

Personal Global Connections and New Residential Differentiation in Shanghai

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The spatial distribution and division of residents in a city reflect their varied socioeconomic status. Residents tend to choose where they live based on their demographic background, income level and social status, as well as other individual considerations and environmental circumstances. While residential choices in a market society are relatively free, they are much more limited in a planned urban economy where the government regulates where people live through land control, public housing construction and administrative allocation of housing. As a result, residential patterns under government planning and distribution are much less differentiated than under a functioning real estate market.

What happens to residential spatial patterns in a city if it is undergoing rapid transition from residential control towards growing residential choice? More importantly, if greater residential choice contributes to more differentiated residential patterns, does residential differentiation become more striking due to other complicating external forces?

Chinese cities in general, and the booming coastal cities such as Shanghai in particular, have experienced growing residential differentiation in recent years as a result of rapid real estate development replacing the traditional government control over the housing sector. This shift has been accompanied by penetration of global economic and cultural forces such as capital inflow and consumer trends, which in turn have added more fuel to the lively or “hot”

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housing market and thus accelerated residential differentiation. All of these internal and external structural dynamics have unfolded in conjunction with a marked differentiation of individual life chances and lifestyles based on more divergent socioeconomic characteristics and resources. As the emergence of a housing market has created a greater variety of residential choices to individuals in a re-stratified socio-spatial order, it can be expected that there be a new relationship between the characteristics of residents and the types and locations of their residence.

Shanghai has not only experienced the most rapid economic growth of any city in China. It has also exhibited the most active and fastest rising or appreciating local real estate market anywhere over the last few years. The average sales price for residential property in Shanghai doubled since 1997, surging 26 per cent in 2004 alone, to US\$784 per square meter.¹ Accelerated economic and housing reforms, government-driven urban redevelopment, rising income inequality, more diverse individual lifestyles, and global economic and cultural influences have intersected to create a multitude of residential opportunities and constraints. While luxury apartments and exclusive villas including even gated communities have been built for a small number of the very rich, a still relatively small but growing proportion of the population can afford to buy new commercial housing units of middle-range prices. Some elderly residents in the central city have been “forced” to move to lower-grade economical housing, built for so-called *chaiqian* (people forced to move because their homes were demolished) residents, on the outskirts after their old houses have been torn down to make room for new office buildings and shopping plazas. Large numbers of residents have also become dependent low-interest bank loans to purchase new commercial housing. Soaring prices, however, have made housing increasingly unaffordable for many residents. This has led Shanghai authorities to intervene in the hot property market in March 2005 by imposing a 5.5 per cent capital-gains tax on apartments sold more than once in a year and instructing banks to require down payments of as much as 50 per cent on some mortgages.²

While these characteristics and developments constitute a broad context for this study, below is a brief survey of the recent literature that pertains to the distinct analytical focus of this paper.

¹ James T. Areddy, “Cooling China’s Hot Property: Leaders Seek to Stabilize Market without Bursting Bubble”, *Wall Street Journal*, 3 May 2005, p. A14.

² Ibid.

Studies on Spatial and Housing Development in China

While not all of the specific residential processes mentioned in the preceding section have yet been carefully studied, spatial differentiation in general and residential differentiation in particular in Chinese cities have received considerable scholarly attention. Although space here does not permit a full review of this literature, it is sufficient here to identify its main foci. First of all, scholars have studied the causes and consequences of spatial differentiation in major cities by focusing on reform policies and market mechanisms in land and infrastructure development.³ This focus has provided a broad and yet often localised context for understanding the extent and type of spatial differentiation bearing on the characteristics and changes of the urban housing sector. The body of research on urban housing began with a focus on the macro reform policies and practices plus their local variations and how they affected the types of housing investment and provision.⁴ While some studies⁵

³ Shahid Yusuf and Wu Weiping, *The Dynamics of Urban Growth in Three Chinese Cities* (New York: Oxford University Press, 1997); Wu Fulong and Anthony Gar-On Yeh, "Urban Spatial Structure in a Transitional Economy: The Case of Guangzhou, China", *Journal of the American Planning Association* 65 (1999): 377–94; Wu Weiping, "Reforming China's Institutional Environment for Urban Infrastructure Provision", *Urban Studies* 36 (1999): 2263–82; George C.S. Lin, "Metropolitan Development in a Transitional Socialist Economy: Spatial Restructuring in the Pearl River Delta, China", *Urban Studies* 38 (2001): 383–406.

⁴ Chen Xiangming and Gao Xiaoyuan, "China's Urban Housing Development in the Shift from Redistribution to Decentralization", *Social Problems* 40, no. 2 (1993): 266–83; Chen Xiangming and Hua Xiaoyan, "Housing Reform and Private Housing Investment in Urban China", in *Urban Land and Housing Reform in Socialist and Formerly Socialist Countries*, ed. George Tolley, Hao Shou-yi and Marcia Occomy (Mount Pleasant, MI: Blackstone Books, 1996), pp. 298–329; Song Shunfeng, George Chu and Chen Xiangming, "Housing Investment and Consumption in Urban China?", in *Urbanization and Social Welfare in China*, ed. Chen Aimin, Gordon G. Liu and Kevin H. Zhang (England: Ashgate, 2004), pp. 87–106; Lee Yok-Shiu, "The Urban Housing Problem in China", *China Quarterly* 115 (Sep. 1988): 387–407; Wang Yaping, "Private Sector Housing in Urban China Since 1949: The Case of Xian", *Housing Studies* 7, no. 2 (1990): 119–37; Wu Fulong, "Changes in the Structure of Public Housing Provision in Urban China", *Urban Studies* 33 (1996): 1601–27.

