Towards a Better-Functioning Private Rented Sector in Metropolitan China

The Case of Shenzhen

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Towards a Better-Functioning Private Rented Sector in Metropolitan China

The Case of Shenzhen

Dissertation

for the purpose of obtaining the degree of doctor
at Delft University of Technology
by the authority of the Rector Magnificus, prof.dr.ir. T.H.J.J. van der Hagen
chair of the Board for Doctorates
to be defended publicly on
Monday 24 April 2023 at 12:30 o'clock

by

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Chongqing University, China
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This dissertation has been approved by the promotors.

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Chinese names carry specific meanings and reflect parents' hopes and aspirations for their child's future success or personality traits. My first name Bo was given by my aunt thirty years ago. The original meaning of Bo is "big and broad", while *boshi* means doctoral degree. She said, "Our family has not had a doctor, let this boy become a doctor in the future". Now that I am about to fulfill her wish, I cannot tell if this name has influenced my career and life trajectory, but I am sure that this achievement would not have been possible without the support and encouragement of so many people.

First and foremost, I would like to express my sincere gratitude and appreciation to my supervision team, Peter, Harry, and Sylvia. They have provided me with valuable insights, constructive feedback, and unwavering encouragement throughout my Ph.D. project. Even though he was very busy, Peter managed to spare time to read my manuscript carefully and give brief but crucial comments. More importantly, Peter demonstrated to me how to make a greater social impact as a housing scholar through interviews with the media and debates with national experts. I am also very grateful for his regular invitation to us to enjoy the delicious barbecue and Asian food that he personally cooks. I would like to give my sincere gratitude to Harry, my copropotor and daily supervisor. Harry likes reading and is a knowledgeable housing researcher. He placed a greater emphasis on the theoretical aspect of my thesis and always expected the inclusion of theoretical frameworks in my papers, which has been to some extent neglected in the Chinese academic training system. In life, he is a person with a sense of humor and a warm heart. I learned a lot of wisdom about life and research from him through our countless delightful chats. I would like to express my heartfelt appreciation to another daily supervisor, Sylvia, who is a data scientist and a housing researcher. Her passion and rigorous attitude towards research are truly admirable. She has always read my manuscript word by word and given me lots of constructive feedback, which has significantly improved the quality of my work. Except for many data analysis techniques, I have also learned from her to write with accuracy, clarity, and comprehensibility. I feel so fortunate to have such a world-class supervision team, whose tutoring will undoubtedly be a treasure that I will cherish for a lifetime.

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Summary

In recent years, the Private Rented Sector (PRS) has experienced rapid growth in many countries around the world due to various reasons such as unaffordable housing prices, shortage of social housing, increasing workforce mobility, and attractive return on investment in private rental housing after the Global Financial Crisis (Haffner, et al., 2018; Hulse, et al., 2019; Pawson, et al., 2017). The PRS in China's megacities has also grown substantially. According to the seventh census, around 30% of the population in Beijing and Shanghai lived in the PRS in 2020. The proportion even reached 53% and 77% in Guangzhou and Shenzhen respectively (Sina News, 2022). The fast growth of the PRS in metropolitan China has drawn the attention of the central government and led to a fundamental shift in China's previous housing policies.

During Mao's era, most urban households lived in public rented housing provided by their *work units* (place of employment, usually a public organization). In 1998, the central government of China announced the end of the allocation of welfare housing with a shift to the commodification of housing. Since then, homeownership has been encouraged by the government not only to increase housing supply but also to boost the economy and bring in fiscal revenues[1]. As a result, housing prices have risen to an exorbitant level, especially in the megacities where there is a buoyant demand for housing. More and more households have to choose private renting. However, having been neglected for many years, the rental housing market in China has remained highly under-developed.

Against this backdrop, the state unprecedentedly proposed the idea of "accelerating the development of the rental housing market" to achieve a "balanced development between home renting and purchasing" (MOHURD, 2015), marking a watershed in China's housing policy. Since 2015, numerous policies, initiatives, and pilot projects have been formulated and launched to promote the PRS. These initiatives include providing tax benefits to professional rental companies, allowing the use of Collective Construction Land to build rental housing, combating illegal practices in the rental market, and promoting Real Estate Investment Trusts (REITs) and asset

1 It is because urban lands in China are owned by the state, and local governments can obtain considerable revenues through land grant and land taxation.

securitization to help rental companies to finance, etc. However, the policies have achieved limited effects so far. On the demand side, private renting remains an unattractive tenure and is regarded as a transition to homeownership. Many tenants have to live in substandard housing and put up with fast-rising rents while they have weak tenure security (Pun, et al., 2018). Furthermore, tenants are still excluded from several social benefits such as public education and healthcare (Huang, et al., 2017; Wu & Wang, 2014). For example, if parents do not own housing in the area, their children cannot attend quality public schools nearby (Feng & Lu, 2013). On the supply side, rental companies face many problems such as low profits, destructive competition, and difficulty in acquiring land (JLL, 2021). In addition, the vulnerable financial model (such as rental loan[2]) adopted by many rental companies has also exposed tenants' rental tenancies to greater financial risks and caused much social unrest (Chen, et al., 2022). On the government side, although the central government attaches great attention to the development of the housing rental market, many local governments have inadequate motivation in providing rental lands (Sohu News, 2021) because of their reliance on land grant revenues. It is argued that the failure of these policies lies in a lack of understanding of the PRS and players within it.

Research aim and questions

Therefore, the aim of the dissertation is to gain an in-depth understanding of the functioning of the PRS in China, which is disassembled into three key components, i.e., tenants, landlords, and the government. Based on the understanding, the dissertation seeks to explore what initiatives can be taken to achieve a better-functioning PRS. In this dissertation, a well-functioning PRS has been defined from three perspectives. On the demand side, the PRS should be an attractive tenure for citizens instead of an unwanted compromise. Furthermore, tenants living in the PRS should be satisfied with their residential environment and well-integrated into the society. On the supply side, landlords should remain interested to invest in the PRS. More importantly, landlords should provide decent housing and standard services for their tenants. On the governance side, there should be a sound regulatory system to clarify the rights and obligations of different parties, regulate illegal behaviour, and adjudicate disputes between tenants and landlords.

2 Rental loan refers to "a financial arrangement whereby tenants borrow loans from financial institutions to finance the lump sum of their upfront rents and repay such loans through monthly repayments, while the landlords receive the upfront payment of rents at the beginning of the rental lease" (Chen, et al., 2022).

The above aim is translated into five key research questions: 1) What are the determinants of people's housing tenure choice towards private renting? 2) What are the determinants of residential satisfaction in different sub-sectors[3] of the PRS? 3) What is the relationship between residential environment, social exclusion, and life satisfaction of private tenants? 4) In what way do landlords' management practices influence the housing experiences of tenants? 5) What are the key challenges towards a well-developed PRS and possible solutions to cope with the challenges?

Research methods and results

Research question 1: What are the determinants of people's housing tenure choice towards private renting?

To answer the first research question, a questionnaire is designed based on the Theory of Planned Behaviour (TPB). Personal data were collected from 476 private tenants living in Shenzhen. Respondents were asked about their socio-demographic characteristics, residential environment, the extent to which they intended to rent, and their various beliefs towards private renting. It was found that people's renting intention was most influenced by their attitudes toward private renting (the degree to which private renting is positively or negatively valued), followed by subjective norm (people's perceived social pressure to rent privately) and perceived behavioural control (people's perceptions of their ability to rent privately). More specifically, behavioural beliefs such as "facilitate easy job-changing", "reduce financial pressure", and "avoid housing prices fall" are positively associated with renting intention, while outcome evaluation "desire sense of belonging" is negatively related to renting intention. Motivation to comply with families' opinions is also positively associated with renting intention. Furthermore, control belief "housing prices will rise fast" and perceived power of rental housing shortage are positively related to renting intention. Among all socio-demographic factors, only marital status was significantly associated with people's intention to rent. The respondents who were married had lower intention to rent than those who were unmarried. These findings have important implications for policy makers who are interested in promoting the PRS.

3 As will be shown later in the Summary and in Section 3.2, the PRS in Shenzhen is classified into three sub-sectors, which are urban village housing, commercial rented housing, and Long-term Rented Apartment (LTRA).

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Research question 2: What are the determinants of residential satisfaction in different sub-sectors of the PRS?

To answer the second research question, the PRS in Shenzhen was classified into three sub-sectors based on the thesis Structural of Housing Provision developed by (Ball, 1986a, 1986b). According to Ball (1986b), research on housing should concentrate on describing and analysing the development of relationships between the social agencies involved in the production, allocation, and consumption of housing and housing services in specific housing categories or structures. By analysing the social relations within the PRS, three sub-sectors were identified, which are the urban village housing, commercial rented housing, and Long-term Rented Apartments (LTRA). Urban village housing is built by villagers themselves on collective land in urban villages. An 'urban village' in the Chinese context is a type of village that has been geographically surrounded by urban built-up areas but maintains an institutionally recognized rural status because of the collective ownership of land (Guo, et al., 2018; He et al., 2010). In comparison, commercial housing is developed by real estate companies on urban land acquired from the local government normally through a competitive tender. LTRA is a recent term that is used to describe properties managed by rental housing companies and target at young professionals.

Drawing on the abovementioned questionnaire survey in Shenzhen, the characteristics of the three sub-sectors and tenants living in each sub-sector were first examined. Next, residential satisfaction levels in different sub-sectors were evaluated. The results of an ANOVA showed that tenants living in commercial rented housing and LTRAs were more satisfied than those living in urban village housing while the satisfaction levels between commercial housing tenants and LTRA tenants did not differ significantly. In addition, the determinants of residential satisfaction in different sub-sectors were examined using regression analysis. The results showed that the determinants of residential satisfaction vary considerably among different sub-sectors. For example, the most significant determinants for residential satisfaction in the urban village sub-sector are cooking facilities, housing space, hazard-free environment, and educational attainment. In the commercial housing sub-sector, the most important predictors for residential satisfaction include pest-free environment, adequate space, and the presence of a written contract. All socio-demographic factors were found to have insignificant effects on residential satisfaction. In the LTRA sub-sector, the most significant predictors are pest-free environment, the presence of a balcony, and commuting time. Two common determinants of residential satisfaction in each sub-sector are the presence of a park nearby and commuting time. The findings suggest that different groups of tenants

have different aspirations about their living conditions. Therefore, policies should be formulated differently in various sub-sectors.

Research question 3: What is the relationship between residential environment, social exclusion, and life satisfaction of private tenants?

To answer the third research question, a model was proposed based on Amérigo and Aragones' (1997) theoretical framework, that links residential environment, beliefs of social exclusion, and life satisfaction. Drawing on data collected from private tenants in Shenzhen, it was found that 30%, 43%, 47% of the respondents were satisfied with their life in the urban village sub-sector, commercial housing sub-sector, and LTRA sub-sector, respectively. The results of a one-way ANOVA suggest that urban village tenants were significantly less satisfied with their life compared with commercial housing tenants and LTRA tenants. Next, a path analysis was performed to examine the determinants of life satisfaction and the relationship between residential environment, social exclusion, and life satisfaction. In this research, social exclusion of private tenants has been operationalized into three indicators, which are perceived unequal citizenship rights, perceived discrimination, and perceived losing *mianzi* [4] (face). It was found that the rental sub-sector was significantly associated with social exclusion variables. For example, commercial housing tenants were more likely to perceive equal citizenship rights and less likely to perceive discrimination and losing *mianzi* than urban village tenants. LTRA tenants were also less likely to perceive discrimination and losing *mianzi* than urban village tenants. Furthermore, the more tenants perceive unequal citizenship rights and discrimination, the lower their life satisfaction is. Except for sub-sector and social exclusion variables, life satisfaction is significantly associated with commuting time, housing space, housing quality, public facilities, landlord services, perceived reasonable rent, and residential satisfaction. The findings of the research provide possible avenues to improve tenants' life satisfaction.

Research question 4: In what way do landlords' management practices influence the housing experiences of tenants?

To answer the fourth research question, in-depth interviews were conducted with landlords, housing managers, and letting agents of different sub-sectors in Shenzhen. Nieboer's (2005) taxonomy of three levels of real estate management

4 *Mianzi* is defined as the recognition by others of an individual's social standing and position (Lockett, 1988). In Chinese culture, it is vital to maintain a person's *mianzi* or dignity and prestige (Buckley, et al., 2010).

was adopted as the framework to formulate the interview structure and analyse the results. According to Nieboer (2005), real estate management can be classified into three levels, i.e., property management, asset management, and portfolio management. Property management refers to 'daily' administrative, technical, commercial management and maintenance activities. Asset management is concerned with the assessment of individual projects, based on which it is decided what type of investment will be made in each project and which allocation and pricing policy has to be applied. The top level is portfolio management, which concerns the allocation of investments among several asset options such as shares, bonds or real estate (housing, office, and retail). Based on the three levels of housing management, different sets of management activities were developed within each management level. For example, under property management level, main topics are tenant seeking, home showing, contract signing, rent collecting, etc. Under asset management level, main topics include refurbishment, rent setting/raising. Under portfolio management level, the topic is to determine the portfolio mix. It was found that landlords' management practices in the three sub-sectors vary considerably. In the urban village and commercial housing sub-sectors, most housing management activities are limited on the property management and asset management level. In contrast, management practices in the LTRA sub-sector are more sophisticated and strategic. Besides property management and asset management, LTRA companies are also engaged in portfolio management. In the context of Shenzhen, an important content of portfolio management is to determine whether urban village housing should be incorporated into their portfolio mix.

Next, the way in which landlords' management practices influence the housing experiences of tenants was examined, drawing on the interview with 17 tenants living in different sub-sectors in Shenzhen. The results showed that some landlords' management practices did seriously impact the living experiences of private tenants by undermining the affordability, residential conditions, and tenure security of rental housing. For example, the affordability of rental housing can be impacted by frequent rent increase and unauthorized pricing of utilities. Furthermore, landlords' decision to maintain or renovate the housing and facilities they provide directly shape the living experiences of tenants. As for tenure security, it was found that many tenants reported to have experienced displacement because their landlords need to renovate or sell the property, or the LTRA company faced severe cash flow problem, or the landlord raised the rent to an unacceptable level. The evidence from this study emphasizes the necessity to introduce differentiated regulations on different types of landlords to standardize their management practices.

Research question 5: What are the key challenges towards a well-developed PRS and possible solutions to cope with the challenges?

To answer the fifth research question, both academic and grey literature were reviewed. The results of the previous studies concerning research question 1-4 were also used. Challenges were identified from the perspectives of Chinese local governments, landlords, and tenants, respectively. It was found that the informality of the PRS, reliance on land finance, and opposition from homeowners were the most important challenges towards a well-functioning PRS on the government side. On the landlord side, three key challenges are over-valued properties, difficulty in acquiring land and properties, and difficulty in cashing out due to low asset liquidity. On the tenant side, preference for homeownership, poor housing experiences in private rented housing, and distrust of LTRA companies are the major challenges. To cope with these challenges, we recommend that the government should formalize the PRS, promote equal citizenship rights between tenants and homeowners, and introduce certain regulations. More specifically, we suggest the central government should provide financial support for local governments to motivate them to increase rental land supply and establish a human-cantered appraisal system for local officials. Local governments should strengthen the regulations on LTRA companies and issuers of rent loans, expanding the implementation of REITs in the LTRA sub-sector, setting minimum housing standards for urban village housing, and introducing moderate rent regulations.

The dissertation has considerable societal and practical relevance in the context of the China's commitment to develop the PRS. Through a field survey with private tenants and in-depth interviews with tenants, landlords, and letting agents, the dissertation has provided a comprehensive portrait of the landlords and tenants in Shenzhen. The results of the dissertation indicate that the government should pay attention to the well-being of private tenants, given their extremely low life satisfaction levels. From the perspective of this research, the life satisfaction of private tenants is strongly related to residential satisfaction. Therefore, possible avenues to higher life satisfaction might be increasing their residential satisfaction levels and facilitating their social inclusion. In addition, it is important for the government to realize the inequalities between different sub-sectors. This dissertation has shown that urban village tenants in Shenzhen have lower residential satisfaction and life satisfaction, and are more likely to perceive social exclusion than commercial housing tenants and LTRA tenants. It has also shown that landlords have played a critical role in shaping tenants' housing experience, although in different ways in various sub-sectors. Regulations should be introduced to mitigate the imbalanced power relationship between tenants and landlords. For instance, the government could learn from Germany and legislate against rent increases

above 20% within three years (Deschermeier, et al., 2016). More importantly, measures should be taken to ensure the legislation is followed and violations will be penalized. Again, policies should be formulated accordingly in different sub-sectors instead of treating the PRS as a homogeneous market. It is also important for the government to realize that the PRS in China is not an isolated island but a system related to many other institutions such as the hukou system, social benefits system, education system, and decentralized fiscal system. Reforming the PRS requires institutional change at the same time. In this way, the dissertation engages with the ongoing debates of the reviving PRS in post-homeownership societies.

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Samenvatting

In de afgelopen jaren heeft de particuliere huursector (PRS) in veel landen over de hele wereld een snelle groei doorgemaakt vanwege verschillende redenen, zoals onbetaalbare huizenprijzen, een tekort aan sociale woningen, toenemende arbeidsmobiliteit en een aantrekkelijk rendement op investeringen in particuliere huurwoningen na de wereldwijde financiële crisis (Haffner, et al., 2018; Hulse, et al., 2019; Pawson, et al., 2017). De PRS in de megasteden van China is ook aanzienlijk gegroeid. Volgens de zevende volkstelling woonde in 2020 ongeveer 30% van de bevolking in Beijing en Shanghai in de PRS. Het aandeel bereikte zelfs 53% en 77% in respectievelijk Guangzhou en Shenzhen (Sina News, 2022). De snelle groei van de PRS in grootstedelijk China heeft de aandacht getrokken van de centrale overheid en heeft geleid tot een fundamentele verschuiving in het eerdere Chinese huisvestingsbeleid.

Tijdens het tijdperk van Mao woonden de meeste stedelijke huishoudens in openbare huurwoningen die werden verstrekt door hun werkeenheden (plaats van tewerkstelling, meestal een openbare organisatie). In 1998 kondigde de centrale regering van China het einde aan van de toewijzing van sociale woningen met een verschuiving naar de commodificatie van woningen. Sindsdien is het eigenwoningbezit door de overheid aangemoedigd, niet alleen om het woningaanbod te vergroten, maar ook om de economie te stimuleren en belastinginkomsten binnen te halen. Als gevolg hiervan zijn de huizenprijzen gestegen tot een exorbitant niveau, vooral in de megasteden waar een grote vraag naar woningen is. Steeds meer huishoudens moeten kiezen voor particulier huren. Na jarenlang verwaarloosd te zijn, is de huurwoningmarkt in China echter sterk onderontwikkeld gebleven.

Tegen deze achtergrond stelde de staat ongekend het idee voor om “de ontwikkeling van de huurwoningmarkt te versnellen” om een “evenwichtige ontwikkeling tussen het huren en kopen van woningen” te bereiken (MOHURD, 2015), wat een keerpunt markeerde in het Chinese huisvestingsbeleid. Sinds 2015 zijn tal van beleidsmaatregelen, initiatieven en proefprojecten geformuleerd en gelanceerd om de PRS te promoten. Deze initiatieven omvatten het verstrekken van belastingvoordelen aan professionele verhuurbedrijven, het toestaan van het gebruik van collectieve bouwgrond voor het bouwen van huurwoningen, het bestrijden van illegale praktijken op de huurmarkt en het promoten van Real Estate Investment Trusts (REIT’s) en activa-securitisatie om verhuurbedrijven te

helpen bij het financieren, enz. Het beleid heeft tot nu toe echter beperkte effecten opgeleverd. Aan de vraagzijde blijft particulier huren een onaantrekkelijke huur en wordt het gezien als een overgang naar eigenwoningbezit. Veel huurders moeten in ondermaatse woningen wonen en genoegen nemen met snel stijgende huurprijzen, terwijl ze een zwakke huurbescherming hebben (Pun, et al., 2018). Bovendien zijn huurders nog steeds uitgesloten van verschillende sociale voorzieningen, zoals openbaar onderwijs en gezondheidszorg (Huang, et al., 2017; Wu & Wang, 2014). Als ouders bijvoorbeeld geen woning in het gebied hebben, kunnen hun kinderen niet naar openbare kwaliteitsscholen in de buurt gaan (Feng & Lu, 2013). Aan de aanbodzijde hebben verhuurbedrijven te maken met veel problemen, zoals lage winsten, destructieve concurrentie en moeilijkheden bij het verwerven van grond (JLL, 2021). Bovendien heeft het kwetsbare financiële model (zoals huurlening) dat door veel verhuurbedrijven wordt gehanteerd, ook de huurcontracten van huurders blootgesteld aan grotere financiële risico's en veel sociale onrust veroorzaakt (Chen, et al., 2022). Aan de kant van de overheid, hoewel de centrale overheid veel aandacht besteedt aan de ontwikkeling van de huurmarkt voor woningen, zijn veel lokale overheden onvoldoende gemotiveerd om huurgrond te verstrekken (Sohu News, 2021) vanwege hun afhankelijkheid van inkomsten uit grondsubsidies. Er wordt beweerd dat het mislukken van dit beleid ligt in een gebrek aan begrip van de PRS en de spelers daarin.

Onderzoeksdoel en vragen

Het doel van dit proefschrift is dan ook om een diepgaand inzicht te krijgen in de werking van de PRS in China, die uiteenvalt in drie hoofdcomponenten, namelijk huurders, verhuurders en de overheid. Op basis van dit inzicht probeert het proefschrift te onderzoeken welke initiatieven kunnen worden genomen om tot een beter functionerende PRS te komen. In dit proefschrift is een goed functionerende PRS vanuit drie perspectieven gedefinieerd. Aan de vraagzijde moet de PRS een aantrekkelijke ambtstermijn zijn voor burgers in plaats van een ongewenst compromis. Bovendien moeten huurders die in de PRS wonen tevreden zijn met hun woonomgeving en goed geïntegreerd zijn in de samenleving. Aan de aanbodzijde zouden verhuurders geïnteresseerd moeten blijven om in de PRS te investeren. Wat nog belangrijker is, is dat verhuurders fatsoenlijke huisvesting en standaarddiensten voor hun huurders moeten bieden. Aan de bestuurlijke kant moet er een degelijk regelgevingssysteem zijn om de rechten en plichten van verschillende partijen te verduidelijken, illegaal gedrag te reguleren en geschillen tussen huurders en verhuurders te beslechten.

Het bovenstaande doel is vertaald in vijf centrale onderzoeksvragen: 1) Wat zijn de determinanten van de keuze van mensen voor een huurcontract ten opzichte van particulier huren? 2) Wat zijn de determinanten van woontevredenheid in verschillende subsectoren van de PRS? 3) Wat is de relatie tussen woonomgeving, sociale uitsluiting en tevredenheid met het leven van particuliere huurders? 4) Op welke manier beïnvloeden de managementpraktijken van verhuurders de huisvestingservaringen van huurders? 5) Wat zijn de belangrijkste uitdagingen voor een goed ontwikkelde PRS en mogelijke oplossingen om deze uitdagingen het hoofd te bieden?

Onderzoeksmethoden en resultaten

Onderzoeksvraag 1: Wat zijn de determinanten van de keuze van mensen voor huurcontracten ten opzichte van particuliere huur?

Om de eerste onderzoeksvraag te beantwoorden is een vragenlijst ontworpen op basis van de Theory of Planned Behavior (TPB). Persoonlijke gegevens werden verzameld van 476 particuliere huurders die in Shenzhen wonen. De respondenten werd gevraagd naar hun sociaal-demografische kenmerken, woonomgeving, de mate waarin ze van plan waren te huren en hun verschillende opvattingen over particulier huren. Het bleek dat de huurintentie van mensen het meest werd beïnvloed door hun houding ten opzichte van particulier huren (de mate waarin particulier huren positief of negatief wordt gewaardeerd), gevolgd door de subjectieve norm (de waargenomen sociale druk van mensen om particulier te huren) en waargenomen gedragscontrole (de perceptie van mensen van hun vermogen om particulier te huren). Meer specifiek, gedragsopvattingen zoals “gemakkelijke baanwisseling vergemakkelijken”, “financiële druk verminderen” en “vermijden dat huizenprijzen dalen” zijn positief geassocieerd met huurintentie, terwijl uitkomstevaluatie “wens gevoel van verbondenheid” negatief gerelateerd is aan huurintentie . Motivatie om te voldoen aan de mening van families hangt ook positief samen met huurintentie. Bovendien zijn de controleovertuiging dat “de huizenprijzen snel zullen stijgen” en de ervaren kracht van het tekort aan huurwoningen positief gerelateerd aan de huurintentie. Van alle sociaal-demografische factoren was alleen de burgerlijke staat significant geassocieerd met de intentie van mensen om te huren. De gehuwde respondenten hadden een lagere intentie om te huren dan de ongehuwden. Deze bevindingen hebben belangrijke implicaties voor beleidsmakers die geïnteresseerd zijn in het promoten van de PRS.

Onderzoeksvraag 2: Wat zijn de determinanten van woontevredenheid in verschillende subsectoren van de PRS?

Om de tweede onderzoeksvraag te beantwoorden, werd de PRS in Shenzhen ingedeeld in drie subsectoren op basis van het proefschrift Structural of Housing Provision van (Ball, 1986a, 1986b). Volgens Ball (1986b) zou onderzoek naar huisvesting zich moeten concentreren op het beschrijven en analyseren van de ontwikkeling van relaties tussen de sociale instanties die betrokken zijn bij de productie, toewijzing en consumptie van huisvesting en huisvestingsdiensten in specifieke huisvestingscategorieën of -structuren. Door de sociale relaties binnen de PRS te analyseren, werden drie subsectoren geïdentificeerd, namelijk de stedelijke dorpswoningen, commerciële huurwoningen en langlopende huurappartementen (LTRA). Stedelijke dorpswoningen worden door dorpelingen zelf gebouwd op collectieve grond in stedelijke dorpen. Een 'stedelijk dorp' in de Chinese context is een type dorp dat geografisch omringd is door stedelijke bebouwde kom, maar een institutioneel erkende landelijke status behoudt vanwege het collectieve eigendom van land (Guo, et al., 2018; He et al. al., 2010). Ter vergelijking: commerciële huisvesting wordt ontwikkeld door vastgoedbedrijven op stedelijke grond die normaal gesproken via een openbare aanbesteding van de lokale overheid is verkregen. LTRA is een recente term die wordt gebruikt om eigendommen te beschrijven die worden beheerd door verhuurbedrijven en gericht zijn op jonge professionals.

Op basis van het bovengenoemde vragenlijstonderzoek in Shenzhen werden eerst de kenmerken van de drie subsectoren en de huurders in elke subsector onderzocht. Vervolgens werden de woontevredenheidsniveaus in verschillende deelsectoren geëvalueerd. De resultaten van een ANOVA toonden aan dat huurders van commerciële huurwoningen en LTRA's meer tevreden waren dan huurders van stedelijke dorpswoningen, terwijl de tevredenheid tussen huurders van commerciële huurwoningen en LTRA-huurders niet significant verschilde. Daarnaast zijn de determinanten van woontevredenheid in verschillende subsectoren onderzocht met behulp van regressieanalyse. De resultaten toonden aan dat de determinanten van woontevredenheid aanzienlijk verschillen tussen de verschillende subsectoren. De belangrijkste determinanten voor woontevredenheid in de subsector stadsdorpen zijn bijvoorbeeld kookfaciliteiten, woonruimte, onveilige omgeving en opleidingsniveau. In de subsector commerciële huisvesting zijn de belangrijkste voorspellers voor woontevredenheid een ongediertevrije omgeving, voldoende ruimte en de aanwezigheid van een schriftelijk contract. Alle sociaal-demografische factoren bleken een onbeduidend effect te hebben op de woontevredenheid. In de deelsector LTRA zijn ongediertevrije omgeving, aanwezigheid van een balkon en reistijd woon-werkverkeer de belangrijkste voorspellers. Twee gemeenschappelijke determinanten van woontevredenheid in elke subsector zijn de aanwezigheid van een park in de

buurt en de reistijd. De bevindingen suggereren dat verschillende groepen huurders verschillende ambities hebben met betrekking tot hun woonsituatie. Daarom moet het beleid in verschillende subsectoren anders worden vormgegeven.

Onderzoeksvraag 3: Wat is de relatie tussen woonomgeving, sociale uitsluiting en levensvreugde van particuliere huurders?

Om de derde onderzoeksvraag te beantwoorden, werd een model voorgesteld op basis van het theoretische raamwerk van Amérigo en Aragones (1997), dat woonomgeving, overtuigingen van sociale uitsluiting en tevredenheid met het leven met elkaar verbindt. Op basis van gegevens die zijn verzameld van particuliere huurders in Shenzhen, bleek dat 30%, 43%, 47% van de respondenten tevreden was met hun leven in de subsector van het stadsdorp, de subsector commerciële huisvesting en de subsector LTRA. respectievelijk. De resultaten van een one-way ANOVA suggereren dat huurders van stadsdorpen significant minder tevreden waren met hun leven in vergelijking met huurders van commerciële woningen en LTRA-huurders. Vervolgens werd een padanalyse uitgevoerd om de determinanten van tevredenheid met het leven en de relatie tussen woonomgeving, sociale uitsluiting en tevredenheid met het leven te onderzoeken. In dit onderzoek is sociale uitsluiting van particuliere huurders geoperationaliseerd in drie indicatoren, te weten ongelijke burgerschapsrechten, ervaren discriminatie en het ervaren verliezen van mianzi (gezicht). Er werd vastgesteld dat de subsector huur significant geassocieerd was met variabelen voor sociale uitsluiting. Huurders van commerciële woningen hadden bijvoorbeeld meer kans op gelijke burgerschapsrechten en minder kans op discriminatie en het verliezen van mianzi dan huurders in stedelijke dorpen. LTRA-huurders zagen ook minder snel discriminatie en het verlies van mianzi dan huurders in stadsdorpen. Bovendien, hoe meer huurders ongelijke burgerschapsrechten en discriminatie ervaren, hoe lager hun tevredenheid met het leven is. Met uitzondering van subsectorale en sociale uitsluitingsvariabelen hangt tevredenheid met het leven significant samen met woon-werkverkeer, woonruimte, kwaliteit van woningen, openbare voorzieningen, verhuurdersdiensten, ervaren redelijke huur en woontevredenheid. De bevindingen van het onderzoek bieden mogelijke wegen om de levenstevredenheid van huurders te verbeteren.

Onderzoeksvraag 4: Op welke manier beïnvloeden de management-praktijken van verhuurders de woonervaringen van huurders?

Om de vierde onderzoeksvraag te beantwoorden zijn diepte-interviews gehouden met verhuurders, woningbeheerders en verhuurmakelaars van verschillende deelsectoren in Shenzhen. Nieboer's (2005) taxonomie van drie niveaus van vastgoedbeheer werd gebruikt als het raamwerk om de interviewstructuur te formuleren en de resultaten

te analyseren. Vastgoedbeheer kan volgens Nieboer (2005) worden ingedeeld in drie niveaus, namelijk vastgoedbeheer, vermogensbeheer en portefeuillebeheer. Vastgoedbeheer verwijst naar de 'dagelijkse' administratieve, technische, commerciële beheer- en onderhoudsactiviteiten. Bij vermogensbeheer gaat het om de beoordeling van individuele projecten, op basis waarvan wordt bepaald welk type investering in elk project zal worden gedaan en welk allocatie- en prijsbeleid moet worden toegepast. Het hoogste niveau is portefeuillebeheer, dat betrekking heeft op de allocatie van beleggingen over verschillende activaopties zoals aandelen, obligaties of onroerend goed (woningen, kantoren en winkels). Op basis van de drie niveaus van huisvestingsbeheer zijn binnen elk beheerniveau verschillende sets van beheeractiviteiten ontwikkeld. Op het niveau van vastgoedbeheer zijn de belangrijkste onderwerpen bijvoorbeeld het zoeken naar huurders, het tonen van woningen, het ondertekenen van contracten, het innen van huur, enz. Op het niveau van vermogensbeheer zijn de belangrijkste onderwerpen renovatie, huurbepaling/verhoging. Op het niveau van portefeuillebeheer gaat het om het bepalen van de portefeuillemix. Gebleken is dat de beheerpraktijken van verhuurders in de drie deelsectoren aanzienlijk verschillen. In de subsectoren stadsdorp en bedrijfshuisvesting zijn de meeste activiteiten op het gebied van woningbeheer beperkt tot vastgoedbeheer en vermogensbeheer. De managementpraktijken in de LTRA-subsector zijn daarentegen geavanceerder en strategischer. Naast vastgoedbeheer en vermogensbeheer houden LTRA-bedrijven zich ook bezig met portefeuillebeheer. In de context van Shenzhen is een belangrijke inhoud van portefeuillebeheer het bepalen of stedelijke dorpswoningen moeten worden opgenomen in hun portefeuillemix.

Vervolgens werd de manier onderzocht waarop de managementpraktijken van verhuurders de huisvestingservaringen van huurders beïnvloeden, gebruikmakend van het interview met 17 huurders die in verschillende subsectoren in Shenzhen wonen. De resultaten toonden aan dat de managementpraktijken van sommige verhuurders een ernstige impact hadden op de woonervaringen van particuliere huurders door de betaalbaarheid, de woonomstandigheden en de huurzekerheid van huurwoningen te ondermijnen. De betaalbaarheid van huurwoningen kan bijvoorbeeld worden beïnvloed door frequente huurverhogingen en ongeoorloofde prijzen van nutsvoorzieningen. Bovendien bepaalt de beslissing van verhuurders om de woningen en voorzieningen die zij bieden te behouden of te renoveren, rechtstreeks de woonervaringen van huurders. Wat de huurbescherming betreft, bleek dat veel huurders te maken hadden gehad met ontheemding omdat hun huisbazen het pand moesten renoveren of verkopen, of omdat het LTRA-bedrijf met ernstige cashflowproblemen te maken had, of omdat de huisbaas de huur tot een onaanvaardbaar niveau had verhoogd. Het bewijs uit deze studie benadrukt de

noodzaak om gedifferentieerde regelgeving voor verschillende soorten verhuurders in te voeren om hun managementpraktijken te standaardiseren.

Onderzoeksvraag 5: Wat zijn de belangrijkste uitdagingen voor een goed ontwikkelde PRS en mogelijke oplossingen om deze uitdagingen het hoofd te bieden?

Voor het beantwoorden van de vijfde onderzoeksvraag is zowel academische als grijze literatuur doorgenomen. Ook is gebruik gemaakt van de resultaten van de eerdere onderzoeken rond onderzoeksvraag 1-4. Uitdagingen werden geïdentificeerd vanuit respectievelijk het perspectief van Chinese lokale overheden, verhuurders en huurders. Er werd vastgesteld dat de informaliteit van de PRS, de afhankelijkheid van grondfinanciering en tegenstand van huiseigenaren de belangrijkste uitdagingen waren voor een goed functionerende PRS aan de kant van de overheid. Aan de kant van de verhuurder zijn drie belangrijke uitdagingen: overgewaardeerde eigendommen, moeilijkheden bij het verwerven van grond en eigendommen, en moeilijkheden bij het uitbetalen vanwege de lage liquiditeit van activa. Aan de kant van de huurders zijn voorkeur voor eigenwoningbezit, slechte woonervaringen in particuliere huurwoningen en wantrouwen jegens LTRA-bedrijven de grootste uitdagingen. Om deze uitdagingen het hoofd te bieden, raden we de overheid aan om de PRS te formaliseren, gelijke burgerrechten tussen huurders en huiseigenaren te bevorderen en bepaalde regels in te voeren. Meer in het bijzonder stellen we voor dat de centrale overheid financiële steun geeft aan lokale overheden om hen te motiveren om het aanbod van huurgrond te vergroten en om een op mensen gericht beoordelingssysteem voor lokale ambtenaren op te zetten. Lokale overheden moeten de regelgeving voor LTRA-bedrijven en emittenten van huurleningen versterken, de implementatie van REIT's in de LTRA-subsector uitbreiden, minimumnormen voor huisvesting voor stedelijke dorpswoningen vaststellen en gematigde huurregels invoeren.

Het proefschrift heeft een aanzienlijke maatschappelijke en praktische relevantie in de context van de inzet van China om de PRS te ontwikkelen. Door middel van een veldonderzoek onder particuliere huurders en diepte-interviews met huurders, verhuurders en verhuurmakelaars, heeft het proefschrift een uitgebreid portret opgeleverd van de verhuurders en huurders in Shenzhen. De resultaten van het proefschrift geven aan dat de overheid aandacht moet besteden aan het welzijn van particuliere huurders, gezien hun extreem lage levenstevredenheid. Vanuit het perspectief van dit onderzoek hangt de levenstevredenheid van particuliere huurders sterk samen met de woontevredenheid. Mogelijke wegen naar een grotere tevredenheid met het leven zijn daarom het verhogen van hun woontevredenheid en het vergemakkelijken van hun sociale inclusie. Daarnaast is het belangrijk dat

de overheid oog heeft voor de ongelijkheden tussen verschillende deelsectoren. Dit proefschrift heeft aangetoond dat huurders van stadsdorpen in Shenzhen een lagere woon- en levenstevredenheid hebben, en meer geneigd zijn sociale uitsluiting te ervaren dan huurders van commerciële woningen en LTRA-huurders. Het heeft ook aangetoond dat verhuurders een cruciale rol hebben gespeeld bij het vormgeven van de woonervaring van huurders, zij het op verschillende manieren in verschillende subsectoren. Er moet regelgeving komen om de onevenwichtige machtsverhouding tussen huurders en verhuurders te verminderen. Zo zou de overheid kunnen leren van Duitsland en binnen drie jaar een wet kunnen opstellen tegen huurverhogingen boven de 20% (Deschermeier, et al., 2016). Wat nog belangrijker is, is dat er maatregelen moeten worden genomen om ervoor te zorgen dat de wetgeving wordt nageleefd en dat overtredingen worden bestraft. Nogmaals, beleid moet dienovereenkomstig worden geformuleerd in verschillende subsectoren in plaats van de PRS als een homogene markt te behandelen. Het is ook belangrijk voor de regering om te beseffen dat de PRS in China geen geïsoleerd eiland is, maar een systeem dat verband houdt met vele andere instellingen zoals het hukou-systeem, het sociale uitkeringssysteem, het onderwijssysteem en het gedecentraliseerde fiscale systeem. De hervorming van de PRS vereist tegelijkertijd een institutionele verandering. Op deze manier gaat het proefschrift in op de lopende debatten van de heroplevende PRS in samenlevingen na het eigenwoningbezit.

1 Introduction

1.1 Research background

In recent years, the Private Rented Sector[5] (PRS) has experienced rapid growth in many countries. For example, the share of private renters increased from 10% in 2000 to 19% in 2021 in England (DLHC, 2021). In the US, the number of renters increased two times faster than the number of homeowners between 2010 and 2019, and the proportion of renters exceeded 60% in more than 20 American cities (Lupa, 2019). In most European countries (except Germany and Switzerland), the PRS shrank substantially after WWII due to the massive construction of owner-occupied housing and social rental housing as well as strict rent regulations (Boelhouwer & Van Der Heijden, 1992). However, the decline has 'slowed, stopped, or even reversed into moderate growth' after 1980s (Haffner, et al., 2018). The revival of the PRS has intensified since the Global Financial Crisis in 2007 because return on investment in private rental housing has become more competitive than many other financial assets (Haffner, et al., 2018). Besides attractive return, researchers also attribute the boom of PRS to other factors, such as unaffordable housing prices, rapid urbanization, increasing workforce mobility, emergence of 'buy to let' mortgage products, and shortage of social housing (Aalbers, et al., 2021; Hulse, et al., 2019; Leyshon & French, 2009; McKee, 2012; Power, et al., 2018).

The PRS in China has also gone through dramatic change during the past several decades. In the early years of the new China (founded in 1949), a considerable portion of urban households lived in the PRS due to the exorbitant housing prices and severe housing shortage caused by the Anti-Japanese War (1937-1945) and Civil War (1927-1950) (Li, 2008). Under the socialist ideology, the state later

5 Following Haffner (2009, p. 4), the PRS is defined as housing owned by individuals or companies and allocated by market forces and at market rents instead of administrative rent setting.

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launched the Socialist Transformation of private housing (1956-1964) and the Cultural Revolution (1966-1976). Intentionally or not, the two movements have basically eliminated the PRS in urban China. In 1978, 72% of the urban households lived in public rental housing (Deng, et al., 2017). It was not until Deng Xiaoping came to power and adopted market-oriented economic measures that the PRS began to grow. The share of urban households living in the PRS has increased from 3% in 1978 to 22% in 2020 (Figure 1.1).

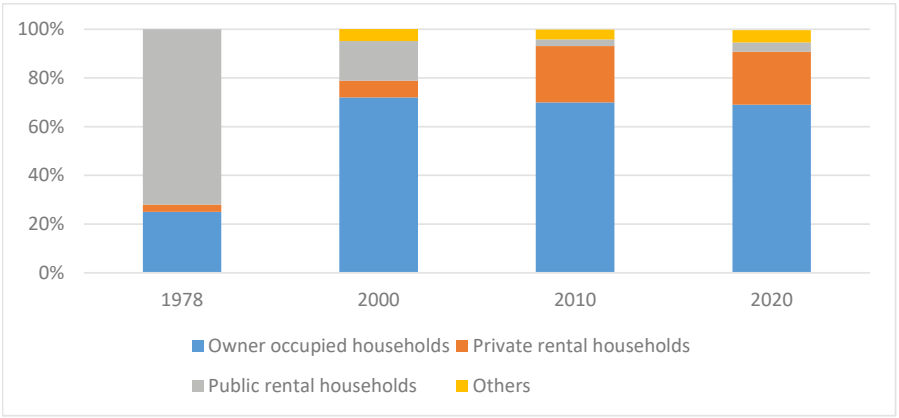

FIG. 1.1 Tenure distribution in urban China, 1978-2020.
Sources: Data in 1978 come from Deng, et al. (2017). Data in 2000, 2010, and 2020 are calculated by the author based on the fifth, sixth, and seventh national population census respectively.

