, Huang and Zhang 2018) and their urban settlement intention (S. Xie and Chen 2018), though other studies have suggested that this may be due to reverse causality between settlement intention and housing choices (Z. Liu, Wang, and Chen 2017).

Policy Responses to Residential Inequality

In 2003, the central government began to address the widening housing inequality amid the housing price inflation. A set of policy directives were adopted to promote affordable housing for the poor on the one hand and to regulate the speculative real estate market on the other hand. Meanwhile, city governments made continuous efforts to redevelop dilapidated housing neighborhoods which dramatically changed the residential landscape and housing inequality in Chinese cities. This section provides a brief review of these policies and empirical research assessing their outcomes.

Affordable Housing Policy

In the 1990s, the Chinese government began to explore a new affordable housing policy framework that would be different from the old welfare public housing system but compliment to the emerging urban housing market (refer to Figure 1 for the list of affordable housing programs adopted since the mid-1990s).

Three major housing programs were adopted in the 1990s. The Economical and Comfortable Housing Program (ECH, *jingjishiyong zhufang*) was a homeownership-oriented, low-profit commodity housing program with indirect subsidies provided by local governments through waiving land rents and development-related fees and taxes. The Cheap Rental Housing Program (CRH, *lianzu zhufang*), first introduced in 1995 and implemented nationwide in 1998, was seen as a last resort housing assistance for households below the poverty line through rent reduction, rent subsidies, and in-kind rental housing allocation. The Housing Provident Fund (HPF) was a compulsory savings scheme that pooled together funds from employees and employers to finance home purchases through personal saving accounts and low-interest rate mortgage lending (J. Chen and Deng 2014).

In essence, the government envisioned a tiered housing provision system in which wealthier households would purchase market-price housing supported by the HPF and market-based home mortgages, medium- to low-income households would purchase their homes through the ECH, and poor households would receive assistance from the CRH. In practice, affordable housing remained marginal in the housing marketization agenda until very recently. The CRH had benefited only a total of 329,000 households nationwide by 2005 (Ministry of Housing and Urban-Rural Development 2006). Just over 4 million units had been developed under the ECH by 2007, with less than 20 percent of all ECH units benefiting low-income households (Y. Huang 2012).

The lack of government funding was the major cause. Prior to 2007, local governments mostly relied on their own budgets

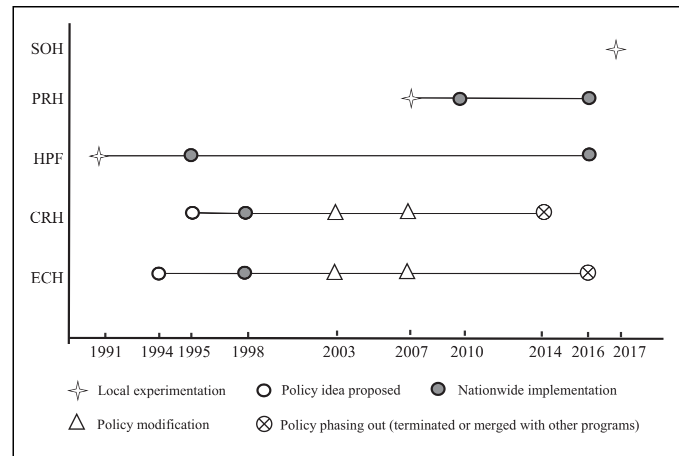

Figure 1. Evolution of urban affordable housing programs in China, 1991–2016. SOH = Shared Ownership Housing (gongyou chanquan fang); PRH = Public Rental Housing (gonggong zulin zhufang); HPF = Housing Provident Fund (zhufang gongjijin); CRH = Cheap Rental Housing (lianzu zhufang); ECH = Economical and Comfortable Housing (jingji shiyong zhufang).

to provide affordable housing with little fiscal support from the central government. Most programs required city governments to either directly fund the construction of low-rent housing (such as in the CRH) or indirectly subsidize developers to construct low-cost ownership housing (such as in the ECH) in lieu of waiving land rents, taxes, and fees (L. Deng, Shen, and Wang 2011). With land-leasing fees becoming a dominant revenue source for the majority of city governments in China, the financial arrangements of affordable housing programs created strong disincentives for city governments to implement these programs (Dang, Liu, and Zhang 2014). Empirical research found that city governments, which have had limited fiscal capacity while being locked with fierce interjurisdictional competition over economic growth, had little incentive to provide affordable housing (Fox Zhiyong Hu and Qian 2017). They preferred locating affordable housing projects in the urban fringes where land is cheaper so as to minimize the opportunity cost in land-based revenues (Dang, Liu, and Zhang 2014).