⁵ Wang Yaping and Alan Murie, "The Process of Commercialisation of Urban Housing in China", *Urban Studies* 33 (1996): 971–89; Zhou Min and John R. Logan, "Market Transition and the Commodification of Housing in Urban China", *International Journal of Urban and Regional Research* 20, no. 3 (1996): 400–21.

acknowledge the commodification of urban housing as a result of market reforms, others have shown that housing inequalities within cities and work units persists due to the unequal control and allocation of valuable resources within the entrenched redistributive system and power hierarchy.⁶

The research focus on urban housing inequality has taken on a more explicit spatial twist as spatial hierarchy in Chinese cities has become more refined and varied across district, community and neighbourhood levels. This process is most visible in the more prominent national metropolises such as Shanghai, Beijing and Guangzhou where large-scale morphological transformation has already taken place and created multi-scaled spatial parameters for residential differentiation.⁷ The more fine-grained spatial analysis of housing inequality has focused on the increasing individual residential mobility and choices within cities in response to more varied housing types, housing tenure, traditional and shifting values of certain inner-city locations and different income levels.⁸ Most recent studies have found income, social status and differential price, in conjunction with neighbourhood security and living convenience to be important determinants of individual residential choice.⁹ As these factors become more important, housing inequalities

⁶ Bian Yanjie, *Work and Inequality in Urban China* (Albany: State University of New York Press, 1994); Bian Yanjie and John R. Logan, "Market Transition and the Persistence of Power: The Changing Stratification System in China", *American Sociological Review* 61 (1996): 739–58; Bian Yanjie, John R. Logan, Lu Hanlong *et al.*, "Work Units and Housing Reform in Two Chinese Cities", in *Danwei: The Chinese Workunit in Historical and Comparative Perspective*, ed. Lu Xiaobu and Elizabeth Perry (New York: M.E. Sharpe, 1997), pp. 223–50; John R. Logan, Bian Yanjie and Bian Fuqin, "Housing Inequality in Urban China in the 1990s", *International Journal of Urban and Regional Research* 23, no. 1 (1999): 7–25.

⁷ Piper Rae Gaubatz, "China's Urban Transformation: Patterns and Processes of Morphological Change in Beijing, Shanghai and Guangzhou", *Urban Studies* 36 (1999): 1451–521; Gu Chaolin and Shen Jianfa, "Transformation of Urban Socio-spatial Structure in Socialist Market Economies: The Case of Beijing", *Habitat International* 27 (2003): 107–22; Wu and Yeh, "Urban Spatial Structure in a Transitional Economy".

⁸ Li Si-ming, "Housing Tenure and Residential Mobility in Urban China: A Study of Commodity Housing Development in Beijing and Guangzhou", *Urban Affairs Review* 38, no. 4 (2003): 510–34; Li Si-ming and Siu Y-M, "Residential Mobility under Market Transition: A Study of the Newly Constructed Commodity Housing of Guangzhou?", *The Professional Geographer* 53, no. 2 (2001): 219–29.

⁹ Wang Donggen and Li Si-ming, "Housing Preferences in a Transitional Housing System: The Case of Beijing, China?", *Environment and Planning* 36 (2004): 69–87.

tend to lead to serious residential segregation, which has already happened in large cities like Beijing.¹⁰

While research has moved from housing reform and inequality at the national level with aggregate data to increasingly detailed local studies of residential differentiation and choice using survey data, there has yet been no attempt to directly measure and evaluate the impact of globalisation on the local residential landscape, despite the sensible argument and clear evidence that this relationship exists.¹¹ This paper is intended to fill a void in the literature by developing an index of personal global connections (hereafter PGCs) to show how the latter may be linked to residential differentiation in Shanghai. This analytical approach builds on the advances of previous research by including the basic demographic and socioeconomic characteristics and introducing PGCs as an important set of factors in residential differentiation. This allows us to make a distinctive contribution to the literature by showing that the extent of residential landscape differentiation can be attributed to residents' assets and their global connections, thus establishing a global-local nexus in residential differentiation.