If we zoom in on the first-tier cities[6], the share is even higher. According to the seventh population census[7], around 30% of the population lived in the PRS in Beijing and Shanghai in 2020. In Shenzhen, the percentage even reached 77% (China Construction News, 2022). As in many other countries, the main role of the PRS in China is to cater the young people, migrants (mainly rural to urban and inter-city migrant population), and low-income households (Chan & Thompson, 2019, p. 6; Whitehead, et al., 2016, p. 23). This role is especially important given the severe shortage of affordable social housing. Some researchers argue that the low-end private rental housing has served as a substitute for social housing (Liu & Wong, 2018). In addition, private renting contributes to a more flexible labour market and has been considered to be better adapted to the fluidity of the neoliberal and

6 In both academia and practice, it is well acknowledged that there are four superstar cities in China, i. e. Beijing, Shanghai, Guangzhou and Shenzhen.

7 Available on http://www.stats.gov.cn/tjsj/pcsj/rkpc/7rp/indexch.htm

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post-global financial crisis (GFC) eras (Bone, 2014; Forrest & Hirayama, 2015). The PRS can also be attractive to households who want to hedge against the risk of falling house prices, which is exactly the situation in China after 2020 (Li, et al., 2021).

Although the PRS in China has undergone remarkable growth in terms of its relative size within the housing stock, it is far from developed. As admitted by the Ministry of Housing and Urban-Rural Development (MOHURD) in 2015, the housing rental market 'has many problems and cannot fully meet the needs of economic and social development (MOHURD, 2015)'. The literature has suggested that the current PRS in China has problems such as inflated rents (China Daily, 2018), insecure tenancy (Pun, et al., 2018), poor housing quality (Wu, 2016), lack of regulation (Chen, et al., 2022), social exclusion of tenants (Du, et al., 2018; Feng & Lu, 2013), low residential satisfaction (Sohu News, 2015), and a low professionalization level (JLL, 2021). These problems are structural, interrelated, and embedded in the culture, society, and institutional arrangements. An important reason is that the PRS is made up of many actors including tenants, landlords, letting agents, apartment management companies, central government, and local governments. As these actors have different goals, values, and expectations, conflicts of interest often arise. For example, individual landlords often maximise their profits by imposing frequent rent increases and providing low quality housing conditions at the expense of the tenant's living experience (Nie, 2016). To occupy larger shares in rental housing market, rental companies scramble for rental properties from homeowners at prices 20 to 40 percent higher than the estimated market rent, driving up the market rents substantially (China Daily, 2018). Although the central government attached great importance to the development of the PRS, many local governments have inadequate motivation because local governments rely on land grants for fiscal revenue (Sohu News, 2021). These conflicts of interest have complicated the policy-making process and prejudiced the development of the PRS in China. To achieve a better-functioning PRS, it is important to have an in-depth understanding of the dynamics among various interacting actors within it. However, there is a surprising paucity of empirical research focusing on the interest groups in the PRS. The dissertation seeks to fill this knowledge gap by probing into the views, attitudes, beliefs, and experiences of tenants and landlords, and examining challenges towards a well-functioning PRS as perceived by the governments.

Additional to the former text, in this dissertation I have focused on the PRS in China for several reasons. First of all, most of the studies in the PRS have been conducted in developed countries where the PRS has been relatively well-developed (Desmond & Shollenberger, 2015; Haffner, 2009; Kemp, 2015; Pawson, et al., 2017). As comparison, the PRS in developing countries is often in its nascent stage, characterised by a lack of formal institutions, such as legislation and regulation. As a

result, the PRS in developing countries can be plagued by different and perhaps more complicated problems, such as the recent 'rent loan[8]' issue emerged in China (Chen, et al., 2022). Therefore, it is necessary and of great importance to examine the PRS in developing countries due to its particular nature. Second, despite some differences, the PRS in China does share some commonalities with that in some developed countries. For example, the PRS is often lightly regulated in liberal market Anglophone nations (Pawson, et al., 2017; Soaita, et al., 2020). Academics and policy practitioners in many developed countries are also trying to address growing problems associated with the PRS such as deteriorating housing conditions, soaring rents, and increasing evictions and displacement (Cocola-Gant & Gago, 2021; Desmond & Shollenberger, 2015; Soaita, et al., 2020). These problems are also prevalent in metropolitan China and are the primary concerns of the government. Therefore, the case of China can offer useful insights for researchers and policy practitioners in developed countries to cope with their problems and contribute to comparative housing research (Lawson, et al., 2009).

1.2 The development of the housing system in urban China

The history of China's housing system and housing policies has been well documented by several researchers (Deng, et al., 2017; Wang, 1992; Zhang, 2009; Zhang, 1997). The urban housing system can be broadly divided into three stages (see Figure 1.2), which are 'socialist transformation into a welfare housing system' (1949-1978), 'transition into a market-oriented housing system' (1978-1998), and 'highly market-oriented and evolving housing system' (1998-present). This section provides a brief review of the development of China's urban housing system.

When People's Republic of China was founded in 1949, the housing problem had reached a catastrophic level because of the country's long-term involvement in wars (Zhang, 1997). In the early years of new China, housing was severely damaged due to wars, and there was a severe housing shortage across the country. A survey into the housing situation of 65791 movers in 13 cities in the early 1950s showed that only 5%

8 The rent loan refers to 'a financial arrangement whereby tenants borrow loans from financial institutions to finance the lump sum of their upfront rents and repay such loans through monthly repayments, while the landlords receive the upfront payment of rents at the beginning of the rental lease' (Chen, et al., 2022).

of them lived in self-owned tile-roofed houses, while 25% rented tile-roofed houses from others. 36% of the movers lived in grass huts and shacks, while 33% of them had no fixed abode (Li, 2008). In 1950, China's total floor area of urban housing stock was only 400 million square metres, with 5.5 square metres of housing space per person (Chen, 2019). To make things worse, some developers and landlords took advantage of the disastrous situation and conducted speculative and profiteering activities (Zhang, 1997). For example, some landlords sought illegal profits by increasing rents to an unreasonable level and charging tenants extra fees (Zhang, 1997).

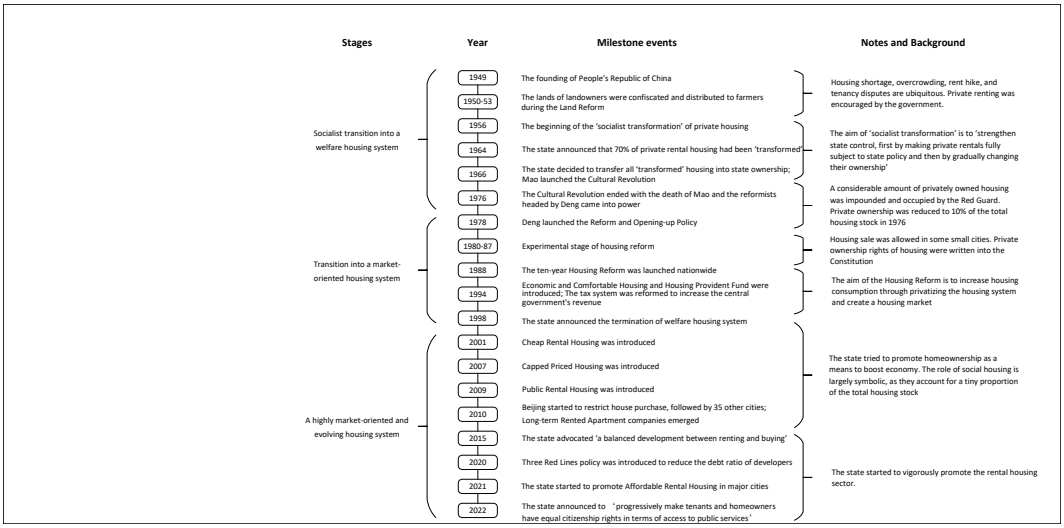

FIG. 1.2 The development of the urban housing system in China.
Sources: Author's review based on the work of Wang and Murie (1996, 1998), Zhang (1997), and Zhang (2009)

To facilitate housing production, the government protected private property rights and encouraged private renting for a short time in the early 1950s (Li, 2008). However, housing problems remained severe, especially in the private rental sector. On the one hand, rent was quite unstable and ranged greatly from region to region. On the other hand, many landlords refused to rent out their properties because of their concern that the installation of rent control would make renting out properties unprofitable, as well as their fear to be classified into 'landlord class' (Zhang, 1997). In 1956, the Chinese Communist Party (CCP) argued that the housing problem was the result of the contradiction between private ownership and the socialist system, and therefore, socialist transformation should be carried out in the PRS (Zhang, 1997). The socialist transformation of the PRS was achieved in three main ways. First, the state took over the allocation and management of rental housing

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while landlords only have nominal ownership of their housing. Second, the state cooperated with big landlords and nationalist businessmen to manage and control their properties, which is called 'joint state-private corporation' (Wang, 1992). Third, the state strengthened the regulation on small-scale landlords. By 1964, all the cities and one-third of townships had finished the socialist transformation of the private rental sector (Zhang, 1997). In 1966, the housing market was virtually non-existent while the state took over the responsibility for urban housing provision, allocation, maintenance, and management through local municipalities or work units (*danwei* in Chinese) (Zhang, 1997). This kind of housing was called work unit housing and was regarded as a part of state welfare rather than a commodity (Zhang, 1997). Under the welfare housing system, workers only pay a minimum rent[9] to work units for housing, the allocation of which is based on the worker's ranking in the work unit. As shown in Figure 1.1, 72% of urban households lived in welfare housing in 1978.

However, the welfare housing system also suffered widespread criticism in the 1970s for issues such as shortage, poor conditions, insufficient investment, unfair distribution, and poor management (Wang & Murie, 1996). To tackle the severe housing crisis, Xiaoping Deng, the country's paramount leader declared in a speech in 1980 that the housing sector had to be commercialized and privatised. After three rounds of pilot tests and experiments, the central government decided to implement housing reform nationwide in 1988. A major policy is to sell work unit housing to sitting tenants initially at the market price and later at a subsidized price (Deng, et al., 2017). Another approach to privatise the housing sector is to boost the construction of commercial housing. In 1988, the Constitution was amended to legalise the commercialisation of land use rights for the first time, which sparked massive for-profit construction of commercial housing on urban land (Deng, et al., 2017). In 1994, the pre-sale system was introduced by MOHURD (1994) to allow developers to sell the housing prior to the completion of construction. This measure has further boosted the construction of commercial housing. In 1998, the central government officially announced the end of providing work unit housing to urban employees. Since then, most urban households had to buy commercial housing developed by real estate companies. Due to the privatization of public housing and subsidies provided to urban households to buy new housing, the homeownership rate surged to 72% in 2000. Table 1.1 shows the change of composition of urban housing system between 2000 and 2020.

9 Between 1949 and 1990, rent in most Chinese cities constituted only 2-3 percent of total household income (Wang & Murie, 1996).

TABLE 1.1 Proportion of households living in different categories of housing in urban China

Housing source	2000	2010	2020
Public rental housing	16%	3%	4%
Private rental housing	7%	23%	22%
Purchased Economical and Comfortable Housing	7%	5%	4%
Purchased work unit housing	29%	17%	8%
Self-built housing	27%	16%	10%
Purchased commercial housing	9%	26%	34%
Purchased second-hand housing	-	5%	12%
Heritage or given	-	-	1%
Others	5%	5%	5%

Notes:
1. Numbers are calculated by author based on decennial census in 2000, 2010, and 2020. Before 2000, there were no statistics on housing in the census.
2. The term 'private rental housing' was described differently in different censuses. In 2000 census, it was termed 'rent commercial housing', in 2010 and 2020 census, it was termed 'rent other housing'

The surge in homeownership rate has been accompanied by a continued decline in government investment in social housing. In 1994, the State Council (1994) required local governments to attach importance to the development and construction of Economic Comfortable Housing (ECH) to accommodate low- and middle-income families. Economical and Comfortable Housing is for-sale social housing targeting at low to middle urban families who may not be able to purchase market rate housing (Deng et al., 2011). It was required that ECH should account for more than 20% of the total annual housing production by real estate developers (State Council, 1994). However, due to problems such as corruption in the allocation process and lack of interest from local governments, the construction and importance of ECH has declined substantially (Huang, 2012; Yang & Chen, 2014, p. 92). According to Zou (2014), the share of newly built affordable housing to total housing construction kept shrinking from 22% in 2000 to 3.8% in 2010. In 2010, the central government introduced public rental housing (PRH) to replace the former Cheap Rental Housing. PRH has become the main form of social housing in urban China in the following decade (Yan, 2021, p. 30). However, as local governments remained unmotivated to build PRH, PRH has played a minimal role in urban housing system. As shown in Figure 1.1, only 4% of urban households lived in PRH in 2020.

In contrast, urban households living in the PRS have increased substantially since 2000, as has been described in the previous section. On the demand side, the increase was largely driven by the rapid industrialisation and urbanisation process. As shown in Figure 1.2, the proportion of urban population rose from 36% in 2000 to 64% in 2020. Many migrants from rural areas cannot afford the housing

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prices in cities and are not eligible to buy due to the lack of a local *hukou*[10]. As a result, most of these migrants have to live in private rented housing, which further contributes to the growth of the PRS. On the supply side, more and more households own multiple homes. According to the Chinese General Social Survey (CGSS) conducted in 2005, 6.2% of urban households owned multiple properties (Yi & Huang, 2010). While the China Household Finance Survey (CHFS) showed the proportion rose to 18.6% in 2013[11]. The concentration of residential properties among households naturally motivated them to rent out their assets and triggers landlordism, which is considered by many scholars as results of neoliberal policies (Byrne, 2020; Forrest & Hirayama, 2015).

In 2015, MOHURD realized the importance of a well-functioning PRS and first proposed the idea of "accelerating the development of the rental housing market" (MOHURD, 2015), marking a watershed in China's housing policy. Since then, numerous policies, initiatives, and pilot projects have been formulated to promote the PRS. Some examples of these initiatives are providing tax benefits to professional rental companies, encouraging people to rent, allowing Collective Construction Land[12] to build rental housing, combating illegal practices in the rental market, and promoting Real Estate Investment Trusts (REITs) and asset securitization to help rental companies to finance. 'A balanced development between renting and buying (zugou bingju in Chinese)[13]' has become the main theme of Chinese housing policies since 2015. While most of the policies between 2015 and 2020 were aimed at the PRS, after 2021 the government started to place more emphasis on Affordable Rental Housing (ARH). ARH is different from former Public Rental Housing in that most ARH is owned by the private sector or state-owned companies. In addition, the rent level of ARH is much higher than that of public rental housing. The rent level of ARH varies from 80% to 95% of the market level in different cities or provinces (CRIC, 2022), while rent of public rental housing is about 50% of the market level (Finance China, 2021). In addition, rent increases of ARH generally should not exceed 5% per

10 The Hukou (household registration) system in China has segregated the rural and urban populations. Each person has a hukou (registration status), classified as "rural" or "urban" in a specific administrative district (Chan, 2010). In some cities where the local government wants to inhibit speculative house buying, people without a local hukou have to pay social insurance or taxes for some years (e.g., five years in Beijing) to be allowed to buy housing in this city.

11 https://chfs.swufe.edu.cn/__local/1/71/FD/011D41AFD2E066E7F45D3F848C9_05A0C884_A02A4.pdf

12 The 1998 Land Administration Law stipulates that urban land is owned by the state while rural land is collectively owned by the villagers. In many Chinese cities, there are still collectively-owned land plots surrounded by urban land.

13 As shown in the 19th Congress Report in 2017, available on http://www.gov.cn/zhuanti/2017-10/18/content_5232656.htm.

year. Therefore, the ARH can be regarded as a middle tenure between private renting and social renting. The possible impact of implementing ARH programme on the PRS is not yet clear. From a negative perspective, the ARH might drain the tenants out of the PRS because ARH is cheaper and provides more secure tenancy than private rental housing. From a positive perspective, landlords of private rental housing might have to improve the quality of their properties and services to their tenants to compete with the ARH, which might lead to an improvement in the PRS.

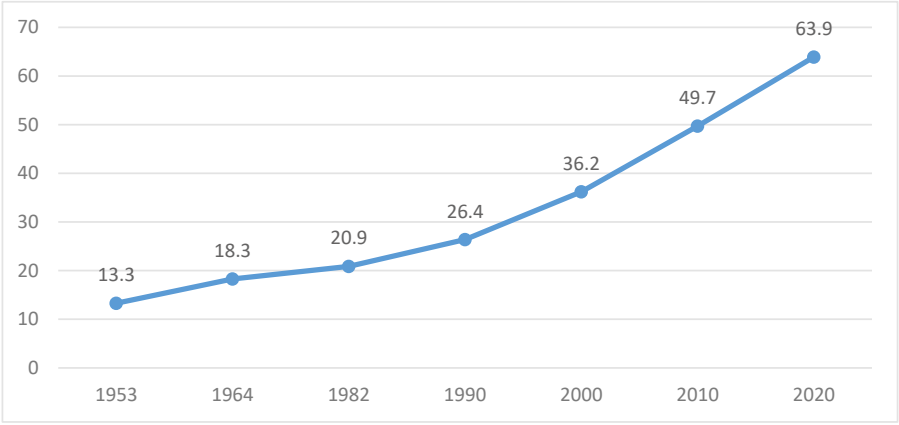

FIG. 1.3 Urbanization rate in China, 1953-2020.
Sources: National Bureau of Statistics

With the development of the housing system, the PRS has been diversified. Different categories of private rental housing can be identified in metropolitan China. These 'sub-sectors' have distinct characteristics (e.g., housing quality, neighbourhood environment) and serve groups with different demands. For example, an online survey into 7224 tenants in Beijing in 2010 showed that 37% of the respondents lived in commercial housing, while 17% lived in urban villages. The other 13%, 13%, and 12% of the respondents lived in work unit housing, reformed housing (former work unit housing sold to the sitting tenants during the housing reform), and old town communities, respectively. Based on the Structure of Housing Provision developed by Ball (1986a, 1986b), the PRS has been classified into three sub-sectors in this dissertation, which are urban village housing, commercial rented housing, and Long-term Rented Apartment (LTRA). Section 3.2 gives a detailed description of how the three sub-sectors have been classified.

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An ‘urban village’ in the Chinese context is a type of village that has been geographically surrounded by urban built-up areas but maintains an institutionally recognized rural status because of the collective ownership of land[14] (Guo, et al., 2018; He et al., 2010). Urban village housing is built by villagers themselves on collective land in urban villages. The villagers are not legally entitled to capitalize on their properties through land or housing sales, so they redevelop their housing at high densities to maximize their profits by leasing out the units (Liu, et al., 2010). Most urban villages are densely populated, accompanied by inadequate lighting and poor infrastructure. Housing conditions in urban villages can be described as overcrowded and lacking basic facilities (Wu, 2016).

In comparison, commercial housing is developed by real estate companies on urban land acquired from the local government normally through a competitive tender. Notably, commercial housing is built for sale only and can be freely traded on the market. Furthermore, commercial housing is generally located in gated communities (Xiaoqu in Chinese) that provide a host of social, commercial, and recreational services (Hendrikx & Wissink, 2017; Wu, 2005; Wu, 2012).

LTRA is a recent term that is used to describe properties managed by rental housing companies. Stimulated by incentive policies as well as the influx of domestic and foreign capital, the number of LTRA companies has experienced rapid growth. Between 2015 and 2019, about 750 enterprises were established as LTRA-type companies or their subsidiaries, aiming at providing high-quality rental housing for young professionals (Chen, et al., 2022). In 2019, about 500 thousand in-operation rentals are managed by LTRA companies (CRIC, 2020). LTRA companies have two business models, i.e., ‘asset-heavy’ or ‘asset-light’. The asset-heavy model is to rent out properties that are built or owned by the companies while the asset-light model is to obtain the leasing rights of properties from individual homeowners, refurbish them, and then sublet the properties on behalf of homeowners (Chen, et al., 2022).

14 The 1998 Land Administration Law stipulates that urban land is owned by the state while rural and suburban land is owned by collectives.

1.3 Problem statement, research aim, and research questions

1.3.1 Problem statement

Since 2015, the Chinese central government has realised the inadequacy of the rental housing market and has put in place a series of policies to improve the PRS. However, the policies have achieved limited effects so far. On the demand side, private renting remains an unattractive tenure and is regarded as a transition to homeownership (Nie, 2016). Many tenants have to live in substandard housing and have to put up with fast-rising rents while they have weak tenure security (Pun, et al., 2018). Furthermore, tenants are excluded from several social benefits such as public education and healthcare (Huang, et al., 2017; Wu & Wang, 2014). For example, if parents do not own housing in the area, their children cannot attend quality public schools nearby (Feng & Lu, 2013). On the supply side, rental companies face many problems such as low profits, destructive competition, and difficulty in acquiring land (JLL, 2021). In addition, due to lack of regulation, many LTRA companies used rent loan to finance their business expansion, which resulted in a wave of bankruptcy of LTRA companies in 2020 (Chen et al., 2022). Meanwhile, although the central government attaches great attention to the development of the PRS, many local governments have inadequate motivation (Sohu News, 2021).

1.3.2 Research aim

The aim of the dissertation is to gain an in-depth understanding of the PRS in metropolitan China and of the different players within it. Based on the knowledge, the dissertation seeks to explore what initiatives can be taken to achieve a better-functioning PRS in China.

To achieve this goal, we first need to define what is a well-functioning PRS. To date, only a few researchers have come up with explicit criteria for a “well-functioning PRS”. According to De Boer and Bitetti (2014, p. 7), “a well-functioning PRS can provide a housing option to increasing demand, thus promoting flexibility, to make it easier to move with changing job opportunities or to adapt to changing family

circumstances and to reduce the macroeconomic risks of home-ownership". Taking a comprehensive look at the experiences of consumers of the PRS in England, Which (2018) (an English consultant company) proposes six criteria of a "well-functioning PRS": right and easily accessible information for tenants and landlords, professional letting agents, adequate property standards, clear mechanisms for raising a complaint and seeking redress, good tenure security and efficient and transparent security deposit arrangements.

Past policy documents show that the central government also has a vague definition of a well-functioning PRS. In 2016, the State Council set the goal for the development of the PRS in a document titled *Opinions of the General Office of the State Council on Accelerating the Cultivation and Development of Housing Rental Market* (State Council, 2016). It was stated that

By 2020, a rental market is basically established where there are diverse supply bodies, normative operation and services, and secure tenancy…There are clear market rules, strong government regulations and adequate protection of rights and interests, to promote the goal of 'meeting the housing needs of all people' for urban residents.

In this guidance document, six measures were proposed to achieve this goal, which are 1) cultivating the main body of rental housing supply, 2) encouraging rental housing consumption, 3) improving public rental housing, 4) supporting rental housing construction, 5) strengthening policy support, and 6) enhancing rental housing regulation. A very recent document issued in December 2022 declared to "progressively make tenants and homeowners have equal citizenship rights in terms of access to public services" (State Council, 2022). It can be seen that the government has defined a well-functioning PRS from three facets, which are the supply side, demand side, and governance side. On the supply side, there should be diverse suppliers who can provide professional and standard services. In other words, professional corporate landlords should be introduced to replace (at least a proportion of) individual landlords, who currently dominate the PRS. On the demand side, there should be favourable policies and measures to encourage people to rent. Meanwhile, tenants should have secure tenancy, and their citizenship rights and interests should be protected. On the government side, there should be a sound regulatory system to clarify the rights and obligations of different parties and regulate market behaviour.

Following the guidance document, the current dissertation also disassembles the PRS into three key components, i.e., tenants, landlords, and the government. Based on the above statement, a well-functioning PRS is defined as follows: on the demand side, the PRS should be an attractive tenure for citizens. Tenants living in the PRS should

have high levels of residential satisfaction in general and have the same citizenship rights as homeowners. Furthermore, On the supply side, landlords should remain interested to invest in the PRS. More importantly, landlords should provide decent housing and standard services for their tenants. On the governance side, there should be a sound regulatory system to clarify the rights and obligations of different parties, regulate illegal behaviour, and adjudicate disputes between tenants and landlords.

1.3.3 Research questions

Based on the problem statement, as well as the definition of a well-functioning PRS, the following research questions are proposed. The answers to these research questions can be helpful for policy makers to achieve a better-functioning PRS.

- **RQ1:** What are the determinants of people's housing tenure choice towards private renting?
- **RQ2:** What are the determinants of residential satisfaction in different sub-sectors?
- **RQ3:** What is the relationship between residential environment, social exclusion, and life satisfaction of private tenants?
- **RQ4:** In what way do landlords' management practices influence the housing experiences of tenants?
- **RQ5:** What are the key challenges towards a well-developed PRS and possible solutions to cope with the challenges?

To establish an attractive PRS and encourage rental housing consumption, a deep understanding of why people choose private renting is necessary. Therefore, Chapter 2 examines the determinants for private renting among tenants (research question 1). As described above, another important characteristic of a well-functioning PRS is the wellbeing of its occupants. To quantitatively examine the living experiences and well-being of private tenants, the concept of Residential Satisfaction and Life Satisfaction is employed in Chapter 3 and Chapter 4 respectively. Chapter 3 assesses residential satisfaction in different sub-sectors and examines the determinants of residential satisfaction in different sub-sectors (research question 2). While Chapter 4 explores the determinants for tenants' life satisfaction with the focus on the influence of social exclusion, which includes the inequality

in citizenship rights between tenants and homeowners (research question 3). On the supply side, a well-functioning PRS means that the landlords should provide decent housing and standard services for their tenants. However, it is still not clear what services the landlords provides to the tenants and what are their management practices. Therefore, Chapter 5 investigates the management practices of landlords in various sub-sectors and how the management practices influence tenants' living experience (research question 4). Based on the findings from Chapter 2 to Chapter 5, Chapter 6 seeks to identify the challenges of the PRS in China and propose possible solutions to achieve a better-functioning PRS (research question 5).

1.4 Theoretical approaches

To support the research with regard to the five research questions, various theories and theoretical frameworks were adopted in the research underlying this dissertation. This section gives a brief introduction of the theories adopted in the dissertation.

1.4.1 Theory of Planned Behaviour

The current study explores the determinants of people's housing tenure choice towards private renting (research question 1). Housing tenure choice can be explained using a series of theoretical frameworks (Jansen, et al., 2011) . Frequently used and well-known frameworks in housing research include neo-classical economic analysis (Henderson & Ioannides, 1983; Koopman, 2011), family lifecycle theory (Chen, et al., 2022; Mulder & Wagner, 1998; Rossi, 1955) and means-end theory (Coolen & Hoekstra, 2001; Coolen, et al., 2002). However, besides benefits these frameworks also have some shortcomings. For example, neo-classical economic analysis is based on the expected utility theory, which posits that decision making under uncertainty is the maximization of subjective expected utility and assumes that consumers have perfect knowledge about the market (Marsh & Gibb, 2011). However, the housing market is imperfect because of, for example, the lack of information, the complexity of the product, the long production time, the high investment costs, the site specificity, as well as government interventions (Boelhouwer, 2011). The explanatory power of the family lifecycle model is usually

not high because it focuses mainly on the socio-demographic factors (Chen et al., 2022). See Section 2.1 for a more detailed analysis of the frameworks. The Theory of Planned Behaviour (TPB) has been chosen to study the determinants of people's intention to rent a private dwelling because it does not assume people are rational actors who have complete information about the choices available to them and are able to make rational decisions based on this information. In addition, the TPB has higher explanatory power since it incorporates different sets of psychological factors as well as socio-demographic factors that may influence people's tenure choice.

According to the TPB, the intention to perform a certain behaviour is determined by attitude towards the behaviour, subjective norm, and perceived behavioural control (Ajzen, 1991). Specifically, attitude toward the behaviour is the degree to which performance of the behaviour is positively or negatively valued. Attitude towards the behaviour is determined by behavioural beliefs, which is the individual subjective probability that the behaviour will produce a given outcome or experience (behavioural beliefs), weighted by evaluations of the outcomes or experience (Ajzen, 1991). Subjective norm is the perceived social pressure to engage or not to engage in a behaviour. One's subjective norm is determined by his or her normative beliefs, that is, whether important referent individuals approve or disapprove of the behaviour, weighted by his or her motivation to comply with those referents. Perceived behavioural control is determined by control beliefs, which is one's perceived presence of factors that may facilitate or impede the performance of the behaviour, weighted by the perceived power or the impact of each control factor to facilitate or impede the behaviour.

The specific structure of the TPB suits our study very well and we expect that these three components can explain people's intention to rent a private rental dwelling. Concerning people's attitude, the PRS can be associated with poor quality of housing, unstable tenure security, and lack of regulation but also with some "virtues of renting" such as flexibility (Gilbert, 2016). This implies that people might have formed different beliefs, both positive and negative, that might influence their attitude. The second component is the social norm. The Chinese have a strong preference for homeownership, which has been documented by previous academics (Huang, 2004; Nie, 2016). Chinese culture and traditions suggest that the home is not only a place of living but a sign of wealth, a symbol of well-being and social status (Huang, 2004; Yao, et al., 2013). This social norm is likely to prevent people from renting. The third component is perceived behavioural control. Since the housing market has many factors that are actually out of control (e.g., the availability of vacant dwellings and rent price), the perceptions that people have about these factors will influence their renting intention. Thus, attitude, social norm, and

perceived behavioural control seem important factors influencing the intention for (not) choosing a private rental dwelling. Therefore, it is theoretically reasonable to adopt the TPB in explaining people's intention to rent a private rental dwelling.

1.4.2 Structure of Housing Provision

To answer the second research question, what are the determinants of residential satisfaction in different sub-sectors, the thesis Structure of Housing Provision developed by Ball (1986a, 1986b) was adopted to distinguish different sub-sectors. Previous studies have shown that the PRS is heterogeneous and consists of several sub-markets (Gray, 2002; Hulse, et al., 2019; Rugg & Rhodes, 2018). Researchers have classified private rental housing differently in various countries. For example, Rugg, et al. (2002) identified several demand groups in the UK such as life-stage uses, short-term emergency use, and 'residual' use. While Gray (2002) broadly categorized the PRS in Northern Ireland into four sub-sectors, i.e., the rent-controlled sector, the uncontrolled and furnished sector, the more affluent sector, and the lower cost sector. However, it is problematic to directly use their taxonomies in the Chinese context since there are as of yet no formal and clear rent control regulations aimed at the private rental sector in China. A theoretical tool that can enable us to dig below the surface and analyse the whole process from housing production to distribution, consumption, and housing services is needed (Van Der Heijden, 2013, p. 10).

Therefore, in this study, we use the thesis Structure of Housing Provision developed by Ball (1986a, 1986b) to analyse and classify the private rental sector in China. According to Ball (1986b), traditional housing studies have adopted a consumption-orientated approach that treats consumption and allocation separately from the wider social relations of provision of which they are a part, leading to a misunderstanding of the causes of the problems at hand (Ball, 1986b). Therefore, he argues that research on housing should concentrate on describing and analyzing the development of relationships between the social agencies involved in the production, allocation, and consumption of housing and housing services in specific housing categories or structures. Ball (1986b) opposed the study of tenure in itself because a tenure, like owner occupation, 'does not specify what is being studied'. Furthermore, the generalization of research results can be problematic because 'to generalise about owner occupation is to categorise unlike things together' (Ball, 1986b). Hence, the Structure of Housing Provision may be helpful for distinghuishing between rental submarkets, because it describes the historical process of providing and reproducing housing, focusing on the social agents that are critical to this process and the relations between them (Ball, 1986b).

Regarding private rented housing, sub-sectors should distinguish themselves by how they are produced (production), in which way the housing is allocated (allocation), who owns the housing (consumption) and landlord services (housing services). Based on the above analysis, three structures of private rented housing provision or sub-sectors are identified, which are urban village housing, commercial rented housing, and Long-term Rented Apartment (LTRA). See Section 3.2 for a more detailed description of the use of the Structure of Housing Provision.

1.4.3 Amérigo and Aragones' (1997) theoretical framework of residential/life satisfaction

To examine the relationship between residential environment, social exclusion, and life satisfaction, Amérigo and Aragones' (1997) theoretical framework was adopted. According to Amérigo and Aragones (1997), attributes of the residential environment can be divided into objective and subjective ones. Once the objective attributes of the residential environment are evaluated by the individual, they become subjective attributes, giving rise to a certain degree of satisfaction. The subjective attributes are influenced by 'personal characteristics', which include not only people's socio-demographic and personal characteristics, but also his or her 'residential quality pattern', a reference frame whereby the individual compares his or her real and ideal residential environment. In this model, only residential satisfaction is directly associated with life satisfaction, while other factors influence life satisfaction through residential satisfaction. Personal characteristics can influence residential satisfaction directly, but also indirectly by influencing subjective attributes of the residential environment.

In their original paper, Amérigo and Aragones (1997) operationalized subjective attributes of the residential environment by asking the residents to "quantify how he/she perceives the feature (a lot, quite a lot, a little, or not at all) in his/her own residential environment". For example, a dwelling with a certain floor area (objective attribute) can be perceived as being too large, too small or just right (subjective attribute) by different people. The current study uses the concept of social exclusion and explores its effect on residential and life satisfaction. Although it would theoretically be possible to measure social exclusion in an objective way in some circumstances, this was not feasible for the current study. For this reason, social exclusion was only included in the form of a subjective attribute. However, it was expected that some other objective attributes of the residential environment can cause social exclusion, such as different structures of housing provision (Somerville, 1998). Somerville (1998) argued that distinctive structures of housing provision could have characteristic exclusionary

effects. Commodified forms of housing structures (e.g., commercial housing) are potentially more exclusionary than decommodified forms of housing provision (e.g., social housing). In addition to the differences between housing tenures, social differentiation within each tenure should not be downplayed (Somerville, 1998). It suggests that tenants living in different sub-sectors might experience different levels of social exclusion. Some renters could be socially excluded, for instance, if their rent is too high, or their living circumstances prevent 'human flourishing' (Healey, 1997), or if they are cut off from the means by which they can empower themselves (Somerville, 1998). In the current study, social exclusion is operationalized into three variables, namely, perceived losing *mianzi*[15], perceived inequality in terms of citizenship rights, and perceived discrimination as renters. See Section 4.2.2 for a detailed description of the three variables. The theoretical framework has allowed us to test the relationship between residential environment, social exclusion, and life satisfaction, and examine the determinants of life satisfaction of private tenants.

1.4.4 Three levels of real estate management

The landlord is an important component of the PRS. They interfere in tenants' daily lives so extensively that their practices could reasonably influence the housing experiences of tenants in various aspects. However, previous studies have mostly focused on one type of landlords or one specific landlord behaviour. Few researchers have adopted a comprehensive framework to analyse the behaviour of different types of landlords. Therefore, we adopt Nieboer's (2005) three-level taxonomy of real estate management of institutional investors to dissect the management practices of landlords in different sub-sectors.

According to Nieboer (2005), real estate management can be classified into three levels, i.e., property management, asset management, and portfolio management. Property management refers to 'daily' administrative, technical, commercial management and maintenance activities. Asset management is concerned with the assessment of individual projects, based on which it is decided what type of investment will be made in each project and which allocation and pricing policy has to be applied. The top level is portfolio management, which concerns the allocation of investments among several asset options such as shares, bonds or real estate (housing, office, and retail). By using Nieboer's (2005) analytical framework, we are

15 *Mianzi* is defined as the recognition by others of an individual's social standing and position (Lockett, 1988). In Chinese culture, it is vital to maintain a person's *mianzi* or dignity and prestige (Buckley, et al., 2010).

able to examine to what extent landlords are involved in the three levels of housing management. Furthermore, the framework offers the possibility to and discover the subtle differences in landlords' management practices in the three sub-sectors. The taxonomy was originally proposed by Miles et al. (1996), while Nieboer (2005) visualized it in the form of a diagram.

1.5 Study area, methods, and data

1.5.1 Study area: Shenzhen

Although the title of the dissertation states 'metropolitan China', the dissertation only uses Shenzhen as a case study due to the lack of data on the PRS on the metropolitan level. Shenzhen, known as China's Silicon Valley, has leaped from a frontier agricultural county to a first-tier city in China during the past 40 years. Thanks to the reform and opening-up, Shenzhen has undergone rapid economic growth and a large population inflow. With its municipality covering an area of about 2000 km^2 in Guangdong Province, Shenzhen accommodates a permanent resident population[16] of 17.6 million in 2020, 71% of whom are migrants (Shenzhen Bureau of Statistics, 2021). Although the total population of the four first-tier cities is comparable[17], Shenzhen's territory is only one-eighth the size of Beijing, one-third that of Shanghai, and one-fourth that of nearby Guangzhou, making it the most crowded city in China (Jiemian, 2022). Figure 1.3 shows the location of Shenzhen and its administrative districts.

Shenzhen has been chosen as our case city for the following reasons. First of all, there is an enormous demand for private rented housing in Shenzhen largely due to prohibitive housing prices. Shenzhen has arguably the highest housing price among all Chinese cities. According to Shenzhen Bureau of Statistics (2021), the average price for commercial housing in Shenzhen is 54,000 RMB per square meter while the average housing price in Nanshan District (the central area of Shenzhen) even exceeds 90,000 RMB. However, the disposable yearly income per capita was only

16 Permanent resident population refers to people live in Shenzhen for more than six months in one year.

17 According to the 2020 population census, the total population of Beijing, Shanghai, Guangzhou, and Shenzhen is 22 million, 25 million, 19 million, and 18 million, respectively.

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about 65,000 RMB (Shenzhen Bureau of Statistics, 2021). As a consequence, only a small percentage of the population can afford to buy a dwelling. According to *Shenzhen Gender Statistics Report 2020* [18], the number of homeowners in Shenzhen is 1,371,400[19], accounting for 18.3% of the number of total households in Shenzhen. Parallel to high property prices is an extreme shortage of public rental housing. According to Wangyi News (2022), more than 370,000 households were on the waiting list for public rental housing in Shenzhen in 2022. However, only around 4,000 public rental housing units were allocated in 2020[20]. Therefore, 77 percent of the population lives in the PRS in Shenzhen (China Construction News, 2022). Based on the above statement, it is clear that the PRS has an important role in the housing system in Shenzhen. The use of Shenzhen as a case study has a strong practical relevance. In addition, Shenzhen is well representative of metropolitan cities in China that have a housing affordability crisis, a social housing shortage, and massive migrant inflows.

Second, the PRS in Shenzhen is more 'diversified' compared with other cities, which enables us to study different sub-sectors of the PRS. For example, since the central government has set 'professionalizing the PRS' as an important goal, LTRA is an essential sub-sector that deserves in-depth investigation. Shenzhen has over 133,000 LTRA units, which is six times that of Beijing and two times that of Shanghai (JLL, 2021). This has facilitated us to access both landlords and tenants in the LTRA sub-sector. Furthermore, Shenzhen has a large number of urban village housing units. According to survey data from the Shenzhen Planning and Land Resources Committee, the total size of land in urban villages in Shenzhen is about 320 km^2, accounting for 16% of the total land in Shenzhen (Yang, et al., 2020).

There are over 350,000 self-built buildings in urban villages, with a total floor area of 120 km^2, accounting for 49% of the city's floor area of total housing stock (Yang, et al., 2020). Therefore, urban village housing has become one of the mainstream housing forms for people in Shenzhen. Due to the lack of regulation and centralized planning, urban villages are characterized by high-density, narrow building distance, lack of infrastructure, and inadequate ventilation and lighting (Liu, et al., 2010). Despite these shortcomings, the relatively low rents in the urban village make it a convenient and affordable place to live for low-income families and migrants in Shenzhen. It can be seen that the PRS in Shenzhen covers a wide range, from low-end urban village housing to higher-end rentals such as LTRA.

18 Available on http://tjj.sz.gov.cn/zwgk/zfxxgkml/tjsj/tjgb/content/post_9480769.html

19 This figure only counts the owners of properties but not their family members.

20 http://zjj.sz.gov.cn/attachment/0/920/920206/9385764.docx

FIG. 1.4 Location of Shenzhen and its administrative districts.
Sources: Adapted from Shenzhen Planning and Natural Resources Bureau, available on http://pnr.sz.gov.cn/ywzy/chgl/chzxfw/col_code/

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Third, Shenzhen has long been a testing ground for China's economic and institutional reforms. In 1980, then-paramount leader Deng Xiaoping designated Shenzhen as the first Special Economic Zone (SEZ) in China. The goal of SEZ is to serve as an experimental ground for the practice of market capitalism within a community guided by the ideology of 'socialism with Chinese characteristics' (Morrison, 2014; Stoltenberg, 1984). In 2019, Shenzhen was supported by the Central Government to build a 'Pioneer Demonstration Zone for Socialism with Chinese Characteristics', with the important mission of testing and demonstrating institutional innovation and deepening reform and opening-up in China. Developing the PRS can be considered an important turning point in China's housing policy as the government had been stimulating homeownership to boost the economy until 2015. As will be shown in Chapter 6, the development of the PRS is not isolated but closely associated with many other institutional arrangements in China, such as the tax system, hukou system, and education system. In recent years, Shenzhen has adopted a series of innovative housing policies. For example, in 2019, Shenzhen introduced a 'reference rent' system to stabilize the rent[21]. In 2021, Shenzhen established a 'reference price' system for second-hand housing transactions to curb rising house prices[22]. These initiatives and measures not only show the local government's commitment to the development of the PRS, but also provide us with first-hand materials to observe and study the improvement of the PRS.

Despite these advantages, it is important to keep in mind that Shenzhen cannot fully represent 'metropolitan China' due to its uniqueness such as a large PRS and a large urban village sub-sector. In effect, no single city can represent 'metropolitan China' given the fact that China has 17 megacities [23] (population larger than 10 million) with very different levels of socio-economic development. Therefore, generalization of the findings needs to be made with prudence, which will be further discussed in Section 7.2.2.