Major changes took place in 2007, when the central government rediscovered its role in ensuring affordability and equity in the marketized housing system and started to modify the affordable housing system gradually (Figure 1). For instance, in 2007, the ECH was redefined as welfare-oriented subsidized housing for low-income households. The CRH became a core pillar of the affordable housing policy framework, with its beneficiaries expanded from the extremely poor to low-income groups and its priority shifted to the construction and provision of government-funded rental units. In 2010, the Public Rental Housing Program (PRH, *gonggong zulin zhufang*) was included in the national affordable housing framework, which, as a production-side program similar to the CRH, targeted the so-called sandwiched class (i.e., lower middle–income households not eligible for the CRH but not able to

afford the ECH). In 2016, the CRH was merged with the new PRH.

More fundamental changes took place in the central–local relationship that determined both fiscal and political incentives for local governments in affordable housing provision. First, the central government dramatically increased its funding support for local affordable housing construction. The amount of the annual fund increased from 5.1 billion yuan in 2007 to 120.8 billion yuan in 2015. Second, the central government adopted a political accountability system (in Chinese, *xingzheng wenzezhi*) to increase political pressure on local leaders to implement national housing programs. In the twelfth Five-Year Plan (2011–2015), the central government announced an ambitious goal of constructing a total of 36 million affordable housing units. The national goal was decomposed to provincial goals as a political mandate for each provincial government, which subsequently decomposed the provincial goal to each municipality. Local leaders were held politically accountable to fulfill this top-down political mandate of affordable housing construction.

To be sure, the political accountability system, coupled with increased fiscal support, did induce better local performance. Nationwide, a total of over 40.13 million units of various types of affordable housing were reportedly constructed during 2011–2015. Nevertheless, controversies and failures were also documented, ranging from the inferior locations of affordable housing projects (Dang, Liu, and Zhang 2014), a lack of access to public services (Yang et al. 2014) to the misallocation of housing units and subsidy (R. Liu and Wong 2015), and even to corruption and fraud during housing allocation (Zeng, Yu, and Wen 2017).

Most notably, these programs may have reinforced the urban–rural division in housing opportunities as affordable housing allocation is continuously biased against migrant populations. For instance, the CRH and ECH are exclusively reserved for residents with local urban *huko*u. Although the PRH began to include non-*hukou* migrants as intended beneficiaries, its implementation has often prioritized more educated, professional migrants (i.e., the so-called skilled migrants). The HPF, as a demand-side subsidy program supporting home purchases, has primarily benefited better-off groups who could afford to purchase housing in the market. Those households working in informal sectors do not have access to the HPF (J. Chen and Deng 2014; Tang and Coulson 2017).

Regulating Speculation in the Housing Market

The central government has also attempted to control the rampant price inflation and regulate the speculative behavior in the housing market, thereby reducing financial risks and maintaining the stability of the urban housing market while improving the overall level of housing affordability.

One restrictive policy adopted in 2006 required that 70 percent of the total construction area of a new housing project be for apartments smaller than 90 m^2 (General Office of State Council [GOSC] 2006). The purpose was to increase the supply of smaller-size, more affordable units for middle-income households while limiting the provision of luxury housing. This regulation was met with strong local resistance during its implementation. It had to be dropped before too long amid public criticisms over market distortion.

More recently, city governments began to leverage their control over land leasing to increase the provision of modest-price housing. In 2011, the State Council required each city to designate no less than 70 percent of residential land up for lease for the construction of either affordable housing projects or modest-size commodity housing units (GOSC 2011). The State Council also required large cities with rapid housing price inflation to adopt home-purchase restriction policies. These restrictions were often based on the *hukou* status of the home buyers. Specifically, households with local *hukou* were allowed to buy up to two homes, whereas migrant households without local *hukou* were allowed to buy one home only if they could prove they have paid local tax or social security over a certain number of years. Otherwise, migrants were prohibited from purchasing homes in cities (GOSC 2011).

In addition to these restriction policies, tax and mortgage policies have become more widely used to control housing speculation by increasing the financial burden on multiple home purchases. In 2011, the minimum down payment requirement for second home purchases was raised from 30 percent to 60 percent of the housing price, and the second home loan interest rate was raised to 1.1 times of the standard interest rate, while home mortgages were strictly prohibited for purchasing a third home (GOSC 2011). Selling a home within five years of its purchase was also charged with the full amount of business tax, which had previously been waived for residential properties.