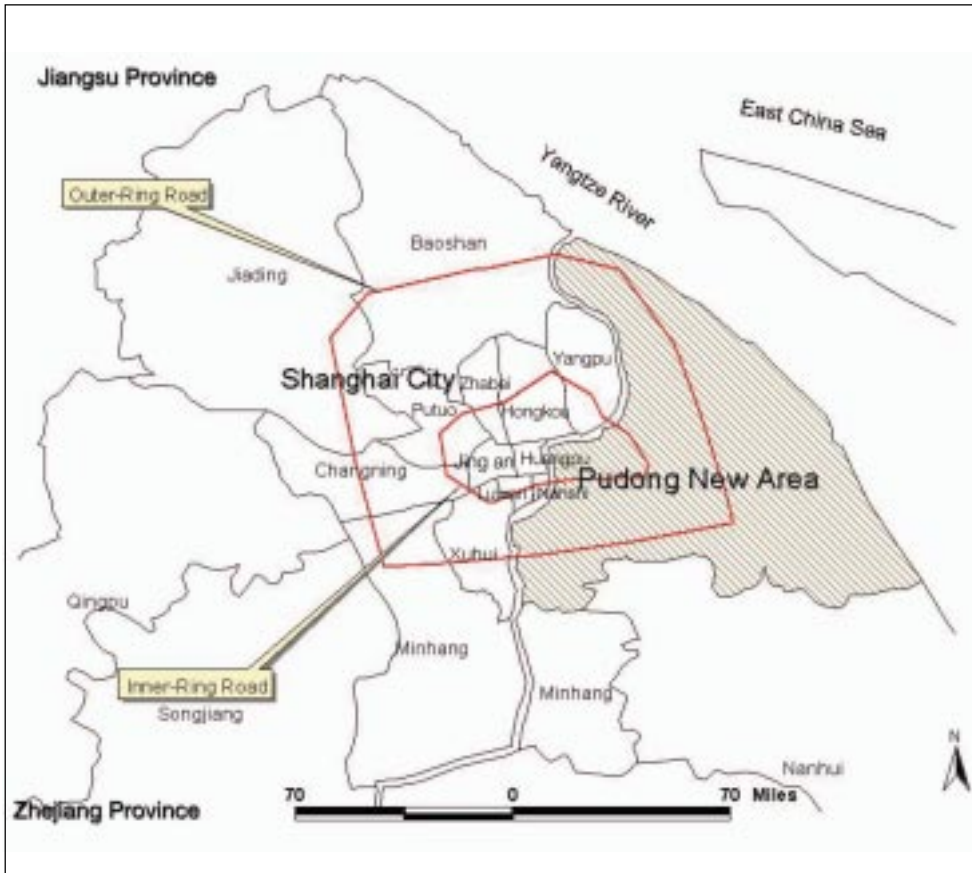
The Study Setting: The Newly Built and Rapidly Globalising Pudong New Area

Figure 1 shows the location and boundary of the Pudong New Area in the Shanghai Metropolitan Region. Since 1990, when the development of Pudong was launched, the area has undergone perhaps the most remarkable transformation of any part of any city in the world. Previously a mainly agricultural district of rice paddies and farm houses on the lesser developed east side of the Huangpu River, Pudong is now dotted with modern factories including semi-conductor plants and commercial skyscrapers, including the world's tallest hotel (a Hyatt on the 88th floor), with the world's tallest building finally going up after delays caused by the Asian Financial Crisis in 1997–8. Besides the symbolic aspect of its skyline, Pudong has developed particular areas for Shanghai's new financial district (dubbed “the Manhattan of China”) and high-tech manufacturing.

¹⁰ Gu Chaolin and Lu Haiyong, “Social Polarization and Segregation in Beijing”, in *The New Chinese Cities: Globalization and Market Reform*, ed. John R. Logan (Oxford: Blackwell, 2002), pp. 198–211; Huang Youqin, “From Work-Unit Compounds to Gated Communities: Housing Inequality and Residential Segregation in Transitional Beijing”, in *Restructuring the Chinese City: Changing Society, Economy and Space*, ed. Laurence J.C. Ma and Wu Fulong (London and New York: Routledge, 2005).

¹¹ Wu Fulong, “Housing Provision Under Globalisation: A Case Study of Shanghai”, *Environment and Planning A* 33, no. 10 (2001): 1741–64.

Figure 1. *The Shanghai Metropolitan Region*



The rapid transformation of Pudong from a backwater to a crown jewel is reflected in demographic, urbanisation and economic trends and weights. In 1990, the Pudong New Area had 1.3 million people with permanent residence. This number rose to 1.8 million in 2003, accounting for 13.2 per cent of Shanghai's total population, even though it occupies only 8.4 per cent of the city's land area.¹² Pudong's GDP as a share of Shanghai's total rose from 8.1 per cent in 1990 to 21.9 per cent in 2001, when it also accounted for 27.1 per cent of the total contracted foreign investment in Shanghai. From 1990 to 2001, agricultural labour in Pudong dropped from 277,000 to 196,000 and the share

¹² Shanghai Statistical Bureau, *Shanghai Statistical Yearbook 2004*. See <<http://www.stats-sh.gov.cn/2004shtj/tjnj/tjnj2004.htm31>> [31 May 2005].

of agricultural employment in the total labour force declined from 47.7 per cent to 21.9 per cent.¹³

Rapid industrialisation, urbanisation and globalisation in the Pudong New Area has made it the most prominent and perhaps economically most important of Shanghai's 16 city districts, a few of which, located towards the outer municipal boundaries, have recently been converted administratively from suburban (rural) counties (see Figure 1). Also contributing to Pudong's economic and spatial transformation has been its rapidly growing real estate sector, which has led all the other districts of Shanghai. In 2003, newly constructed residential space in Pudong accounted for 17.5 per cent of Shanghai's total, considerably ahead of the second-place Minhang district at 10.3 per cent. In completed villas that occupied the top end of the commercial market, Pudong's share of Shanghai's total (18.9 per cent) in 2003 only trailed the more rural and scenic Sonjiang district, which accounted for 38.9 per cent of Shanghai's total space in completed villas. In the city-wide distribution of commercial high-rise apartment buildings of 16–19, 20–29 and over 30 stories, Pudong led all other districts in the share of the city's total.¹⁴

The combination of these developments and characteristics has confirmed the significance of conducting this survey in Pudong in 2001, which yielded the data for studying the local and global factors that may contribute to new residential differentiation.