1.5.2 Data and methods

The aim of the dissertation is to develop a deeper understanding of the PRS and different players within it, which are tenants, landlords, and governments. However, as with many other countries, official data on the PRS in China is quite limited, largely due to the fact that less than 1% of rental contracts are filed with the government in

21 http://www.sz.gov.cn/zfgb/2019/gb1114/content/post_4951948.html

22 http://zjj.sz.gov.cn/xxgk/tzgg/content/post_8545728.html

23 https://finance.sina.com.cn/china/2022-05-26/doc-imizmscu3417197.shtml

most cities (Liu, 2017). Therefore, investigating the PRS in metropolitan China relies on self-collected data. During my PHD, two field surveys have been conducted to collect data from tenants and landlords.

The first one was performed in August 2020. In specific, we distributed leaflets to the residents in different communities and passers-by in four districts of Shenzhen after confirming that they were private tenants. To include more LTRA tenants, we visited about 300 households living in LTRAs after we got permission from the LTRA managers. Some managers of LTRA also helped us to distribute the leaflets to the tenants. Notably, the questionnaire consists of three main sections. Section 1 is about the respondents' socio-demographic characteristics and housing/neighbourhood features. Section 2 asked respondents about their satisfaction in various aspects, such as housing satisfaction, life satisfaction, etc. Section 3 is the Theory of Planned Behaviour (TPB) questionnaire which aims to answer why people choose private renting. At first, respondents were asked to answer all the questions in the three sections. After we had 528 responses, we expected the sample size to be adequate for the TPB research and removed Section 3 for further survey. This was done to increase the response rate, as many respondents refused to answer the questionnaire or dropped out midway due to the questionnaire length. As the result, a total of 667 respondents took part in the comprehensive survey, but only 528 renters answered the TPB questionnaire. Furthermore, 52 responses of the 528 renters were invalid due to missing values or too short filling-in time (less than 5 minutes). In the end, we have 476 valid responses for the TPB research with a valid rate of 90%. For the comprehensive questionnaire, we have 619 valid responses with a valid rate of 93%, including 285 (46%), 206 (33%), and 128 (21%) respondents living in the urban village housing, commercial housing, and LTRAs respectively.

The second survey was conducted between December 2021 and March 2022. Semi-structural online interviews were carried out with 13 landlords (including letting agents and managers) and 17 tenants from different sub-sectors in Shenzhen. Different groups of interviewees were asked with customized questions. For example, for landlords, we focused on their daily management practices, business strategies, and how they interact with their tenants, letting agents, and LTRA companies. For tenants, we asked them to share their experience in terms of affordability, residential conditions, and tenure security. We also asked how they were getting along with their landlords. Each interview lasted approximately one hour and was audio-recorded after having obtained the interviewees' consent. The recordings were transcribed into documents manually and analysed through ATLAS.ti 9.

1.6 Outline of the thesis

This thesis consists of seven chapters, using Demand-Supply-Policy as its ordering conceptual framework. Figure 1.5 shows how the collected data, together with the theoretical approaches and methods, have been used in each chapter to answer the research questions.

Chapter 2 seeks to answer the first research question, what are the determinants of people's housing tenure choice towards private renting. Based on the Theory of Planned Behaviour, we performed an elicitation study and then designed the TPB questionnaire, which is part of the questionnaire we used in our first field survey. Next, we analysed the data using two statistical methods, i.e., hierarchical regression analysis and path analysis. The first method is used to determine whether multiplicative terms (the specific belief multiplied by its accompanying outcome evaluation) should be used to examine the impact of each specific belief. While path analysis was used to examine what beliefs and background factors influence people's renting intention.

Chapter 3 aims to answer the second research question, what are the determinants of residential satisfaction in different sub-sectors of the PRS. To this end, three sub-sectors of the PRS were identified in Shenzhen using the thesis of Structure of Housing Provision (SHP). Next, residential satisfaction levels are measured by averaging neighbourhood satisfaction, housing satisfaction, and landlord satisfaction. To examine whether tenants' overall residential satisfaction levels vary significantly in different sub-sectors, a one-way ANOVA was conducted. Finally, an Ordinary Least Squares (OLS) regression analysis was performed to examine what factors influence tenants' residential satisfaction.

Chapter 4 answers the third research question, what is the relationship between residential environment, social exclusion, and life satisfaction of private tenants. It first evaluates the life satisfaction levels of private tenants in different sub-sectors. To examine the difference in life satisfaction in various sub-sectors, a one-way ANOVA was performed. Next, to examine the determinants of life satisfaction and the role of residential environment and social exclusion, a model was proposed based on Amérigo and Aragones' (1997) theoretical framework, that links residential environment, social exclusion, and life satisfaction. A path analysis was performed to analyse data collected from private tenants in Shenzhen.

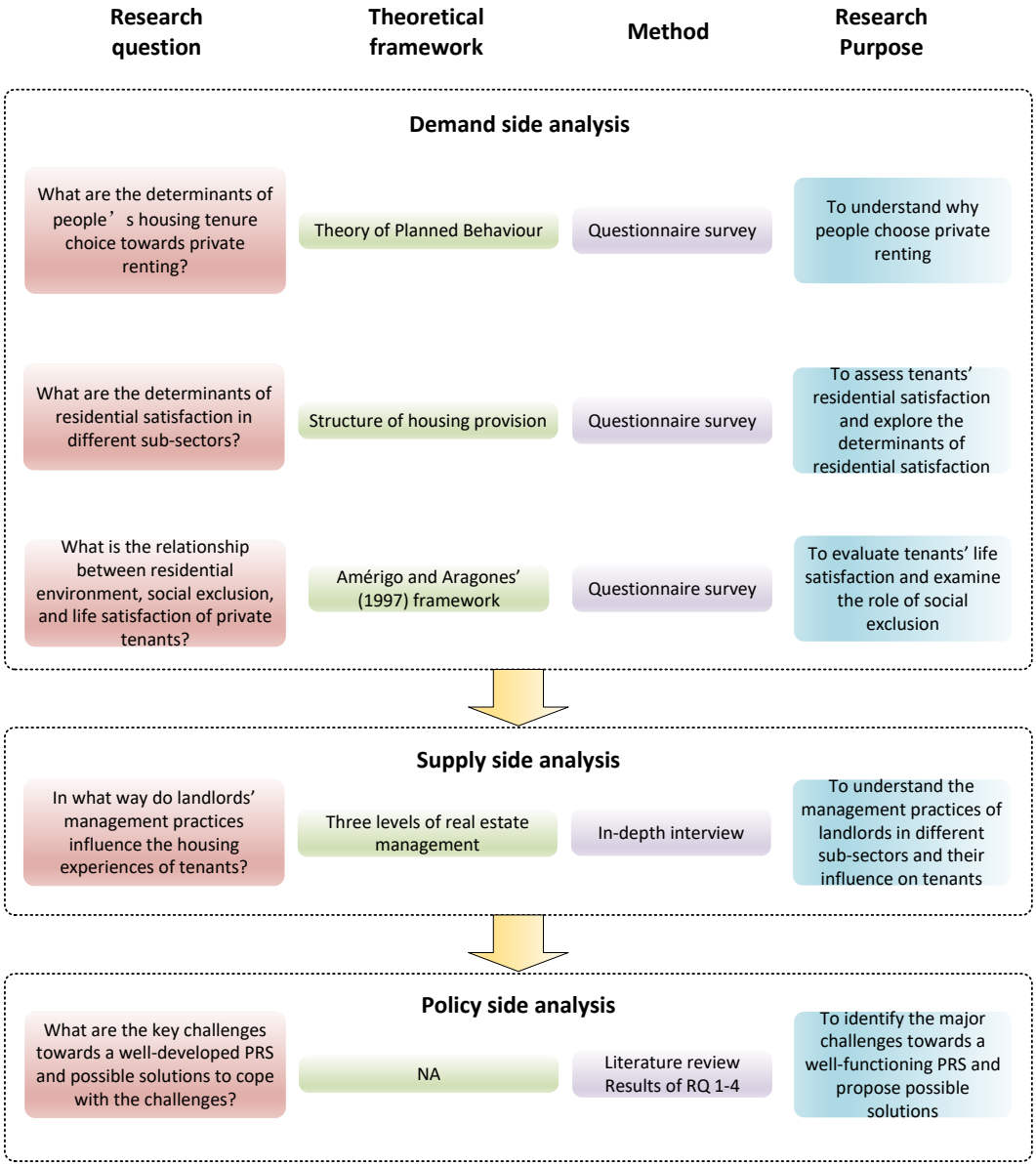

FIG. 1.5 Outline of the thesis.

Chapter 5 aims to answer the fourth research question, in what way do landlords' management practices influence the housing experiences of tenants. Based on Nieboer's (2005) taxonomy of real estate management, qualitative interviews were conducted with 30 landlords, housing managers, letting agents, and tenants. Next, the influence of management practices of landlords on the living experience of tenants were examined on three aspects, namely affordability, residential conditions, and security of private rental housing.

Chapter 6 seeks to answer the fifth research question, what are the key challenges towards a well-developed PRS and possible solutions to cope with the challenges. To this end, both academic and grey literature was reviewed. The results of our previous research were also used. The main challenges towards a well-functioning PRS were identified from the perspective of Chinese local governments, landlords, and tenants. Finally, possible solutions were proposed to cope with these challenges.

Chapter 7 gives a summary of the main findings of the thesis, presents reflections on the theories and limitations in the research, and sets an agenda for future research.

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2 Unravelling the determinants for private renting in metropolitan China

An application of the Theory of Planned Behaviour

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ABSTRACT After being neglected since the establishment of the housing market in the 1990s, China has recently shown great enthusiasm for developing the housing rental market. It is essential to understand why people choose private renting as it enables us to better identify the demands of tenants and develop policies accordingly to promote private renting. However, at the micro-level, the determinants for people's renting intention have rarely been studied in the Chinese context. This paper aims to examine what specific underlying beliefs, as well as background factors, influence people's private renting intention in China's metropolises. Using the Theory of Planned Behaviour (TPB), we designed questionnaires and collected personal data from 476 private renters living in Shenzhen. We found people had generally favourable attitudes, supportive subjective norms, and high perceived behavioural control of private renting in Shenzhen. Results from a path analysis suggest that people's renting intention was most influenced by their attitudes toward renting, followed by subjective norms, while perceived behavioural control failed to have a significant influence on intention. In addition, marital status and some underlying

behavioural and normative beliefs were also found to have significant influences on renting intention. Based on our findings, some recommendations were proposed to promote private renting, such as advertising the advantages of renting to the public, enhancing the sense of belonging of renters, and expanding the rental housing supply.

KEYWORDS tenure choice; private renting; Theory of Planned Behaviour; renting intention

2.1 Introduction

Following World War II, homeownership has been promoted in many nations (van der Heijden & Boelhouwer, 1996) while private rental housing has been viewed as a residual tenure of last resort for low-income households (Yates, 1996), the bottom rung of the housing ladder (Tao, et al., 2015), or a short-term and temporary solution (Rubaszek & Rubio, 2020). However, many metropolises around the world have recently witnessed a growth in the private rented sector (PRS) (Coulter, 2017; Fields & Uffer, 2016; Forrest & Hirayama, 2015; Hulse, et al., 2019; Pareja-Eastaway & Sanchez-Martinez, 2017). Power, et al. (2018) attributed the growth of PRS to the rising housing prices, difficulty in getting loans, increased job mobility, and young people getting married and having children later. While some researchers maintained the revival of the PRS was driven by neoliberal housing policies that encourage privatization and limit government expenditures on social housing (Forrest & Hirayama, 2015; Murie & Williams, 2015). Although these reasons explain at a macro level why PRS has been growing, on individual levels why people choose to rent has rarely been explored. Understanding the determinants of people's renting choices is vital for countries or cities that are seeking to promote private renting because it enables the policymakers to identify people's housing preferences and needs on the demand side and develop initiatives accordingly.

As with many other countries, China had been promoting homeownership as a means not only to boost economic growth but also to build up "asset-based security" to preserve self-sufficiency and reduce the citizens' demand for welfare before 2015 (Chen & Yang, 2017; Cui, et al., 2021; Doling & Ronald, 2014; Li, et al., 2021). However, due to declining housing affordability and increasing crowd of the population in metropolises as well as the shrinking public rental sector nationwide (Yan, et al., 2021), housing policies have shifted to encourage private renting since 2015 when the Ministry of Housing and Urban-Rural Development (MOHURD) first proposed the idea of "accelerating the development of the rental

housing market" (MOHURD, 2015). Promoting private renting is imperative for China's metropolises that have been struggling to accommodate the new citizens without incurring enormous public expenditure on social housing. In 2019 the central government announced to invest about 40 billion yuan (equivalent to 5.82 billion USD) over three years to support the development of the rental housing market in 16 pilot metropolises (Yang, 2019). Notably, this pilot project was mainly targeted at metropolises "with strong demand for rental housing and a large population inflow". To promote the PRS, "inducing a portion of housing demand to shift from homeownership to private renting" is considered important by some scholars (Zhou, 2018). However, it remains unclear what drives people to rent. Both policymakers and researchers have attributed the decision to rent solely to "cannot afford homeownership" while very little consideration is given to other factors (Chen & Yang, 2017). This one-sided mindset has underestimated the complexity of human behaviour and more importantly does not help promote the PRS. Therefore, there is a need to revisit people's choice of private renting with a more in-depth perspective.

People's renting behaviour can be considered a residential migration process, which is further subdivided into two steps according to Kley and Mulder (2010). The first step is the formation of an intention to move and the second step is the realization of the move, or the actual moving behaviour (Lennartz, 2013, p. 149). From this viewpoint, most current studies have focused on the second step. A variety of theoretical frameworks can be adopted to understand housing tenure choice, for example, Jansen, et al. (2011a) discuss nine theoretical frameworks that can be used for studying housing preference and housing choice. Frequently used and well-known frameworks in housing research are neo-classical economic analysis (Henderson & Ioannides, 1983; Koopman, 2011), family lifecycle theory (Chen, et al., 2022; Mulder & Wagner, 1998; Rossi, 1955), and means-end theory (Collen & Hoekstra, 2001; Coolen, et al., 2002). Neo-classical economic analysis is based on the expected utility theory, which posits that decision making under uncertainty is the maximization of subjective expected utility and consumers have perfect knowledge about the market (Marsh & Gibb, 2011). However, as pointed out by Boelhouwer (2011), the housing market is imperfect due to the lack of information, complexity of the product, long production time, high investment costs, site specificity, as well as government interventions. Furthermore, people with the same background variables may have totally different preferences and behavioural patterns on the housing market (Jansen, 2012). Studies using family lifecycle theory tend to explore the relationship between housing tenure choice and different family lifecycle stages (Chen, et al., 2022). The shortcoming is obvious: by focusing primarily on the socio-demographic factors, the explanatory power of the model is usually not high (Chen, et al., 2022). Therefore, an increasing number of housing researchers focuses on the psychological, behavioural and institutional

perspectives to better understand housing tenure choice (Andersen, 2011; Coolen, et al., 2002; Marsh & Gibb, 2011). Coolen, et al. (2002) originally presented the extended means-end model based on the means-end theory to examine the role of people's values and goals in determining housing tenure choice. Drawing on their survey in the Netherlands, they found that the motivational factors contributed 9% to the explained variance of intended tenure choice. Several other studies also confirmed the importance of values or lifestyles in explaining people's housing choice (Ær⊘, 2006; Andersen, 2011; Jansen, 2012, 2014). Other researchers also found that psychological factors were important determinants for people's tenure choice. For example, Ben-Shahar (2007) found values such as a sense of freedom and "peace of mind" are more meaningful and important than economic factors in explaining people's tenure decisions. The more the individual associates the sense of freedom and "peace of mind" with homeownership, the more (s)he prefers to own a house. Other socio-psychological factors that have been found to influence housing tenure choice include beliefs and expectations (Drew, 2014), spending and saving behaviour (Ab Majid, et al., 2014), parental influences (Lux, et al., 2018), and local norms and social capital (Aguda, 2018).

Although these studies have deepened our understanding on housing tenure choice, few studies have employed a comprehensive theoretical framework that can incorporate different sets of psychological factors. For example, the means-end theory focuses primarily on the influence of values and goals in general such as esteem from others and self-actualization. However, the theory does not pay attention to the role of people's beliefs towards a specific tenure, the influence of social contacts and people's perceived difficulty in entering a tenure. To bridge the gap, this paper uses the Theory of Planned Behaviour (TPB) as the theoretical framework to study what specific underlying beliefs, as well as social-demographic factors, influence people's intention to rent in China's metropolises. The TPB has been used in housing tenure choice research by a handful of researchers (Cohen, et al., 2009; Lennartz, 2013; Zheng, et al., 2019).

According to the TPB, behavioural intention is determined by attitude toward the behaviour, social normative perceptions regarding the behaviour, and perceived control over the performance of the behaviour (Ajzen, 1991). The specific structure of the TPB suits our study very well and we expect these three components to be able to explain people's intention to rent a private rental dwelling. With regard to attitude, rental accommodation can be associated with low quality, insecurity, and lack of regulation but also with the "virtues of renting" such as flexibility (Gilbert, 2016). This indicates that residents might have formed various beliefs, both positive and negative, that might influence their attitude. The second component is the social norm. The Chinese have a strong preference for homeownership, which has been

documented by many researchers (Huang, 2004; Nie, 2016; Zheng, et al., 2020). Chinese culture and traditions imply that the home has not only been treated as a place of living but as a sign of wealth, a symbol of well-being and social status (Huang, 2004; Yao, et al., 2013). This social norm might prevent people from renting. The third component concerns perceived behavioural control. As the housing market is a market in which many factors are actually out of control (e.g., the availability of vacant dwellings and rent price), the perceptions that people have about these factors could also affect their renting intention and behaviour. Thus, attitude, social norm, and perceived behavioural control seem important factors influencing the intention for (not) choosing a private rental dwelling. Therefore, it is theoretically reasonable to adopt the TPB in explaining people's renting intention and behaviour.

The remainder of the paper is organized as follows: in the subsequent section, we introduce the TPB in detail. Next, we describe the case city, Shenzhen, the data collection process, and the statistical methods. We then present the results and discussion. The paper concludes with the main findings and policy implications.

2.2 Theory of planned behaviour

The Theory of Planned Behaviour (TPB), proposed by Ajzen (1991) and based on the Theory of Reasoned Action (Fishbein & Ajzen, 1977), has been extensively applied and validated for the prediction and explanation of behavioural intentions and behavioural outcomes in a variety of domains, such as migration intention (Cui, et al., 2016; Jin, et al., 2022), pro-environmental behaviour (Tonglet, et al., 2004), and health-related behaviour (Andrews, et al., 2010).

According to the TPB, beliefs influence intentions indirectly by their effects on attitudes, subjective norms, and perceived behavioural control (see Figure 2.1). In specific, attitude toward the behaviour is determined by behavioural beliefs, which is the individual subjective probability that the behaviour will produce a given outcome or experience (behavioural beliefs), weighted by evaluations of the outcomes or experience (Ajzen, 1991). By the same token, one's subjective norm is determined by his or her normative beliefs, that is, whether important referent individuals approve or disapprove of the behaviour, weighted by his or her motivation to comply with those referents. Perceived behavioural control is determined by control beliefs, which is one's perceived presence of factors that may facilitate or impede the

performance of the behaviour, weighted by the perceived power or the impact of each control factor to facilitate or impede the behaviour. These various beliefs and their evaluations are termed "formative indicators" of attitude, subjective norm, and perceived behavioural control (Ajzen, 2020). In contrast, items that directly measure attitude, subjective norm, and perceived behavioural control (e.g., good or bad, approve or disapprove, easy or difficult) are called "reflective indicators".

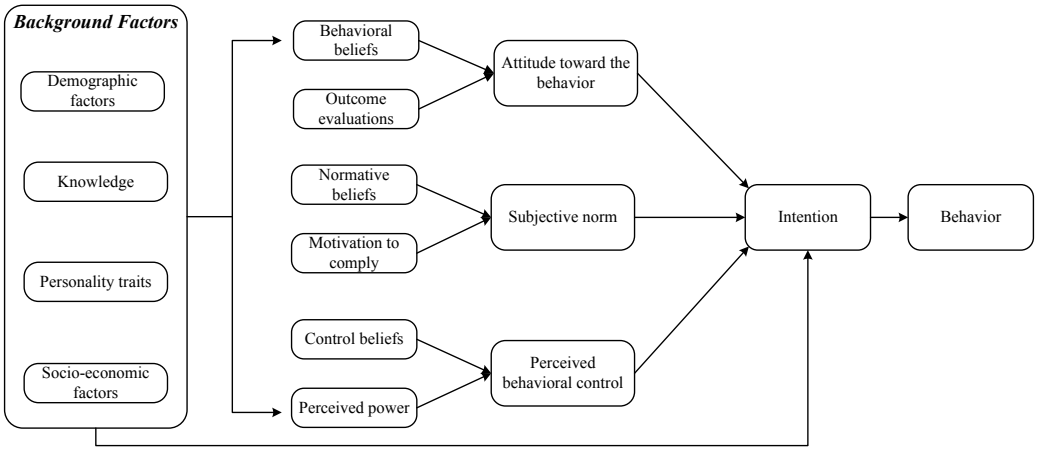

FIG. 2.1 Theory of planned behaviour.
Sources: Adapted from Ajzen (1991)

While the TPB assumes a causal relationship from behavioural beliefs, normative beliefs, and control beliefs to behavioural intentions and behaviours via attitudes, subjective norm, and perceived behavioural control, the background factors are assumed to operate through TPB components rather than directly influencing the behavioural intentions and behaviour (Montaño & Kasprzyk, 2015). It is because "beliefs are not innate to an individual, but they are formed and changed through activities in the real world" (Lennartz, 2013, p. 152). However, more and more researchers have found that in empirical studies there is often a direct relationship between background factors and behavioural intention because empirical research is not always under "ideal conditions" (Billari, et al., 2009; Cui, et al., 2016). Therefore, in this study, we assume the background factors can, directly and indirectly, influence people's intention to rent. Figure 2.1 presents the theoretical framework of this paper. It should be noted that the present study only explores the determinants of people's renting intention without examining the relationship between renting intention and renting behaviour because only renters were involved in the survey. As a general rule, the stronger the intention to engage in a behaviour, the more likely it should be to perform the behaviour (Ajzen, 1991).

TOC

The TPB provides a comprehensive theoretical framework to investigate both objective and psychological factors influencing behavioural intentions. Therefore, it was recommended by a number of researchers to study the decision-making process of tenure choice (Aguda, 2018; Jansen, et al., 2011b). However, the application of TPB is not common in the tenure choice domain because "decisions about housing choice usually encompass ample preparation and also require resources, mostly financial (Aguda, 2018, p. 25)." Nevertheless, a few researchers have successfully applied TPB to study the housing tenure choice (Cohen, et al., 2009; Lindblad, et al., 2017). Cohen, et al. (2009) claimed to be the first to extend the TPB to the domain of tenure choice. They used a four-year longitudinal dataset collected from 919 low- and moderate-income tenants in the US to examine determinants of intention to buy a house and actual home purchases. Lindblad, et al. (2017) updated this research by using 10-year panel data from the same database. They found that low-income renters' home buying intention and behaviour were influenced by their home buying attitudes, norms, and perceived control, thus providing strong support for the application of the TPB in the tenure choice domain. However, both of the studies focused on the choice of homeownership instead of private renting. Only a few studies have explored why people choose to rent using the TPB (Lennartz, 2013; Zheng, et al., 2019). However, Lennartz (2013) and Zheng, et al. (2019) only examine the influence of people's general attitudes (such as whether private renting is good or bad) on renting intention without looking into the specific beliefs toward private renting (such as "private renting can reduce financial pressure"). It is necessary to find out what specific beliefs drive or discourage people from renting because simply knowing people's general attitudes about renting would not help develop concrete policies or initiatives to encourage people to rent privately. To identify specific beliefs that contribute to attitude, subjective norm, and perceived behavioural control, formative indicators of them need to be examined (Francis, et al., 2004, p. 27). By including the behavioural, normative, and control beliefs, the present paper explores what specific beliefs, as well as background factors, contribute to people's intention to rent in metropolises.

2.3 Methodology

2.3.1 Study city

As aforementioned, the central government aims to promote private renting in metropolises, or first and second-tier cities in China[24], mainly because these cities have witnessed a large population inflow and deteriorating housing affordability. In less developed cities and rural areas, the demand for rental housing is generally low. Shenzhen was chosen as our case study due to its high demand for private rented housing and its enthusiasm for developing the private rented sector (Office of the Shenzhen Municipal People's Government, 2017).

Shenzhen, known as China's Silicon Valley, is one of the most developed cities in China, ranking third in terms of GDP in 2019, behind Beijing and Shanghai. Meanwhile, Shenzhen is also known as a migrant city. Among the resident population of about 13 million[25], eight million are migrant workers (Shenzhen Bureau of Statistics, 2019). Therefore, how to accommodate the migrants, especially the low- and middle-income households is a long-standing challenge for the local administrators. In recent years housing prices in Shenzhen have risen to unaffordable levels. According to Everett-Allen (2016), housing prices in Shenzhen increased by 48 percent in 2015 alone, which is ranked first worldwide. The local government has realized the irreplaceable role of the private rented sector and has been leading the new migrants into private renting (Office of the Shenzhen Municipal People's Government, 2017). Against this background, understanding what factors influence people's renting intention is indispensable for developing concrete housing policies to promote private renting. Therefore, Shenzhen provides an ideal laboratory to study the determinants of people's renting intention.

24 It is recognized and a common practice to classify China's mainland cities into "tiers". According to the National Bureau of Statistics, four first-tier cities are Beijing, Shanghai, Guangzhou, and Shenzhen. There are 31 second-tier cities, which are mostly provincial capital cities (e.g., Wuhan) or sub-provincial cities (e.g., Qingdao).

25 Resident population refers to people live in Shenzhen for more than six months in one year. According to the deputy major of Shenzhen, the actual management and service population in Shenzhen has exceeded 22 million in 2020 (Sina, 2020).

2.3.2 Questionnaire development and data collection

As suggested by Ajzen (2002), the construction of a TPB questionnaire involves two steps. The first step is called elicitation study which aims to elicit the salient beliefs of private tenants. The results of the elicitation study are used to develop the TPB questionnaire. In the case of the current study, the aim is to quantitatively investigate the determinants of private renting.

Step 1: Elicitation study

An elicitation study was conducted to identify the content of the important behavioural, normative, and control beliefs that determine the intention and are shared by the target population. In specific, we distributed online questionnaires to 30 private renters living in different sub-sectors in Shenzhen. The questionnaire consisted of nine open-ended questions such as "What do you believe are the (dis) advantages of private renting?", "Are there any individuals or groups who would (dis) approve of your choosing private renting?", and "What factors or circumstances facilitate/impede you choosing private renting?". The results showed that the most frequently mentioned benefits of private renting are: "feeling less pressure from down payment and mortgage", "being able to change my job easily", and "avoiding the risk of a house price fall". The perceived disadvantages are "unable to accumulate asset by housing price appreciation" and "not feeling a sense of belonging". The perceived important referents of the respondents are families and friends. The most commonly cited control beliefs are "a shortage of desirable private rented dwellings", "a lack of regulation in the private rented market", "anticipation that rent would rise fast", and "anticipation that housing prices would rise fast". The information obtained in this explorative study was used to develop the survey.

Step 2: Questionnaire survey

a) Development of the TPB questionnaire

Following Ajzen (2002), three questions were asked to measure people's renting intention (see Appendix A). This is to ensure the accuracy and reliability of the measurement. We use the mean value of three items in the questionnaire as respondents' generalized intention. Similarly, to measure the attitude, subjective norm, and perceived behavioural control, a three-item semantic differential scale was used. For example, to measure attitude, the stem of the three questions is "Before the move to my current dwelling, I thought living in a private rented dwelling was …".

Respondents need to choose from "1-unpleasant" to "7-pleasant", "1-bad" to "7-good", and "1-worthless" to "7-valuable". In this questionnaire, all questions related to TPB constructs started with the phrase "Before the move to my current dwelling…"[26]. The questions to measure attitude, subjective norm, and perceived behavioural control, which are termed by Ajzen (2020) as reflective indicators, are shown in Appendix A. We use the mean value of the reflective indicators as people's attitude, subjective norm, and perceived behavioural control respectively. However, before averaging, a reliability analysis is necessary to test whether three items measuring one construct have internal consistency and can be averaged. In this research, the reliability statistic Cronbach's alpha was conducted. Table 2.1 shows the results of the reliability analysis. Usually, the value of alpha above 0.70 is considered to reflect a reliable scale (Nunnally, 1994). According to this criterion, all four components showed high internal consistency so their constituting items can be averaged.

TABLE 2.1 Reliability test of intention, attitude, SN, and PBC

Component	No. of items	N	Cronbach's Alpha
Intention	3	476[27]	0.927
Attitude	3	476	0.915
Subjective norm	3	476	0.853
Perceived behavioural control	3	476	0.782

Corresponding to reflective indicators, behavioural/normative/control beliefs and their evaluations are called formative indicators because they are assumed to lead to the formation of attitude, subjective norm, and perceived behavioural control, respectively (Ajzen, 2020). In Step 1, we have elicited the most frequently mentioned beliefs through a survey of 30 renters in Shenzhen. To quantitatively measure the formative indicators, these beliefs were converted into a set of statements. Respondents were asked to assess both the strength of the belief and the value of the belief (outcome evaluation, motivation to comply, or control power). For example, for the behavioural belief "If I live in a private rented dwelling, I will feel less pressure on down payment and mortgage", respondents need to first express to which extend they agree with this statement (-3 = strongly disagree; 3 = strongly agree). Then, the participants express a positive or negative evaluation of this potential

26 This is because we aim to examine why tenants have chosen to rent, and it would seem unreasonable to ask tenants about their intention to rent in the future since they have already been renting. While most homeowners would not intend to rent because they have already bought a home.

27 Information about the number of respondents is described in the following section "field survey".

consequence by completing the sentence “Feeling less pressure from down payment and mortgage is…”. Respondents can choose from -3 (extremely undesirable) to +3 (extremely desirable) so high scores reflect favourable attitudes toward private renting. The formative indicators and their results are shown in Figure 2.4.

b) Field survey

The TPB survey is part of a comprehensive survey into private renters in Shenzhen conducted in August 2020. The field survey was administered in four districts of Shenzhen, namely Baoan, Longgang, Nanshan, and Futian (see 2.2). The four districts were chosen in order to cover renters living in both inner and outer Shenzhen. Additionally, the four districts are the most densely populated areas in Shenzhen, accounting for 67% of the city's whole population (Shenzhen Bureau of Statistics, 2019).

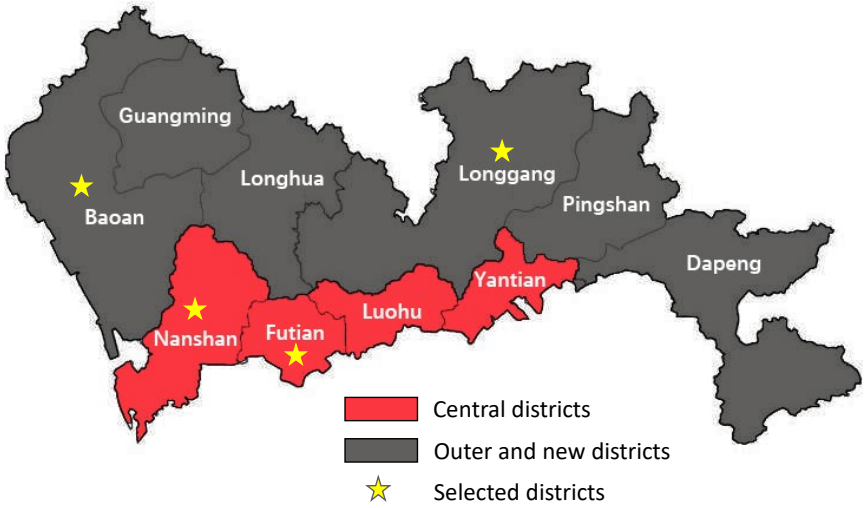

FIG. 2.2 Administrative districts of Shenzhen and survey sites.

In each district, leaflets were circulated to the residents in different communities and passersby after confirming that they were private tenants. On the leaflet, there was a brief introduction to our research, inviting texts, and a two-dimensional code. Tenants could participate in the survey by scanning the QR code, although paper questionnaires were also available on request. We also visited about 300 households living in Long-term Rented Apartments after we got permission from the apartment managers. Some managers of LTRA helped us to distribute the leaflets to the tenants. To facilitate participation, respondents could receive a small gift as a reward after completing the questionnaire.

The comprehensive questionnaire consists of three main sections. Section 1 is about the respondents' demographic characteristics and housing/neighbourhood features. Section 2 asked respondents about their satisfaction in various aspects, such as housing satisfaction, life satisfaction, etc. Section 3 is the TPB questionnaire which aims to answer why people choose private renting. At first, respondents were asked to answer all the questions in the three sections. After we had 528 responses, we expected the sample size to be adequate for the TPB research[28] and removed Section 3 for further survey. This was done to increase the response rate, as some respondents refused to answer the questionnaire or dropped out midway due to the questionnaire length. As the result, a total of 667 respondents took part in the comprehensive survey, but only 528 renters answered the TPB questionnaire. Furthermore, 52 responses of the 528 renters were invalid due to missing values or too short filling-in time (less than five minutes[29]). In the end, we have 476 valid questionnaires with a valid rate of 90%. Table 2.2 shows the demographic characteristics of the respondents.

Although the comprehensive survey included many demographic characteristics of the respondents, only seven were used in this research, i.e., gender, educational attainment, marriage status before the move, living with offspring, local hukou, personal income, and occupation. Note that living with offspring, personal income, and occupation are characteristics of the respondents when surveyed instead of before the move. Theoretically, these three variables should not be included in the analysis since we study renters renting intention and other subjective factors before they moved into their current housing. However, they have been found to be important explanatory variables of tenure choice (Liu, 2019; Chen et al., 2022). Therefore, we use the three variables as proxies for living with offspring, income, and occupation of the respondents before the move. Our sample was generally young, with a mean age of 31. Male and female respondents were roughly equal. Only 15% of the respondents were married before they moved into their current housing. In addition, our sample was overall highly educated. 43% of the respondents had a bachelor's degree[30]. Notably, 60% of the respondents lived in urban village housing when surveyed, which is consistent with the reality in Shenzhen (Li et al., 2021).

28 According to the general rule, sample size should be 20 times or at least 10 times the number of the parameters in path analysis (Kline, 2015).

29 The e-questionnaire can record the start and end time automatically.

30 Respondents' educational attainment is considered to be constant before and after moving because students were excluded from the survey.

TABLE 2.2 Demographic characteristics of the respondents

Demographic variables	Percentage/mean
Age*	31.27
Male	51.6%
Married	15.2%
Live with offspring*	31.3%
Shenzhen hukou*	27.9%
Have a bachelor's degree & above*	42.6%
Individual income (per month)*	
low (<5000 RMB)	29%
low-middle (5,000-10,000 RMB)	37%
middle-high (10,000-15,000 RMB)	18%
high (>15,000 RMB)	16%
Occupation *	
private enterprise	56%
public sector	13%
others (including unemployed, self-employed, and retired)	31%
Housing type*	
urban village housing	60%
commercial housing	29%
long-term rented apartment (LTRA)	12%

Notes:
*1. Variables with * are the characteristics of respondents when surveyed.*
2. Percentages may not add up due to rounding.

Since there is almost no official data about the characteristics of the private tenants in Shenzhen, the age structure of the whole resident population in Shenzhen was used for comparison because almost 80 percent of the whole population of Shenzhen are private renters (Dai, 2017). According to the Sixth Census, 49% of the resident population was between 15 and 29 years old, 48% between 30 and 59 years old, and 3% above 60 years old[31] (Shenzhen Bureau of Statistics, 2010). In our sample, the three figures were 48%, 50%, and 2%, respectively. This indicates that in terms of age our sample seems reasonably representative for the population of Shenzhen. Regarding the gender ratio, our sample (male=52%) is slightly underrepresented by men compared with the whole population (male=54%) (Shenzhen Bureau of Statistics, 2019).

31 Residents younger than 15 years old were excluded from the analysis.

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2.3.3 Statistical methods

Hierarchical regression analysis

As recommended by Fishbein and Ajzen (1975), multiplicative terms (the specific belief multiplied by its accompanying outcome evaluation) should be used to examine the impact of each specific belief. However, the legitimacy of this approach has been questioned by more and more researchers (Bagozzi, 1984; Doll & Orth, 1993; Evans, 1991; Schmidt, 1973). One of the issues that yields the most concern is that findings based on the product of belief strength and outcome evaluation are difficult to interpret (Evans, 1991; French & Hankins, 2003). The multiplicative approach is also criticized for other reasons. For example, researchers criticized that the correlation between attitude and its underpinning multiplicative terms could vary depending upon which combination of unipolar and bipolar scaling was used (Gagné & Godin, 2000; Hewstone & Young, 1988; Newton, et al., 2012; Sparks, et al., 1991). Schmidt (1973) argued that the multiplication of two scales is theoretically not a meaningful operation because it lacks a rational zero point. Since the purpose of the current study is to identify what specific underlying beliefs and outcomes influence people's intention to rent, using the multiplicative terms seems less obvious.

Nevertheless, to check the appropriateness of including the multiplicative terms instead of the beliefs and outcomes, we performed a hierarchical regression analysis, following Evans (1991). This approach has been used, for example, by Chan, et al. (2015) and Elliott, et al. (2005). In this procedure, attitude is the dependent variable (the mean value of its reflective indicators) that is regressed first on behavioural beliefs (bb_i) and outcome evaluations (bbe_i) and then on the product term ($bb_i{*}bbe_i$) (Fishbein & Ajzen, 2011, p. 113). If the addition of the product terms in the second step explains a significant amount of the variance of the dependent variable, the multiplicative combination rule is supported. Appendix B shows the detailed procedure of the hierarchical regression analysis and the results.

The results from our analysis showed that the multiplicative rule is statistically disconfirmed in our study. Based on the aforementioned theoretical reasons and the statistical results, we decided to include only beliefs and outcomes in the analysis and not the multiplicative terms.

Path analysis

The TPB theoretical framework presents a clear path diagram in which the relationships between all variables and the causal direction between them are specifically laid out. As demonstrated in our theoretical framework (2.1), the background factors influence the intention not only directly but also through their effects on beliefs, which in turn influence attitude, subjective norm, perceived behavioural control, and thereby renting intention. In other words, the TPB components act as mediators between background factors and renting intention. A large number of variables interact with each other and form a complex network, making simple regression analysis inapplicable. In this case, path analysis is an ideal choice. Path analysis is an extension of the regression model, used to test the fit of the correlation matrix against two or more causal models (Garson, 2013). It takes into account the relationship between the independent variables and calculates all paths simultaneously in one single analysis (Jin, et al., 2021).

It should be noted that we screened out the significant beliefs and evaluations through multiple regression for model parsimony (see Appendix B for detailed regression results). For the same reason, an independent t-test was conducted to examine whether the binary background factors were related to these filtered beliefs and evaluations. The following relationships were selected: gender and sense of belonging ($F=1.583$, $df=474$, $p=0.013$), bachelor degree and facilitate job-changing ($F=7.516$, $df=465.373$, $p=0.022$), bachelor degree and desire easy job-changing ($F=8.063$, $df=460.252$, $p=0.029$), bachelor degree and desire sense of belonging ($F=10.469$, $df=465.011$, $p=0.029$), bachelor degree and value families' opinions ($F=0.065$, $df=474$, $p=0.045$), bachelor degree and value friends' opinions ($F=0.986$, $df=474$, $p=0.031$), married and no sense of belonging ($F=0.135$, $df=474$, $p=0.002$), married and value families' opinions ($F=1.69$, $df=474$, $p=0.002$), live with offspring and facilitate job-changing ($F=2.297$, $df=474$, $p=0.043$), Shenzhen hukou and avoid risk ($F=0.161$, $df=474$, $p=0.014$). For occupation and individual income, a one-way ANOVA was conducted respectively to examine their relationship with formative indicators. These relationships will be included in the following path analysis (see Figure 2.5). Note that the variable individual income was re-organized as a three-category variable (low-middle income and middle-high income were merged as middle income) for model parsimony. As with most studies, the maximum likelihood (ML) estimation method was chosen because it yields the most precise (smallest variance) estimates. To obtain the confidence interval and significance of indirect effects, bootstrap[32] is also employed. The analysis was performed through AMOS 21 in SPSS.

32 Bootstrapping is a re-sampling technique that randomly draws several sub-samples of the same size as the original sample to provide statistical test evidence on the variability of parameter estimates and fit indices (Byrne, 2010).

2.4 Results

2.4.1 Descriptive analysis

The mean value and standard deviation of intention and reflective indicators of attitude, subjective norm, and perceived behavioural control are shown in Appendix A. As shown in 2.3, almost 70% of the respondents intended to rent before they moved into their current dwelling. This is understandable since all the respondents have chosen private renting. However, only 56% of the renters had positive attitudes toward private renting while 65% and 61% of the respondents had positive subjective norm and high perceived behavioural control respectively. That is, 14% of the respondents still intended to rent although they held a negative or neutral attitude toward private renting. Meanwhile, the means of intention (5.10), attitude (4.66), subjective norm (4.87), and perceived behavioural control (4.79) exceeded the median scale score of 4, indicating that our sample expressed a tendency toward an intention, a favourable attitude, encouraging subjective norms, and a high perceived behavioural control with respect to private renting.