Some scholars have found these regulations to be effective in lowering housing prices (Du and Zhang 2015; V. Li, Cheng, and Cheong 2017). However, these policies tend to be subject to constant changes by government according to imminent social, economic, or political considerations, adding uncertainty to the housing market. An analysis of housing market cycles in China (J. Wu, Gyourko, and Deng 2016) found that the volatility of house prices is mainly driven by state intervention to either stimulate economic growth or control market risks. Meanwhile, these regulations only affect new housing transactions but have little impact on the unequal distribution of the existing housing stock. Property tax, which has been considered a long-term tool for stabilizing housing prices (Du and Zhang 2015), remains a policy idea. Its adoption faces great political obstacles (Hou et al. 2019).

State-sponsored Redevelopment, Displacement, and Gentrification

Another important government intervention has been the continuous redevelopment efforts by city governments. It first started in the 1990s in inner-city neighborhoods that had

become dilapidated after years of underinvestment under state socialism (Leaf 1995). The early stage of inner-city redevelopment was of limited scope and funded by local government, with only limited improvement of living conditions for inner-city residents (Fang 2006). The central government recently initiated the Slum Redevelopment Program (*penghuqu gaizao*), which have proliferated in urban villages and former work-unit compounds. This "state-sponsored" urban redevelopment (He 2007), which typically involves mass demolition, displacement, and gentrification, has evolved into new institutional forces that change the residential landscape of Chinese cities.

Since 2000s, redevelopment projects have become increasingly privately funded and property-led (He and Wu 2005). Adopting a market-driven approach, redevelopment projects began to prioritize profit-seeking and cost-minimizing rather than livelihood improvement of original residents. Consistent with the growth machine theory developed in the US context (Logan and Molotch 1987), local government and developers in postreform Chinese cities formed a "socialist pro-growth coalition" (T. Zhang 2002) that manipulated real estate development to maximize the exchange value of land at the expense of the use value for local communities. City governments controlled the direction and pace of redevelopment projects through policy intervention as well as leverages with land leasing and financial support (F. Wu and He 2005; He and Wu 2005). They were increasingly interested in promoting property development for economic growth. Hence, the objectives of redevelopment became more aligned with growth promotion through regularizing informal areas into new spaces for globally oriented production and revenue generation (He 2013; F. Wu 2016b; Shin 2009).

As redevelopment policies favored property developers, the interests of local residents were often neglected. Settlement policies for displaced residents shifted from on-site, in-kind compensation to off-site relocation and monetary compensation in order to minimize the compensation costs. Not surprisingly, this policy preference led to large-scale displacement of original residents and the gentrification of original neighborhoods (He and Wu 2009). Although redevelopment has improved the infrastructure and housing conditions in redeveloped neighborhoods, displaced residents often had to suffer in the process of relocation to the outer suburban areas. Redevelopment thus exacerbated the housing inequality between displaced low-income residents and those better-off households who could afford to move into gentrified inner-city neighborhoods (Y. Zhang 2018). More recently, the redevelopment of urban villages has adopted more generous compensation for relocated villagers. The compensation often includes multiple units of settlement housing and has created a new "housing class" of former villagers who enjoy asset appreciation and rental incomes. On the contrary, migrant tenants are prohibited from claiming any compensation. Most likely, they have to endure short eviction notices and look for another settlement quickly.

Discussion: Future Directions

The postreform China provides a laboratory to observe the planetary urbanization in comparison to other political economies (Brenner 2013) and to understand the operation of a mixed economy, where power and market together mold social inequality (Logan, Bian, and Bian 1999). In Chinese cities, the market transition has given rise to new dimensions in housing inequality that resemble those of a typical market economy, though we also observe the persistence of inequality rooted in China's own path of institutional change toward a *state-led* market economy (F. Wu 2015). The *hukou* system, despite its recent reforms, remains the main institutional force underlying the housing inequality in contemporary Chinese cities. The evolving housing inequality has led to greater socio-spatial differentiation, affected individual accessibility to economic and social opportunities, and had profound implications for people's quality of life and well-beings. In this section, we attempt to identify future directions for scholarly research and to speculate on the future of housing inequality in relating to planning practice.

First, we call for more investigations in medium and small cities to achieve more complete understanding of housing inequality in China. As our review showed, the existing knowledge about China's housing inequality is primarily based on empirical findings from a few megacities including Beijing, Guangzhou, Shanghai, and Shenzhen. These cities are more economically advanced, attract the most migrant inflows, and not surprisingly are more dynamic to attract scholarly attention. Compared to large cities, smaller cities have substantial differences in the housing market structure and local government behavior comparing to large cities (Y. Huang 2004a), and they do not face similar housing shortage and the huge housing demand from the influx of migrants (J. Wu, Gyourko, and Deng 2016). With improved data availability for medium- to small-size cities, future research may reveal different dynamics of housing inequality than previously known in the literature, which can enlighten better policy responses to address challenges faced by different cities.