Sample and Data

In 2001, the Pudong New Area administered 12 urban subdistrict offices (*jiedao banshichu*), which governed 506 neighbourhood committees (*jumin weiyuanhui*) in officially defined urban areas. The Pudong New Area also administered 14 towns (*zhen*) and 291 village committees (*cunmin weiyuanhui*), which are officially defined rural areas, while the town proper or centres were quite urbanised, albeit to differing degrees, and recognised as such in the 2000 census. To obtain a representative sample of both urban and rural residential areas, a three-layered and -step sampling procedure was employed.

First, nine subdistrict offices and five towns were selected to give more weight to the larger official urban population, which accounted for about 80 per cent of

¹³ The statistics in this paragraph were taken from the Pudong Social Development Bureau and the Pudong-Fudan Social Development Research Center (eds.), *Social Development Reports of Shanghai Pudong New Area*, 1995 and 2002.

¹⁴ Shanghai Statistical Bureau, *Shanghai Statistical Yearbook 2004*, pp. 168–71. See <<http://www.stats-sh.gov.cn/2004shtj/tjnj/tjnj2004.htm>> [31 May 2005].

the total population in Pudong in 2001, when the non-agricultural population — a more realistic indicator of the actual urbanisation level — was 83 per cent of the total population.¹⁵ Secondly, two neighbourhood committees under each of the nine subdistrict offices were selected for a total of 18 neighbourhood committees, which are generally located to the west of the Pudong New Area along the Huangpu River. To sample residents in the more urbanised areas of town residents, one village committee in the town proper of one town (Huamu) and one village committee in the town proper and one village committee in the agricultural portion of another town (Beicai) were chosen close to the urban subdistricts (see Figure 1). To capture residents in less urbanised areas, one village committee in the town proper and one village committee in the rural sections of two towns (Gaoqiao to the northwest and Chuansha to the southeast) located farther away from central Pudong were selected (see Figure 1). To ensure that the exclusive and upscale residential areas such as villas were included, one such development project in downtown Pudong (Lujiazui financial district) and another compound located in the fifth town (Jinqiao) adjacent to central Pudong were surveyed (see Figure 1).

The last stage involved sampling households. To ensure that there would be about 25 households in every chosen neighbourhood committee and about 30 households in the town-proper and agricultural village committees in three of the five towns (Beicai, Gaoqiao and Chuansha), an average of 30 households in each area was randomly over-sampled. To get a minimum of 15 households in the town proper of Huamu and the upscale housing compounds in Jinqiao Town and Lujiazui Garden, an average of 20 households in each unit were sampled. Using a prepared questionnaire and with the assistance from the neighbourhood and village committees, face-to-face interviews were conducted with one member of each chosen household, usually the household head. From a total of close to 700 interviews, a number of low quality questionnaires were excluded after logical checking. In the end there were 452 usable responses from the urban subdistricts, 74 from the town proper, and 74 from the rural parts of the towns for a total of 600, yielding a completion rate of close to 90 per cent (or a rejection rate of 10 per cent). This procedure rendered a representative sample of residential types along the various dimensions of administrative units, degree of urbanism, and location and distance relative to downtown Pudong, as well as the corresponding differences in property prices.

¹⁵ Shanghai Statistical Bureau, *Shanghai Statistical Yearbook 2002*. See <<http://www.stats-sh.gov.cn/2004shtj/tjnj/tjnj2004.htm>> [31 May 2005].

From this sample, it was possible to identify six different types of residential or neighbourhood areas. The distribution of residents across the six types were (1) 8.2 per cent in agricultural villages, (2) 6.8 per cent in town proper,¹⁶ (3) 63.2 per cent in new residential neighbourhoods,¹⁷ (4) 10.1 per cent in old urban settlements, (5) 5.3 per cent in new commercial housing blocks, and (6) 6.2 per cent in luxury apartments and villas, respectively. While types 1 and 2 are different by definition, they occupy the rural or less urban end of a differentiated urban-rural residential continuum. Types 3 and 4 differ considerably in spread and history, but share the similarities of being located in the urban areas of Pudong, older, mediocre in quality and price and collectively housing the majority of residents (73.3 per cent). Types 5 and 6 represent much more recent and new residential development towards the high end of the quality/price distribution. However, type 6 is not only highest in status and price but also varies in location between central Pudong where luxury apartments are concentrated and the outlying areas where villas are located in a more diffused manner.¹⁸ While these different residential

¹⁶ Towns consist of town proper or town centres which are much more urbanised, and agricultural villages which are primarily rural. This important distinction, recognised by the 2000 census, has given us two very different types of residential areas. The towns within the boundaries of Shanghai municipality vary considerably in the level of urban development with regard to the proportion of non-agricultural population and the extent of physical buildup. For an illustrative study of this issue with reference to the towns in Nanhui District (formerly Nanhui County) south of Pudong New Area (see Figure 1), see Zhang Fang and Ren Yuan, "The Measurement and Analysis of Urbanization: The Case of Nanhui", unpublished manuscript, 2004. For a recent clarification of China's administrative levels and ranks, see Laurence J.C. Ma, "Urban Administrative Restructuring, Changing Scale Relations and Local Economic Development in China", *Political Geography* 24 (2005): 477–97.