Figure 2.4 presents the mean value of each belief and its value (outcome evaluation, motivation to comply, or perceived power). The mean values of behavioural beliefs and control beliefs are all above zero, which is understandable because all the beliefs were elicited from our elicitation study and should present the salient beliefs of the population. Concerning the behavioural beliefs, the most commonly agreed beliefs were “cannot accumulate asset through housing price appreciation”, followed by “change job easily”, and “won’t feel a sense of belonging”. The most valued outcomes by the respondents include “feeling less financial pressure” and “being able to change job easily”. “Being able to accumulate asset through housing price appreciation” is also highly valued by the respondents although most respondents believed renting cannot help accumulate asset. With respect to the normative beliefs, the means of both normative beliefs are below zero. 43% of the respondents believed their families disapproved of their renting while only 19% believed they were supported by their families to rent. Similarly, 40% of the respondents believed their friends did not recommend them to rent while only 20% believed their friends backed them in their choice of renting. Both families’ and friends’ opinions were considered to be important although family members played a more important role compared to friends judging from the relative magnitude. The most shared control belief was “there was a lack of regulation in the private rented market”, followed by “there was a shortage of desirable private rented dwellings”, “rent would rise fast”, and “housing prices would rise fast”. Interestingly, judging from the mean values

of perceived power, a lack of private rental dwellings and people's predictions that rent or housing price will rise would facilitate them to renting while a lack of regulation in the private rented market would discourage them from renting.

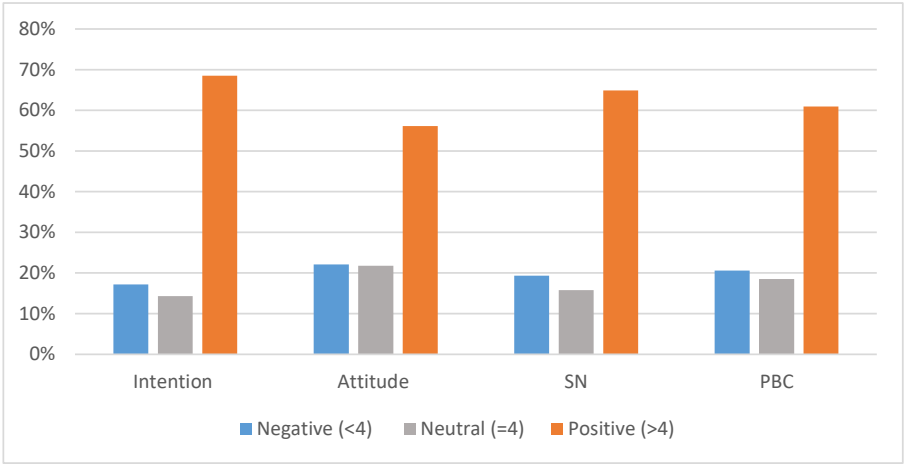

FIG. 2.3 Generalized intention, attitude, SN, and PBC of the respondents.

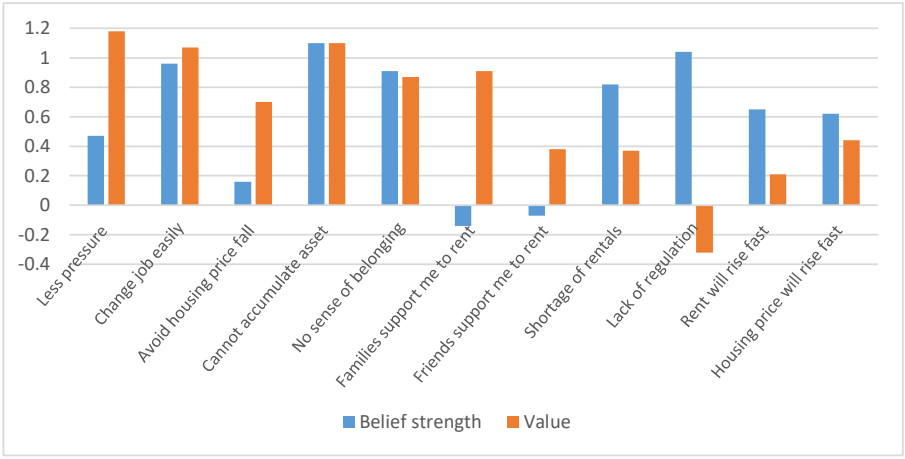

FIG. 2.4 The means of formative indicators of attitude, SN, and PBC. Note: All formative indicators are polarized ranging from -3 to +3.

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2.4.2 Path analysis

As aforementioned, multiple regression analysis and independent t-test were used to screen out the significant beliefs and influential background variables. Non-significant beliefs and relationships (between background factors and formative indicators) were excluded for model parsimony. The results of the regression analysis and independent t-test were presented in Appendix B and Section 3.3.2, respectively. Figure 2.5 presents the estimation of the path model. The four model fit indices indicate that our study model fits well with the empirical data. The squared multiple correlation (R2) of the independent variable intention is 0.4, which means 40% of the variance in renting intention was explained by the predictors. This result is slightly above the average of 39%, which was found by Armitage and Conner (2001) in their meta-analysis of the efficacy of the TPB.

Table 2.3 presents the standardized effects of different variables on renting intention. It can be seen that one's renting intention is most influenced by their attitude toward renting, followed by the subjective norm and perceived behavioral control. In other words, the more positive one's attitude is, the more supportive the social norms are, and the higher the perceived behavioral control, the stronger his or her intention to rent.

As shown in Figure 2.5, most formative indicators were found to have a significant direct influence on attitude, subjective norm, or perceived behavioral control, except bb3, nbe2, and cb1. Among behavioral beliefs and outcome evaluations, "desire easy job-changing" (bbe2) and "reduce financial pressure" (bb1) were shown to have the largest positive direct influence on people's attitude, followed by "facilitate job-changing" (bb2). In contrast, both "no sense of belonging" (bb5) and "desire sense of belonging" (bbe5) were found to have significant negative effects on attitude, which means that respondents who believe renting does not give a sense of belonging and who place a high value on a sense of belonging had more negative attitudes toward renting. Appendix B has shown that both normative beliefs had no significant influence on the subjective norm. However, "value families' opinions" (nbe1) was found to have a substantial influence on their subjective norm while "value friends' opinions" (nbe2) was not significantly related to one's subjective norm. That is, for subjective norm it did not matter whether or not respondents believed that their families and friends approved or disapproved of their intention to rent. However, the degree to which the respondents cared about their families' opinions was indeed important to the subjective norm. The perceived behavioral control was significant influenced by the perceived power "effect of rental housing shortage" (cbe1), followed by "housing price will rise fast" (cb4).

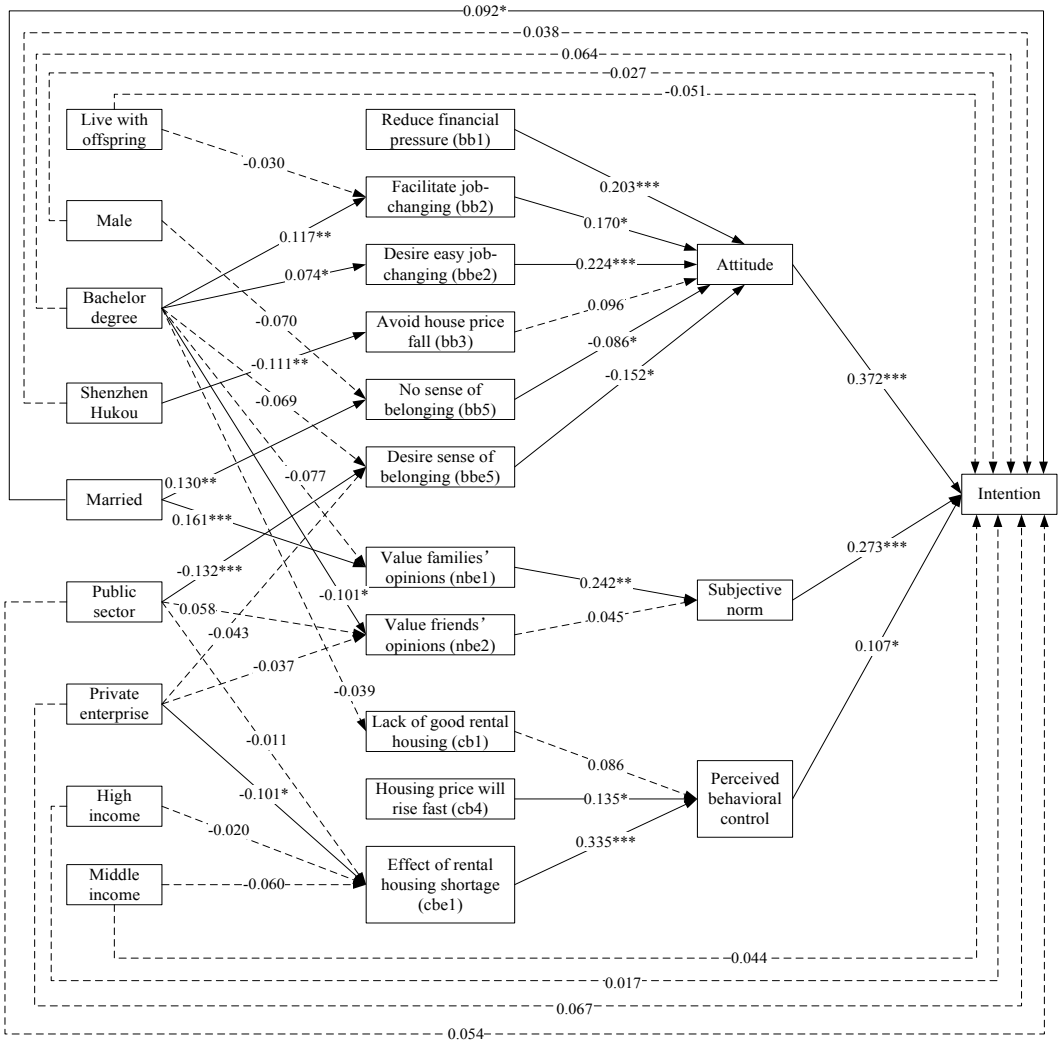

FIG. 2.5 Path analysis results.

Notes:

*1. *p<0.05; **p<0.01; ***p<0.001*

2. Model fit indices[33]: CMIN/DF = 3.479, CFI = 0.901, RMSEA = 0.072, SRMR=0.127

3. All coefficients are standardized

4. All lines denote direct effects. Dotted lines denote insignificant relationships.

33 Model fit indices provide the most fundamental indication of how well the proposed theory fits the data. The chi-square to df ratio (CMIN/DF), comparative fit index (CFI), root mean square error of approximation (RMSEA), and standardized root mean squared residual (SRMR) are most recommended indices to be reported by researchers (Hu & Bentler, 1999). Generally, CMIN/DF<5, CFI>0.9, RMSEA<0.08, and SRMR<0.08 reflect a good model fit (Hooper, et al., 2007).

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TABLE 2.3 Standardized direct, indirect, and total effect on renting intention

Variable	Standardized direct effect on intention	Standardized indirect effect on intention	Standardized total effect on intention
Attitude	0.372***	-	0.372***
Reduce financial pressure (bb1)	-	0.076***	0.076***
Facilitate job-changing (bb2)	-	0.063*	0.063**
Avoid house price fall (bb3)	-	0.036*	0.036*
No sense of belonging (bb5)	-	-0.032	-0.032*
Desire easy job-changing (bbe2)	-	0.083***	0.083**
Desire sense of belonging (bbe5)	-	-0.057**	-0.057***
Subjective norm	0.273***	-	0.273***
Value families' opinions (nbe1)	-	0.066**	0.066**
Value friends' opinions (nbe2)	-	0.012	0.012
Perceived behavioural control	0.107*	-	0.107*
Lack of good rental housing (cb1)	-	0.009	0.009
Housing price will rise fast (cb4)	-	0.014	0.014*
Effect of housing shortage (cbe1)	-	0.036*	0.036*
Background factors			
Male (Ref.=female)	0.027	0.002*	0.03
Bachelor degree (Ref.=no bachelor degree)	0.087	0.012	0.074
Married (Ref.=unmarried)	0.092*	0.006	0.098*
Live with offspring (Ref.=do not live with offspring)	-0.051	-0.002	-0.053
Shenzhen hukou (Ref.= non-Shenzhen hukou)	0.038	-0.004*	0.034
Middle income (Ref.=low income)	0.044	-0.002	0.042
High income (Ref.=low income)	0.017	-0.001	0.016
Private enterprise (Ref.= others)	0.067	-0.002	0.065
Public sector (Ref.= others)	0.054	0.008*	0.062

*$p<0.05$; **$p<0.01$; ***$p<0.001$

From Table 2.3 we can see that all behavioral beliefs and outcome evaluations have significant effects on renting intention. "Desire easy job-changing" (bbe2) has the largest positive influence on renting intention, implying that the more people appreciate easy job-changing, the higher renting intention they have. The second important formative indicator is "reduce financial pressure" (bb1), suggesting that the more people believe private renting can reduce financial pressure, the greater intention they might have to rent. Furthermore, "facilitate job-changing" (bb2) and "avoid house price fall" (bb3) were also determinants for renting intention, implying that the more people believe renting can facilitate job-changing and avoid housing price fall, the higher renting intention they have. "No sense of belonging" (bb5) and "desire sense of belonging" (bbe5) were significantly negatively related to

intention, which means that the more people believe renting does not give a sense of belonging and desire a sense of belonging, the lower renting intention they have. This is in line with our expectations. Among the formative indicators of subjective norm, only people's motivation to comply with families' opinions (nbe1) was shown to be significantly related to renting intention, which means the more people value their families' opinions, the higher renting intention they have. As for the formative indicators of perceived behavioral control, control belief "housing prices will rise fast" and perceived power "effects of rental housing shortage" were both significantly associated with higher renting intention. Notably, the magnitudes of the effects of formative indicators on intention are much smaller compared with attitude, subjective norm, and perceived behavioral control. It is because the effects of formative indicators on intention were calculated by multiplying the path coefficient between formative indicators and attitude/subjective norm/perceived behavioral control and path coefficient between attitude/subjective norm/perceived behavioral control and intention (Baron & Kenny, 1986).

Background factors can influence renting intention both directly and indirectly through influencing formative indicators of attitude and subjective norm. Figure 2.5 reveals that eight significant relations between background variables and formative indicators were identified. Respondents with a bachelor's degree were more likely to believe "renting can facilitate job-changing" and to desire easy job-changing compared with respondents without a bachelor's degree. In addition, respondents with a bachelor's degree were less likely to value friends' opinions than those without a bachelor's degree. Tenants with local hukou were less likely to believe "renting can avoid housing price fall" than those without local hukou. Married respondents were more likely to believe "renting does not give a sense of belonging" and value families' opinions than the unmarried. People who work in the public sector were less likely to desire a sense of belonging than those whose occupation is "others". Furthermore, those who work in private enterprises perceived lower power of renal shortage compared with those whose occupation is "others". Living with offspring, gender, and personal income were found to be insignificant in determining people's formative indicators. Regarding the total effects of background factors on intention, only marital status was found to be significantly related to renting intention. As shown in Table 2.3, people who were married had higher intention to rent than the unmarried.

Table 2.4 shows that male respondents had significantly more favorable attitude toward private renting than female respondents. Similarly, people with a bachelor's degree held more positive attitudes toward renting than those without a bachelor's degree. Interestingly, married respondents held more negative attitude toward private renting but were more socially supported to rent than single respondents.

Furthermore, tenants with local hukou held more negative attitude toward private renting than those without local hukou. Respondents working in the public sector had significantly more positive attitude than those whose occupation was 'others' while respondents working in private enterprises had lower perceived behavioral control than whose occupation was 'others'. Finally, living with offspring and personal income were found to be insignificant in shaping people's attitude, subjective norm, and perceived behavioral control toward renting.

TABLE 2.4 Total effects of background factors on attitude, SN, and PBC

Background factors	Attitude	SN	PBC
Male	0.006*	-	-
Bachelor degree	0.047**	-0.023*	-0.003
Married	-0.011*	0.039***	-
Live with offspring	-0.005	-	-
Shenzhen hukou	-0.011*	-	-
Public sector	0.02**	0.003	-0.004
Private enterprise	0.007	-0.002	-0.034*
Middle income	-	-	-0.02
High income	-	-	-0.007

*$p<0.05$; **$p<0.01$; ***$p<0.001$
All coefficients are standardized.

2.5 Discussion

The current promotion of private renting in China's metropolises highlights the need to better understand people's renting decisions. The present paper aims to explore what specific underlying beliefs, as well as background factors, influence people's intention to rent in China's metropolises by analysing data obtained from 476 tenants in Shenzhen. Although some researchers have applied the TPB to predict renting intentions (Lennartz, 2013; Zheng, et al., 2019), this study is the first to further explore what specific beliefs and background factors influence people's renting intention. It was found that favourable attitudes, encouraging subjective norms, and higher perceived behavioural control were all associated with greater renting intention.

2.5.1 The influence of attitude, subjective norm, and perceived behavioural control on renting intention

People's renting intention was most influenced by their attitudes toward private renting, followed by subjective norm and perceived behavioural control. This finding is slightly inconsistent with Zheng, et al.'s (2019) who found young people's renting intention was most influenced by subjective norms, followed by attitudes and perceived behavioural control. This may be because Zheng, et al. (2019) focused on young people who are more likely to conform to their important referents and social rules. Many researchers have found that the degree of conformity is age-dependent, with youngsters showing a higher susceptibility to social influence than older people (Costanzo & Shaw, 1966; Hoving, et al., 1969; Knoll, et al., 2017). Interestingly, our results also differ from Lennartz (2013), who found people's intention to rent privately in the Netherlands was most influenced by attitudes, followed by perceived behavioural control while the subject norm was insignificant. It may be because "perceived social norms may have a greater impact in collectivistic than in individualistic cultures (Fishbein & Ajzen, 2011, p. 309).

2.5.2 The influence of underlying formative indicators

People held generally favourable attitudes toward private renting, which shows a discrepancy with Nie (2016). According to his interviews with private tenants in China, many interviewees expressed their negative attitudes about private renting, including "low quality and inconvenience", "long-term financial loss", "instability and insecurity", and "a feeling of homelessness", etc. This contradiction may derive from the difference between qualitative and quantitative analysis. During interviews, respondents might tend to narrate their unhappy experiences and negative attitudes toward private renting. However, in this research, we used three different reflective indicators to measure people's attitudes, which is expected to be more accurate. Judging from the standardized coefficients, people's positive attitudes toward private renting were most shaped by their desire for easy job-changing. In metropolises, job-hopping rates are quite high nowadays, especially for skilled employees (Fallick, et al., 2006). For those who expect to change jobs in the future, homeownership is a constraint (Battu, et al., 2008). "Reduce financial pressure" was found to be the second most influential behavioural belief shaping people's attitudes toward private renting, maybe because Shenzhen has the highest house price to income ratio among China's cities (Yiju Research Institute, 2021). A large amount of urban village housing has kept rents in Shenzhen at a relatively low level. Interestingly, "no sense of belonging" and "desire sense of belonging" were negatively related to the attitude.

For example, private renters often face the threat of eviction, especially for the low-income rents (Desmond, 2012; Garboden & Rosen, 2019). Besides, renters might feel a lack of control and autonomy because their living situation was dependent on the decisions taken by their roommates or landlords (McKee & Soaita, 2018; Schapiro, et al., 2021). Private tenants are often not allowed to "decorate, hang pictures, stuck with the landlord's choice of furniture, and often unable to keep pets" (McKee & Soaita, 2018).

People have generally high subjective norms toward private renting. However, only families' opinions were found to have a significant influence on shaping subjective norm and renting intention, while friends had insignificant effects. This can probably be attributed to China's deep-rooted Confucian familism that considers following parents' instructions as a "filial piety" (Yao & Yao, 2000). Another possible reason might be people believe their parents are more experienced than their friends on the housing choice issue.

People have generally high perceived behavioural control, implying that finding a rental accommodation in Shenzhen is not difficult. This is probably due to the relatively low rent level in Shenzhen and the presence of a large number of urban village housing, which serves as a "safety net" and substitute for public rental housing (Li et al., 2021). Interestingly, the belief "housing prices will rise fast" and the effect of rental housing shortage are positively associated with people's renting intention. This may be because both renal shortage and rising housing prices would stimulate people to rent when homeownership is not accessible for the vast majority of the citizens. This can be understood as panic consumption influenced by individuals' perception of the scarcity of products (rental accommodations) (Yuen, et al., 2020). It can also be viewed as a coping behaviour to prevent themselves from paying higher rents in the future (Yuen, et al., 2020).

2.5.3 The influence of background factors

Seven background factors have been included in the analysis. However, only marital status was significantly associated with renting intention in terms of total effects. Married people were found to have higher renting intention than the unmarried, which is consistent with Chen, et al. (2022). According to Chen, et al. (2022), newly married couples have a higher tendency to rent because they do not decide to settle in Guangzhou permanently, and renting is a more flexible choice for them. However, in our study, we found that married respondents indeed held more negative attitudes toward private renting but were more socially supported to rent. According

to Figure 2.5, it is because married respondents were more likely to believe renting does not give a sense of belonging, which is consistent with Huang and Clark (2002). Interestingly, married people had higher subjective norms through the mediation effect of "value families' opinions". In other words, married people are more supported by their reference groups to rent. This may be because being married and having one's own family reinforce the influence of Confucian familism.

Although other background factors do not influence renting intention significantly, they do have significant effects on formative indicators, attitude, subjective norm, and perceived behavioural control. For example, respondents with a bachelor's degree were more likely to believe renting could facilitate job-changing, and they also desire easy job-changing. This finding echoes the findings from Fallick, et al. (2006) that knowledgeable employees in metropolitan cities are more likely to change their jobs. Respondents with local hukou held more negative attitude toward private renting than those without local hukou. According our path analysis, this is because respondents with local hukou were less likely to believe "renting can avoid housing prices fall". Respondents working in the public sector are less likely to desire a sense of belonging than those whose occupation is "others". While respondents working in private enterprises were less likely to be affected by the rental housing shortage, perhaps because respondents whose occupation is "others" include many unemployed and retired renters who are more vulnerable to market conditions. Finally, living with offspring and individual income were found to neither influence formative indicators nor renting intention. It is understandable since we have defined high income as "monthly income higher than 15,000 RMB", which is, however, still not sufficient to buy a house in Shenzhen. According to the Shenzhen Statistical Yearbook 2021, the average selling price for commercial residential housing in Shenzhen was 54,000 RMB per square meter in 2020.

2.5.4 Limitations

A number of important limitations need to be considered in this study. First, since our field survey only included residents in the PRS, the results cannot be generalized to the whole population in Shenzhen. Theoretically, the survey should have been conducted before the acting of the behaviour. However, because most people already live in a rental or owner-occupied dwelling, which would imply that we could only include graduating college students in our study, as they are living in school dorms or with their parents. However, such a sample would be rather limited with regard to age and type of education and the results would therefore not be generalizable to other groups. We have decided to omit owner-occupiers from our

sample as the question of moving to a PRS is not relevant to them and we would probably not receive reliable responses. Our approach is therefore a compromise given the nature of housing tenure choice. However, both (potential) homeowners and (potential) social renters might report lower intention to rent and might show different attitude, subjective norm, and perceived behavioural control. Therefore, we suggest that future studies find a way to also include homeowners, graduate students, and other people who do not live in the PRS in the sample. This would not only improve the data representativeness but would also allow us to investigate the relationship between renting intention and actual behaviour. In addition, it would also have been interesting to run the TPB model in the three different subsectors (urban housing, commercial housing, and long-term rented apartments) to analyse whether the importance of the different factors varies between the three types of renters. However, the number of respondents is relatively small in the commercial housing sub-sector (n = 139) and long-term rented apartments sub-sector (n = 58), and a reliable analysis can therefore not be performed in separate subsectors. Future studies could consider recruiting an adequate number of respondents in the different sub-sectors and examine the determinants of private renting in each sub-sector separately.

Another limitation concerns the accuracy of measurement. We asked the current tenants to recall their renting intention and various beliefs instead of inquiring about their renting intentions in the future. As aforementioned, asking either homeowners or renters about their intention to rent in the future might confuse the respondents. Most homeowners and renters may not have an intention to rent privately since they have already been in a tenure. However, we have to admit that this approach could introduce inaccuracy because the respondents might be overly positive toward private renting due to cognitive dissonance reduction (Festinger, 1962). If a person holds two cognitions that are inconsistent with one another, (s)he will experience the pressure of an uncomfortable motivational state called cognitive dissonance, a pressure which (s)he will seek to remove, among other ways, by altering one of the two “dissonant” cognitions (Bem, 1967). In our case, some respondents might dislike renting, but they finally chose to rent for some reason. Therefore, they may alter their attitudes more positively to alleviate their aversive feelings, which thus results in their attitudes being measured overly positive.

Finally, the potential endogeneity problem in our path model should be noted as there might be reverse causalities (e.g., from intention to attitude, from attitude to beliefs), a problem that has also been discussed by, for example, Sussman and Gifford (2019). According to the findings of Sussman and Gifford (2019), one’s intentions may affect the attitude and subjective norm in a reverse-causal direction, which might further lead to estimation bias of the coefficients in regression

analysis. There are generally two methods to address endogeneity, i.e., using an ad hoc solution and using an instrumental variable estimation (Shepherd, 2010). However, the ad hoc solutions cannot test how serious the endogeneity problem is, and whether the solution is adequate to deal with it (Shepherd, 2010). Meanwhile, constructing instrumental variables for path analysis is impractical because 1) path analysis is an extension of multiple regression instead of a single one, which means that for each regression sufficient instrumental variables should be used (Streiner, 2005), and 2) finding an instrumental variable for psychological factors is extremely difficult and limited by the dataset (not to mention finding as many as the number of endogenous variables). We recommend that future researchers carry out a longitudinal study to address the reverse-causality problem in tenure choice research.

2.6 Conclusion and policy implications

In the field of tenure choice, most existing research has focused on the determinants of homeownership and considered renting as a result of budget constraints (Chen & Yang, 2017; Deng, et al., 2016). This paper aims to explore what specific underlying beliefs, as well as background factors, influence people's intention to rent in China's metropolises. By adopting the Theory of Planned Behaviour, this study has shown that people's intention toward private renting was most influenced by their attitudes, subjective norms, perceived behavioural control, and marital status. Furthermore, the more people believe private renting can "reduce financial pressure", "facilitate job-changing", "avoid house price fall", the higher renting intention they have. In contrast, the more people desire sense of belonging, the lower renting intention they have. In addition, The more people value families' opinions, the higher renting intention they have. While the higher power people perceive of rental shortage and the more people believe "housing prices will rise", the higher renting intention they have. Other background factors such as gender, educational level, local hukou, individual income, and occupation are not determinants for renting intention.

Although people have generally favourable attitudes, supportive subjective norms, and high perceived control of private renting, the PRS in Shenzhen is still underdeveloped judging from the mean values of formative indicators (see Figure 2.4). For example, 55% of the respondents believed there was a shortage of good private rented dwellings before they moved in. While 60% of the respondents

believed the PRS was unregulated, even though this did not prevent them from renting. Therefore, the expansion of the rental housing supply and the enactment of regulations on the private rental market should be taken into consideration by the local government. On the other hand, our results have implied that people's perceived benefits of private renting (e.g., reducing financial pressure, facilitating job-changing, avoiding housing price fall) could facilitate their renting intention, thus deserving more attention from scholars and policymakers. To promote private renting, policymakers in metropolises could consider advertising these advantages of renting to improve people's attitude toward private renting. Meanwhile, measures should be taken to enhance the sense of belonging of renters. Researchers have found people who experience positive social interaction are more likely to experience a sense of belonging while negative social interaction and ostracism make people feel unwelcome and lead to a low sense of belonging (Davidson, et al., 1995; Steger & Kashdan, 2009). In the Chinese context, people might associate renting with a lack of a sense of belonging because renters cannot enjoy the same rights as homeowners. For example, the "attending nearby school" policy and the "school district system" have been implemented for a long time under the background of China's compulsory education system (Wen, et al., 2017). If parents do not have Hukou where they reside or do not own housing in the area, their children can attend only ordinary public or private schools, but not quality public schools nearby (Feng & Lu, 2013). Besides, renters are excluded from Community Healthcare Service (Huang, et al., 2017). These policies might make people believe renters are not accepted by society and thus believe renting does not give a sense of belonging. Therefore, the empowerment of tenants should be encouraged (Zhang, 2019). However, access to public services was not included in the analysis because it was not salient beliefs identified during the elicitation study. Future studies could further explore what factors contribute to renters' sense of belonging.

Since families' opinions were found to be more important than friends' in the tenure choice model, advertisements for renting targeted at older generations could be considered. Given the TPB assumes social norms influence people's intention and behaviour through the surrounding important referents, what specific social norms influence people's housing choice was not examined in this study. Future research may seek to further explore what social norms influence people's tenure choices and how the social norms were passed on between generations.

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3 Residential satisfaction of private tenants in China's superstar cities

Taking Shenzhen as an example

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ABSTRACT In recent years, Chinese housing policies have been shifting from encouraging homeownership towards developing the private rented sector, especially in the superstar cities. Nevertheless, what are the target groups and characteristics of private rental housing in Chinese superstar cities, and whether the private rental housing is capable of meeting private tenants' housing needs remain unclear. This paper attempts to bridge this gap from the tenant perspective by examining the determinants of private tenants' residential satisfaction. We argue that residential satisfaction should be examined within different submarkets. By adopting the Structure of Housing Provision thesis, we identified three main sub-sectors in China's superstar cities, i.e. urban village housing, commercial rented housing, and Long-term Rented Apartment (LTRA). Based on a questionnaire survey in Shenzhen, we examined the characteristics of the three subsectors and tenants living in each sub-sector. Furthermore, we evaluated whether the residential satisfaction levels varied significantly in different sub-sectors and the determinants of residential satisfaction in each sub-sector. The results of an ANOVA showed that tenants living

in commercial rented housing and LTRAs were more satisfied than those living in urban village housing. The regression results showed that the determinants of residential satisfaction vary considerably among different sub-sectors. The results of this paper can be useful not only for the landlords to improve tenants' residential satisfaction but also for policy-makers engaged in private rental market development and urban renewal.

KEYWORDS residential satisfaction, private tenants, superstar cities, structure of housing provision, urban village, long-term rented apartment, commercial rented housing

3.1 Introduction

China has become a country of homeowners since the Housing Reform in the 1990s. According to the 2010 National Population Census, the homeownership rate reached 85% at the national level while only 11% of Chinese live in the private rented sector[34] (National Bureau of Statistics, 2010). However, if we zoom in on the superstar cities (or so-called first-tier cities[35]), the proportion of the private rental housing is much higher (see Figure 3.1). Reasons for the boom of private rental sector are multi-faceted and vary markedly across different nations and cities. Researchers often attribute it to the unaffordable housing prices, rapid urbanization, increasing workforce mobility, and shortage of social housing (Hulse, et al., 2019; McKee, 2012; Power, et al., 2018).

Although the continually growing private rental sector alleviates the housing shortage to some extent, new issues come to light, the most prominent of which are the inflated rents (Li, et al., 2019), poor housing conditions in the informal sector such as the underground rental housing market and urban villages[36] (Kim, 2016; Liu, et al., 2010) and insecure tenancy (Huang, et al., 2015; Liu, et al., 2018; Wu, 2016).

34 The private rented sector is often defined as "a counterpoint to the social rental, referring to dwellings which are privately owned and let for a profit at rents set at market levels rather than those owned by governments or 'third sector' organizations on a not-for-profit basis and let at sub-market rentals" (Hulse, et al., 2010).

35 Superstar cities were described as metropolitan areas where demand exceeds supply and supply growth is limited (Gyourko, et al., 2013). In both academia and practice, it is well acknowledged that there are four superstar cities in China, i.e. Beijing, Shanghai, Guangzhou and Shenzhen (Chen, et al., 2019).

36 Details about urban village will be presented in Section 2.

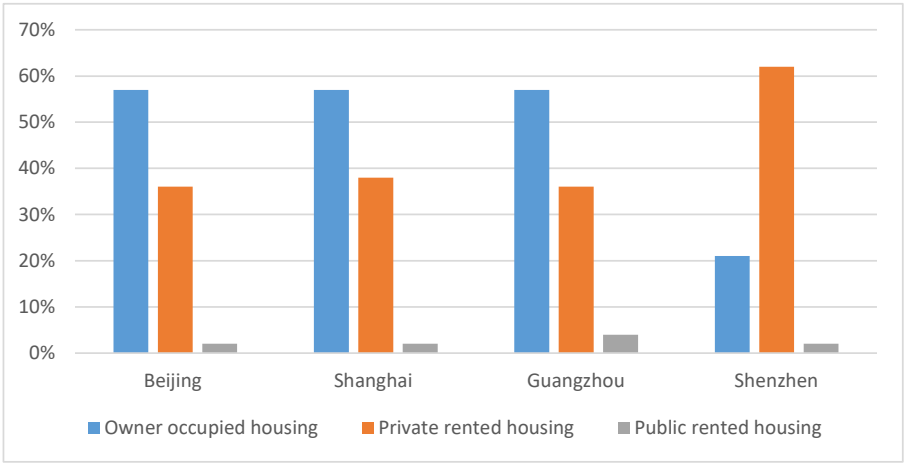

FIG. 3.1 Tenure distribution in four Chinese superstar cities in 2010.
Sources: The data come from the sixth national population census (ratios may not add up to 100 percent because the category "others" is excluded).

The unregulated, profit-oriented private rental housing market has directly shaped the unhappy personal experiences of tenants in urban China (Nie, 2016). According to his interviews with tenants in China, many interviewees expressed their negative feelings about private renting, including "low quality and inconvenience", "long-term financial loss", "instability and insecurity", and "a feeling of homelessness".

After being neglected for many years, it was until 2015 that the Ministry of Housing and Urban-Rural Development (MOHURD) first proposed the idea of "accelerating the development of the rental housing market" (MOHURD, 2015). Several proposals have been put forward in this guidance document, including the establishment of government service platforms for housing rental information, the cultivation of professional housing rental institutions, the promotion of real estate investment trusts (REITs), etc. Two years later on the 19th National Congress of the Communist Party of China, President Xi re-emphasized the importance of private rental sector with the famous slogan "rent and purchase", which means both the rental sector and the owner-occupied sector should be encouraged instead of the latter alone. Since then, numerous initiatives have been taken to promote the development of private rental sector in urban China. For example, in 2019 the central government announced to invest about 40 billion yuan (equivalent to 5.82 billion USD) over three years to support the development of the rental housing market in 16 pilot cities (Yang, 2019). As one of the pilot cities, the Shenzhen municipality claimed to renovate more than one million units in the urban villages before 2020 by involving professional developers (Zhou, 2019). However, considering the fact that the public in China is not enthusiastic about

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participating in the urban renovation (Zhuang, et al., 2019), it is important to have a deep understanding of the characteristics and preferences of prospective residents in order to effectively develop the housing market or to renovate existing dwellings.

Whether the private rental sector in Chinese superstar cities is capable of fulfilling the housing needs of private tenants remains a question. The test of a well-functioning housing system is the wellbeing of its occupants (Smith, et al., 2017). To quantitatively examine the living experiences and well-being of private tenants, the concept of Residential Satisfaction is employed in this paper. A high level of residential satisfaction is important for the residents and neighbourhood because satisfaction creates stability in the neighbourhood and acts as a significant predictor of residents' subjective well-being (Mouratidis, 2020; Phillips, et al., 2005; Speare, 1974). Besides, an understanding of the factors that facilitate a satisfied or dissatisfied response can play a critical part in making successful housing policies (Lu, 1999). From the perspective of consumerism, the tenant satisfaction survey has been seen as a means of improving the quality of service delivery and heralded as an effective means of listening to consumers, through which the rental organizations becoming more demand-responsive (Satsangi & Kearns, 1992).

There have been a vast number of studies looking into the residents' satisfaction with their residential conditions in different nations (Amole, 2009; Du, et al., 2020; Jansen, 2014a; Li & Song, 2009; Li & Wu, 2013; Milic & Zhou, 2018). Most of the researchers only distinguished the residents between homeowners and tenants in general (Huang, et al., 2015; Ren & Folmer, 2017) or focused on tenants in public rental housing (Huang & Du, 2015; Salleh, et al., 2011; Ukoha & Beamish, 1997), or a specific group of private tenants such as migrant workers (Chen, et al., 2020; Tao, et al., 2014), elderly tenants (James, 2008) or tenants living in urban villages (Li & Wu, 2013; Wu, 2016) or multifamily units (James III, 2007). With the rapid development of the private rental sector in Chinese superstar cities, market segmentation is becoming increasingly evident. Various "sub-sectors" can be distinguished within the private rental sector, with different functions on the housing market or aiming at different groups of tenants. For example, Whitehead and Kleinman (1985) classified the private rental sector in the UK into three sub-sectors, namely the Furnished Rented Sector, the Employment Related Accommodation, and the Unfurnished Rented Sector. Although previous Chinese researchers often use community type or neighbourhood type to classify the whole housing system (Ren & Folmer, 2017; Wang, et al., 2019), little attempt has been made to categorize the private rental sector in urban China. As a result, there is a surprising paucity of comparative studies focusing on tenants living in different sub-sectors of the private rental sector. This paper is a first attempt to examine the residential satisfaction of private tenants living in different sub-sectors in China's superstar cities.

The purpose of this study is to examine whether there are differences in residents' residential satisfaction levels among different sub-sectors of the private rental sector in Chinese superstar cities. Furthermore, we explore the determinants of private tenants' residential satisfaction in each sub-sector. In specific, we address the following questions:

1 What sub-sectors can be distinguished within current private rental sector in Chinese superstar cities?

2 What are the characteristics of private tenants in each sub-sector? What are the differences in their housing, neighborhood, landlord service, and residential satisfaction level in each sub-sector?

3 What are the determinants of private tenants' residential satisfaction in different sub-sectors?

The first research question will be answered using a literature review in Section 2. Data for answering the second question was collected through field survey. The characteristics were examined using descriptive analysis while the differences were explored by statistical tests. For the third research question, regression analysis was performed in each sub-sector using the data collected.

In the subsequent section, we will identify the sub-sectors of the private rental sector with the Structure of Housing Provision thesis. Next, some selected literature will be reviewed on residential satisfaction to construct the theoretical framework. Then we introduce our study area, the data collection process, and the statistical methods, followed by the descriptive and regression results. The paper ends with a discussion of the main findings, policy implications, and limitations of this study.

3.2 Sub-sectors of the private rental sector

As stated above, the private rental sector is not homogeneous but often demonstrates a considerable variety. Researchers have classified private rental housing differently in various countries (Gray, 2002; Rugg, et al., 2002; Whitehead & Kleinman, 1985). However, it is problematic to directly use their taxonomies in the Chinese context since there are so far no formal and clear rent control regulations

aimed at the private rental sector in China. A theoretical tool that can enable us to dig below the surface and analyse the whole process from housing production to distribution, consumption, and housing services is needed (Van Der Heijden, 2013, p. 10). Therefore, in this study, we use the thesis Structure of Housing Provision developed by Ball (1981, 2017) to analyse and classify the private rental sector. According to Ball (1981), research on housing should concentrate on describing and analyzing the development of relationships between the social agencies involved in the production, allocation, and consumption of housing and housing services in specific housing categories or structures (Ball, 1998; Ball & Harloe, 1992).

The 1998 Land Administration Law stipulates that urban land is owned by the state while rural and suburban land is owned by collectives. With rapid city sprawl, the suburban land lots were encroached and surrounded by high-rise buildings, becoming the so-called urban villages. The urban villagers are not legally entitled to capitalize on their assets through land or housing sale, so they redevelop their housing at high densities to maximize their profits and lease the units out (Liu, et al., 2010). As a result, the urban village is characterized by high-density, narrow building distance, often accompanied by inadequate ventilation and lighting (Liu, et al., 2010). Housing conditions in the urban village can be described as overcrowded, in lack of basic facilities such as indoor toilets and kitchens (Wu, 2016). Due to the unique land ownership, housing and neighbourhood characteristics, and informality of urban village housing, we take it as the first sub-sector.

In contrast, dwellings built on the urban land can be considered as "formal" housing because their production goes through a standard legal process and can be traded freely on the market. The two most common kinds of formal dwellings are commercial housing and condominiums, which are both built for purchase. The owner of commercial housing or condominiums can rent out their housing for profit to tenants privately. Although commercial housing and condominiums differ in some aspects such as the length of land use rights and living expenses[37], they bear a close resemblance from production to allocation, consumption, and housing services. Therefore, we merge them into one sub-sector as commercial rented housing.

In recent years, a considerable number of professional institutions stepped into the private rental market, known as Long-Term Rented Apartment (LTRA, changzu gongyu in Chinese) companies. LTRAs are defined as dwellings rented out and managed by

37 For commercial housing, land use rights go up to 70 years, whereas for condominiums the range is up to 40 years (Yang & Chen, 2014). Besides, utility costs in condominiums are slightly higher than in commercial housing.

professional institutional landlords with a tenancy period often longer than one year. LTRA companies are nascent in China but have been well established in the developed nations, known as Apartment Management Companies. The expansion of LTRA can be explained by the increasing demand for quality rental housing as well as supportive policies such as tax benefits and financial deregulation. Tenancies for LTRAs are generally longer than the private landlord's short-term rental which dominates the private rental sector (Chen, et al., 2021). LTRAs also distinguish themselves from the commercial rented housing and condominiums run by individual landlords or letting agencies from property rights, building design, decoration, and facilities to services and rents (Clare, 2017; Zhang., 2018). For example, LTRA companies can buy land use right from the local government and build apartments on their own, or choose to purchase or rent existing commercial housing or condominiums from homeowners, which is quite costly. Therefore, many LTRA companies lease or buy under-utilized assets like hotels and offices and redevelop them into rental units[38]. Moreover, the live-in managers of LTRA can respond to tenants' requests quickly and efficiently. For the amenities and services that they provide, rents for LTRA are generally 15 to 30 percent higher than comparable spaces nearby (Zhang., 2018). Therefore, LTRA differs substantially from urban village housing and commercial rented housing and should be categorized as a new structure of housing provision.