Second, we look forward to more theoretical development on studies of housing and socio-spatial inequalities including China as well as more active theoretical dialogue with existing urban and planning theories. As our review suggested, in the study of the origins of housing inequality, urban scholars have benefited significantly from engaging with and contributing to the market transition theory. More recent literature we have reviewed has been dominated by empirical and data-driven analysis, with insufficient engagement with recent development in urban and planning theories. For instance, how can studies on the social integration of rural-to-urban migrants in China more directly contribute to the broader immigrant assimilation literature? How can studies of accessibility implications go beyond simply applying existing models in the US cities? How can housing inequality findings in the transitional China, a developmental state at the national level and an entrepreneurial state at the local level (F. Wu 2015, 2016a), inform urban theories development in general?

The future of housing development in China is still full of uncertainties. Will urbanization in China conform more to the pattern in other developmental states in Asia (Y. Wang and Murie 2011)? Or are Chinese cities emerging like other cities in the Global South (F. Wu 2016a), full of complexity and requiring new theory development for planetary urbanization as suggested by Brenner and Schmid (2017)? Whatever the future holds in China's emerging housing market, it will continue to be affected by the legacies and transitions from the old system. The residential landscape in Chinese cities will continue be determined by a hybrid system in which market processes dominate but state intervention continues with regulations and nonmarket housing options in response to the broader demands of urbanization, economic transformation, and demographic changes. We argue that research on Chinese cities could have important implications not only for global urban studies but also for revisiting, extending, or even challenging existing urban theories, which had been mostly developed in Western countries. We thus call for more housing studies that could forge intellectual dialogues on housing institutions and outcomes through comparative lens.

Finally, our literature review revealed the proliferation of research topics from understanding the origins of housing inequality to its profound social and spatial implications at both macro- and microlevels. The accumulation of the literature is only possible thanks to the increasing accessibility of census data and records collected by government agencies, various household surveys developed by both Chinese and international academic institutions, and the innovative adoption of big data technologies in capturing residential behavior from open data sources. In the future, we expect to see more fine-grained assessment of housing and socio-spatial inequality as high-quality, microlevel, longitudinal data are becoming more available. For instance, the accumulation of longitudinal household survey data would enable more rigorous evaluation of the impacts of recent housing programs on low-income households. Additionally, as our brief review on the social implications suggested, urban scholars are obliged to critically analyze and expose negative impacts of housing inequality on the lives of the socially excluded and marginalized groups. We expect to see more studies that combine both qualitative and quantitative methodologies to understand the everyday life experiences of deprivation, exclusion, and integration of those disadvantaged in the housing system as well as the implications for their well-beings and quality of life.

China is at a critical point where the rising inequality is challenging the country's social and political stability. Urban planning practice in China has been a tool supporting economic growth and modernization, rather than an obstacle to market-driven urban development forces in Western economies (F. Wu 2015, 2016a). While social equity and justice are gaining greater priority in the central policy agenda, planning and policy-making at the local level should more actively respond to the housing inequality and its spatial manifestations. First, city master plans and land-use plans could incorporate affordable housing provision to ensure sufficient land supply with better accessibility to jobs, transit, and services. Second, urban planning practices could take into account existing socio-spatial differentiation pattern and strive to mitigate the accessibility disadvantages of low-income, marginalized groups through encouraging compact city development, promoting mixed land use and mixed-income community, and ensuring more equalized provision of public services and facilities. Third, planners should better understand the institutional roots of the informality of urban development and strive to enhance the living condition for disadvantaged communities and promote the rural–urban integration. Finally, urban development plans could promote public participation and strive to limit the adverse impacts on residents involved.

Admittedly, we recognize that housing and spatial inequalities currently manifested in Chinese cities cannot be solved without broader institutional reforms related to land and *hukou* that have long defined the divisions of rights, entitlement, and identities of Chinese citizens. The ability of urban planning to promote social equity and justice is limited without further reforms to reduce and, eventually, eliminate the existing institutional divisions. Nonetheless, we have reasons to be hopeful that China's hybrid housing system presents promising possibilities toward more fundamental policy transformations. Most recently in April 2019, the central government pushed forward the *hukou* reform that demanded all cities except a few mega-cities to either completely remove or lower CEB for rural migrants to become officially registered urban residents with full access to public benefits and services. In addition, a new round of pilot programs began to allow rural land to be developed by villages for urban affordable housing projects. Discussion of property tax enactment is also moving forward with the hope to both mitigate housing speculation and, more importantly, provide an additional revenue source for city governments in a way to reduce the dependence on land-based revenues. Urban planners should become agents for future policy changes at both national and subnational levels toward the formation of a more just landscape.

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