¹⁷ The original Chinese term for this urban residential type is *xincun*, translated into "new villages", which however differ totally from agricultural villages. To avoid potential confusion, the term "new residential neighbourhoods" is used here to refer to main housing settlements in urban Shanghai for mostly factory workers and their families from the 1950s to the 1970s. From the 1980s and into the 1990s, new residential neighbourhoods became the main areas for people who resettled after being vacated by the urban redevelopment mentioned earlier in the paper.

¹⁸ For the case of Beijing, see Wu Fulong and Klaire Webber, "The Rise of 'Foreign Gated Communities' in Beijing: Between Economic Globalization and Local Institutions", *Cities* 21 (2004): 203–13.

Table 1. Housing Sold and Prices by Type and Location in Shanghai, 2003

Types of Housing	Inside Inner-Ring Road	Between Inner-Ring and Outer-Ring Roads	Outside Outer-Ring Road	Total
Multi-floor housing sold (10,000 sq. metres)	36	413	496	945
Price per sq. metre (Chinese yuan*)	4,701	3,710	3,069	3,411
High-rise housing sold (10,000 sq. metres)	406	582	74	1,062
Price per sq. metre (Chinese yuan*)	7,233	5,457	4,584	6,077
Luxurious apartments and villas sold (10,000 sq. metres)	18	56	144	218
Price per sq. metre (Chinese yuan*)	13,872	6,150	5,773	6,540
All types sold (10,000 sq. metres)	460	1,051	713	2,224
Price per sq. metre (Chinese yuan*)	7,295	4,807	3,770	4,989

Note: *8.2 Chinese yuan equal one US dollar.

Source: Adapted and calculated from Shanghai Statistical Bureau, Shanghai Statistical Yearbook 2004, p. 154. See <<http://www.stats-sh.gov.cn/2004shhj/tjnj/tjnj2004.htm>> [31 May 2005].

types may reflect an emerging rank order in terms of price, prestige, location and people's aspirations for them, they are treated here as distinctive neighbourhood areas which draw residents of varied ages, educational attainment, income and most importantly, PGCs.

To show that the residential landscape in Shanghai has become more differentiated in value and quality, Table 1 presents some aggregate statistics on types of housing sold by location and price in the city as a whole. Two differences are worth noting. First, regardless of types, housing within the inner-ring road was the most expensive. Medium-priced housing was found between the ring roads, while the least expensive was found outside the outer-ring road. Price declined with distance from the city centre (see Figure 1), illustrating the land and rent gradients that are present in most metropolitan regions including Singapore.¹⁹ Second, regardless of location, luxury apartments and villas were more expensive than the other two types of housing.

Empirical Analysis

Table 2 provides the descriptive statistics of the variables used in the study. Age is measured in years, while education is measured as an ordinal variable (1 = below primary school, 2 = primary school, 3 = junior high school, 4 = senior high school, 5 = vocational school, 6 = two-year and TV colleges [*dazhuan* and *dianda*], 7 = four-year college or university, and 8 = post-graduate study). Income per capita is a continuous variable measured by dividing the total household monthly income over the number of household members.

To gauge the individual-level relationship between globalisation and residential differentiation, a composite index of PGCs (from 0 to 100) was constructed that consists of four dichotomous variables. They include: (1) have worked for a foreign company locally (1 = yes, 0 = no); (2) have been abroad (1 = yes, 0 = no); (3) have relatives and friends overseas (1 = yes, 0 = no); and (4) often surf foreign websites (1 = yes, 0 = no). While each variable represents a particular connection to the outside world, they collectively constitute a broader set of global ties. That the four variables are only moderately correlated with one another ($r = 0.20, -.030$) indicates that rather than substituting for one another, they capture different dimensions of global connections at the individual level.

¹⁹ Han Sun Sheng, "Polycentric Urban Development and Spatial Clustering of Condominium Property Values: Singapore in the 1990s", *Environment and Planning A* 37 (2004): 463–81.

Table 2. Descriptive Statistics of the Variables in the Study

Variables	Observations	Means	Standard Deviations	Minimum	Maximum
Residential hierarchy ¹	600	3.16	1.11	1	6
Age (in years)	600	41.09	16.55	12	82
Educational attainment ²	600	4.64	1.70	1	8
Per capita income (Chinese yuan*)	600	1,192.97	1,856.85	63	25,000
Have worked for a foreign company locally (yes = 1; no = 0)	600	0.16	0.36	0	1
Have been abroad (yes = 1; no = 0)	600	0.14	0.35	0	1
Have relatives and friends overseas (yes = 1; no = 0)	600	0.24	0.43	0	1
Often surf foreign websites (yes = 1; no = 0)	600	0.38	0.49	0	1
Index of personal global connections (PGCs) ³	600	22.05	26.11	0	100

Notes: * 8.2 Chinese yuan equal one US dollar.