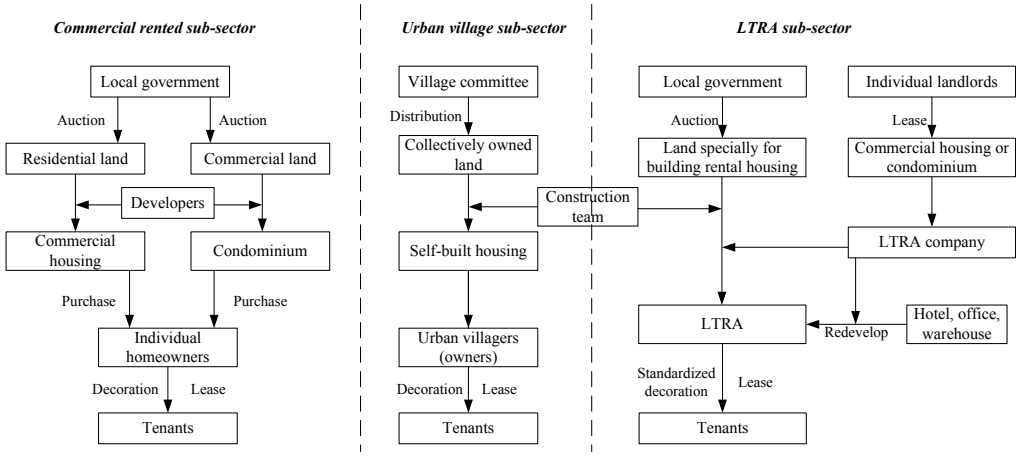

FIG. 3.2 Three sub-sectors based on Structure of Housing Provision perspective.

38 For more detailed information about the business model of LTRA companies, please refer to Chen, et al. (2021).

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Based on the above analysis, three structures of private rented housing provision were identified (see Figure 3.2)[39]. The appendix shows the exteriors of the three rental dwellings.

The three sub-sectors vary considerably from each other on housing conditions, neighborhood environment, and landlord services, etc. Most likely, tenants living in different sub-sectors have distinguished characteristics and residential satisfaction levels, which is going to be explored in our empirical research.

3.3 Residential Satisfaction

The nature and meaning of the concept of residential satisfaction have been frequently discussed in the past literature and a number of definitions have been put forward (Francescato, et al., 1989). According to Amole (2009), three main perspectives of residential satisfaction can be identified. The first is called the purposive approach which conceptualizes residential satisfaction as a measure of the degree to which the environment facilitates or inhibits the users' goals (Canter & Rees, 1982). The second is called the actual-aspiration gap approach which conceives residential satisfaction as a measure of the gap between residents' actual and aspired needs (Galster, 1987). The third approach was developed by Francescato et al. (1989) who conceptualized residential satisfaction as an attitude and a multifaceted construct which has cognitive, affective, and conative dimensions. The conative component (behavioral intentions) has merely been studied in terms of the intention to move (Fornara, et al., 2010). The present paper adopts the second approach and assumes residents perceive salient attributes of their physical environment and evaluate them based on comparison (Galster, 1987). If the current residential situation is broadly similar to their aspirations, then satisfaction should occur (Galster, 1985). Galster and Hesser (1981) maintained that the overall degree of residential satisfaction is ultimately influenced by two sets of objective factors. One set is "contextual": the physical characteristics of the resident's dwelling and physical and ecological characteristics of the surrounding neighborhood. Another is "compositional": characteristics of the

39 It is important to note that there are numerous structures of housing provision and they vary in different cities. In some cities such as Beijing, the privatized work-unit housing is also an important component (Ho, 2017). In the current research only the three sub-sectors will be discussed because they are the three most basic sub-sectors and accommodate the vast majority of private tenants in our case study.

resident's household, especially social class and stage in the life cycle. These two sets can either influence residential satisfaction directly or operate through their effect on the resident's subjective attitudes and assessments of specific aspects of the residential environment, which thereby influence residential satisfaction. For example, one of the independent variables can be the noise level in the environment measured by decibel. It can either directly influence the residential satisfaction level of the inhabitants or through the residents' reaction towards the noise (whether they are bothered by the noise). Many previous studies have shown that subjective aspects are more important for residential satisfaction than objective ones (Amérigo & Aragones, 1997; Jansen, 2014a). Therefore, in the current study, we include both the objective characteristics and subjective assessments of the tenants.

Over the past few decades, an enormous amount of work has been carried out to find out the determinants of residential satisfaction (Du, et al., 2020; Elsinga & Hoekstra, 2005; Li & Song, 2009; Lu, 1999; Paris & Kangari, 2005; Riazi & Emami, 2018). Li and Wu (2013) concluded that these studies usually focused on three aspects: the effects of residents' socio-demographic characteristics, their housing characteristics, and variables describing the socio-spatial characteristics of the neighborhood. To better capture the characteristics of renting, we also include some rent-related features or variables such as landlord service and rent, which are considered to be important for tenant satisfaction (James III, 2007). In the remainder of this section, potential predictors of residential satisfaction for private tenants will be examined on the four aspects.

3.3.1 Personal and household characteristics

One's demographic status is considered to be an important determinant of residential satisfaction. Many empirical studies have suggested that residents with higher incomes are more satisfied with their residential environment (Chen, et al., 2013; Ren & Folmer, 2017). Some researchers found being male is positively related to a higher level of residential satisfaction (Galster & Hesser, 1981) while others found a negative relationship (Lu, 1999). Higher age was found to be positively related to residential satisfaction (Wang, et al., 2019). The influence of educational attainment remains controversial. Some researchers confirmed a positive relationship between educational level and residential satisfaction (Ibem & Amole, 2013; Vera-Toscano & Ateca-Amestoy, 2008) while some found a negative correlation (Chen, et al., 2013; Dekker, et al., 2011). In the context of

China, some researchers found residents with a local hukou[40] were more satisfied with their housing and neighborhood than those without a local hukou (Ren & Folmer, 2017). The household composition was also found to be an important factor influencing residential satisfaction (Clark, et al., 2006). Being married was found to be negatively related to residential satisfaction (Galster & Hesser, 1981). Furthermore, some researchers found that couples with children expressed lower levels of residential satisfaction than those without children (Brodsky, et al., 1999; Dekker, et al., 2011; Ren & Folmer, 2017). One's occupation type can also have a significant impact on their residential satisfaction. For example, Wang, et al. (2019) found unemployed people expressed higher residential satisfaction than employed in China's inner-city neighbourhood. Chen, et al. (2013) found that among the low-income residents, people working in the public sector had higher levels of residential satisfaction. Besides, researchers have found the length of residence had a significant impact on residential satisfaction but with conflicting results (Adams, 1992; Amole, 2009; Chen, et al., 2013). Commuting time is a less frequently explored predictor for residential satisfaction in the previous research. However, unlike homeowners, living close to the workplace is a priority for tenants when they choose residence location, not only to save time but also to reduce transportation-related costs (Letdin & Shim, 2019; Novaco, et al., 1991). From another point of view, long commuting time also represents job-housing spatial mismatch, which is extremely severe in Chinese superstar cities (Fan, et al., 2014). Therefore, we include commuting time as a predictor of residential satisfaction for private tenants.

3.3.2 Housing characteristics

Housing quality is an important determinant of housing satisfaction (Elsinga & Hoekstra, 2005). As mentioned above, housing characteristics can be divided into two categories, i.e. objective and subjective characteristics. Elsinga and Hoekstra (2005) argued that objective characteristics of the dwelling were dwelling type, the number of rooms, the presence of facilities, and the condition of the dwelling, which were found to have significant impacts on residents' housing satisfaction. Many studies have shown that residents living in larger housing have higher residential satisfaction (Chen, et al., 2013; Huang, et al., 2015). Meanwhile, residents' subjective assessments of the housing (e.g. whether there is a perceived shortage of

40 The Hukou (household registration) system in China has segregated the rural and urban populations. Each person has a hukou (registration status), classified as "rural" or "urban" in a specific administrative district (Chan, 2010). In most cities, people without a local hukou are not allowed to buy housing in this city.

space) were found to be even more important in determining residential satisfaction than objective characteristics because objective characteristics may be perceived differently by different residents (Marans, 1976). Notably, researchers often regard property value or management fee as characteristics of the housing and found higher housing costs were associated with higher residential satisfaction level (Jansen, 2014a; Lu, 1999; Wang, et al., 2019), probably because higher housing costs generally means higher housing quality. Few studies have been conducted to explore the impact of rent with the exception of James III (2007). In his study into tenants in multifamily units, it was shown that higher monthly rent was associated with housing satisfaction improvement. Tenants may make a value-for-money assessment in deciding whether they are happy or not with what they are receiving (Satsangi & Kearns, 1992). High rents might trigger dissatisfaction if the residents' expectations of housing quality are not met. Therefore, we include both objective rents and subjective rent assessment in this study.

3.3.3 Neighbourhood characteristics

The housing unit is a part of an environment, and the inhabitants, through the interaction processes, inevitably come into contact with the various components of their environment (Onibokun, 1974). Therefore, one's level of acceptance or satisfaction may be more dependent on where the unit is situated than on its actual or perceived quality (Gruber & Shelton, 1987). Besides facilities in the house, public facilities such as the presence of shops, markets, schools, clinic, good quality of public transport, green areas, playground, and others are important to support the daily life of the dwellers and enhance residents' quality of life (Nurizan & Hashim, 2001; Rioux & Werner, 2011; Wilson, et al., 1995). Therefore, it is reasonable to assume public facilities can increase residents' residential satisfaction levels, which has been confirmed by some previous studies (Huang & Du, 2015). However, whether the location of the neighbourhood (i.e., distance to the city centre) could have an impact on residents' residential satisfaction is still uncertain. Some researchers found people living in suburban areas were more likely to be satisfied than those living in urban areas (Chen, et al., 2013; Kearns & Parkes, 2003) while Dekker, et al. (2011) found the distance of the neighbourhood to the city centre was not a significant predictor for neighbourhood satisfaction.

3.3.4 Landlord service

What distinguishes private tenants and homeowners is that private tenants maintain a contractual relationship with their landlords and expect to obtain services from them. Marcuse (1975) argued that tenants might experience residential alienation which was referred to as "the condition of estrangement between a person and his/her dwelling", because of antagonism toward a landlord. James III (2007) also claimed that potential conflicts with management might be a central reason why tenant satisfaction was almost universally lower than homeowner satisfaction. In their empirical research into tenants living in multifamily affordable housing in the US, Paris and Kangari (2005) concluded that satisfaction with property management, management staff's quick response, cooperation, and friendliness are important predictors for tenants' residential satisfaction. Following Morrow (2020), we selected five landlord services and responsibilities, including signing a written contract, timely repairs, maintaining a hazard-free and pest-free environment, and giving notice before entering the rental units.

3.4 Research design

3.4.1 Study area

Shenzhen is one of the most developed cities in China, ranking third in terms of GDP in 2019, only behind Beijing and Shanghai. However, its area of about 2,050 square kilometres, is only one-eighth the size of Beijing, one-third that of Shanghai, and one-fourth that of nearby Guangzhou. Therefore, the housing shortage in Shenzhen is an acute problem. Known as a migrant city, Shenzhen has a resident population of about 13 million[41], of which 8 million are migrant workers (Shenzhen Bureau of Statistics, 2019). As a result, the proportion of private tenants is much higher than the other three superstar cities (see Figure 3.1). The large share of private rental housing makes Shenzhen an interesting research area. Furthermore, although

41 Resident population refers to people live in Shenzhen for more than six months in one year. According to the deputy major of Shenzhen, the actual management and service population in Shenzhen has exceeded 22 million in 2020 (Sina, 2020).

there are almost no official data about the proportion of each subsector, the private rental sector in Shenzhen appears to be more diversified than in other superstar cities. To get a general picture of the private rental sector in Shenzhen, data from industry reports, news, and government officials' speeches were collected (Lianjia Property, 2017; Wang, 2018). According to our rough estimates, in 2018 there were 5.4 million private rented dwellings on the market and the market shares of urban village housing, commercial housing, and LTRA are 83%, 12%, and 5% respectively (industrial dormitories are excluded because they are provided by the employers and cannot be acquired through the market). Therefore, Shenzhen provides a piece of fertile soil for our research.

However, due to the constraints of time and budget, we are unable to conduct field survey in every district of Shenzhen. Therefore, we selected four districts, i.e., Baoan, Longgang, Nanshan, and Futian for on-site surveys (see Figure 3.3). The four districts were chosen mainly for two reasons. First, the four districts include two inner-city districts and two outer-city districts, thus we can examine whether the location of the neighbourhood influences residential satisfaction. Another reason is that they are the most densely populated areas in Shenzhen, accounting for 67% of the city's whole population (Shenzhen Bureau of Statistics, 2019). In this way we are more likely to reach tenants from different sub-sectors, especially the LTRA sub-sector that has a market share of only 5%.

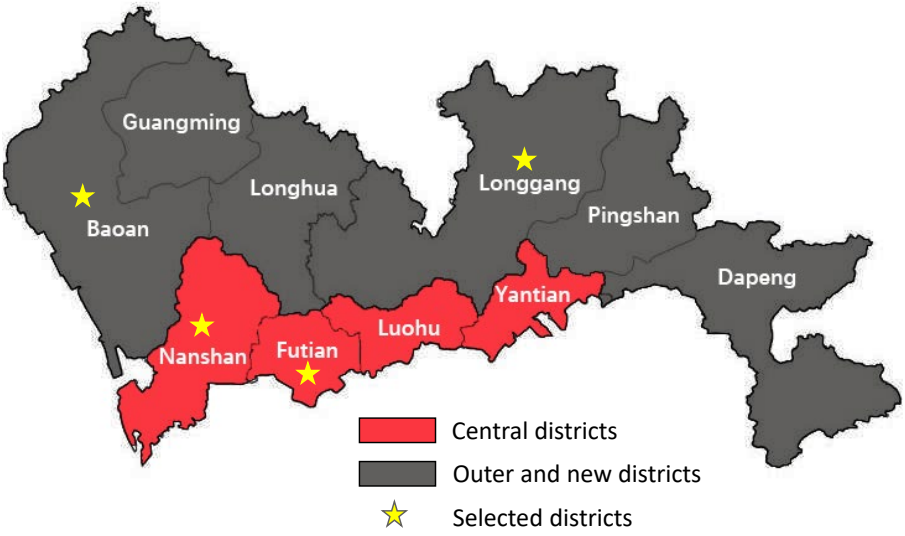

FIG. 3.3 Administrative districts of Shenzhen and survey sites.

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3.4.2 Data collection

The field survey was conducted in August 2020. Before the large-scale distribution of the questionnaire, an online pre-test was conducted among 30 private tenants living in Shenzhen. Based on their feedback, we modified several questions to make them more comprehensible. To ensure an adequate sample in each sub-sector, respondents were recruited in a variety of ways. In specific, we distributed leaflets to the residents in different communities and passersby in each district after confirming that they were private tenants. On the leaflet, there was a brief description of our research, inviting texts, and a two-dimensional code. Respondents could participate in the survey by scanning the QR code, while paper questionnaires were also available on request. However, most of the respondents lived in urban village housing and commercial housing. To include more LTRA tenants, we visited about 300 households living in LTRAs after we got permission from the LTRA managers. Some managers of LTRA also helped us to distribute the leaflets to the tenants. To facilitate participation, respondents could receive a small gift as a reward after completing the questionnaire.

A total of 667 online and offline questionnaires were collected, from which 48 were invalid due to missing values or too short filling-in time (less than five minutes[42]). In the end, we have 619 valid questionnaires with a valid rate of 93%, including 285 (46%), 206 (33%), and 128 (21%) respondents living in the urban village housing, commercial housing, and LTRAs respectively. Since there is almost no official data about characteristics of the private tenants in Shenzhen, the age structure of the whole resident population in Shenzhen was used for approximate stratified sampling because 80 percent of the whole population are renters (Dai, 2017). According to the Sixth Census, 48.8% of the resident population was between 15 and 29 years old, 47.9% between 30 and 59 years old, and 3.3% above 60 years old[43] (Shenzhen Bureau of Statistics, 2010). In our sample, the three figures were 48%, 50.5%, and 1.5%, respectively. Our sample was slightly overrepresented by tenants aged between 30 and 59 years old but underrepresented by the old tenants aged over 60 years old. However, it is because 21% of our respondents were LTRA tenants who are generally the youth. But in reality, only 5% of private tenants live in LTRAs. As aforementioned, it was conducted to ensure adequate respondents from each sub-sector for further analysis. Regarding the gender ratio, our sample (male=54.1%) is representative compared with the whole population (male=54.3%) (Shenzhen Bureau of Statistics, 2019).

42 The e-questionnaire can record the start and end time automatically.

43 Residents younger than 15 years old were excluded from calculating.

3.4.3 Measuring overall residential satisfaction levels of the private tenants

Before exploring what are the determinants of residential satisfaction in empirical research, we first need to measure it. The way residential satisfaction is measured is critical in empirical studies because it directly influences the results (Lu, 1999). Some researchers measure overall residential satisfaction with one single question, for example, by asking the respondents "How satisfied are you about living here?" (Casakin & Reizer, 2017; Paris & Kangari, 2005). Although overall measurement is convenient to conduct, to capture multiple dimensions of residential satisfaction and increase the reliability of the criterion, more and more academics measure residential satisfaction through an index (Francescato, et al., 1989; Weidemann & Anderson, 1985; Wu, et al., 2020). The number of items included in the residential satisfaction index varies considerably depending on how specific these items are. According to Satsangi and Kearns (1992) and Varady and Carrozza (2000), tenant satisfaction encompasses satisfaction with the dwelling, neighbourhood, and landlord service. Meanwhile, many researchers have suggested that neighbourhood satisfaction had a complex and multidimensional basis and should be measured through several dimensions (Hur, et al., 2010). Following Huang and Du (2015), except for overall neighbourhood satisfaction, we also asked the respondents about their satisfaction levels on four aspects of the neighbourhood, i.e. greenery, cleanliness, quietness, and security. Therefore, a total of seven questions were asked to evaluate renters' residential satisfaction (see Table 3.1). Responses are scored through a five-point Likert scale ranging from 1 "very dissatisfied" to 5 "very satisfied".

TABLE 3.1 Questions to measure residential satisfaction

1. How satisfied are you with your neighborhood?
2. How satisfied are you with your current dwelling?
3. How satisfied are you with your landlord service?
4. How satisfied are you with the four aspects of your neighborhood? a) Greenery; b) Cleanliness; c) Quietness; d) Security

The mean value of the above seven items was used for tenants' residential satisfaction. The reliability statistic Cronbach's alpha was employed to test whether the seven items could be averaged. Usually, the value of alpha above 0.70 is considered to reflect a reliable scale (Nunnally, 1994). The results showed a high correlation (Cronbach's alpha=0.874) among these seven items (n=619), suggesting these items are internally related and can be combined into one overall score for residential satisfaction.

3.4.4 Statistical methods

The present study examines the residential satisfaction level in each sub-sector and explores the impact of personal characteristics, housing characteristics, neighbourhood characteristics, and landlord services on residential satisfaction. First, a one-way ANOVA was conducted to examine whether tenants' overall residential satisfaction levels vary significantly in different sub-sectors. Besides, a multivariate regression analysis was performed to find out the determinants of residential satisfaction in different sub-sectors. There are a total of 38 independent variables in this research, which are selected based on the literature review in Section 3. As a general rule of regression, researchers should include as few predictors as possible (Field, 2009, p. 214). To simplify the models, the backward elimination-by-hand procedure was employed following Jansen (2014a). This means that all variables were entered simultaneously in the regression analysis. Ordinary Least Squares (OLS) regression analysis was performed with the "enter" method in SPSS. Next, the predictor with the highest, non-significant, p-value was omitted from the analysis, and the analysis was done again. This process was repeated until only statistically significant predictors remained. This procedure ensured a careful and insightful way to remove non-significant predictors as opposed to automated forward, stepwise and backward procedures in SPSS. All the categorical variables were recoded into dummy variables. Missing values were coded into the category "others" in order to include as many respondents in the regression as possible.

3.5 Results

3.5.1 Descriptive results

Personal and household characteristics

Respondents' demographic characteristics are shown in Table 3.2 (numerical variables) and Table 3.3 (categorical variables), respectively. Table 3.2 shows that tenants living in LTRAs were generally younger than those living in the other two sub-sectors. Besides, the average number of people living in the dwelling is smaller in the LTRA sub-sector. From Table 3.3 it is clear that the ratio of male and female

tenants was relatively even in the first two sub-sectors, whereas male tenants were overrepresented in the LTRA sub-sector. Furthermore, tenants in the urban village sector were more likely to be married, have a child(ren), and live with families, which suggests households living in urban village housing were generally on the later stage of the life circle. Notably, tenants living in urban village housing were apparently overrepresented in the low and lower-middle-income categories and below-bachelor educational attainment categories. Most tenants in each sub-sector did not have a local hukou, while the proportion of migrants was the highest in the urban village sub-sector. Compared with tenants in the other sub-sectors, urban village tenants were more likely to be self-employed and live for more than three years in their dwelling. Interestingly, urban village tenants generally spent less time commuting compared with those living in the other two sub-sectors. This may be because the ubiquitous urban villages in Shenzhen make it possible for the tenants to live close to their workplace. Another possibility is that the proportion of self-employed is significantly higher in the urban village sub-sector, thus reducing the average commuting time.

TABLE 3.2 Respondents' numerical demographic characteristics

		Urban village N=285	Commercial housing N=206	LTRA N=128	Total N=619
Age	Mean	32.5	30.9	28.1	31.1
	Median	31	29	27	30
	S.D.	8.6	7.6	6.5	8.04
Number of people in the dwelling	Mean	2.68	2.42	1.99	2.45
	Median	2	2	1	2
	S.D.	1.5	1.3	1.3	1.45

TABLE 3.3 Respondents' categorical demographic characteristics

	Urban village N=285 (%)	Commercial housing N=206 (%)	LTRA N=128 (%)	Total N=619 (%)
Gender				
Male	53	51	61	54
Female	47	49	39	46
Marital status				
Single	27	31	47	32
In a relationship	12	20	25	17
Married	60	47	27	49

>>>

TABLE 3.3 Respondents' categorical demographic characteristics

	Urban village N=285 (%)	Commercial housing N=206 (%)	LTRA N=128 (%)	Total N=619 (%)
Divorced/widowed	1	2	1	2
Presence of children				
Have child(ren) and live with child(ren)	41	27	13	31
Do not live with child	18	15	9	15
Do not have child	41	59	78	54
Household composition				
Live alone	31	30	51	34
Co-rent	5	18	6	9
Live with family	58	38	33	46
Live with partner	7	15	11	10
Household monthly income (RMB)				
Low (<5,000)	22	12	13	17
Lower-middle (5,000-10,000)	38	28	34	34
Middle-higher (10,000-20,000)	30	33	39	33
High (>20,000)	10	27	15	17
Educational level				
Middle school & below	25	10	9	17
High school	25	15	20	21
Junior college	26	19	25	24
Bachelor's degree & above	24	56	46	39
Hukou status				
Local hukou	15	37	22	24
Non-local hukou	85	63	78	76
Occupation				
Working in the private sector	55	63	65	60
Working in the public sector	11	13	16	12
Self-employed	24	11	9	17
Unemployed	4	13	10	12
Length of residence				
Less than 3 months	9	15	27	15
3 months -3 years	54	67	63	60
Above 3 years	37	18	9	25
Commuting time				
<15 minutes	37	32	29	34
15-30 minutes	30	27	31	29
>30 minutes	33	39	36	3
Not applicable	0	2	4	2

Housing characteristics

TABLE 3.4 Categorical characteristics of the dwelling

		Urban village N=285 (%)	Commercial housing N=206 (%)	LTRA N=128 (%)	Total N=619 (%)
Objective	Housing layout				
	Studio	20	12	26	18
	One-bedroom	38	42	43	40
	Two bedrooms	29	28	17	26
	Three bedrooms and more	13	19	14	15
	Living space m^2				
	<40	59	46	64	56
	40-60	18	21	19	19
	≥60	23	33	27	25
	Presence of a balcony	65	78	52	66
	Presence of hot water	58	88	87	74
	Presence of an air conditioner	65	93	93	80
	Presence of elevator	35	73	62	54
	Presence of cooking facilities	63	77	63	68
Subjective	Sufficient natural daylight	37	57	38	44
	Fast and stable network	23	51	45	36
	Adequate ventilation	57	75	66	65
	Adequate privacy from the neighbors	27	56	45	41
	Adequate space for personal activity	33	53	46	42
	Rent appropriateness				
	Too high	57	63	56	59
	Too low	3	2	1	2
	Reasonable	32	29	31	31
	No idea	8	6	13	8

To capture both the objective and subjective housing characteristics (Elsinga & Hoekstra, 2005), 12 categorical variables were included (see Table 3.4). We used subjective measurement when this item was not appropriate to or cannot be measured objectively. For example, in most dwellings, there is "some" natural daylight even if it might be limited. Therefore, we asked whether there was sufficient natural daylight from the view of tenants. According to Table 3.4, the one-bedroom housing layout was the most popular design in each sub-sector, while commercial housing tended to have

more bedrooms and LTRA tended to have more studios. The proportions of the four housing layouts were relatively more evenly distributed in urban village housing than the other two sub-sectors. Dwellings smaller than 40 m^2 were overrepresented in the urban village housing and LTRA, while units larger than 60 m^2 were overrepresented in commercial housing. Urban village housing had the lowest proportion of the presence of indoor facilities except balcony while commercial housing had the highest proportion for each facility. The subjective assessments of tenants showed the same pattern. The proportion of tenants who perceived adequacy on each subjective assessment was highest in the commercial rented sub-sector and lowest in the urban village sub-sector. Over half of the respondents complained about the high rents in each sub-sector. The percentage of tenants in each sub-sector who considered their rents to be reasonable was about the same.

Table 3.5 reports the numerical dwelling characteristics i.e., monthly rent, dwelling space, rent per square meter, and space per capita. Only 162 respondents provided their exact dwelling space. The respondents who did not mention an exact dwelling space had been asked to indicate a category (range) for their dwelling space (< 40, 40-60, ≥60). The responses of the 162 respondents were used to calculate the rent per square meter and space per capita. For the regression analyses, these responses were categorized and added to the responses of the other respondents. It is clear from Table 3.5 that tenants in urban village housing had the lowest rent per square meter and space per capita, while LTRA tenants had the most expensive rent per square meter. Nonetheless, the mean dwelling space of urban village housing was larger than LTRA.

TABLE 3.5 Numerical characteristics of the dwelling

		Urban village N=285	Commercial housing N=206	LTRA N=128	Total N=619
Total rent (RMB) N=619	Mean	1820	2717	2143	2186
	Median	1600	2200	1900	1800
	S.D.	1020	1857	1188	1461
Space (m^2) N=162	Mean	47	60	36	52
	Median	39	58	30	40
	S.D.	30	30	25	30
Rent per square meter (RMB/m^2) N=162	Mean	53	67	88	64
	Median	44	54	70	52
	S.D.	43	38	67	47
Space per capita (m^2) N=162	Mean	19	31	30	26
	Median	15	28	21	20
	S.D.	16	18	24	19

Neighbourhood characteristics

Table 3.6 reports the location of respondents' housing and the public facilities nearby. Most of the respondents lived in the outer districts of Shenzhen even if they were reached in the inner districts, maybe because of the severe rental housing shortage and high rents in inner districts. Nevertheless, the proportion of inner-city housing was apparently higher in the commercial rented sub-sector. In terms of public facilities, all of them are present more frequently in the commercial rented sub-sector and less frequently in the urban villages. The most pervasive facilities were the market and bus station while the scarce facilities were subway entrance, primary school, and hospital.

TABLE 3.6 Neighborhood characteristics of the respondents[44]

	Urban village N=285 (%)	Commercial housing N=206 (%)	LTRA N=128 (%)	Total N=619 (%)
Location				
Inner Shenzhen	12	25	19	18
Outer Shenzhen	88	75	81	82
Market	91	92	93	92
Primary school	46	50	39	46
Hospital	39	44	36	40
Park	52	53	55	53
Shopping mall	57	59	61	59
Subway entrance	32	38	41	36
Bus station	70	83	79	76

3.5.2 Landlord services

Table 3.7 shows the proportions of tenants who indicated that they had received five different landlord services. The most commonly mentioned landlord service was "signing a written contract". The vast majority of tenants had a written contract in each sub-sector, which was significant progress compared with the findings of Wu (2016). According to his study, only 16%, 28%, and 56% of the urban village

44 The listed public facility variables are binary variables as respondents were asked to indicate whether each public facility exists within one kilometre range.

tenants in Shanghai, Beijing, and Guangzhou signed a written contract in 2010. On the contrary, "maintaining a pest-free environment" was the most infrequent landlord service, which was indicated by only one-fourth of the respondents. The proportions of tenants who received landlord services are highest in the LTRA sub-sector (except "written contract"), which indicates landlord services in LTRA are generally better. In contrast, respondents living in the urban village sector were indicated to receive the five services least frequently.

TABLE 3.7 Landlord services in each sub-sector[45]

	Urban village N=285 (%)	Commercial housing N=206 (%)	LTRA N=128 (%)	Total N=619 (%)
Your landlord signs a written contract with you	80	89	88	85
Your landlord makes any requested repairs promptly	46	53	62	52
Your landlord ensures that living conditions are hazard-free	37	51	53	45
Your landlord maintains a "pest-free" environment	16	24	40	24
Your landlord gives notice before entering a rental unit	45	56	57	51

According to the descriptive results, the three sub-sectors vary considerably from each other. In specific, the urban village sub-sector has the lowest quality in terms of housing, neighbourhood facilities, and landlord services and targets the tenants who are generally older, less affluent and educated, and in the later stage of their life circle. The commercial rented sub-sector has apparently better housing quality and slightly better neighbourhood facilities and attracts tenants with higher income and educational attainment. The LTRA sub-sector has a moderate quality of housing and neighbourhood but the best landlord services, targeting young professionals who are unmarried and have a middle income, which confirms our analysis in Section 3.2. However, the difference in landlord services was small when compared with the commercial rented sub-sector.

45 The percentages are those who indicated to have received the specific service from their current landlord.

3.5.3 Residential satisfaction in three sub-sectors

The purpose of this section is to examine whether tenants living in different sub-sectors have different satisfaction levels on the overall residential environment and seven specific aspects. The distribution of the mean residential satisfaction level in each sub-sector is plotted in Figure 3.4. The proportions of private tenants who were satisfied or very satisfied with their residential environment are 60%, 75%, and 73% in urban village housing, commercial housing, and LTRAs respectively. Meanwhile, the proportion of tenants who were "very satisfied" in the urban village housing is obviously lower than in the other two sub-sectors.

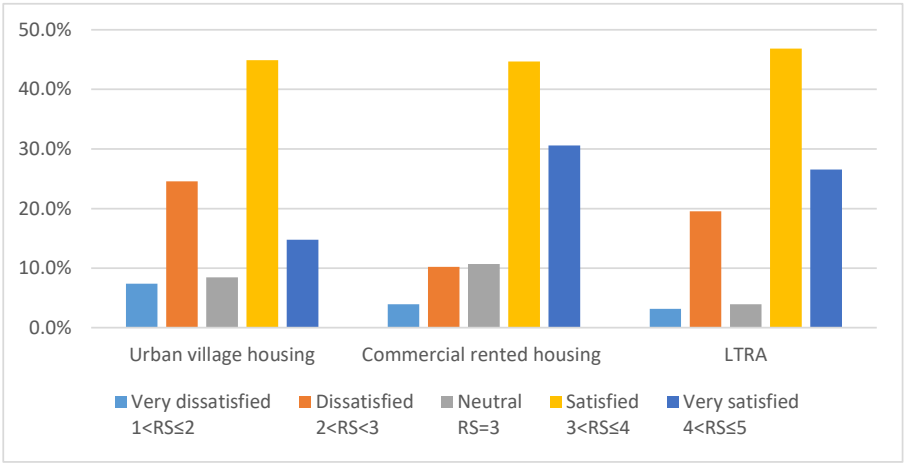

FIG. 3.4 Distribution of mean residential satisfaction score in each sub-sector.
Note: RS refers to residential satisfaction measured by the mean value of the aforementioned seven items

Table 3.8 presents the mean satisfaction score of private tenants among three sub-sectors on seven aspects of the residential environment as well as the average score of these seven items. Tenants living in urban village housing expressed the lowest satisfaction level on all seven aspects. Tenants living in commercial housing have higher levels of satisfaction on five aspects (except housing and landlord) than tenants living in LTRA. To explore whether the difference in overall residential satisfaction is statistically significant, a one-way ANOVA was employed. The results showed that tenants in LTRA and commercial housing have significantly higher levels of residential satisfaction compared to tenants living in urban villages ($F=16.68$, $df=2$, $p<0.001$), while this difference is not significant between LTRA and commercial housing ($p=0.311$). Indeed, satisfaction with the seven distinct aspects showed the

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same pattern, except for the greenery. Tenants living in urban villages and LTRA did not express significant differences in terms of green spaces in the community, while tenants in commercial housing are significantly more satisfied.

TABLE 3.8 Mean satisfaction score in three sub-sectors

	Housing	Neighbor-hood	Landlord	Greenery	Cleanli-ness	Quietness	Security	residential satisfac-tion
Urban village N=285	2.97	3.06	3.25	3.21	3.48	3.05	3.72	3.25
Commercial housing N=206	3.32	3.47	3.46	3.71	3.80	3.55	4.16	3.64
LTRA N=128	3.34	3.30	3.56	3.43	3.72	3.46	4.02	3.55

3.5.4 Regression results

In this section, the determinants of residential satisfaction in each sub-sector will be explored using multivariate regression. The dependent variable was residential satisfaction, which was the mean value of the aforementioned seven items. The independent variables are personal characteristics, housing characteristics, neighbourhood characteristics, and landlord services. The results are summarised in Table 3.9. Note that variables such as gender, household composition, local hukou, etc. were excluded because they were insignificant in each model, meaning that they had no relationship with residential satisfaction. The three models explained a considerably different amount of variation in residential satisfaction. The model in LTRA had the highest predictive power (R^2=0.555), urban housing was in between (40.8%) while the model in commercial housing explained the fewest variance (R^2=0.264).

TABLE 3.9 Determinants of residential satisfaction in each sub-sector

	Urban village		Commercial housing		LTRA	
	Coeff.	St. Coeff.	Coeff.	St. Coeff.	Coeff.	St. Coeff.
Constant	2.732***		2.699***		3.115***	
Personal characteristics						
Age					.029**	0.25
Household income (Ref= low income)						
Lower-middle income	-.158	-0.097			-.179	-0.111
Middle-higher income	-.088	-0.051			-.411*	-0.263
High income	-.483**	-0.185			-.608**	-0.283
Educational attainment (Ref=middle school & below)						
High school	-.394***	-0.218			-.666**	-0.346
Junior college	-.386**	-0.216			-.278	-0.157
Bachelor's degree & above	-.294*	-0.159			-.557**	-0.363
Occupation (Ref=private sector)						
Public sector	.290*	0.113				
Self-employed	.346***	0.185				
Unemployed	0.246	0.1				
Commuting time (Ref=less than 15 minutes)						
15-30 minutes	-.263**	-0.152	-.167	-0.073	-.522**	-0.315
>30 minutes	-.194	-0.117	-.242*	-0.13	-.268*	-0.171
Housing characteristics						
Living space (Ref=less than 40 m^2)						
40-60 m^2	.073	0.035			-.468**	-0.239
Above 60 m^2	.388**	0.21			.223	0.11
Housing layout (Ref=studio)						
One-bedroom	.221*	0.136	.299*	0.197		
Two bedrooms	.030	0.017	.146	0.088		

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TABLE 3.9 Determinants of residential satisfaction in each sub-sector

	Urban village		Commercial housing		LTRA	
	Coeff.	St. Coeff.	Coeff.	St. Coeff.	Coeff.	St. Coeff.
Three and more bedrooms	-.126	-0.054	.392*	0.205		
Balcony					.534***	0.35
Cooking facilities	.409 ***	0.251				
Adequate space			.335***	0.224		
Adequate privacy					.285**	0.185
Neighborhood characteristics						
Inner city	-.317 *	-0.129				
Park	.187*	0.118	.245**	0.164	.353**	0.23
Shopping mall	.205**	0.129			-	
Hospital					-.315**	-0.198
Landlord service						
Written contract	.252**	0.127	.462**	0.195		
Hazard-free	.293***	0.18				
Pest-free			.395***	0.227	.559***	0.358
R square	0.408		0.264		.555	

****p<0.001; **p<0.01; *p<0.05*

Table 3.9 shows that the presence of a park and less commuting time are related to higher residential satisfaction in each sub-sector. Having a park nearby increases residential satisfaction by 0.19 to 0.35, depending on the subsector. For the commuting time, the impact is most remarkable for LTRA tenants. Besides these two common predictors, the determinants in different sub-sectors varied remarkably. For tenants living in urban villages, the statistically significant predictors were household income, educational attainment, occupation, living space, housing layout, presence of cooking facilities, inner-city, presence of shopping mall nearby, “having a written contract” and “ensuring that living conditions are hazard-free”. Judging from the standardized coefficients, the presence of cooking facilities was the most important predictor (0.251), followed by “high income” (0.185), “self-employed” (0.185), and “hazard-free” (0.18). Looking at the commercial housing tenants, it is shown that their personal and household characteristics did not significantly influence their residential satisfaction level. For them, the significant determinants were housing layout, “adequate space”, “written contract”, and “pest-free”. “Maintaining a pest-free environment” had the largest impact on tenants’ residential satisfaction in the commercial rented sector, followed by tenants’ perception of adequate space. In the LTRA sub-sector, the statistically significant predictors were age, household income, educational attainment, dwelling space, presence of balcony, “adequate privacy”,

presence of hospital, and “pest-free”. Surprisingly, tenants living in units of 40-60 square meters expressed lower levels of residential satisfaction than those living in housing less than 40 square meters. This may be because a larger dwelling space does not mean a larger space per capita. Besides, a larger space may be associated with higher rents. The most important predictor was educational attainment (0.363), followed by “pest-free” (0.358), and the presence of a balcony (0.35).

3.6 Discussion

The present study has shown that the private rental sector is not unified but demonstrates considerable variations, which is consistent with Whitehead and Kleinman (1985) and Rugg, et al. (2002). Our sample of private tenants in Shenzhen was generally satisfied with their residential environment, showing contradiction with some previous studies that found tenants had generally low residential satisfaction (Hu, 2013; Huang, et al., 2015). For example, Hu (2013) found that only about 30% of tenants were satisfied with their housing based on an analysis of a national database. This may be because all respondents in our study lived in Shenzhen, where the housing options are quite limited while the sample in Hu’s (2013) research was a national population. Researchers have found that the vast majority of tenants, even those who live in poor-quality homes, are satisfied with their dwellings because the lack of alternative housing options leads to reduced aspirations (Jansen, 2013, 2014b; Varady & Carrozza, 2000). This finding supports Song, et al’s (2008) assertion that urban villages play an important role in the urban housing system as they have not only provided inexpensive shelter for migrants but also have freed governments from building costly social housing for the low-income groups. However, the residential satisfaction level of urban village tenants was significantly lower than commercial rented and LTRA tenants, while the difference is not significant between the latter two sub-sectors.

The determinants of residential satisfaction vary considerably among different sub-sectors. Two common determinants of residential satisfaction in each sub-sector are the presence of a park nearby and commuting time. These findings correspond with Liu, et al. (2017) who found parks can facilitate physical activities and interaction with nature, thus bringing mental health benefits, and Mouratidis (2020) who found commuting satisfaction is positively related to neighbourhood satisfaction.

Age is positively related to residential satisfaction in the LTRA sub-sector, which is consistent with Parkes, et al. (2002) and Amole (2009) who found age was a positive predictor for residential satisfaction among young people. This may be because the proportion of friends and relatives nearby increases and as age increases (Speare, 1974, p. 183). Considering age was not a significant determinant in the urban village sub-sector and commercial housing sub-sector, our finding echoes with Waziri, et al. (2014) who found age was a determinant for residential satisfaction only "for a given interval of time and within specific age groups (Morrison, 1967, p. 555)". Interestingly, higher income is negatively related to residential satisfaction in the urban village and LTRA sub-sector while it is insignificant in commercial housing. This result seems contradictory to many previous studies that found income was positively related to residential satisfaction (Chen, et al., 2013; Ren & Folmer, 2017) because households with low income have limited choice on where to live while having a higher income generally means that there are more possibilities to move to a better dwelling and neighbourhood (Amérigo & Aragones, 1997; Dekker, et al., 2011). However, it is understandable as our regressions were conducted within each sub-sector. This result indeed suggests that tenants with high income have higher expectations for their residential environment but living in urban village housing or LTRAs cannot meet their expectations. On the contrary, income was insignificant in the commercial rented sub-sector, which implies tenants of all different income levels living in commercial rented housing were generally satisfied. In other words, LTRAs are able to meet the aspirations of tenants with different incomes. The same rationale could also be applied to educational attainment. Tenant's occupation matters only in the urban village sub-sector. Urban village tenants working in the private sector were less satisfied than those working in the public sector or self-employed, which is consistent with Chen, et al. (2013) and Wang, et al. (2019). This may be because people working in the public sector and self-employed spend less time at work but more time at home or in the neighbourhood compared to private employees (Mishra & Smyth, 2013; Wang; & Hancock, 2019). When more time is spent in the residential area, they gradually adapt to their living conditions and also devise coping strategies that can improve their satisfaction level (Amole, 2009).