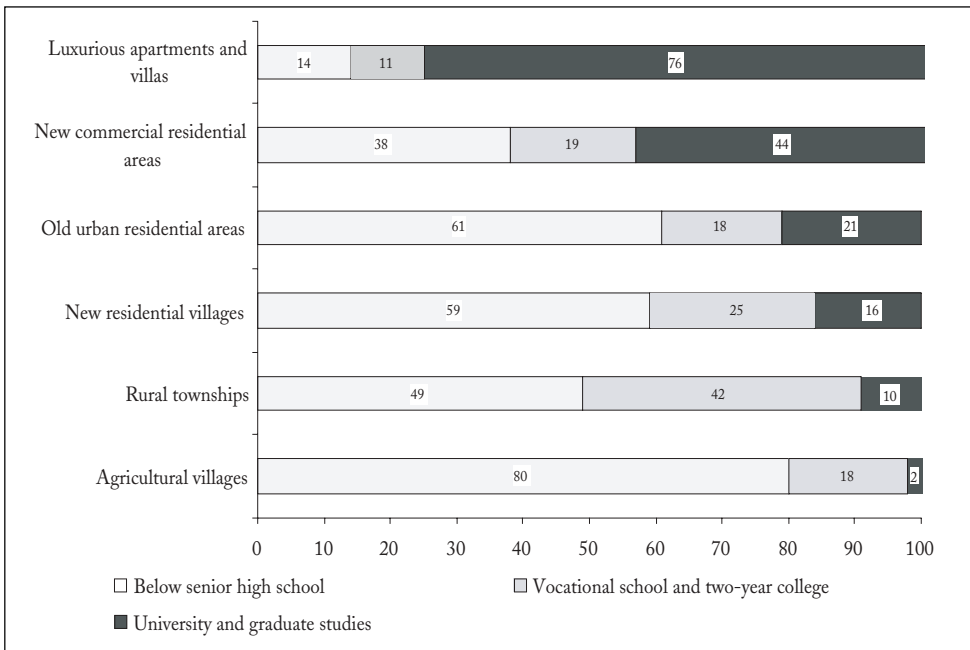
1. Residential hierarchy is measured on a 6-point ordinal scale: (1) agricultural villages, (2) rural townships, (3) new residential villages, (4) old urban settlements, (5) new commercial housing and (6) luxurious apartments and villas.
2. Educational attainment is an 8-category ordinal variable: (1) = below primary school, (2) = primary school, (3) = junior high school, (4) = senior high school, (5) = vocational school, (6) = two-year and TV colleges (dazhuan and dianda), (7) = four-year college or university and (8) = post-graduate study.

3. A summary index that consists of the four separate variables in this table and Table 3.
 Source: Generated from authors' survey.

By using the PGC index, the current literature's deficiency, i.e., neglect of the individual-level influence of globalisation on residential differentiation in urban China, is addressed. In the rapidly globalising city of Shanghai, conventional economic attributes of residents (e.g., income) are not sufficient to account for people's residential choices which may respond to other related factors. For example, working for a foreign company in Shanghai not only pays extremely well (by local standards) and enhances purchasing power for a luxury apartment or villa but also engenders a desire for a global lifestyle, or taste, as embodied in a top-quality, expensive unit. Secondly, in an open and prosperous commercial city like Shanghai, more and more people have in recent years travelled abroad on business or as tourists. Overseas travel exposes them to foreign (often western) housing standards and consumer lifestyles that may translate into an imitative desire and preference for up-scale local residences. Thirdly, in a more open era, more frequent and convenient contact with overseas relatives and friends not only facilitates monetary transfer to Shanghai residents for housing purchases but may also stimulate their interest in a higher housing standard. Finally, searching foreign websites provides direct access to different sources of information which may include new trends in architectural styles and residential living that can inspire individuals to pursue them. Therefore, it was expected that the four PGCs, collectively or individually, contribute to residential differentiation through a stronger association with high-end housing such as luxury apartments and villas.

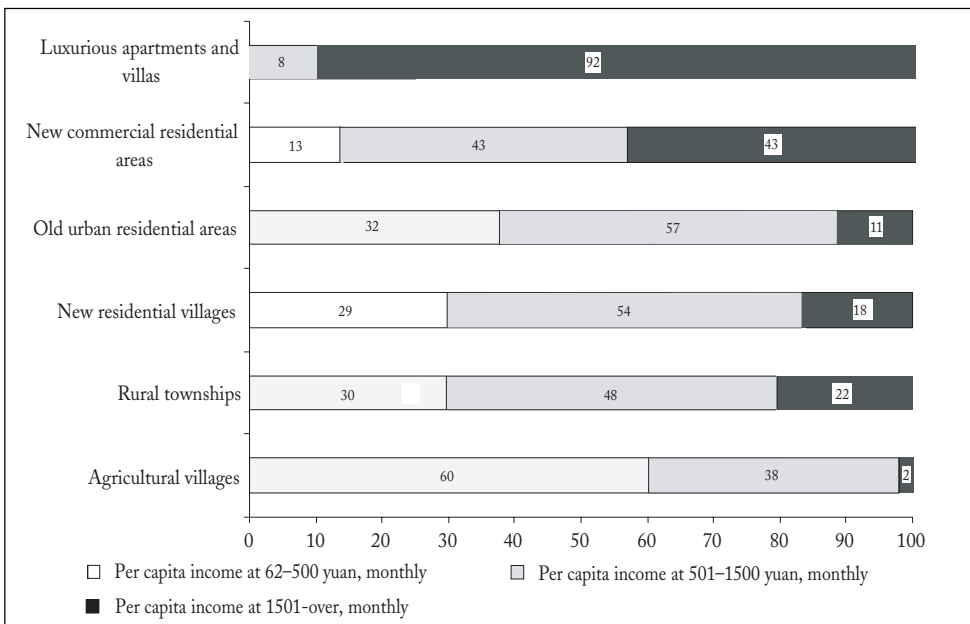
Figures 2 to 4 graphically display the relationships between residential types and educational attainment, per capita income and PGCs, respectively. To simplify the presentation and comparison, the eight educational levels were compressed into three larger but meaningful categories. Of the residents in luxury apartments and villas, 76 per cent had university and post-graduate degrees, while 80 per cent of the residents in agricultural villages had below senior high school level. Across all residential types, educational attainment declines in a linear fashion from luxury apartments and villas to agricultural villages. However, it is worth noting that 14 per cent and 38 per cent of the residents in luxury apartments and villas and new commercial housing blocks, respectively, had below senior high school education (Figure 2). These residents tended to be relatively wealthy migrants from out of Shanghai on an indefinite temporary status. A combined 17.2 per cent of the people with non-local *hukou* status lived in luxury apartments and villas and new commercial housing blocks compared to 11.2 for the residents with local non-agricultural

Figure 2. *Differences in the Residential Hierarchy by Educational Attainment*

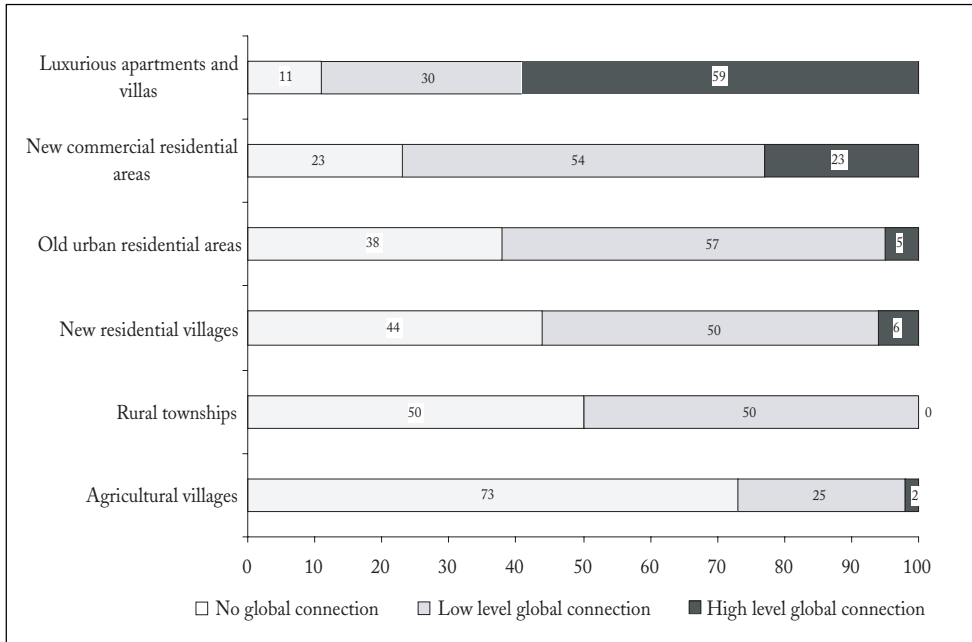


Source: Generated from authors' survey.

Figure 3. *Differences in the Residential Hierarchy by Per Capita Income*



Source: Generated from authors' survey.

Figure 4. *Differences in the Residential Hierarchy by Personal Global Connections*

Source: Generated from authors' survey.

hukou.²⁰ Rising affluence and cross-boundary migration have interacted to facilitate some upward housing mobility.

The relationship between per capita income and residential types is slightly different (see Figure 3). For easy comparison, per capita income was divided into low, medium and high categories.²¹ It is not surprising to find that 92 per cent of the residents in luxury apartments and villas were in the high-income category, while the new commercial housing drew an equal proportional split (43 per cent) of both middle- and high-income residents. Residents in the two middle residential types had more or less similar incomes. A somewhat larger than expected proportion of high-income residents in town proper could be accounted for by the presence of some relatively wealthy farmers/entrepreneurs in the outlying areas of Shanghai. It is also worth adding that over 90 per cent of the residents in

²⁰ In the sample, 80.7 per cent of the people had local non-agricultural *hukou*, 7.5 per cent had local agricultural *hukou* and 8.8 per cent had non-local temporary status.

²¹ These cut-off points are reasonable given the data distribution, as the scale reliability coefficient (Cronbach's alpha) between the categorical measurement of income and its continuous form is 0.94.

new commercial housing blocks and luxury apartments and villas owned their units, compared with the ownership rates of 61.8 per cent and 46.8 per cent, respectively, for new residential neighbourhoods and old urban settlements.²² This is evidence that market forces play a strong role in driving high-end housing development, which again favours the wealthy who can afford to buy and own nice properties.