As for housing characteristics, it is shown that tenants in different sub-sectors value different aspects. For example, space has a different influence among different sub-sectors, which is somewhat inconsistent with previous studies that often found larger space could contribute to higher residential satisfaction levels (Dekker, et al., 2011). Another example is that the presence of cooking facilities is strongly related to residential satisfaction in the urban village sub-sector but it is insignificant in the other two sub-sectors. This is maybe because urban village tenants have a greater reliance on self-cooking while commercial housing tenants and LTRA tenants

are more likely to use online meal-ordering. Similarly, commercial housing tenants care more about adequate space while LTRA tenants value a balcony and adequate privacy from the neighbours. These results demonstrate that the determinants of residential satisfaction should be examined within different sub-sectors, otherwise the results may be misleading.

With regard to neighbourhood characteristics, urban village dwellers living in inner-city districts were less satisfied than those living in outer districts, perhaps because of the degraded facilities (Wang, et al., 2019) or relatively higher living expenses. Besides, the presence of a shopping mall nearby can significantly increase urban village tenants' residential satisfaction levels while it is not a determinant in the other two sub-sectors, suggesting tenants in different sub-sectors have different sources of entanglement. Interestingly, the presence of a hospital nearby had a significantly negative impact on tenants' residential satisfaction in the LTRA sub-sector, which is contrary to the findings of Huang and Du (2015). This may be attributed to the loud sirens from the ambulances or crowding on the streets.

Having a written contract can significantly improve residential satisfaction in the urban village sub-sector and commercial rented sub-sector[46], which is a new finding to the best of our knowledge. "Ensuring hazard-free living conditions" was only significant in the urban village sub-sector, suggesting that urban village tenants were concerned about the potential safety hazards in the residential environment. This finding is consistent with James (2008) who found maintenance could increase residential satisfaction of elderly tenants living in apartment housing. Last but not least, "maintaining a pest-free environment" was a strong predictor in the commercial housing and LTRAs, which may be attributed to the warm moist environment in Shenzhen. As Shenzhen is located in southern coastal China, the cockroach problem is ubiquitous and quite troublesome. However, it is an insignificant predictor in the urban village sub-sector, which means urban village tenants are less sensitive to pests like cockroaches compared to other tenants living in commercial housing and LTRAs. This finding corresponds to Varady and Carrozza's (2000) assertion that the tenants living in poor-quality housing have low expectations because they know there are few available housing options for them.

46 Only 15 LTRA tenants did not have a written contract, so this variable is excluded from regression in the LTRA sub-sector.

3.7 Conclusion

The current paper aims to distinguish different sub-sectors in China's superstar cities, examine the differences among the sub-sectors, and explore the determinants of tenants' residential satisfaction in each sub-sector using Shenzhen as an example. To the best of our knowledge, it is the first study to examine the residential satisfaction and its determinants among private tenants living in different sub-sectors in China's superstar cities.

The results show that private tenants are generally satisfied with their residential environment, although tenants living in commercial housing and LTRAs are more satisfied than those living in urban village housing. Furthermore, the current study demonstrates that tenants' residential satisfaction is influenced by a combination of personal characteristics, housing characteristics, neighborhood characteristics, and landlord services. The determinants of residential satisfaction vary considerably among different sub-sectors, suggesting different groups of tenants have different aspirations about their living conditions. The results of this paper can be useful not only for the individual and institutional landlords to improve tenants' residential satisfaction on specific aspects but also for policy-makers engaged in private rental market development and urban renewal. For example, urban village landlords should better provide cooking facilities and maintain a hazard-free living environment to improve the residential satisfaction level of their tenants. In addition, urban village landlords could consider building larger rental dwellings with living space above 60 m^2. While commercial housing landlords and LTRA landlords should get rid of pests regularly. Furthermore, LTRA companies might consider avoiding building rental dwellings with living spaces between 40 to 60 m^2, because the demand for "medium space" rentals may not be high for their target customers in Shenzhen. For urban planners and policy-makers, it is important to keep in mind that the ongoing urban village housing renovation program in Shenzhen should be operationalized with great caution as urban villages indeed accommodate the vast majority of private tenants, especially the low-income households. Arbitrary demolishing and gentrification might deprive their last resort living in superstar cities. It is recommended that a small number of pilot urban village rentals and LTRAs could be gentrified to meet higher housing needs. More importantly, legislation should be enacted to oblige the landlords to sign a written contract with their tenants. Regulations should specify what responsibilities landlords should take and what services to be provided. For urban planners, the construction of parks in residential areas and building more shopping malls near urban villages could be taken into consideration. Considering a top-down approach is usually implemented in urban

renovation process (Zhuang, et al., 2019), more informative surveys should be conducted among the residents to better understand their aspirations.

A limitation of this study concerns the sample representativeness. Given the wide variation among superstar cities in China, generalizations of the findings need to be made with prudence. Furthermore, as there are few official data about the characteristics of private tenants in Shenzhen, this study only serves as an exploratory work on the residential satisfaction of private tenants in China's superstar cities. Future research could explore other alternative structures of rental housing provision and examine the variations of tenants' residential satisfaction levels between different superstar cities.

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4 Understanding the relationship between residential environment, social exclusion, and life satisfaction of private renters in Shenzhen

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ABSTRACT The recent revival of the private rented sector in many regions highlights the importance of understanding the well-being of private renters. While there is a consensus that private renters are less satisfied with their life than homeowners, life satisfaction of private renters from different sub-sectors has rarely been examined, nor has the underlying mechanism linking residential environment and life satisfaction. The present paper aims to address these gaps by examining the life satisfaction of private renters from different sub-sectors in Shenzhen, China. We propose a model, based on Amérigo and Aragones' (1997) theoretical framework, that links residential environment, social exclusion, and life satisfaction. The model

fits well with the data collected from 619 renters. The results showed that only 38% of the private renters were satisfied with their life. Furthermore, we found urban village renters were significantly less satisfied with their life compared with renters living in commercial housing and Long-term Rented Apartments. Path analysis results suggest that the objective aspects of the residential environment, perceived social exclusion, and residential satisfaction could explain a substantial proportion of the variances in life satisfaction while the influences of demographic variables were not significant. Perceived equal citizenship rights, perceived discrimination, and perceived reasonable rent were shown to have significant effects on life satisfaction. Policy implications were discussed to improve the life satisfaction of private renters.

KEYWORDS life satisfaction, residential environment, residential satisfaction, social exclusion, private renters, sub-sectors

4.1 Introduction

The private rented sector has recently witnessed rapid growth in many countries due to increasing labor force mobility, affordability crisis of owner-occupied housing, as well as shrinking government investment in social housing (De Boer & Bitetti, 2014; Li, et al., 2022; Ronald & Kadi, 2018). However, a number of studies have revealed that the subjective well-being of private renters is at stake because of problems such as deprived housing conditions, insecure tenancy, and deteriorating affordability (Chisholm, et al., 2020; Oswald, et al., 2022). It highlights the need for understanding the life satisfaction of private renters as realizing a greater satisfaction with life is not only regarded as one of the main personal goals in life but has also become a primary pursuit of public policies (Diener, 2009; Mouratidis, 2020; Veenhoven, 2012). Life satisfaction is the degree to which a person positively evaluates the overall quality of his or her life as a whole (Veenhoven, 1996). Amidst various determinants of life satisfaction, the residential environment has been proven to be one of the most important aspects (Fernández-Portero, et al., 2017; Liu, et al., 2017). In recent years, there has been a growing interest in the relationship between the residential environment and inhabitants' well-being (Bond, et al., 2012; Dong & Qin, 2017; Ettema & Schekkerman, 2016; Li & Liu, 2018; Ma, et al., 2018; Maass, et al., 2016; Mouratidis, 2021; Tsai, 2015; Yin, et al., 2020). Several studies have reported that renters have lower levels of life satisfaction than homeowners and therefore advocate the promotion of homeownership (Herbers & Mulder, 2017; Zheng, et al., 2020; Zumbro, 2014).

Although these studies have deepened our understanding of the relationship between the built environment and life satisfaction, there are two significant gaps. First, most studies only distinguish between homeowners and renters without further differentiating between different types of private renting. A plethora of literature has indicated that the private rented sector is made up of various submarkets which accommodate different groups of renters (Hu, et al., 2022; Hulse, et al., 2019; Li, et al., 2021; Marsh & Gibb, 2019). Second, while several studies confirmed that renters face social exclusion (Hulse & Burke, 2000; MacDonald, et al., 2018), which leads to low life satisfaction (Bayram, et al., 2012; Bellani & D'Ambrosio, 2011), few studies have examined the role of social exclusion in the relationship between residential environment and life satisfaction among renters. It is especially important and interesting in the Chinese context because renting is a socially despised tenure (Nie, 2016) and renters are excluded from several basic social benefits such as community healthcare service (Huang, et al., 2017) and access to public schools (Feng & Lu, 2013).

This article attempts to bridge these gaps by introducing the concepts of 'sub-sector' and 'social exclusion' into the study of life satisfaction, by analysing data collected from private renters in Shenzhen, a city of renters. The purpose of this study is twofold: to explore what specific aspects of the residential environment contribute to private renters' life satisfaction; and to unravel the underlying mechanisms linking residential environment, social exclusion, and life satisfaction based on an appropriate theoretical framework. In specific, the paper addresses the following questions.

1. To what extent are renters in different sub-sectors satisfied with their life in general?
2. Does renters' life satisfaction differ between different sub-sectors?
3. What are the determinants of renters' life satisfaction?
4. What is the role of social exclusion in shaping renters' life satisfaction?

The findings of the paper may deepen our understanding of the mechanism underlying renters' life satisfaction. The conceptual framework could also be adopted by future empirical research. In addition to its scientific contributions, the policy recommendations presented in this paper can also serve as guidance for improving the life satisfaction of Chinese private renters.

The remainder of the paper is organized as follows: in the subsequent section, it introduces the concept of 'sub-sector' and gives a brief overview of social exclusion faced by renters in the Chinese context to operationalize the research questions. It will then go on to the theoretical framework of this paper based on some selected literature on the relationship between residential environment, social exclusion, and life satisfaction. Then we introduce our study city, the data collection process, and the statistical methods, followed by the results, discussion, and limitations. Finally, policy implications will be discussed.

4.2 Key concepts

4.2.1 Sub-sectors of the private rented sector

It has long been recognized that the rental market is composed of several sub-markets, and housing policies should be formulated accordingly (Rugg, et al., 2002). Li, et al. (2021) classified the private rented sector in urban China into three sub-sectors, which are the urban village sub-sector, commercial rented sub-sector, and Long-term Rented Apartment (LTRA) sub-sector. The low quality and informality of urban village housing distinguish itself from the other two sub-sectors (Li, et al., 2021). The emergence of urban villages is due to rapid urban sprawl and consequent farmland acquisition by the local government. The residential lands of the villagers were reserved because of the high costs to relocate them. The local villagers are not legally entitled to capitalize on their assets through land or housing sales, so they redevelop their housing at high densities to maximize their profits by leasing the units out (Liu, et al., 2010). Most urban villages are densely populated, accompanied by inadequate lighting and poor infrastructure. Housing conditions in urban villages can be described as overcrowded, with a lack of basic facilities such as indoor toilets and kitchens (Wu, 2016). The term commercial housing (or commodity housing) was coined to describe market housing in China as opposed to the old-style welfare housing during the planned economy era (Flock, et al., 2013). Since the abolishment of the welfare housing system in 1998, commercial housing has become the main housing supply in urban China. Commercial housing is privately developed housing on leased land from the local government and located in a gated community that provides a host of social, commercial, and recreational services (Hendrikx & Wissink, 2017; Wu, 2005; Wu, 2012). LTRAs are dwellings managed by corporate landlords with a tenancy period often longer than one year (Chen, et al., 2022). LTRA companies can either lease the properties that they own (asset-heavy model) or obtain the leasing rights of properties from individual homeowners, refurbish them, and then sublet the properties on behalf of landlords (asset-light model) (Chen, et al., 2022). For the amenities and services provided, rents for LTRA are generally 15 to 30% higher than comparable spaces nearby (South China Morning Post, 2018).

4.2.2 Social exclusion of renters

Social exclusion can be broadly defined as "the lack or denial of resources, rights, goods and services, and the inability to participate in the normal relationships and activities, available to the majority of people in a society, whether in economic, social, cultural or political arenas (Levitas, et al., 2007, p. 81)". A number of studies have paid attention to the social exclusion of private renters, while virtually all of them were conducted in western contexts (Hulse & Burke, 2000; MacDonald, et al., 2018). Hulse and Burke (2000) summarized that private rentals can create social exclusion in six broad ways such as discrimination and the inability to link private renters with support services.

Renters can perceive social exclusion in societies where homeownership is normalized (Costarelli, et al., 2022). Several studies have documented that renting contributes to feelings of shame and not being respected by others (Garnham & Rolfe, 2019; McKee, et al., 2020; Soaita & McKee, 2019). Similarly, Chinese culture implies that home is not only a place for living, but also a sign of wealth, a symbol of well-being, social status, and *mianzi* (face) (Huang, 2004; Yao, et al., 2013). *Mianzi* is defined as the recognition by others of an individual's social standing and position (Lockett, 1988). In Chinese culture, it is vital to maintain a person's *mianzi* or dignity and prestige (Buckley, et al., 2010). Therefore, it is a common mindset in China that renting makes people lose *mianzi*, especially for those living in low-end rentals (Sohu News, 2021). In addition, social exclusion has been used to describe a dynamic process that excludes people from the benefits enjoyed by full citizens (Walker & Walker, 1997, p. 8). In China, homeownership serves as the threshold for accessing certain public resources such as community healthcare services (Huang, et al., 2017) and education services (Feng & Lu, 2013). If parents do not own housing in the area, their children cannot attend quality public schools nearby (Feng & Lu, 2013). Furthermore, social exclusion can also occur in the form of discrimination. Several studies have revealed that renters face discrimination in urban China, especially those living in urban villages (Du, et al., 2018; Wong & Liu, 2017). For example, Du, et al. (2018) found very few private renters in urban villages established an attachment to either the neighbourhood or to the city because of discrimination and social exclusion from the locals and their landlords. In their interview with urban village renters, some felt discrimination from the locals through their "tongue of speaking and ways of expression" while some even had the experience of being attacked by the locals. Therefore, in this paper, we operationalize social exclusion as perceived losing *mianzi*, perceived inequality in terms of citizenship rights, and perceived discrimination as renters.

4.3 Theoretical framework

Various theories have been put forward to conceptualize life satisfaction such as telic theories (Emmons, 1986; Michalos, 1980), activity theories (Csikszentmihalyi & Figurski, 1982), and associationistic theories (Schwarz & Clore, 1983). In this paper, we adopt the Bottom-Up Theory (Andrews & Withey, 2012; Campbell, et al., 1976) which posits that life satisfaction can be regarded as the sum of satisfaction in various domains. In their seminal book, *The Quality of American Life*, Campbell, et al. (1976) identified 15 domain satisfactions that influence life satisfaction such as marriage, family life, health, neighborhood, housing, etc. These domain satisfactions result from a process of external stimuli and cognitive responses (Cao, 2016). Based on Campbell's model, Amérigo and Aragones developed a theoretical framework (Figure 4.1) that brought in the concept of "residential satisfaction" and incorporated both objective and subjective attributes of residential environment, as well as subjects' life satisfaction and migration behavior (Amerigo, 1992; Amérigo & Aragones, 1997).

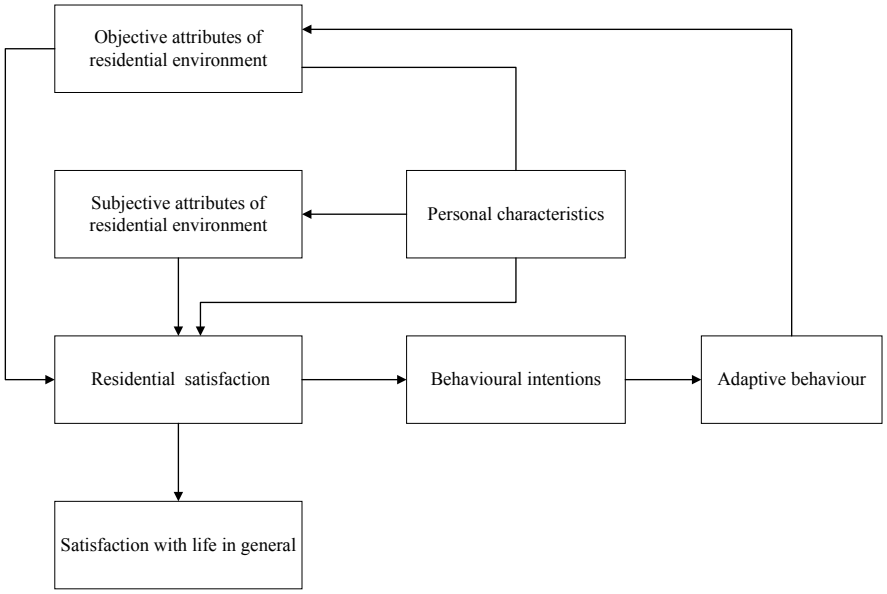

FIG. 4.1 A theoretical framework linking residential environment and life satisfaction.
Source: Amérigo and Aragones (1997)

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According to the model, the objective attributes of the environment become subjective once they are evaluated by the individual, giving rise to a certain degree of residential satisfaction (Amérigo & Aragones, 1997). Personal characteristics influence residential satisfaction directly and indirectly by influencing subjective attributes of the residential environment. According to Amerigo (1992), "personal characteristics" in this model include socio-demographic characteristics, personality, and standard of comparison which means the way in which people compare their current situation to their own situation in the past or to other people's situations. In this model, only residential satisfaction is directly associated with life satisfaction[47], while other factors influence life satisfaction through residential satisfaction. In the remainder of this chapter, a literature review is conducted to find out what objective and subjective attributes of the residential environment and what personal characteristics might influence residential satisfaction.

4.3.1 Objective attributes of the residential environment

Existing literature has shown that residential/life satisfaction is influenced by many characteristics of the dwelling and neighbourhood (Emami & Sadeghlou, 2021). Housing quality is an important predictor of residential satisfaction (Elsinga & Hoekstra, 2005; Vera-Toscano & Ateca-Amestoy, 2008). For instance, many studies have shown that residents living in larger housing have higher residential satisfaction (Chen, et al., 2013; Foye, 2017; Huang, et al., 2015), while indoor facilities were also found to be correlated with residential satisfaction (Li, et al., 2021; Wang, et al., 2019). Another well-studied predictor is homeownership, which has been found to contribute positively to residential satisfaction and life satisfaction in many previous studies (Diaz-Serrano, 2009; Hu, 2013; Jansen, 2014; Zumbro, 2014). Since our research objects are private renters, we use another concept termed sub-sector to capture the difference among private rented dwellings. As described in Section 4.2.1, we adopted the taxonomy of Li, et al. (2021) and classified the private rented sector into three sub-sectors, which are the urban village sub-sector, commercial rented sector, and LTRA sub-sector. Besides housing conditions, the neighbourhood environment is also considered an important component of the residential environment. The neighbourhood environment often refers to facilities for daily public use and service (Lee, et al., 2013). Public facilities such as markets, schools, clinics, good quality of public transport, and green areas are important to support the daily life of the dwellers and enhance

47 Note also that other domains that might influence life satisfaction, such as work and health are omitted from the model.

residents' quality of life (Ambrey & Fleming, 2014; Nurizan & Hashim, 2001; Rioux & Werner, 2011; Wilson, et al., 1995). For private renters, landlord services can also influence their residential satisfaction levels (James III, 2007; Paris & Kangari, 2005). Finally, higher rent on the one hand might point to larger space or better quality, which is associated with higher residential satisfaction. High rent might also result in relatively low housing satisfaction, especially if the relationship between rent and housing quality is not optimal (Elsinga & Hoekstra, 2005).

In summary, the following objective attributes of the residential environment have been found to be important concerning residential satisfaction: housing space, housing quality, rental subsector, public facilities, landlord services, and rent. Notably, an index was used to measure housing quality, public facilities, and landlord services to avoid too many variables in the model (see Table 4.2). In particular, one point is added in the index if a specific indoor facility/public facility/landlord service is present.

4.3.2 Subjective attributes of the residential environment

Once the objective attributes of the residential environment are evaluated by the residents, they become subjective attributes (Amérigo & Aragones, 1997). In their original paper, Amérigo and Aragones (1997) operationalized subjective attributes of residential environment by asking the residents to "quantify how he/she perceives the feature (a lot, quite a lot, a little, or not at all) in his/her own residential environment". For private renters, the rent level is an important objective attribute, which also can be perceived by the inhabitants as reasonable or not reasonable. Previous studies have found that whether renters perceive their rent as affordable could also influence their life satisfaction (Mason, et al., 2013; Pollack, et al., 2010). We expect the actual rent is associated with the perception of reasonable rent, which could contribute to residential satisfaction. Therefore, we use perceived reasonable rent as a subjective attribute of the residential environment.

Somerville (1998) originally applied the theory of social exclusion to housing processes and discussed several mechanisms of how social exclusion is related to topics such as housing production, housing tenure, and neighbourhood effects. For example, Somerville (1998) argued that distinctive structures of housing provision could have characteristic exclusionary effects. Commodified forms of housing structures (e.g., commercial housing) are potentially more exclusionary than decommodified forms of housing provision (e.g., social housing). In addition to the differences between housing tenures, social differentiation within each tenure should not be downplayed (Somerville, 1998). It suggests that tenants living in

different sub-sectors might experience different levels of social exclusion. Some renters could be socially excluded, for instance, if their rent is too high, or their living circumstances prevent 'human flourishing' (Healey, 1997), or if they are cut off from the means by which they can empower themselves (Somerville, 1998). Therefore, in this study, we consider social exclusion as a subjective attribute of the residential environment because social exclusion is influenced by some objective attributes of the residential environment. In Section 4.2.2, we have operationalized the social exclusion of renters into perceived losing *mianzi*, perceived inequality in terms of citizenship rights, and perceived discrimination as renters. We linked every objective attribute to every subjective attribute of the residential environment because we have no theoretical evidence that supports or does not support any of these relationships. This is because the social exclusion of renters has rarely been studied. In other words, the testing of relationships between objective and subjective attributes is explorative rather than confirmative in nature.

In Amérigo and Aragones' (1997) model, subjective attributes cannot influence life satisfaction directly but through residential satisfaction. However, Verkuyten (2008) found that perception of discrimination could influence life satisfaction via other domains of life satisfaction, next to residential satisfaction. Therefore, a direct relationship was added from perceived discrimination to life satisfaction in our model.

4.3.3 Personal characteristics

Although the relationships between demographic variables and life satisfaction are weak (Proctor, et al., 2009), some personal characteristics have been found to influence residential satisfaction. Factors that have been found to positively influence residential satisfaction include higher age (Boschman, 2018), being female (Emami & Sadeghlou, 2021), higher income (Zanuzdana, et al., 2013), being married (Lin & Li, 2017), better educated (Ibem & Amole, 2013), having a local hukou (Ren & Folmer, 2017), and less commuting time (Shen, et al., 2021). Length of residence was found to be significantly associated with residential satisfaction, but it remains unclear whether the relationship is positive or negative (Adams, 1992; Amole, 2009; Chen, et al., 2013; Lim, et al., 2017; Lin & Li, 2017). In the present paper, the above eight personal characteristics are used as control variables.

Based on Amérigo and Aragones' (1997) theoretical framework and the literature review, the following model is proposed (Figure 4.2). In the next section, we will use an empirical study to examine this model.

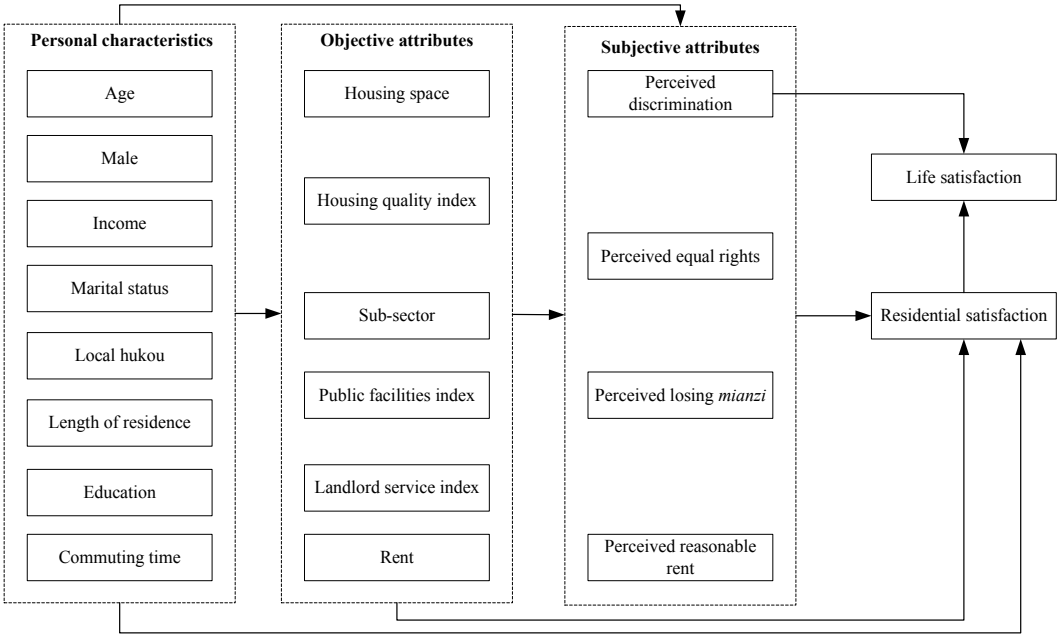

FIG. 4.2 The theoretical framework of the present paper.
Source: Adapted from Amérigo and Aragones (1997)

4.4 Empirical research

4.4.1 Data

Shenzhen is one of the first-tier cities in China, ranking third in terms of GDP in 2019, only behind Beijing and Shanghai. It was chosen for the current study city for the following reasons. First of all, Shenzhen has the highest proportion of private renters among all Chinese cities. According to a recent report, 77 percent of the population lives in the private rented sector in Shenzhen (China Construction News, 2022). In addition, the private rental sector in Shenzhen appears to be more diversified than in other cities (Li, et al., 2021), which enables us to collect sufficient data from each sub-sector. Furthermore, as one of the pilot cities chosen by the

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central government to promote private renting (Yang, 2019), Shenzhen has shown its enthusiasm and determination to develop the private rented sector. For example, Shenzhen municipality claimed to renovate more than one million units in the urban villages before 2020 by involving professional developers (Zhou, 2019). Therefore, this research contributes to practical policymaking for urban planners.

The field survey was conducted in August 2020. Four districts of Shenzhen were selected for the field survey, namely Baoan, Nanshan, Futian, and Longgang. It is because these four districts are the most densely populated areas in Shenzhen, accounting for 67% of the city's whole population (Shenzhen Bureau of Statistics, 2019). Furthermore, they include two inner-city districts and two outer-city districts, thus enabling us to have a more diverse sample.

An online pre-test of 30 private renters in Shenzhen was undertaken prior to the large-scale administration of the survey. We adjusted a few questions based on the feedback to make the questions more understandable. For the field survey, leaflets were circulated to the residents in different communities and passers-by after confirming that they were private renters in each district. Respondents could participate in the survey by scanning the QR code on the leaflet, while printed questionnaires were also available on request. Due to the small market share of the LTRA sub-sector, we visited about 300 households living in LTRAs after being permitted by the apartment managers. Some managers of LTRA also assisted us in distributing the leaflets to the renters.

In total, 615 online questionnaires and 52 paper questionnaires were collected, of which 619 have valid information on the variables used in this research. Among the 619 respondents, 285 (46%) lived in urban village housing, while 206 (33%) and 128 (21%) lived in commercial rented housing and LTRAs. Given the fact that very little official data exists on the characteristics of private renters, the gender ratio and the age structure of the whole population are used to determine the representativeness of the obtained sample. It is considered acceptable because 77 percent of the whole population are renters (China Construction News, 2022). As shown in Table 4.1, our sample is relatively representative of the whole population in terms of age and gender ratio. However, our sample is not representative of the whole private rented sector because we include larger proportions of renters living in commercial rented housing and LTRAs. It is operationalized to ensure adequate respondents in each sub-sectors, which enables us to examine the differences between sub-sectors.

TABLE 4.1 Data representativeness

	The whole Shenzhen	Our dataset
Age		
15-29 (%)	49	48
30-59 (%)	48	50
> 60 (%)	3	2
Male (%)	54	54
Sub-sector		
Urban village (%)	83	46
Commercial rented housing (%)	12	33
LTRA (%)	5	21

Notes: Data on age structure and gender ratio come from Shenzhen Bureau of Statistics (2010) and Shenzhen Bureau of Statistics (2019) respectively. People under the age of 15 were excluded. Market shares of the three sub-sectors are the estimation of Li, et al. (2021).

4.4.2 Measurement

In Section 4.3, factors that might influence residential satisfaction have been identified based on a literature review. This section describes how each factor was measured in this study.

Following Elsinga and Hoekstra (2005), we use a housing quality index to indicate housing quality on the objective dimension. Specifically, one point is added if there is a bedroom/ bath or shower/ balcony/ hot water/ air conditioner/ elevator/ cooking facilities in the dwelling. By the same token, the public facility index and landlord service index are generated. Seven public facilities and five landlord services are selected to constitute the public facility index and landlord service index, respectively (Table 4.2).

The subjective attributes: perceived equal rights, perceived discrimination, and perceived losing *mianzi* are measured by asking the respondents to what extent they agree with the statements. Responses are scored through a five-point Likert scale ranging from 1 “strongly disagree” to 5 “strongly agree”. It should be noted that the following characteristics: housing space, perceived reasonable rent, household income, marital status, length of residence, educational attainment, and commuting time are categorical variables in the original questionnaire. We recoded them into binary variables for the convenience of further statistical analysis. To determine the thresholds for recoding housing space, income, length of residence, and commuting time, the mean life satisfaction level was plotted for each category of the particular variable.

TABLE 4.2 Description of variables

Variable	Description
Personal characteristics	
Age	Continuous
Male	0=female, 1=male
Income	0=low to middle (household monthly income <10,000 RMB), 1=middle to high income (> 10,000 RMB)
Marital status	0= not married, 1= married
Local hukou	0= non-local hukou, 1= local hukou
Length of residence	0= less than 3 years, 1= above 3 years
Education	0= do not have a bachelor's degree, 1= have a bachelor's degree
Commuting time	0= less than 15 minutes, 1= more than 15minuts
Objective attributes	
Housing space	0= less than 40 m^2, 1= above 40 m^2
Housing quality index	1 point is added if the dwelling has a bedroom/ bath or shower/ balcony/ hot water/ air conditioner/ elevator/ cooking facilities (0-7 scale)
Sub-sector	1= urban village, 2= commercial housing, 3= LTRA
Public facilities index	1 point is added if there is a market/ primary school/ hospital/ park/ shopping mall/ subway entrance/ bus station within one-kilometer range (0-7 scale)
Landlord service index	1 point is added if the landlord signs a written contract/ makes any requested repairs promptly/ ensures that living conditions are hazard-free/ maintains a "pest-free" environment/ gives notice before entering the dwelling (0-5 scale)
Rent	Monthly total rent(RMB), continuous
Subjective attributes	
Perceived reasonable rent	0= rent is not reasonable, 1= rent is reasonable
Perceived equal rights	"I think private renters and homeowners have the same citizenship rights", 1-5 scale from "strongly disagree" to "strongly agree", same below
Perceived discrimination	"I feel being discriminated against because I'm a renter."
Perceived losing *mianzi*	"I feel losing *mianzi* telling people I'm renting"

Housing space, income, and commuting time turned out to have a monotonic, sometimes even almost linear, relationship with life satisfaction. These variables were split, based on the criterion that each category had a comparable sample size. Therefore, upper-middle income, 15 minutes, and 40 m^2 have been chosen as the thresholds for recoding household income, commuting time, and housing space, respectively. The analysis for the length of residence showed that the life satisfaction of renters living for more than three years at the same address was much lower than renters living either less than one year or between one to three years at the same address. Therefore, we have chosen three years as the threshold for recoding the length of residence.

Following Li, et al., (2021), neighbourhood satisfaction, housing satisfaction, and landlord satisfaction were used to measure the residential satisfaction levels of renters. In specific, respondents were asked, "How satisfied are you with your neighbourhood/current dwelling/landlord service?" Responses are scored through a five-point Likert scale ranging from 1 "very dissatisfied" to 5 "very satisfied". The mean value of the above three items was used for renters' residential satisfaction. The reliability statistic Cronbach's alpha was employed to test whether the three items could be averaged. Usually, a value of alpha above 0.70 is considered to reflect a reliable scale (Nunnally, 1994). The results showed a high correlation (Cronbach's alpha=0.821) among these three items (n=619), suggesting these items are internally related and can be combined into one overall score for residential satisfaction.

Life satisfaction was measured by asking the respondents "In general, to what extent are you satisfied with your life?" Respondents can choose from 1 (very dissatisfied) to 5 (very satisfied). The 5-point single-item measurement has been used in previous national surveys such as the Chinese General Social Survey (CGSS) and China Household Finance Survey (CHFS), allowing for further comparison. Table 4.2 shows all the variables included in our analysis and how each variable was measured.

4.4.3 Statistical method

The present study aims to examine the relationships between objective and subjective attributes of the residential environment, social exclusion, and residential/life satisfaction. As shown in Figure 4.2, objective attributes of the residential environment are determined by personal characteristics because residents with different characteristics might have various preferences and choices for the residential environment. While objective attributes can influence residential satisfaction directly and indirectly through subjective attributes of the residential environment. Subjective attributes of the residential environment can only influence life satisfaction indirectly through residential satisfaction. To test the proposed model, path analysis was adopted. Path analysis is an extension of the regression model and a special form of Structural Equation Modeling (SEM)[48], used to test the fit of the correlation matrix against two or more causal models (Garson, 2013). It takes into account the relationship between the independent variables and calculates

48 The main difference between SEM and path analysis is that path analysis assumes all variables are measured without error while SEM uses latent variables to account for measurement error (Garson, 2013).

all paths simultaneously in one single analysis (Streiner, 2005). Path analysis and SEM have recently become a frequently used statistical method in the field of housing and urban studies (Jin, et al., 2022; Li, et al., 2022; Prieto-Flores, et al., 2011).

Since only continuous and binary variables can be entered into path analysis, the 'sub-sector' was coded into dummy variables (urban village as the reference group). As with most studies, the maximum likelihood (ML) estimation method was chosen because it yields the most precise (smallest variance) estimates. To obtain the confidence interval and significance of indirect effects, bootstrap[49] is also employed. The analysis was performed through AMOS 21 in SPSS.

4.5 Results

4.5.1 Descriptive analysis

Personal characteristics

The personal characteristics of the respondents are summarized in Table 4.3. The respondents are generally young, with a mean age of 31 years. 54% of the respondents were male, which is consistent with the whole population in Shenzhen. Half of the sample was married and above middle income. Only about one-quarter of the respondents had a local hukou or lived in their dwelling for more than three years. Notably, our sample was generally well-educated. 39% of the participants had a bachelor's degree. However, sample characteristics vary considerably between sub-sectors. Respondents living in urban village housing were slightly older, more likely to be married and non-local, had lower income, and were less educated than the average level. While they seemed to live longer in their housing and spent less time commuting. Renters living in commercial housing are more likely to be affluent, well-educated, and local. LTRA renters have very distinctive features: young, single, male, well-educated, and short residence.

49 Bootstrapping is a re-sampling technique that randomly draws several sub-samples of the same size as the original sample to provide statistical test evidence on the variability of parameter estimates and fit indices (Byrne, 2010).

TABLE 4.3 Descriptive results

	Urban village N = 285	Commercial rented housing N = 206	LTRA N = 128	Total N = 619
Personal characteristics				
Age (mean)	32.5	30.9	28.1	31.1
Male (%)	53	51	61	54
Income (>10,000, %)	40	60	54	50
Marital status (married, %)	61	49	28	50
Local hukou (%)	15	37	22	24
Length of residence (> 3 years, %)	37	18	9	25
Education (bachelor and above, %)	24	56	46	39
Commuting time (> 15 minutes, %)	64	67	70	66
Objective attributes				
Housing space (> 40 m^2, %)	41	54	36	45
Housing quality index (mean, 0-7 scale)	4.1	5.7	5.0	4.8
Public facilities index (mean, 0-7 scale)	3.9	4.2	4.0	4.0
Landlord service index (mean, 0-5 scale)	2.2	2.7	3	2.6
Rent (RMB)	1820	2717	2143	2185
Subjective attributes				
Perceived equal rights (score=4 or 5, %)	50	69	61	59
Perceived discrimination (score=4 or 5, %)	26	17	18	21
Perceived losing *mianzi* (score=4 or 5, %)	28	14	17	21
Perceived reasonable rent (%)	32	29	31	31
Residential satisfaction (3<score≤5, %)	42	63	55	51
Life satisfaction (score=4 or 5, %)	30	43	47	38

Objective attributes of the residential environment

With respect to the objective attributes of the residential environment, most rental dwellings were not spacious. Only 45% of the housing units exceeded 40 square meters, while the proportion is higher in the commercial housing sub-sector. In addition, commercial housing overwhelmed urban village housing and LTRAs in terms of housing quality. The surrounding public facilities did not vary much between sub-sectors, while LTRA renters received better landlord services. The rent of commercial housing is much higher than that of urban village housing and LTRA.

Subjective attributes of the residential environment

59% of respondents believed that they had the same citizenship rights as homeowners, although this proportion is much higher for commercial housing renters (69%) and LTRA renters (61%) than urban village renters (50%). Only 21% of the respondents agreed that they were discriminated against because they were renters. However, this proportion seems higher for urban village renters (26%) than for commercial housing renters (17%) and LTRA renters (18%). Similarly, only 21% of the respondents felt losing *mianzi* telling people he or she was renting. The proportion of urban village renters was much higher (28%) than commercial housing renters (14%) and LTRA renters (17%). Although only about 20% of private renters perceived social exclusion on the three aspects respectively, 41% of them perceived social exclusion on at least one of the three aspects.

Participants' perceptions of whether the rent is reasonable did not vary much between sub-sectors. About 30% of private renters perceived their rents to be reasonable, although urban village renters were slightly more likely to perceive their rents as reasonable.

4.5.2 Life satisfaction levels among sub-sectors

This section first answers the first research question "To what extent are renters in different sub-sectors satisfied with their life in general?". Table 4.4 compares the mean life satisfaction levels of renters living in the three sub-sectors respectively. Only 30% of urban village renters were satisfied with their life while 43% and 47% of commercial housing renters and LTRA renters expressed their satisfaction respectively. Interestingly, urban village renters were more likely to be dissatisfied and neutral than commercial housing and LTRA renters, although the proportion of very dissatisfied was the same for the three sub-sectors.

To answer the second research question "Does renters' life satisfaction differ between different sub-sectors?", a one-way ANOVA was performed. The results showed that urban village renters had significantly lower levels of life satisfaction than commercial housing renters ($p=0.012$) and LTRA renters ($p=0.001$). However, no significant difference was found between commercial housing renters and LTRA renters concerning life satisfaction ($p=0.281$).

TABLE 4.4 Life satisfaction of private renters in different sub-sectors

Life satisfaction (LS)	Mean	Very dissatisfied LS=1	Dissatisfied LS=2	Neutral LS=3	Satisfied LS=4	Very satisfied LS=5
Urban village housing	3.2	2%	13%	55%	24%	6%
Commercial rented housing	3.4	2%	8%	47%	36%	7%
LTRA	3.5	2%	5%	46%	38%	9%

4.5.3 Path analysis

To answer the third and fourth research questions, path analysis was conducted. Table 4.5 presents the results of the path analysis. The model fit indices suggest that the adapted theoretical model fitted the empirical data quite well (see the notes under Table 4.5). The squared multiple correlation (R^2) for life satisfaction is 36%, which means a considerable amount of variance in life satisfaction can be explained.

TABLE 4.5 Standardized total effects of personal characteristics, objective attributes, subjective attributes, and residential satisfactio

	Perceived equal rights	Perceived discrimination	Perceived losing *mianzi*	Perceived reasonable rent	Residential satisfaction	Life satisfaction
Personal characteristics						
Age	-0.032(0.051)	0.029(0.047)	0.001(0.043)	0(0.051)	-0.059(0.049)	-0.038(0.03)
Male	-0.045(0.042)	0.153***(0.04)	0.139***(0.04)	0.014(0.04)	-0.035(0.038)	-0.038(0.024)
Income	0.011(0.046)	-0.006(0.046)	-0.024(0.045)	0.106**(0.046)	-0.019(0.042)	-0.01(0.026)
Marital status	-0.051(0.052)	0.053(0.049)	0.085*(0.046)	-0.079(0.051)	-0.045(0.046)	-0.032(0.028)
Local hukou	-0.009(0.048)	0.024(0.044)	0.007(0.044)	0.042(0.048)	-0.037(0.039)	-0.024(0.024)
Length of residence	0.033(0.045)	0.061(0.044)	0.116***(0.045)	-0.05(0.043)	0.034(0.042)	0.013(0.026)
Education	-0.025(0.05)	-0.052(0.046)	0.01(0.048)	0.078(0.05)	-0.052(0.041)	-0.024(0.026)
Commuting time	-0.012(0.041)	-0.006(0.04)	-0.031(0.04)	-0.036(0.041)	-0.135***(0.038)	-0.078*(0.023)
Objective attributes						
Housing space	-0.041(0.046)	0.092**(0.044)	0.082**(0.043)	0.094**(0.044)	0.089**(0.041)	0.041*(0.026)
Housing quality index	0.011(0.053)	-0.051(0.051)	-0.055(0.051)	0.104**(0.05)	0.14**(0.049)	0.088***(0.031)
Commercial rented housing	0.124***(0.048)	-0.08*(0.046)	-0.104**(0.048)	-0.132***(0.047)	0.139***(0.043)	0.09***(0.026)

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TABLE 4.5 Standardized total effects of personal characteristics, objective attributes, subjective attributes, and residential satisfactio

	Perceived equal rights	Perceived discrimination	Perceived losing *mianzi*	Perceived reasonable rent	Residential satisfaction	Life satisfaction
LTRA	0.044(0.047)	-0.095**(0.047)	-0.077*(0.049)	-0.083**(0.045)	0.116***(0.042)	0.078***(0.026)
Public facilities index	0.036(0.043)	-0.033(0.042)	-0.025(0.043)	-0.003(0.043)	0.126**(0.039)	0.077***(0.024)
Landlord service index	0.095**(0.045)	-0.056(0.042)	-0.018(0.042)	0.019(0.045)	0.183***(0.047)	0.113***(0.028)
Rent	0.019(0.049)	-0.02(0.049)	-0.025(0.046)	-0.098**(0.049)	-0.037(0.045)	-0.019(0.027)
Subjective attributes						
Perceived equal rights	-	-	-	-	0.104**(0.042)	0.06**(0.025)
Perceived discrimination	-	-	-	-	-0.026(0.05)	-0.131***(0.046)
Perceived losing *mianzi*	-	-	-	-	-0.026(0.055)	-0.015(0.032)
Perceived reasonable rent	-	-	-	-	0.213***(0.037)	0.124***(0.024)
Residential satisfaction	-	-	-	-	-	0.581***(0.032)

Notes:

*1. ***p<0.01; **p<0.05; *p<0.1*

2. Model fit indices50: CMIN/DF = 2.768, CFI = 0.972, RMSEA = 0.053, SRMR=0.029

3. Numbers in parentheses are standard errors

4. Total effect = Direct effect + Indirect effect. If there is no indirect effect, the total effect reflects the direct effect.

With regard to the determinants of life satisfaction (the third research question), we found subjective factors have generally larger impacts on life satisfaction than objective factors. Residential satisfaction has the largest influence on life satisfaction, judging from the standardized coefficients. Perceived discrimination was shown to have the second-largest and most negative influence on life satisfaction. Among other subjective attributes of the residential environment, perceived reasonable rent and perceived equal citizenship rights were significantly related to life satisfaction. In specific, the more renters perceived to have equal rights, the higher levels of life satisfaction they expressed. However, perceived losing *mianzi* was not significantly associated with life

50 Model fit indices provide the most fundamental indication of how well the proposed theory fits the data. The chi-square to df ratio (CMIN/DF), comparative fit index (CFI), root mean square error of approximation (RMSEA), and standardized root mean squared residual (SRMR) are most recommended indices to be reported by researchers (Hu & Bentler, 1999). Generally, CMIN/DF<3, CFI>0.95, RMSEA<0.06, and SRMR<0.08 reflect a good model fit (Hu & Bentler, 1999).

satisfaction. All objective attributes of the residential environment (except rent) were found to be significantly associated with life satisfaction. In specific, renters living in dwellings that are larger than 40 square meters, in better housing quality, with more public facilities nearby, and with more landlord services had significantly higher levels of life satisfaction. In addition, LTRA and commercial housing renters showed higher life satisfaction than urban village renters. Among personal characteristics, only commuting time had a significant total effect on life satisfaction. Renters who spent more than 15 minutes on commuting were less satisfied with their life.

Concerning the role of social exclusion (the fourth research question), we found social exclusion variables are influenced by some objective attributes of the residential environment such as the 'sub-sector', housing space, and landlord services. In addition, both perceived equal rights and perceived discrimination have significant effects on life satisfaction. To be specific, renters living in commercial housing were significantly more likely to perceive equal rights than those living in urban village housing. Commercial housing renters and LTRA renters were less likely to perceive discrimination than urban village renters. Interestingly, housing space is positively related to perceived discrimination and perceived losing *mianzi*. Furthermore, we found renters receiving more landlord services were more likely to perceive equal rights. On the other hand, perceived equal rights and perceived discrimination were significantly related to residential satisfaction and life satisfaction. Notable, although renters living in urban village housing were more likely to perceive losing *mianzi* than those living in the other sub-sectors, perceived losing *mianzi* was not significantly related to life satisfaction.

4.6 Discussion

The present study aims to explore what specific aspects of the residential environment contribute to private renters' life satisfaction, with a special focus on the role of social exclusion. To the best of our knowledge, it is the first study to examine the life satisfaction of renters within the private rented sector in China. A theoretical framework was first proposed to link the residential environment and life satisfaction of private renters based on Amérigo and Aragones' (1997) previous work. Next, we examined the model with data collected from 619 private renters in Shenzhen, China. The results of path analysis showed our data and model fitted well. 36 percent of the variances in life satisfaction could be explained by the predictor variables.

First, the results concerning life satisfaction levels will be discussed. We found only 38% of the respondents were satisfied or very satisfied with their life, which is much lower than the national level. For example, Cheng, et al. (2016) found that 51% of renters (N=633) living in urban China were satisfied with their life based on the analysis of the 2011 CHFS dataset. Perhaps the type of renter can explain the difference. In our study, a relatively large proportion (46%) of urban village renters was included, only 30% of whom were satisfied with their life in general. Apart from that, all respondents live in Shenzhen, a first-tier city in China. Previous studies have found that the rural population had significantly higher life satisfaction levels than the urban population when holding socio-economic factors constant (Fischer, 1975; Sørensen, 2014). According to Burger, et al. (2020), the relationship between the life satisfaction of urban dwellers and economic development is inverted U-shaped. That is, when economic development reaches a certain level, the happiness of the urban population begins to decline while the happiness of the rural population continues to grow, resulting in lower happiness of dwellers in the largest cities compared with dwellers in rural region and smaller cities. This might partly explain the lower life satisfaction levels of our sample.

Next, the results with regard to the difference in life satisfaction between different sub-sectors will be briefly discussed. We found urban village renters were significantly less satisfied with their life than commercial housing and LTRA renters while no significant difference in life satisfaction was found between commercial housing renters and LTRA renters. It may be because of the relatively poor residential environment in urban villages and the fact that urban village renters were more likely to perceive discrimination and less likely to perceive equal rights compared with commercial housing renters and LTRA renters. This finding echoes Amin's (2006) criticism that "(cities) are the places of low-wage work, insecurity, poor living conditions, and dejected isolation for the many at the bottom of the social ladder daily sucked into them."

With respect to the determinants of life satisfaction, the third research question, we found that the subjective attributes of the residential environment have relatively larger influences than objective attributes and personal characteristics. Residential satisfaction was found to be the most influential determinant of life satisfaction. It is consistent with the study of Oswald, et al. (2022), who found housing played a key role in renters' mental health outcomes. Among the four subjective attributes, perceived discrimination was shown to have the largest influence on life satisfaction. In addition, perceived discrimination has a significant direct effect on life satisfaction, implying perception of discrimination might influence life satisfaction through other satisfaction domains. For example, Verkuyten (2008) found perceived discrimination influenced the life satisfaction of ethnic minority group members in the Netherlands through the mediating effect of 'life satisfaction in the Netherlands', which is considered one of the critical domains of life satisfaction (Campbell, et al., 1976).

The second most influential subjective attribute is perceived reasonable rent, highlighting the importance of affordability for renters (Mason, et al., 2013; Pollack, et al., 2010). Perceived equal citizenship rights was found to be positively associated with life satisfaction. This finding is interesting since the past literature has been focused on the impact of income/gender inequality on life satisfaction (Bjørnskov, et al., 2007; Graafland & Lous, 2019; Verme, 2011), while few attempts have been made to untangle the linkage between citizenship rights equality and life satisfaction.

Objective attributes of the residential environment were also shown to be important predictors of renters' life satisfaction. Among all the objective attributes, landlord service was found to have the largest total effect on life satisfaction, followed by the rental sub-sector. Housing space could contribute to life satisfaction significantly, which is consistent with Foye (2017). Housing quality was found to influence not only life satisfaction but also renters' perceived reasonable rent. That is, the higher the housing quality, the more likely the renters believed the rent was reasonable. This finding is understandable since higher housing cost is expected to result in higher housing quality by the inhabitants (Elsinga & Hoekstra, 2005). Although the public facility index was not significantly associated with renters' subjective perceptions, it did influence people's life satisfaction, which is in line with previous studies (Ambrey & Fleming, 2014; Lee, et al., 2013; Liu, et al., 2021). For example, Ambrey and Fleming (2014) found life satisfaction levels of residents of Australia's capital cities were positively correlated to the public greenspace.

Most demographic characteristics were not significantly associated with life satisfaction. This finding is consistent with Proctor, et al. (2009) who suggested that the relationship between demographic variables and life satisfaction was weak. For example, Huebner (1991) found life satisfaction was not significantly correlated with demographic variables such as age and gender, but correlated with personality characteristics. However, longer commuting time was found to have a negative effect on residential satisfaction and life satisfaction. This finding is consistent with Ma, et al. (2018), who found people who spent longer time commuting were less satisfied with their life based on the data collected in Beijing.

As for the fourth research question, the role of social exclusion, we found social exclusion to be influenced by some objective attributes of residential environment, and influence residential/life satisfaction. Our findings provide strong evidence that urban village renters feel more socially excluded than renters in other sub-sectors. For example, urban village renters were significantly less likely to perceive equal citizenship rights than commercial housing renters. This finding is interesting because renters in different sub-sectors should have the same rights by law. Since demographic characteristics have been controlled for in the statistical analysis,

a possible explanation might be that commercial housing is always located in an enclosed 'microdistrict' (*xiao qu* in Chinese) where most of the residents are homeowners (Read, 2003; Wallenwein, 2014). In contrast, the vast majority of people living in urban villages are renters and 'outsiders' (Du, et al., 2018). Living with homeowners and locals might help commercial housing renters to build a group identity (Chen & Li, 2009) and alleviate the perceived difference between homeowners and renters. In addition, *xiao qu* acts as a 'club', which provides the residents with 'club goods' such as social, commercial, and recreational services (Hendrikx & Wissink, 2017). This may also contribute to the sense of equality of commercial housing renters. Furthermore, urban village renters are more likely to perceive discrimination and losing *mianzi* than LTRA renters and commercial housing renters, implying that urban village has been a stigmatized sub-sector at the bottom of the social and housing hierarchy (Po, 2012). In addition, we found receiving more landlord services is positively associated with the perception of equal rights, which leads to higher life satisfaction. This may be because providing more landlord services to the renters could mitigate the imbalanced renter-landlord relationship and make renters feel respected and thus have a sense of equity.

The methodology and findings of the paper have made valuable contributions to the theories of determinants of residential satisfaction and life satisfaction. First of all, while a plethora of studies have confirmed housing tenure as an important determinant of residential satisfaction and life satisfaction (Li, et al., 2019; Zheng, et al., 2020), almost no studies have examined the effect of the differentiation within each tenure on residential/life satisfaction. The findings have shown that renters living in different sub-sectors have significantly different levels of residential/life satisfaction, even after controlling for other objective attributes. Our study highlights the significant impact of heterogeneity within tenure on residential satisfaction and life satisfaction. Second, a limited number of studies examined the relationship between social exclusion and life satisfaction (Arslan, 2019; Lee, 2021), and the relationship between 'social milieu' (e.g., social network and sense of identity) and residential environment (Emami & Sadeghlou, 2021). However, few studies have shed light on the relationship between residential environment, social exclusion, and life satisfaction. Our research has shown that some objective attributes of the residential environment (such as landlord service and sub-sector) have significant effects on social exclusion, which in turn influences residential satisfaction and life satisfaction. This research is valuable for future studies that seek to understand the determinants of life satisfaction.

A limitation of the paper concerns the measurement of life satisfaction. Overall life satisfaction was measured by a single question in this study. Some researchers maintain that multiple-item measures of life satisfaction are more psychometrically

established and accurate (Diener, et al., 1985). However, according to Cheung and Lucas (2014), social scientists would get basically identical results to substantive questions regardless of which measure is being used. Another limitation concerns the sample representativeness. As mentioned in Section 4.1, the proportions of the three sub-sectors cannot represent the whole private rental sector in Shenzhen. It is due to the particularity of Shenzhen, where urban village housing dominates the private rental sector with a market share above eighty percent. According to our rough estimation, a sample size of over 2,000 respondents is needed to achieve representativeness. In addition, we have adopted a non-probability sampling method due to the lack of a complete list of private rental units along with contact information. Although a series of measures have been taken to reduce bias such as handing out questionnaires in different locations and on both weekdays and weekends, our sampling method can still cause sample selection bias. Finally, the determinants of life satisfaction might vary among different sub-sectors (Li, et al., 2021). However, due to our inadequate number of cases in the LTRA sub-sector, we were unable to further explore this issue. Based on our reflections, large-scale investigations adopting probability sampling methods are needed in the future to achieve data representativeness and enable path analysis within each sub-sector.

4.7 Policy recommendations

The results of the paper can be useful for policymakers who are engaged in developing the private rental sector. First of all, it is important to realize that residential satisfaction could contribute substantially to life satisfaction for private renters. Therefore, renters' life satisfaction levels could be increased by improving their residential environment including providing rental housing of bigger size and higher quality. The construction of public facilities near the residential area should be encouraged. More importantly, legislation and regulations should be enacted to clarify the scope of responsibilities and services of landlords. On the other hand, our results suggest that renters' life satisfaction could be improved by promoting 'equal rights between renter and homeowner' and reducing discrimination against renters. Therefore, ongoing attempts of empowering the renters should be encouraged. However, as Chen and Wu (2019) argued, two major challenges in the empowerment of renters are the scarcity of quality public services and the inequality in the spatial distribution of public services. Empowerment of 'a certain degree of rights' such as social insurance and healthcare may be more realistic in the near future. In

addition, although we encourage renovation and upgrading of urban village housing to improve the life satisfaction of the inhabitants, precautions should be taken against rent rise, as most urban village renters are low-middle income households who are sensitive to rent prices. Urban village housing indeed acts as an alternative to social housing for them in terms of affordability. Therefore, transforming urban village housing into public affordable housing can be considered. In a recent policy document issued by the General Office of the State Council (2021), several attempts have been made to transform urban village housing into affordable rental housing. For example, the urban village committee is allowed to build and operate affordable rental housing through self-building or joint ventures, shareholding, etc. Finally, the local government could consider enacting rent regulation laws to keep the rent at a stable and affordable level, which was shown to contribute to renters' life satisfaction significantly. However, policymakers should also take into account the potential decline in supply (Rugg & Rhodes, 2003) and housing insecurity (Greif, 2018) that rent regulation might bring about.

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5 How do the management practices of landlords influence tenants' housing experience?

A case study in Shenzhen, China

Submitted to a peer-reviewed journal. Authored by : Bo Li, Sylvia J.T. Jansen, Harry van der Heijden, Chi Jin, Peter Boelhouwer.

ABSTRACT The private rented sector has recently experienced significant growth across many countries around the world. However, there is evidence that many tenants have poor housing experience. This paper aims to explore how different types of landlords manage their properties, and how their management practices influence tenants' housing experience in Shenzhen, China. Drawing on interview data collected from 13 landlords and letting agents, we found that different types of landlords had various management practices. Urban village landlords and commercial housing landlords mainly focus on the property and asset management level while Long-term Rented Apartment (LTRA) companies are also engaged in portfolio management. Furthermore, management of LTRA companies is more sophisticated and strategic than individual landlords. Next, using interview data from 17 private tenants in Shenzhen, we found some management practices severely jeopardized

tenants' housing experience, such as frequent rent increases, providing inadequate or low-quality facilities, and adopting vulnerable financial models. However, some practices do have positive impacts on the tenant's housing experience such as prompt response to tenants' repair requests, providing elegant or new furnishings, and organizing social events. Based on the findings, policy recommendations were provided to regulate the private landlords management practices and thereby improve tenants' housing experience.

KEYWORDS private rented sector; private landlords; tenants; management practices; housing experience

5.1 Introduction

In recent years, the private rented sector (hereafter termed PRS) in many countries have witnessed substantial growth in terms of its proportion among all tenure types (Byrne & McArdle, 2020; Crook & Kemp, 2014; Morris, et al., 2017). The PRS accommodates not only the low-income group but also those who cannot afford or do not want to buy a home, as well as young people or newcomers to the city (Van Der Heijden & Haffner, 2000; Whitehead, et al., 2016). However, private tenants often have poor living experience due to problems such as poor dwelling conditions (Soaita, et al., 2020), overcrowding (Nasreen & Ruming, 2019), affordability crisis (Liu, et al., 2020), perceptions of insecurity (Morris, et al., 2017), and feelings of anxiety and shame (McKee, et al., 2020). Nevertheless, far too little attention has been paid to the role of landlords in shaping renters' housing experience. Landlords in many cases have the power to evict or terminate the tenancy, set and increase rents, decide the interior design, and even regulate tenants' lifestyle choices such as pet-keeping (Byrne & McArdle, 2020; Chisholm, et al., 2017; Power, 2017; Soaita & McKee, 2019). Landlords are also responsible for maintaining the property in good condition and addressing the problems that may affect tenancy (Kloos, et al., 2002). Landlords interfere in tenants' daily lives so extensively that their practices could reasonably influence the housing experience of tenants in various aspects.

In recent years, there has been an increasing amount of literature about private landlords, focusing on their investment motivations, business strategies, and attitudes towards the PRS, etc. (Balzarini & Boyd, 2021; Crook, et al., 2009; Garboden & Rosen, 2019; Rolfe, et al., 2021). Although these studies have deepened our understanding of landlords, there are at least three significant gaps.

First, while assessing the impact of landlord behavior on the tenants' housing experience, most researchers are concerned with only one specific behavior or type of experience. For example, Arku, et al. (2012) examined how the practice of demanding advance rent in the informal rental market in Ghana negatively impacted tenants' living experience. Second, previous studies have focused on the behavior, strategies, or management practices of only one specific type of landlord (Balzarini & Boyd, 2021; Crook, et al., 2012; Verstraete & Moris, 2019). However, it is well acknowledged that the PRS is a highly heterogeneous market that is made up of various submarkets (Hulse, et al., 2019; Marsh & Gibb, 2019). Landlords in different submarkets may well have varied practices, thus requiring differentiated policy interventions. Third, the vast majority of current studies on landlords were conducted in developed nations in which the PRS has been relatively developed. Far too little attention has been paid to the landlords in developing countries where the PRS is still in its nascent stage.

China provides an example of a country in which the PRS is still under development. China has become a country of homeowners since the government abolished the welfare housing system in the 1990s, while the PRS has long been neglected by the policy makers. Because of its socialist ideology, the PRS even disappeared in China for a long time until the 21st century. However, China's housing policy is currently in the process of a transition from encouraging homeownership to developing the housing rental sector (Li, et al., 2021). Since the PRS has had little attention for some time, much is unknown about the current management practices of landlords. Furthermore, it remains unexplored what landlord practices influence tenants' housing experience and how their housing experience is influenced. Understanding the management practices of landlords and their influence is crucial because it could inform policy solutions aimed at less desirable landlord behavior, thus improving the housing experience of private tenants.

This paper attempts to address these gaps using qualitative data collected from both landlords and tenants in Shenzhen, China. Shenzhen is chosen for the case study due to several reasons. First, as one of the first-tier cities in China, Shenzhen can well represent the metropolitan cities that are experiencing large population inflow and subsequent housing shortages and an expanding PRS. According to Shenzhen Bureau of Statistics (2021), Shenzhen has a population of 17.6 million, 71% of whom are migrants. Constrained by the high housing prices and scarcity of public housing, 77% of the population lives in the PRS in Shenzhen (China Construction News, 2022). In addition, the PRS in Shenzhen appears to be more diversified than in other metropolitan cities, which allows us to have a deep understanding of different sub-markets (Li, et al., 2021).

In order to be able to describe the influence of landlords' management practices on tenants' experience, we first provide an overview of the landlord's management practices in the different subsectors, leading to our first research question: how do landlords in different sub-sectors manage their housing? Secondly, the link between the landlords' practices and tenants' housing experience is explored in the second research question: in what way do landlords' management practices influence the housing experience of tenants?

The remainder of the paper is organized as follows: in the subsequent section, we briefly introduce the development of landlordism, sub-sectors of the PRS in China, and an analytical lens on housing management. Then we present our data collection process, and the analysis method, followed by the findings and discussion. The paper ends with policy recommendations for regulating the landlords' management practices and improving the housing experience of tenants.

5.2 Background

5.2.1 The development of landlordism in China

As with many cultures[51], landlords in China were once regarded as 'class enemies' for a long period. In 1925, Mao classified the landlords as "class enemies" in his influential article *Analysis of the Classes in Chinese Society*. From 1921 to 1949, land reform was implemented by the Chinese Communist Party (CCP) as a strategy to win the support of farmers for the revolution through the confiscation of landed property owned by landlords (Zhang, 1997). At that time, land reform was initiated only in CCP controlled rural areas. With the founding of the People's Republic of China and the CCP coming into power, a nationwide Land Reform Movement was carried out between 1950 and 1953. 700 million acres of land from landlords was distributed to 300 million peasants without compensation to the previous

51 . In many cultures, the private landlord has always received notoriety as a 'folk devil' (Farnood & Jones, 2021). For example, Crook and Kemp (2011) described private landlords in the UK 'being almost a pariah in the 1970s'.

landlords. The subsequent socialist transformation between 1956 and 1965 further nationalized the private rented housing from the landlords (Wang, 1992). In July 1964, the government officially declared that private rental housing was essentially non-existent (Chen, 2019). Until 1998, the urban housing system was dominated by public rental housing provided by work units (danwei[52]). In 1998, the welfare housing system was officially abolished and replaced by a market-oriented housing system. The vast majority of public rental housing was sold to the sitting tenants at a below-market price. As a result, a large proportion of urban citizens became homeowners. Since then, housing has been regarded as a commodity instead of public welfare. Between 1998 -2015, the Chinese government was dedicated to promoting homeownership as a means to boost economic growth (Chen & Yang, 2017). Due to rapid industrialization, unprecedented income growth, education and healthcare inequality between regions, and thereby large population inflow, housing prices experienced a sharp growth in metropolitan cities. As a result, more and more households have to live in private rented housing in the first-tier cities (see Figure 5.1). Wang, et al. (2012) pointed out that the neo-liberal approaches and policies lead to increasing gaps between the rich and the poor in urban China: middle-class and rich families managed to buy several properties while the poor could not afford even a small flat. This process has inevitably led to an upsurge in the number of individual landlords, despite the absence of official data.

52 . Danwei refers to publicly owned organizations that employed most urban residents, including state owned enterprises, civil associations and governmental organs (Zhou & Ronald, 2017).

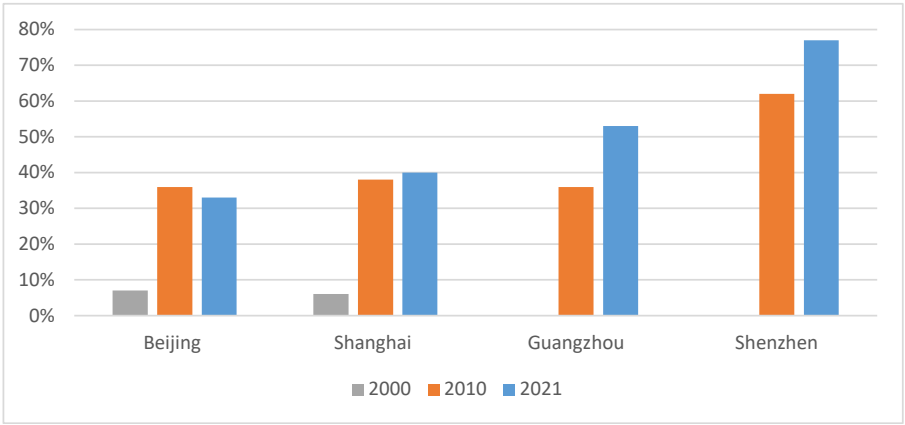

FIG. 5.1 Proportion of households living in private rented housing in China's first-tier cities, 2000-2021. Sources: Data in 2000 and 2010 come from the fifth and sixth national population census. Data in 2021 come from an industrial report[53]. The data of Guangzhou and Shenzhen in 2000 are not available in the census.

In 2015, the central government finally realized the importance of the PRS and first proposed the idea of "accelerating the development of the rental housing market" (MOHURD, 2015). Developing the housing market was believed to be 'an important element in accelerating the supply-side structural reform of the housing market and establishing a housing system that encourages a balanced development between purchasing and renting' (NDRC, 2017). Numerous policies have been introduced to incentivize the development of the PRS from the supply side, including the requirement that all local governments set aside a specific percentage of their land for new rental housing development, promoting the conversion of commercial buildings into residential housing for rental usage and preferential tax treatment for rental housing firms (Chen, et al., 2022).

5.2.2 Sub-sectors of the PRS

There is a consensus in academia that the PRS is made up of different sub-sectors in which residential conditions and target groups differ substantially (Hu, et al., 2022; Hulse, et al., 2019; Rugg, et al., 2002). Based on the Structure of Housing Provision developed by Ball (1981, 2017), Li, et al. (2021) maintained the PRS in Shenzhen could be classified into three main sub-sectors, i.e., urban village housing, commercial rented housing,

53 . Available at http://news.dichan.sina.com.cn/2022/01/20/1283068.html.

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and 'Long-term Rented Apartment (LTRA)'. Urban village housing is built by villagers themselves on collective land in urban villages. The emergence of urban villages is due to rapid urban sprawl and consequent farmland acquisition by the local government. The residential lands of the villagers were reserved because of the high costs to relocate them. The local villagers are not legally entitled to capitalize on their assets through land or housing sale, so they redevelop their housing at high densities to maximize their profits by leasing the units out (Liu, et al., 2010). Most urban villages are densely populated, accompanied by inadequate lighting and poor infrastructure. Housing conditions in the urban villages can be described as overcrowded and a lack of basic facilities such as indoor toilets and kitchens (Wu, 2016). In comparison, commercial housing is developed by real estate companies on urban land acquired from the local government normally through a competitive tender. Notably, commercial housing is for sale only and can be freely traded on the market. In addition, commercial housing is generally located in a gated community (Xiaoqu in Chinese) that provides a host of social, commercial, and recreational services (Hendrikx & Wissink, 2017; Wu, 2005; Wu, 2012). LTRA is a recent term used to describe properties managed by housing rental firms. Since 2010, stimulated by increasing demand for quality rental housing and supportive policies, numerous companies were established aiming at providing high quality rental housing for young professionals (Li, et al., 2021). LTRA companies have two business models, 'asset-heavy' or 'asset-light'. The 'asset-heavy model' is to rent out properties that are owned by the companies while the 'asset-light model' is to obtain the leasing rights of properties from individual commercial housing owners, refurbish them, and then sublet the properties on behalf of landlords (Chen, et al., 2022). Currently, most LTRA companies adopt the 'asset-light model' because it requires a smaller initial investment.

5.2.3 Housing management levels

To answer our first research question, how do landlords in different sub-sectors manage their housing, an analytical framework is needed to dissect housing management. In this paper, we adopt Nieboer's (2005) taxonomy of real estate management of institutional investors[54]. According to Nieboer (2005), real estate management can be classified into three levels, i.e., property management, asset management, and portfolio management (see Figure 5.2). The taxonomy was originally proposed by Miles et al. (1996), while Nieboer (2005) visualized it in the form of a diagram.

54 . Although this taxonomy was used by Nieboer to analyse housing management of institutional landlords, we find this theory also appropriate for analysing individual landlords because the vast majority of their management practices can be covered.

According to Nieboer (2005), property management refers to 'daily' administrative, technical, commercial management and maintenance activities. Asset management is concerned with the assessment of individual projects, based on which it is decided what type of investment will be made in each project and which allocation and pricing policy has to be applied. The top level is portfolio management, which concerns the allocation of investments among several asset options such as shares, bonds or real estate (housing, office, and retail). In this paper, since we only focus on housing, portfolio management is more concerned with allocating the investment among different dwelling types and regions, and formulating goals about the desired housing portfolio mix (Nieboer, 2005). By using Nieboer's (2005) analytical framework, we are able to examine to what extent landlords are involved in the three levels of housing management. Furthermore, the framework offers the possibility to and discover the subtle differences in landlords' management practices in the three sub-sectors.

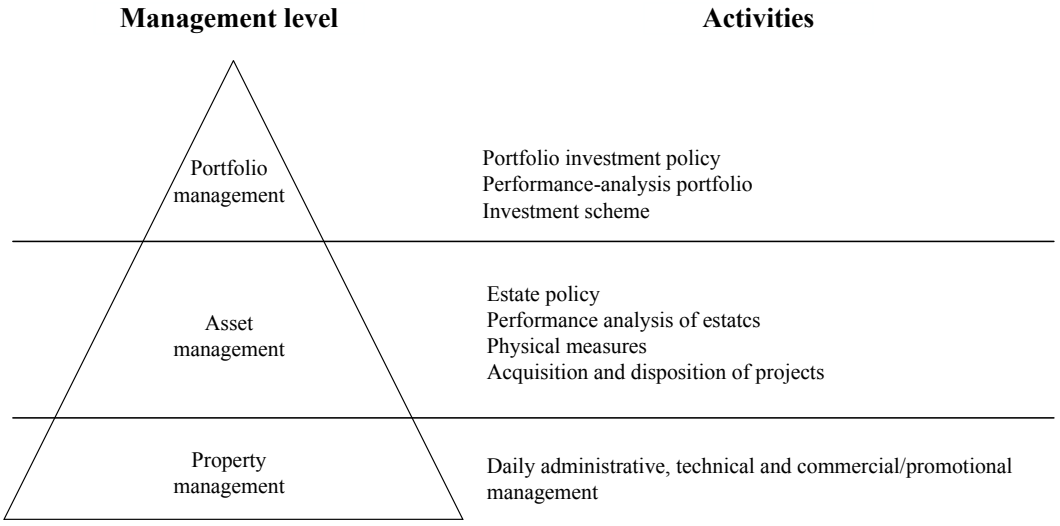

FIG. 5.2 Three levels of real estate management.
Sources: Nieboer (2005), Miles et al. (1996)

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5.3 Data and method

Our first research question is how landlords in different sub-sectors manage their housing. To answer this research question, 13 in-depth interviews were conducted with three commercial housing landlords, five urban village housing landlords/ managers, three LTRA managers/executives, and two letting agents. Notably, although urban village managers and letting agents are not landlords, they are also interviewed because they have a close relationship with landlords and can provide us with more neutral information on the practices of landlords. To answer the second research question, in what way do landlords' management practices influence the housing experience of tenants, 17 private tenants in Shenzhen were interviewed. See Appendix A and B for detailed information on the respondents.

Interviews were chosen in this study because our research questions are explorative and qualitative in nature. Qualitative methodology is useful in answering questions about experience, meaning and perspective, from the standpoint of the participant when the question or problem is not known or ambiguous (Hammarberg, et al., 2016). Qualitative research has been used previously by researchers to examine the practices of landlords and the housing experience of private tenants, for example by Arku, et al. (2012), Marquez, et al. (2019), and Rosen (2014).

Since landlords are a minority group that is difficult to identify and locate[55], Exponential Discriminative Snowball Sampling is adopted (Etikan, et al., 2016), meaning that every participant can name multiple potential participants while researchers screen potential variables before accepting a potential respondent into the sample population. The screening variable we employed is 'sub-sector', and we aimed at interviewing at least three landlords in each sub-sector. The sampling procedure began with a convenience sample of initial participants, including several private tenants and landlords, who served as 'seeds', through which further respondents were recruited. Interviews were carried out online through WeChat between December 2021 and March 2022. The research was approved by the Human Research Ethics Committee (HREC) of the XX University.

Different groups of interviewees were asked with customized questions. For example, for landlords, we focused on their daily management practices, business strategies, and how they interact with their tenants, letting agents, and LTRA companies.

55 . Unlike the situation in some developed countries, there is no landlord registration system in China. Therefore, even the government has no idea who the landlords are.

For tenants, we asked them to share their experiences in terms of affordability, residential conditions, and tenure security. We also asked how they were getting along with their landlords. Each interview lasted approximately one hour and was audio-recorded after having obtained the interviewees' consent. The recordings were transcribed into documents manually and analyzed through ATLAS.ti 9.

5.4 Findings

5.4.1 Housing management in different sub-sectors

The first research question explores the landlord's management practices in the three different subsectors. The interview transcripts of landlords and letting agents were scanned for management practices, coded and classified according to the taxonomy of Nieboer (2005). Table 5.1 provides a description of the most frequently mentioned management practices of landlords in the three sub-sectors on the property level, asset level, and portfolio level respectively.

Property management

The most frequently mentioned property management practices include tenant-seeking, home-showing, contract signing, rent collection, maintenance and managing residing tenants. We found that although landlords of the three sub-sectors all consider tenant-seeking an important task, they have very different ways of seeking tenants. Urban village landlords and commercial housing landlords often hire an intermediary agent to help them find potential tenants because they do not want the hassle or 'inconvenience' or they do not have the 'resources', as noted:

They (urban village landlords) are in their 50s and 60s and can't speak Mandarin well. Besides, they are really rich and don't care about this chicken feed. They would rather bet on the horses than show the room to the tenants. (Hua, letting agent)

The letting agents have customer sources, so they can find a tenant much faster than myself. In addition, they can show tenants around the house. I don't have time for that. (Qin, commercial housing landlord)

In contrast, LTRA companies have multiple channels for finding tenants such as promotion on online platforms as well as offline advertising such as ads on the subways. As described by two working staff in LTRA companies:

We have two channels to recruit tenants, non-paid and paid channels. The non-paid channel is our Official Account and private 'Moments' in WeChat[56]. The paid channel is to advertise our apartments on some online platforms such as 51, Beike, and TikTok[57]. I can pay these platforms to get my apartments topped, marked as 'selected', or promoted to more viewers by TikTok. (Long, steward of LTRA company B)

We found that all the landlords interviewed claimed to have signed written contracts with their tenants. However, a major difference is that individual landlords (both urban village landlords and commercial housing landlords) in most cases do not renew the contract when the first contract expires whereas LTRA companies do.

Rent collection is another essential session in property management. We found that individual landlords and LTRA companies have completely different ways of collecting rents. Instead of cash payment and bank transfer, urban village landlords and commercial housing landlords in most cases collect rents through Alipay or WeChat. In contrast, tenants living in LTRAs pay rent through online payment platforms developed by the LTRA companies or other third-parties. A critical difference between online payment platforms used by LTRA companies and Alipay/WeChat used by individual landlords is that payment through online payment platforms is taxable while inter-person transfers in Alipay/WeChat are not.

The management practice of daily maintenance can be further divided into the cleaning of public areas in the building and responding to tenants' repair requests. We found that the public areas of urban village housing and LTRAs were cleaned on a regular basis by the urban village landlords (sometimes a sitting tenant employed by the landlord) or special cleaners. However, the cleaning of commercial housing buildings is usually carried out by the property management companies of the

56 . WeChat is the most popular social media messaging application in China. Any government organizations, companies, or groups can register a WeChat Official Account to send articles and messages to their followers. Moments is a social networking platform such as Instagram or Facebook built in WeChat.

57 . 51 and Beike are rental-finding platforms. TikTok is a short-form, video-sharing application.

Xiaoqu. As for repair, LTRA companies in most cases respond promptly to tenants' repair requests while most individual landlords do not even receive a repair request from their tenants, mainly because of the hassle.

Managing residing tenants is frequently practiced by LTRA landlords but not by urban village landlords and commercial housing landlords. Examples of tenant management are setting rules for the tenants (e.g., no pets, no noise to the neighbors), ensuring these rules are followed, and eviction if the tenants fail to pay the rent or causes serious disruption to other tenants. A unique daily management practice employed by LTRA companies is organizing events for the sitting tenants frequently. It is believed to increase customer "stickiness" and help promotion.

If you want a good effect, you must hold social events at big festivals. In addition, you need to pick at least two weekends every month to hold events. It not only helps to increase customer stickiness but also helps to increase referrals. (Long, steward of LTRA company B)

Asset management

According to Nieboer (2005), asset management concerns which type of investment (e.g., refurbishment, sale, improvement, consolidation) should be made in each project, and which allocation (target groups) and pricing (rent) policy should be applied. Based on this definition, We found refurbishment is one of the most important asset management practices employed by landlords in the three sub-sectors. However, landlords' decision to refurbish their housing and the way in which they do varies for different sub-sectors. For example, whereas commercial housing landlords and LTRA companies always refurbish their properties, only a few urban village landlords are willing to do that, mainly due to cost considerations.

It takes about one million RMB to renovate the whole block. Too expensive, I don't think it's worth it. (Yi, urban village landlord)

In contrast, Zhang chose to renovate his block. His grandfather built this house in 1989, and he renovated the whole block in 2018 to "keep up with times":

I hired a renovation company. I told them how many units and what decoration effect I wanted, and they design and do it. Every unit is furnished with an air conditioner, TV, bed, washing machine, range hood, and water heater so tenants can just move in with their luggage…I'm satisfied with the renovation, the rent increased by about 40%. (Zhang, urban village landlord)

Besides refurbishment, rent setting is another critical component of asset management. Interestingly, we found that landlords in different sub-sectors have various considerations for rent-setting. All interviewed urban village landlords claimed to set rent according to the rent level in the village. In some cases, villagers formed an alliance to manipulate the rent level of a district. As one urban village landlord explained,

The rent level of the village is approved by most of the landlords in the village. For example, if my neighbour set the rent at 100 per month, I will also set it at 100, and so does everyone else. If someone wants to raise the rent, we have a discussion and agree to increase the same rate.

Commercial housing landlords normally set rents according to their perceived "market level" in the district. Sometimes commercial housing landlords set rents higher than the market level, leaving room for the tenant to bargain. In addition, commercial housing landlords often raise the rents for new contracts or when the contracts are absent. Notably, many landlords raise rents based on their judgement on the housing market while others raise rents following their gut feelings. As described following

I raised the rent about once a year and a half because the housing price was soaring in the early 2010s. During the five years they (tenants) live, I raised the rent twice. Each increase was between five to ten percent. They accepted the increase twice. But in the fifth year when I proposed to increase the rent, they chose to move out. (Han, commercial housing landlord)

Tenants will never be satisfied with the rent, no matter how low it is … I constantly find ways to raise the rent, usually when a new renter moves in. The increase is within ten percent. If the tenant has a strong reaction, for instance, by saying he won't take the offer. We will then negotiate a slightly smaller increase. (Qin, commercial housing landlord)

In contrast, rent setting of LTRA companies seem to be more rational than individual landlords, which is consistent with Scanlon and Whitehead (2006) who found professional landlords are to some extent more economically rational than amateur landlords. As stated

We take many factors into account when setting rents. For example, whether there are new competitors in the vicinity, whether the market rent level is increasing or decreasing, and whether there are new tenants in this area. (Tong, executive in LTRA company C)

We do not raise rent during the contract period. But normally rent increases by 5 to 10% for tenancy renewals. (Long, steward of LTRA company B)

Portfolio management

Portfolio management is concerned with allocating the investment among different dwelling types and regions, and formulating goals about the desired housing portfolio mix (Nieboer, 2005). Based on this definition, portfolio management is seldom practiced by urban village landlords because they cannot decide the dwelling type and location: they can only build housing on their own land. For commercial housing landlords, the vast majority own only one or two properties[58]. Therefore, their practices also seldom involve portfolio management.

However, portfolio management is often practiced by LTRA companies. This is especially the case for small, start-up LTRA companies. We found that all three LTRA companies in our study are recently taking in urban village housing, even as their main portfolios. The vast majority of the portfolio of company A and company B, and half that of company C, is urban village housing. It is interesting because traditional LTRA companies usually acquire commercial housing as their portfolios, which is considered to match the needs of their target customers, young professionals (Ba & Yang, 2016). It may be because of the uniqueness of Shenzhen, where commercial housing is extremely expensive and urban village housing is the main form of housing supply. Besides lower investment, the clustering of urban village housing and the large population of urban village renters also explain why many small or start-up LTRA companies mainly acquire urban village housing. As Long explained,

99% of our portfolios are urban village housing while the remaining 1% are commercial housing. We believe where there are people, there is business… In an urban village, we can acquire 10 or 20 blocks. The proximity of portfolios makes it easier and cheaper for management and maintenance. Furthermore, a large number of renters make it possible for additional earnings, for example, by opening a 'tiny supermarket'.(Long, steward of LTRA company B)

58 . According to Wangyi News (2020), only 1.6 percent of commercial housing owners in Shenzhen own more than two properties.

In contrast to Company A and B, Company C started to be more hesitant to incorporate urban village housing as their portfolios. Company C is a state-owned real estate developer that is also engaged in the housing rental business. It has a portfolio size of 7500 rental units in Shenzhen, half of which are urban village housing. The remaining half of the portfolios are self-built properties or renovated under-utilized offices. Liu, an executive of company C, expressed his concern about using urban village housing as their portfolio based on an assessment of risk and return:

It's a common practice for start-up companies to acquire urban village housing in order to expand their business. We used to acquire urban village housing, but not anymore. To be honest, urban village housing is not suitable for companies like us… It's risky because a lot of them are illegal houses in terms of safety and do not meet our company's standards. Retrofitting these houses is costly and the returns are very low (Liu, executive of LTRA company C)

Furthermore, Liu clearly expressed a preference for developing self-owned properties because it is 'easier' to manage self-owned properties. As he stated

The advantage of self-built rentals is that we can intervene in the early stages of a project, such as the design and construction phase, so the related costs can be reduced. Besides, it's easier to run and manage self-built properties. The problem of this mode is the high cost of land acquisition and the land planning of the government…Shenzhen government does not provide land especially for rental housing, not like Beijing and Shanghai. (Liu, executive of LTRA company C)

In a nutshell, we found that landlords' management practices in the three sub-sectors vary considerably. In the urban village and commercial housing sub-sectors, housing management activities are mostly on the property management and asset management level, such as tenant seeking, maintenance, rent setting and collection, refurbishment, etc. While management in the LTRA sub-sector is more sophisticated and strategic. Besides property management and asset management, LTRA companies are also engaged in portfolio management. In the context of Shenzhen, an important content of portfolio management is to determine whether urban village housing should be incorporated.