To show the extent to which residential differentiation is related to PGCs, the PGC index was modified into three categories: (1) no global connections (zero for any of the four PGCs), (2) low-level global connections (any one or two of the four PGCs), and (3) high-level global connections (any three or all four PGCs). Figure 4 gives a clear picture of the increasingly larger proportions of residents with more PGCs from agricultural villages to luxury apartments, and villas where 50 per cent of all residents had all four PGCs against a mere two per cent in agricultural villages. It is interesting to note that at least half of the residents in the middle four residential types have low-level PGCs.

While the emphasis here is on the number (or level) of PGCs rather than types (see below), the broad spread of some individual-level global connectivity in a more open society is revealed. The analysis has also shown that 11 per cent and 23 per cent of the residents in new commercial housing blocks and luxury apartments and villas, respectively, were without any PGCs. Are these exceptional cases? Not really. Even though PGCs were heavily present among the best-housed residents, people could obtain top housing without being globally connected so long as they possessed sufficient human and economic resources in terms of education and income (Figures 2 and 3).

Lastly, Table 3 presents the distributions of age, educational attainment, per capita income and PGCs across the six residential types. With the exception of age, educational attainment, per capita income and PGCs all have an ascending order from residential type 1 through 6. The correlations between age, educational attainment, per capita income and PGCs with residential differentiation are all statistically significant. People in the higher-numbered residential areas are younger, more educated, richer and have stronger global connections, offering strong support to the authors' expectations for the direction of these relationships. A typical resident in a luxury apartment or villa is 37 years old, college educated, enjoys a per capita income of 4,547 yuan (\$555) a month and scores 63 on the

²² Ownership rates were 77.6 per cent and 82.9 per cent for agricultural villages and town proper, respectively. These figures refer to true legal ownership of the property in question as opposed to owning just the user right of the property.

Table 3. Demographic, Socioeconomic Status, and Personal Global Connections with the Residential Hierarchy (Means and Correlations)

	Age	Educational Attainment	Per capita Income (Chinese yuan)	Have Worked for a Foreign Company Locally	Have been abroad	Have Relatives and Friends Overseas	Often Surf Foreign Websites	Index of Personal Global Connections
Agricultural villages	44.67	3.22	561.45	0.04	0.02	0.15	0.14	8.58
Rural townships	37.34	4.68	892.28	0.13	0.05	0.13	0.32	14.11
New residential villages	41.84	4.54	1,012.09	0.12	0.12	0.23	0.36	20.00
Old urban residential areas	39.46	4.62	878.95	0.21	0.05	0.24	0.39	21.42
New commercial residential areas	39.81	5.50	1,423.96	0.30	0.35	0.29	0.59	36.84
Luxurious apartments and villas	36.72	6.78	4,546.62	0.59	0.59	0.61	0.78	63.08
Correlations	-0.078	0.378	0.356	0.299	0.312	0.196	0.261	0.395
p values	0.057	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Source: Generated from authors' survey.

PGC index. At the other end, namely agricultural villages, a typical resident is about 45 years old with only junior high school education, and has per capita income and PGCs equivalent to one-eighth those of the average resident in luxury apartments and villas. Finally, this table shows that differentiated residential positions are more strongly associated with two of the four PGCs (have been abroad and worked for a foreign company) than the other two PGCs. This provides some evidence that in addition to their overall strength, different types of PGCs may make a difference to where people end up in the process of residential differentiation. The authors intend to pursue this more refined analysis in future studies.

Discussion and Conclusion

The primary objective of this paper is to measure and demonstrate the relationship, if it exists, between the micro impact of globalisation and local residential differentiation in Shanghai. While research on urban China has begun to examine this relationship, this study may be the first to establish it at the understudied individual level, i.e., how global dynamics may affect the orientation and behaviour of local residents if the latter are variably linked to the global system.²³ The Shanghai case also demonstrates that while globalisation tends to produce homogenising tendencies in consumption and lifestyle, it may influence people's residential choices under local housing market opportunities and constraints. Nevertheless, since PGCs are distributed unevenly among people, especially in a generally open but socioeconomically diverse city like Shanghai, those who are more globally connected seem to have a comparative advantage in pursuing more glamorous, global lifestyles in luxury apartments or exclusive villas.

Secondly, while the transition to a market economy in urban China has created unequal opportunities for people to accumulate more human assets through advanced education and more economic assets through high-paid jobs, it has also facilitated residential movement or mobility. While these people could secure luxury and exclusive housing by using their valuable human and economic resources, they may also benefit from stronger PGCs in residential mobility. The extent to which the residential landscape in Shanghai has become more differentiated along age, educational attainment, income and PGCs reflects greater inequality in a new local socio-spatial order. In this sense, the identified residential

²³ Wu, "Housing Provision Under Globalisation"; Wu Fulong, ed., *Globalization and the Chinese City* (London and New York: Routledge, 2005).

types are evolving into a new residential hierarchy which stratifies people in terms of both socioeconomic characteristics and PGCs.

Finally, if PGCs function as relational assets, they provide various channels or circuits through which residents in luxury apartments or villas in Shanghai are exposed to the economic forces and cultural lifestyles beyond the boundary of their local communities. With these PGCs, local residents in Shanghai are in a sense involved in the global community and global social network in which they may experience a globally oriented socialisation, with certain individual and community-level consequences. The authors intend to continue this line of inquiry by delving into how stronger and more extensive PGCs might affect other important dimensions of local socioeconomic and spatial transformation in Shanghai and by exploring the implications for Chinese cities generally.

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