TABLE 5.1 Housing management practices in three sub-sectors

	Topics	Urban village landlords	Commercial housing landlords	LTRA Companies
Property management	Tenant seeking	Rely on letting agents	Rely on letting agents or property management companies	Large-scale promotion through online platforms and offline advertisement
	Home showing	Rely on letting agents or sitting tenant	Rely on letting agents or property management companies	Steward
	Contract signing	Only for the first tenancy	Only for the first tenancy	Contract is renewed after expiry
	Rent collecting	Personal channels (not taxed)	Personal channels (not taxed)	Public channels (taxed)
	Maintenance	Cleaning of the public area; few repair work	Few repair work	Cleaning of the public area; paid housekeeping service; responsive to repair requests
	Managing residing tenants	Few	Few	Setting rules; organizing events
Asset management	Refurbishment	Depends on the motivation of landlords	Refurbished	Refurbished
	Rent setting	In line with other landlords in the village	Perceived 'market level'	Based on demand and competitor analysis
	Rent raising	Arbitrary rent increases after the first contract	Arbitrary rent increases after the first contract	Normally five to ten percent increase for tenancy renewals
Portfolio management	Determining the portfolio mix	NA	NA	Whether to incorporate urban village housing

5.4.2 Effects of landlords' management practices on the housing experience of tenants

Our second research question explores in what way landlords' management practices influence the housing experience of tenants. Previous research has indicated that tenants' living experiences are mainly influenced by the affordability, residential conditions, and tenure security of their rentals (Lister, 2006; Shelter, 2016). The three aspects relate to the topics shown in Table 5.1 such as rent setting and raising (affordability), maintenance and refurbishment (residential conditions), and 'contract signing (tenure security). We scanned the interview transcripts of tenants and categorized their living experience on the basis of the three topics: affordability, residential conditions, and tenure security. Next, we identified the experiences that were (in)directly influenced by their landlords' management practices.

Affordability

According to Haffner and Boumeester (2015), the affordability of rental housing should be considered in at least two aspects: rents and energy costs. The rent level varies considerably among the three sub-sectors, with commercial housing being the highest (Li et al. 2021). Many tenants stated that they had to live in urban villages because commercial housing was too expensive for them. As Jie stated:

Of course I want to live in commercial housing where the environment is much better. The problem is most migrant workers like me cannot afford it. We would rather live in urban villages.

From this perspective, urban village housing seems to be more affordable than LTRAs and commercial housing. However, it is not necessarily true. As in other Chinese cities, there has been no clear rent control statute in Shenzhen. Landlords can increase rents at their own discretion. Most of the tenants interviewed reported to have experienced rent increases proposed by the landlord. Most tenants put up with the rent rise because they were told the 'market rent' was rising or they were reluctant to go through the trouble of moving, whereas some tenants quarrel with their landlords over the rent rise. Lan described a situation where her rent increased by a quarter within three months:

After the Spring Festival, my landlord increased the rent by 200 RMB, I put up with it because I understand it is a tradition. But the next month he again raised 200 RMB. I asked why, and he replied that everyone was raising the rent…I was confused, feeling that there is no basic law…after one month he proposed to raise 200 RMB for the third time. I thought it was too much, so I left.

In addition to frequent rent increase, another important finding is that urban village landlords frequently set the utility costs much higher than the market level. This phenomenon has been recently reported in several media (Shenzhen News, 2021; Wangyi News, 2021), although it has rarely been noted in the previous academic literature. Four urban village renters we interviewed complained about the high utility costs. As Yin stated:

The electricity is ¥ 1.5 per kWh, and water is ¥ 7 per cubic meter. It is more or less the same in every urban village. Every summer my monthly electricity bill is more than ¥ 500, which is ridiculous because I live alone and I only sleep in the house. For comparison, my parents' monthly electricity bill is just over ¥ 100.

Actually, Shenzhen adopts a 'tiered-pricing system' for residential electricity and water. The more households use, the more expensive the unit price of utilities. Due to the informality of urban village housing, the power and water authorities regard the whole block as a 'unit', even though it is made up of dozens of households. Therefore, urban village landlords are often charged at the highest tier. Even though, the utility price is much higher than the official maximum price. In addition, some news reports argue that landlords can even manipulate tenants' utility meters so that they show much more than tenants actually use (Wangyi News, 2021), but this practice was not confirmed in this study.

Residential conditions

To examine the influence of landlords' management practices on the residential conditions, we asked tenants about problems with their rentals. We found that the conditions of urban village housing are the main target of tenants' complaints. Frequently reported problems include noise, overcrowding, dirtiness, dampness, lack of natural light and ventilation, poor infrastructure and indoor facilities, etc. Lan gave a vivid description of her experience of living in urban village housing:

Every time I go home, I have to pass through a dark, dirty, and smelly road with garbage on both sides. When I get home I have to close the window right away because the fumes from the restaurant downstairs drift into my room. At the same time, I would hear people yelling on the road and neighbors arguing and spanking their children.

Respondents argued that both the neighborhood and housing conditions of urban village housing are quite poor. However, urban village landlords in our study explain that he poor housing conditions logically follow from low rent, and tenants make a trade-off between rent and conditions.

Interviewer: Have you ever thought about improving the living environment?

Yi, urban village landlord: All my tenants are workers in factories, the bottom of the social ladder. How do you want to improve? They just want the rent to be as low as possible, nothing else.

Tenants living in commercial rented housing seem to complain less than those living in urban village housing, which is consistent with the findings of Li, et al. (2021) that urban village tenants are significantly less satisfied with their residential environment than commercial housing tenants. This could be explained by the better residential environment of commercial housing. As Dong and Wei explained:

In Xiaoqu, the distance between buildings is much larger than in urban villages, enabling the construction of activity areas such as green space. In our Xiaoqu, there are many recreational facilities such as ping-pong tables and basketball courts, which are basically impossible to appear in urban villages.

However, some commercial housing tenants did raise issues such as lack of maintenance and dilapidation. These buildings were mostly built in the early 2000s. Although better than the former work unit housing, many were of poor construction and design quality (Wang & Murie, 1999). Rui lived in an old Xiaoqu that was built around 2000 and had a lot of complaints. She believed that these problems could only be solved through reconstruction. As she stated:

It is a very old Sea Sand Building. That means I worry that the TV will fall if I nail it to the wall. The water pressure is extremely low, there is no separation of pedestrian and vehicle traffic, insufficient parking spaces, etc. These problems are common in old Xiaoqus and cannot be solved unless reconstruction.

As for LTRAs, tenants interviewed did not complain much about its residential conditions. In contrast, respondents were relatively positive about LTRAs, for example about the new furniture and facilities. LTRA companies cater to young people's needs, such as providing public space and facilities in the building for socializing, decorating the external appearance of the building to meet the aesthetics of young people (Li, et al., 2021; Zhan, 2021). As Wu and Bai stated:

I'm most satisfied with my current dwelling (an LTRA)…everything is new in the room. The decorating and furnishing are quite youthful.

LTRA stewards have good service attitude. They are as young as we are, so we can communicate well. If something went wrong, for example the bulb burns out, they will replace it for me.

Tenure security

According to Van Gelder (2010), tenure security should be considered as a composite construct comprised of three components: the legal status of the tenure (*de jure*), the actual occupation and use of the property (*de facto*), and the perception of the dweller with regard to his or her security. Each aspect was asked during our interview with landlords and tenants.

In terms of *de jure* security, we found most of the interviewed tenants signed a written contract with their landlords, which is consistent with Li, et al. (2021). In contrast of LTRA companies that would generally renew the contracts with tenants, we found that many individual landlords did not renew the contract after the expiration of the first contract. As Yuan stated

> Landlords in Shenzhen generally sign a contract of half year or one year. After the contract expires, normally they don't sign another contract. Landlords can increase the rent by oral notification. If the tenant feels that it is not a good deal, he or she has to find another place.

With regard to *de facto* security, we asked the landlords whether they had ever evicted a tenant. We also asked the tenants if they had ever been evicted. We found that landlords will resort to eviction only if the tenants fail to pay rent or if they cause serious disruptions to other tenants. However, displacement can occur if the landlord decides to 'deal with' their properties. We found that 4 of the 17 tenants had experienced displacement, with various reasons. Liu and Wu were asked to move out because the landlord decided to renovate or sell the dwelling, respectively. Notably, their landlords gave them a month's notice before their contracts expired. However, Cui was suddenly asked to move out by the manager because the LTRA company had to return the property to the homeowner due to cash flow crisis. Lan had to leave her urban village housing because her landlord raised the rent to an unacceptable level.

After the outbreak of the COVID-19 pandemic in 2020, the Chinese government adopted strict rules to restrict the travel of people. As a migrant city, the rental market in Shenzhen suffered a serious strike. Under high vacancy rates, LTRA companies were not able to pay the homeowners rent and went bankrupt, leading to the displacements of many tenants. Since 2019, more than 100 LTRA companies went bankrupt due to the collapse of cash flow (Beijing News, 2020). In 2020, 27 LTRA companies closed down in Chengdu alone, involving about 120,000 landlords and tenants (Xinhua News, 2021).

Furthermore, in many cases tenants not only lose their homes, but even face significant monetary losses. Some companies offer tenants a discount when they pay half or one year's rent at once or use 'rent loans[59]' (Chen, et al., 2022). Qian consigned her commercial housing to an LTRA company and got into trouble with her tenant due to the bankruptcy of the company. She recounted her experience:

59 . The rent loan refers to 'a financial arrangement whereby tenants borrow loans from financial institutions to finance the lump sum of their upfront rents and repay such loans through monthly repayments, while the landlords receive the upfront payment of rents at the beginning of the rental lease' (Chen, et al., 2022).

One day last year (2020), other landlords told me that this company seemed to be out of business. My renter and I then went to this company only to find that the entire company had been vacated. The renter had paid one year's rent to the LTRA company but I didn't get the money. Many landlords called the policy but it didn't work. I even filed a lawsuit with the Xi'an High Court because that company was registered in Xi'an. They replied to me with a notification letter, telling me that they could not handle this matter because it was not under their jurisdiction.

As for perceived security, we found most tenants were not worried about losing their homes. Instead, they were more concerned about the frequency and extent of rent increases by their landlords. Nevertheless, many tenants expressed that they did feel more secure living in LTRAs than individually managed housing. Xin had experience living in both commercial rented housing and LTRAs. He felt that living in LTRAs gives a sense of security.

(Compared with commercial housing), LTRAs are more secure because they are run by professional companies. The terms are clear in the contract, including the during of the tenure, what compensation to be made if I'm asked to leave during the tenure.

5.5 Discussion

In this paper, we have provided an in-depth account of how landlords manage their housing in different sub-sectors and how this effects their tenants in Shenzhen.

5.5.1 Housing management in different sub-sectors

Our first research question explored how landlords in different sub-sectors manage their housing, with the use of Nieboer's (2005) analytical framework of three levels of housing management. To the best of our knowledge, it is the first study to compare the management practices of different landlords in the context of China.

Property management

We found that although landlords in the three sub-sectors all practiced property management, there are considerable differences between individual landlords and LTRA companies. For example, urban village landlords and commercial housing landlords still use the traditional way, i.e., relying on the intermediary, to recruit tenants. While LTRA companies seek tenants by large-scale online promotion and offline advertisement. Although online rental search has become a trend worldwide (Rae, 2015), a surprising finding is that LTRA companies can pay the online platforms additional money to get their properties get more 'exposure' and even be tagged as 'selected'. Several recent studies have documented the digitalization of landlords and criticized the use of digital technologies and algorithms by the landlords for introducing discrimination during the process of tenant screening (Ferreri & Sanyal, 2021; Fields, 2022; Rosen, et al., 2021), we add to the literature by arguing that the use of digital technologies might pose other issues such as misrepresentation of rental properties (Nasreen & Ruming, 2021).

Asset management

With regard to asset management, a common practice of landlords in the three sub-sectors to maximize their revenue is frequent rent increase, which has also been extensively discussed in international literature (Jonkman, et al., 2018; Rinn, et al., 2022). Interestingly, we found the absence of contracts might facilitate rent increases for individual landlords. Although most individual landlords sign a rental contract with their tenants (Li, et al., 2021), they normally do not renew the contract when the first contract expires. Therefore, they can raise the rent by oral notification. There is also a difference between individual landlords and LTRA companies in terms of rent setting, which is consistent with the findings of Gilderbloom (1985). Individual landlords tend to increase rents based on their 'gut feeling' or the rent level of their neighbor landlords. Some even admitted to raise rents whenever possible and set rents higher than the market level for bargaining. In contrast, LTRA companies generally set rents based on analysis of the market and competitor in the vicinity. This finding is consistent with Scanlon and Whitehead (2006) who found professional landlords are to some extent more economically rational than amateur landlords.

Portfolio management

Concerning portfolio management, we found only LTRA companies are engaged in this level. On the one hand, this is due to the fact that less than two percent commercial housing owners possess more than two properties and the location and type of urban village housing are fixed (Wangyi News, 2020). On the other hand, the intensifying competition and low return of rental business are forcing LTRA companies to be selective about their portfolio, which corresponds the finding of Read, et al. (2017). We also found LTRA companies have different portfolio management strategies depending on their company size. Consistent with Caijing (2022), we found small and start-up LTRA companies normally use urban village housing as their main portfolio, while large LTRA companies have started to diversify their portfolios based on risk-revenue assessment. Large companies are more interested in self-owned rentals than urban village housing because urban village housing has potential safety risks and is less profitable (Tian, 2008).

5.5.2 Effects of landlords' management practices on the housing experience of tenants

With regard to the second research question, in what way landlords' management practices influence the housing experience of tenants, we found that some landlords' management practices did seriously impact the living experience of private tenants by undermining the affordability, residential conditions, and tenure security of rental housing. However, there are also some management practices that can improve tenants' housing experience, such as prompt response to tenants' repair requests, providing elegant or new furnishings, and organizing social events. It should be noted that the affordability, residential conditions, and tenure security do not stand independently, but instead interact with each other.

Affordability

In specific, we found the affordability of rental housing can be impacted by frequent rent increase and unauthorized pricing of utilities. Rent increases and subsequent unaffordability problem have negative impact on renters' quality of life. Previous research has found that rent increases could suppress tenants' expenditures on necessities, such as clothing and food (Liu & Chang, 2021). Mason, et al. (2013) revealed that unaffordable rental housing is also associated with poor mental health for renters. In some cases rent increases directly lead to displacement of tenants, which has also been

documented in other studies (Baeten, et al., 2017). The practice that landlords privately pricing the utilities has received little attention in academia. However, it has been reported in a number of media recently and attracted widespread attention (Shenzhen News, 2021; Wangyi News, 2021). The underlying reason that urban village landlords can price the utilities privately is that urban villages are outside the formal provision of local-government-supplied services and the municipality has neither the interest nor the responsibility to develop the infrastructure in urban villages (Wu, et al., 2013).

Residential conditions

Landlords' management practices can also greatly influence the residential conditions of their properties. We found that landlords' decision to maintain or renovate the housing and facilities they provide directly shape the living experience of tenants. This finding is consistent with Rolfe, et al. (2021), who concluded that the disinvestment by the landlords could lead to the erosion of housing quality. During our interview with tenants, most of the complaints about residential conditions come from urban village tenants, which is consistent with Li, et al. (2021) who found urban village tenants were significantly less satisfied with their residential environment than commercial housing tenants and LTRA tenants. The frequently reported problems of the conditions of urban village housing include noise, overcrowding, dirtiness, dampness, lack of natural light and ventilation, poor infrastructure and indoor facilities, etc. These problems have been well documented in previous studies (Liu, et al., 2010; Tian, 2008; Wu, 2016). Furthermore, urban village landlords often provide inadequate or low-quality indoor facilities to minimize their expenditures. For example, inadequate ventilation was one of the most frequently reported problems of urban village housing during our interview, corresponding with Li, et al. (2021). According to their field survey in Shenzhen, Li, et al. (2021) found 43% of urban village tenants reported the ventilation was inadequate. We found that in our study no urban village housing has been equipped with a ventilator. Although most residential buildings in China rely on natural ventilation, the proximity of the buildings in urban villages makes natural ventilation almost impossible (Chen, et al., 2017).

Tenure security

As for tenure security, we found both individual landlords and LTRA companies would not evict their tenants through the court system, which is the formal practices in some developed countries. For example, New York City's Housing Court handles around 350,000 cases each year, the vast majority of which are cases alleging non-payment of rent (Brescia, 2009, p. 192). This difference can be explained the

Chinese tradition and unpopularity of court. Influenced by traditional culture, as well as feeling unfamiliar and reluctant to go through litigation procedures, most Chinese people do not have the enthusiasm to file lawsuits, especially for 'minor matters' (Wang, 2015; Zhang, 2009). Surprisingly, we found that the tenure security of tenants in Shenzhen is at stake: many tenants reported to have experienced displacement because their landlords need to renovate or sell the property, or the LTRA company faced severe cash flow problem, or the landlord raised the rent to an unacceptable level. In this sense, tenants in Shenzhen experience displacement for completely different reasons than tenants in the US, most of whom are evicted because of non-payment of rent (Holl, et al., 2016). Meanwhile, we found that tenants had low *de facto* security because they also had low *de jure* security. Most tenants have contracts for only six months or one year, and individual landlords in most cases do not renew the contract. In this way, the balance of power tilts more to the landlord's side, which further facilitates the rent rises by the landlords (Chisholm, et al., 2020). Our finding also adds to the growing body of evidence that rent increases are closely associated with gentrification and displacement (Baeten, et al., 2017; Helbrecht, 2018; Rinn, et al., 2022).

5.6 Policy implications and limitation

The poor housing experience of tenants highlights the need for policy intervention in Shenzhen. From the perspective of interest conflict and the imbalanced power relationship between tenants and landlords (Byrne & McArdle, 2020), the poor housing experience of tenants is an outcome of landlords exerting their power and seeking to maximize their rate of return. Therefore, policies should aim at either empowering the tenants or restricting the power of landlords. More specifically, we argue that housing policies should be differentiated in different sub-sectors. The urban village sub-sector deserves special attention from the policymakers not only because it accommodates the majority of tenants in Shenzhen but also because it received the most complaints from the tenants. A number of initiatives can be formulated to improve the housing experience of urban village tenants. To start with, legislation should be enacted to stipulate the presence of written contracts between tenants and landlords, especially after the first short-term contract. This could help to curb arbitrary rent increases proposed by the landlords. In addition, the utility costs in urban villages should be formalized by the municipality. We recommend that the government treat each household as a unit rather than an entire building. Each

household should have individual meters for electricity and water installed by the local authority. Furthermore, it is recommended that minimum housing standards (such as minimum space area per person) be made by the local authority. A housing warrant of fitness can be considered to ensure that basic minimum standards are met (Telfar-Barnard, et al., 2019). We also recommend urban village landlords should organize social events for their tenants occasionally to improve their housing experience. As for commercial housing landlords, policies should mainly focus on the frequency and magnitude of rent increases as residential conditions of commercial housing are generally decent. Besides promoting the presence of a long-term contract, the local government can consider setting a cap for rent increases, for example, five percent every year, to curb exorbitant rent rises. With regard to the LTRA companies, the most urgent problem is perhaps their financial model. The use of rent loan and advance payment has posed potential risks not only for landlords and tenants but also for LTRA companies themselves. Policies should be developed to stimulate the maximum upfront rents and deposits required by the LTRA companies. On the other hand, tax cuts aimed at LTRA companies should be promoted given their low return on investment. Finally, the supervisory authority and mediation institution should be in place to ensure policies are effectively implemented and disputes are properly addressed. For example, the local government could establish an arbitration institution to receive reports from the tenants and landlords and handle disputes between them.

Finally, a number of limitations need to be noted regarding the present study. With a small sample size, generalizations of the findings need to be made with caution. Future research could investigate the management practices of landlords and their influence on tenants in different geographical settings based on the analytical framework we proposed in this study. Furthermore, constrained by resources, some specific types of landlords were not accessed, such as large commercial housing landlords and LTRA companies that adopt asset-heavy business model. With an increasing number of Chinese cities starting to supply land specific for rental buildings, it is likely that the asset-heavy model will partly replace the current asset-light model. Therefore, more research is needed to understand the management practices of asset-heavy LTRA companies and their influence on tenants.

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6 Promoting the private rented sector in metropolitan China

Key challenges and solutions

Submitted to a peer-reviewed journal. Authored by : Bo Li, Harry van der Heijden, Sylvia J.T. Jansen, Juan Yan, Peter Boelhouwer.

ABSTRACT The private rented sector (PRS) plays an increasingly important role in accommodating young people and migrants in China's metropolitan cities. Therefore, the central government has been actively promoting the development of the PRS since 2015. However, the PRS in China is still underdeveloped, as evidenced by, e.g., a low degree of professionalization, lack of basic rental laws and regulations, and poor housing experiences of tenants. The purpose of the current article is to identify the main challenges towards a well-functioning PRS, as perceived by Chinese local governments, landlords, and tenants, and to propose possible solutions to cope with these challenges. After reviewing both academic and grey literature and exploring the results of previous research, we propose a number of recommendations: to formalize the PRS, promote equal citizenship rights between tenants and homeowners, and introduce regulations. More specifically, we propose to increase the supply of rental land, expand the implementation of REITs, promote the Affordable Rental Housing Programme, and set minimum housing standards.

KEYWORDS private rented sector; challenges; solutions; rent regulation; financialization

6.1 Introduction

The private rented sector (PRS) in many nations has recently witnessed rapid growth due to a variety of reasons, such as sky-rocketing housing prices which prevents people from buying a house, increasing workforce mobility, a shortage of social rental housing, and a lack of alternative investment possibilities (Chan & Thompson, 2019; Hulse, et al., 2019; Li, et al., 2021). This is especially the case in metropolitan China, which has experienced a tremendous influx of population from rural areas and a sharp rise in housing prices (Jin, et al., 2022). For example, the proportion of households living in the PRS in Beijing and Shanghai increased from 6% in 2000 to around 30% in 2020 according to the fifth and seventh censuses. The share of the population living in the PRS even reached 53% and 77% in Guangzhou and Shenzhen respectively in 2021 (Sina News, 2022).

The role of the PRS in metropolitan China partly resembles that of many other countries around the world, which is to cater the young people, migrants, and low-income households (Chan & Thompson, 2019, p. 6; Whitehead, et al., 2016, p. 23). Notably, some low-end and informal private rented housing, such as urban village housing has served as a substitute for scarce social housing (Liu & Wong, 2018). Besides low-income households, many middle-income, and even high-income households in metropolitan China have to live in the PRS due to the severe affordability crisis[60] and strict home purchase restrictions in some megacities. For example, in all first-tier cities (i.e. the largest cities in China: Beijing, Shanghai, Guangzhou, and Shenzhen), households without local hukou[61] are eligible to buy a home only after they have paid social insurance[62] or personal tax in the city for five consecutive years (JLL, 2021). Nevertheless, some households choose private renting willingly due to its advantages, such as facilitating job-changing and reducing stress from the down payment and mortgage (Li, et al., 2021).

60 . According to Fang, et al. (2016), the housing price appreciation in first-tier cities between 2003 to 2013 was almost twice the magnitudes of the increases in people's purchasing power.

61 . The hukou (household registration) system in China has segregated the rural and urban populations. Each person has a hukou (registration status), classified as "rural" or "urban" in a specific administrative district (Chan, 2010). Hukou links people's accessibility to some social benefits such as access to local schools, urban pension plans, and public housing (Chan, 2010).

62 . In China, social insurance is often employment-based. Both employers and employees are obligated to financially contribute to the social insurance programs and make monthly payments (Gao, et al., 2012).

Chinese government terminated the socialist housing regime within which housing was allocated directly to employees by the state or state-owned enterprises (Danwei) in 1998 (Chen, et al., 2011). Afterwards, housing privatisation and commercialisation have been promoted (Yan, et al., 2022a). Having been neglected since 1998, the PRS first received attention from the central government in 2015 (MOHURD, 2015). Chen, et al. (2022) believe that the motivations behind this policy change are to reduce the demand for owner-occupied housing, improve housing affordability, and reduce government expenditures on social housing. Since then, numerous policies have been introduced to stimulate the development of the PRS from both the supply and demand side, including the requirement that local governments set aside a specific percentage of their land for purpose-built rentals, promoting the conversion of offices into residential housing for rental usage, preferential tax treatment for rental housing firms, and allowing the withdrawal of Housing Provident Fund [63] to pay rent (Chen, et al., 2022; State Council, 2016). However, a series of challenges towards a well-functioning PRS still exist.

On the supply side, rental companies face many problems, such as low profits and difficulty in acquiring land and properties (JLL, 2021). On the demand side, private renting remains an unattractive tenure type and is regarded as a transition phase on the way to becoming a homeowner (Authors, submitted). Many tenants have to live in substandard housing and are confronted with fast-rising rents and weak tenure security (Pun, et al., 2018). Furthermore, tenants are excluded from several social benefits, such as public education and healthcare (Huang, et al., 2017; Wu & Wang, 2014). On the government side, although the central government attaches great attention to the development of the PRS, many local governments have inadequate motivation to provide land for the construction of rental housing. This is due to that local governments rely on land grants for fiscal revenue (Sohu News, 2021). They also lack basic information on the rental market for regulation because less than 1% of rental contracts are filed with the government in most cities (Liu, 2017; Yi, et al., 2021).

The description above shows that the PRS in China is still in its nascent stage and suffers from various challenges. However, a systematic review of the challenges and an overview of potential solutions are lacking. We have chosen to investigate the challenges from the perspective of local governments, landlords, and tenants instead of the PRS in general because they are the three most important components of the PRS and are faced with different problems. Such a distinction can shed light on

63 . Housing Provident Fund requires both employers and employee contribute to a pool which can be later withdrawn by the employee to purchase home.

the conflicts of interest among the three stakeholders and thus enable us to have a better understanding of the problems of the PRS. Against this background, this paper addresses the following two questions.

1 What are the key challenges towards a well-developed PRS in China as perceived by the local governments, landlords, and tenants?

2 Which possible solutions can be proposed to cope with the identified challenges?

The article has been organized in the following way. We first give a brief overview of the current situation of the PRS in metropolitan China and housing policies aimed at stimulating the PRS since 2015. Next, the data sources and methods employed in the paper, i.e., literature review and self-collected data, will be introduced. In the results part of the paper, we present the identified challenges, followed by a proposition of possible solutions to cope with current challenges. The paper ends with the main conclusions and reflection.

6.2 The PRS in metropolitan China

6.2.1 Sub-sectors of the PRS

The PRS in China is – as in many other countries – highly heterogeneous and made up of different sub-sectors. Based on the thesis of the Structure of Housing Provision developed by Ball (1986a, 1986b), Li et al., (2021) identified three important sub-sectors of the PRS in urban China, i.e., urban village housing, commercial rented housing, and Long-term Rented Apartments (LTRAs).

An 'urban village' in the Chinese context is a type of village that has been geographically surrounded by urban development but maintains an institutionally recognized rural status because of the collective ownership of land (Guo, et al., 2018). Urban village housing is built by villagers themselves on collective land in urban villages. However, the villagers are not legally entitled to capitalize on their properties through land or housing sales, so they redevelop their housing at high densities to maximize their profits by leasing out the units (Liu, et al., 2010). Most

urban villages are densely populated, accompanied by inadequate lighting and poor infrastructure. Housing conditions in urban villages can be described as overcrowded and lacking basic facilities (Wu, 2016).

In comparison, commercial housing is developed by real estate companies on urban land acquired from the local government normally through a competitive tender. Notably, commercial housing is built for sale only and can be freely traded on the market. Furthermore, commercial housing is generally located in gated communities (Xiaoqu in Chinese) that provide a host of social, commercial, and recreational services (Hendrikx & Wissink, 2017; Wu, 2005; Wu, 2012).

LTRA is a recent term that is used to describe properties managed by rental housing companies. Stimulated by incentive policies as well as the influx of domestic and foreign capital, the number of LTRA companies has experienced rapid growth. Between 2015 and 2019, about 750 enterprises were established as LTRA-type companies or their subsidiaries, aiming at providing high-quality rental housing for young professionals (Chen, et al., 2022; Li, et al., 2021). In 2019, about 500 thousand in-operation rentals are managed by LTRA companies (CRIC, 2020). LTRA companies have two business models, i.e., 'asset-heavy' or 'asset-light'. The asset-heavy model is to rent out properties that are built or owned by the companies while the asset-light model is to obtain the leasing rights of properties from individual homeowners, refurbish them, and then sublet the properties on behalf of homeowners (Chen, et al., 2022).

6.2.2 Government policies on the PRS since 2015

Since the establishment of the housing market in 1998, the Chinese government has promoted homeownership while the share of public housing witnessed a sharp decline (Barth, et al., 2012). Promoting homeownership was even considered a 'pillar' of the economy by the State Council (2003). Before 2015, there were virtually no policies aimed at the PRS issued by the government. In 2015, the Ministry of Housing and Urban-Rural Development (MOHURD) for the first time proposed the idea of "accelerating the development of the rental housing market". In the document titled 'Guidance on Accelerating the Cultivation and Development of the Housing Rental Market' it was stated:

The proportion of urban households solving housing problems through renting has been increasing year by year, especially for migrant workers. However, the development of the housing rental market cannot fully meet the needs of economic

and social development. There are problems such as unbalanced total supply, unreasonable provision structure, lack of rules and regulations, especially the overly homogeneous suppliers. (MOHURD, 2015)

To 'accelerate' the development of the PRS, this guidance proposed to facilitate the construction of rental service platforms, encourage the development of professional housing rental institutions, improve the public rental housing system, broaden the financing channels, and promote the transformation of real estate developers from commercial housing developers to rental housing developers. The goal is to "establish a housing rental market with diversified channels, balanced total volume, reasonable structure, standard services within three years."

Since then, the central government has introduced a series of initiatives including policies and pilot projects around this guidance document. These initiatives include providing tax benefits to professional rental companies, encouraging people to rent (instead of buying), allowing Collective Construction Land[64] to be used for building rental housing, combating illegal practices in the rental market, and promoting Real Estate Investment Trusts (REITs) and asset securitization to help rental companies to finance, etc[65]. In 2019, 16 cities were selected as pilot cities for the development of rental housing, receiving three-year funding support from the central Ministry of Finance.

Among the initiatives or policies, encouraging local governments to provide land for the construction of rental housing deserves special attention because it is the first time that purpose-built formal private rented dwellings are introduced. Since the housing reform in the 1990s, residential land plots in urban China have been basically used to build commodity housing for homeowners. Therefore, a considerable portion of private rental housing is actually commercial housing let by homeowners. Since the State Council in June 2016 encouraged local governments to provide land for building rental housing, more and more cities have started to explore the 'build-to-rent' model. Shanghai became the first city in China to provide

64 . The 1998 Land Administration Law stipulates that urban land is owned by the state while rural land is collectively owned by the villagers. In many Chinese cities, there are still collectively-owned land plots surrounded by urban land.

65 . Notably, China's political system is a top-down hierarchy where the central government only sets a broad policy guideline while the local governments adapt the guideline to local conditions (Ahlers & Schubert, 2015). Therefore, the policies proposed by the central government usually do not provide specific measures to be taken (e.g., how much tax should be deducted), and local governments implement these policies or initiatives differently.

'for-rental-only' land plots[66] in 2017 (Jiemian, 2021). By the end of 2020, Shanghai had provided 152 land plots for building rental housing, with a planned floor area of over 10 million square meters, allowing for the construction of at least 220,000 new rental housing units (Xinhua News, 2021b). In February 2021, an "internal document" referred to as "double centralized" (liangjizhong in Chinese) policy[67] from the central government required 22 major cities to disclose the area of land for rental housing in their annual plans, generally accounting for no less than 10% of the total land supply (NIFD, 2021).

Although the initiatives had some positive effects (e.g., the number of LTRA companies has increased considerably), the goal to establish a well-functioning PRS in 2018 was far from achieved. For example, the professionalization of the PRS remains at a low level, as evidenced by a small number of company-managed rental units. Table 6.1 shows the proportion of housing units managed by LTRA companies in three first-tier cities. Furthermore, triggered by the COVID-19 pandemic, the past two years have even witnessed a wave of bankruptcies of rental companies (Chen, et al., 2022).

TABLE 6.1 Market share of LTRA in Beijing, Shanghai, and Shenzhen in 2020

	No. of total families	% of private renting families	No. of private renting families	No. of LTRA units	Market share of LTRA
Beijing	8,230,792	29.55%	2,432,199	21,000	0.86%
Shanghai	9,644,628	31.91%	3,077,601	71,000	2.31%
Shenzhen	6,424,556	77%	4,946,908	133,000	2.69%

Source: Authors' own calculations based on the seventh population census in 2020, JLL (2021), and Li, et al. (2021).

In response to the failure, the central government started to shift the focus from the PRS to Affordable Rental Housing (ARH), marking an important turning point for rental housing policy development. In July 2021, the State Council issued a

66 . Land plots that are used to build rental housing can be divided into at least three categories based on the procedure the plots are auctioned. The first category is 'for-rental-only' (chunzulin) land, which means only rental housing can be built on the land plots. The for-rental-only land plots are mostly acquired by the local-governance-owned companies because of the long payback period (CRIC, 2022c). The second is 'self-retained' (zichi) land, which means a certain portion of the housing units should be held by the developer itself and used for private rental housing while the rest of the land can be used for commodity housing. The third category is 'ancillary construction' (peijian) land, which means a certain portion of the housing units should be affordable rental housing. Private developers are generally more interested in acquiring the latter two kinds of land plots because owner-occupied housing is more profitable than rental housing.

67 . It is named "double centralized" because the policy stipulates that local governments should centralize the announcements of land provision (less than three times each year) and centralize the organization of land bidding activities.

document titled “Opinions on Accelerating the Development of Affordable Rental Housing”. Although the document does not give a clear definition of ARH, it was stated that “ARH mainly accommodates new citizens and young people; normally the floor area does not exceed 70 square meters; the rent should be lower than the market rent of the same quality nearby.”

ARH is different from former Public Rental Housing in that most ARH is owned by the private sector. In the abovementioned document, it was stated that “who invests in ARH will have the ownership”. After one year of development, there have been several ways to build or collect ARH (CRIC, 2022a). On the one hand, private companies, state-owned companies, and local-government-owned companies can build ARH on Collective Construction Land, State Construction Land, Industrial Park Land, etc. On the other hand, vacant non-residential buildings (such as offices, hotels, and warehouses) and housing owned by individuals or companies can also be converted into ARH (Justice Bureau of Shenzhen Municipality, 2021). Although a big part of ARH is owned by the private sector, all ARH is allocated and regulated by the local government. Based on the analysis of policies issued by different local governments[68], we found that ARH is normally allocated by the local government to applicants, who should meet generally two criteria. First, the applicant and his or her spouse and children should not own housing in the district of the ARH. Second, the applicant should not have enjoyed any other housing benefits in the city. In addition, the rent of ARH is strictly regulated by the municipality. The rent level of ARH varies from 80% to 95% of the market level in different cities or provinces (CRIC, 2022b). In addition, rent increases of ARH generally should not exceed 5% per year. Therefore, we perceive ARH to be in the middle between private renting and social renting. We include ARH in our study because it overlaps with private rented housing but can also be regarded as a way for the government to formalize and regulate the PRS.

The current section has given a brief overview of the sub-sectors of the PRS in China and has described some key policies or initiatives implemented to promote the PRS since 2015. Such information is essential to understand the problems of the PRS in China. Next, we will present the data and method employed to identify the problems facing the PRS.

68 . ARH policy in Hangzhou can be found on http://fgj.hangzhou.gov.cn/art/2022/8/12/art_1229265366_1824480.html. ARH policy in Xi’an can be found on http://news.hsw.cn/system/2022/0820/1510927.shtml

6.3 Data and method

This paper seeks to identify the challenges towards a well-functioning PRS in metropolitan China and proposes possible solutions, based on a literature review and self-collected micro-level data. As with many other countries, official data on the PRS in China is quite limited (Pareja-Eastaway & Sánchez-Martínez, 2022), mainly because less than 1% of rental contracts are filed with the government in most cities (Liu, 2017). As a result, many local governments have no information on the number of dwellings being rented out, the rent rates, and the conditions of the rentals. For this reason, the current paper relies on some existing academic literature, supplemented with extensive grey literature including online news, industrial reports, government documents and white papers.

However, the literature review can only give a general picture of the PRS. To obtain a deeper understanding of the current status and problems of the PRS, micro-level data is needed. Therefore, we also used survey and interview data, collected from both tenants and landlords. This fieldwork was conducted in Shenzhen, one of the first-tier cities in China, between 2020 and 2022. The aim of the fieldwork was to understand the housing conditions and housing choices of private tenants, their residential and life satisfaction levels, and landlords' management practices. More detailed information on the fieldwork is provided in Li, et al. (2022), Li, et al. (2021), and Authors (submitted).

6.4 Challenges towards a well-functioning PRS

In this section, we seek to identify challenges as perceived by landlords, tenants and the governments, based on document review and data from surveys and interviews as described above.

6.4.1 Challenges as perceived by the local governments

The informality of the PRS

The first challenge recognised by local governments is the informality of the PRS. Different from most past literature that regards urban village housing as informal while commercial housing as formal (Wang, et al., 2009; Wu, et al., 2013; Zhang, 2021), informality here means that tenancies are 'hidden from the purview of the State', thus making 'regulation and recourse difficult to enforce' (Parkinson, et al., 2022). Informality is ubiquitous in the urban village sub-sector and commercial housing sub-sector, which are managed by individual landlords. Although individual landlords are encouraged to upload information about their rentals, few are willing to do so because they worry about being taxed if their business is known to the tax authorities (Sohu News, 2019). Although the Chinese Individual Income Tax Law stipulates that rental income is subject to personal taxation, few individual landlords in practice pay taxes, and the rent payment is usually made through private channels (Authors, submitted).

The informality of the PRS could complicate the management of the PRS in at least two aspects. First, due to an extremely low registration rate, many local governments do not have critical information about the PRS, such as the number of existing rentals, rent levels, and housing conditions, which makes it difficult to improve market transparency and formulate policies accordingly. Second, without knowing who is leasing out their properties, it is impossible to implement rent regulations and enhance tenancy security.

Reliance on land finance

The second challenge is the so-called 'land finance' of local governments. 'Land finance' refers to the situation that local governments depend largely on land grant premiums and land tax revenues as these two are their two primary sources of fiscal revenue for the past two decades. Thus, although the supply of purpose-built rentals is acknowledged to be an effective avenue to promote the PRS (NIFD, 2021), many local governments are not motivated to provide rental land as they prefer to lease land to build commercial housing for sale.

CRIC (2022) shows that only 5% of the total floor area of granted land is for the construction of rental housing in 22 major cities in 2021. Qun, et al. (2015) showed that the Chinese-style fiscal decentralization system and competition between local governments to promote economic growth are two major causes of land finance. The

Tax Sharing System reform in 1994 made local governments fiscally squeezed by the central government (Cai, et al., 2021; Wong, 2009). To afford the growing public expenditure on infrastructure, education, and medical care, local governments have chosen land finance as a new source of extra-budgetary revenue (Qun, et al., 2015). In 2021, land grant premiums accounted for up to 41% of fiscal revenue for local governments in China (Shen, 2022). Being overly dependent on land finance, many local governments are reluctant or not able to provide land plots for the construction of rental housing. It is because land plots in cities are limited. The increase in land for rental housing will inevitably lead to a decrease in land for owner-occupied housing, which is an important source of revenue. Besides, the increase in rental supply would probably reduce people's demand for owner-occupied housing, thus leading to decreasing housing prices and subsequent land prices fall.

Opposition from homeowners

The third challenge for the local governments is that promoting the PRS might undermine the interests of homeowners and thus receive massive opposition. In 2017, Guangzhou became the first city to propose to 'give eligible tenant's children the right to enjoy public services such as attending a nearby school, to ensure the equal citizenship right between renters and homebuyers. Three years later, the Central Economic Work Conference in 2020 made 'gradually realizing equal rights between homeowners and tenants' an important goal of developing the PRS (Xinhua News, 2020a). However, there has been no substantial progress so far on this issue (Chen, 2021).

As mentioned above, homeowners are privileged compared to renters in accessing certain public services such as quality public schools. It is well acknowledged that children's access to quality education is capitalized in housing prices in China (Feng & Lu, 2013). Homebuyers have paid far more than the value of the dwelling itself. This premium has become the local government's revenue through land finance, which is further used for city construction. Therefore, it is understandable that homeowners believe they should have priority access to the scarce public schools over tenants (Tencent News, 2021). Conceivably, the implementation of 'equal rights between homeowners and tenants will have two consequences. First, due to the enrolment of tenants' children, the number of school seats offered to homeowners' children will inevitably decrease if the total number of school seats remains constant. Second, housing prices would likely fall since part of the homeownership demand is shifted to rental housing, which would inevitably provoke an outcry from homebuyers. In recent years, protests against falling housing prices have become commonplace in different parts of China (Financial Times, 2018; Sina News, 2021).

6.4.2 Challenges as perceived by landlords

Landlords can be categorized into individual landlords and LTRA companies, depending on who actually manages the housing. This paper only investigates the challenges of LTRA companies because the landlord-tenant relationship is very unbalanced in the urban village sub-sector and commercial housing sub-sector due to their informality (tenancies are not known to the municipality). Challenges are therefore always on the tenant side instead of the landlord side in the urban village sub-sector and commercial housing sub-sector.

In 2021, Jones Lang LaSalle Incorporated (JLL) invited more than 30 different types of investment institutions (including developers, real estate funds, and insurance funds) to participate in a questionnaire on the current situation of the LTRA market in China (JLL, 2021). Figure 6.1 summarizes the major challenges restricting the development of the LTRA market from the perspective of these investors.

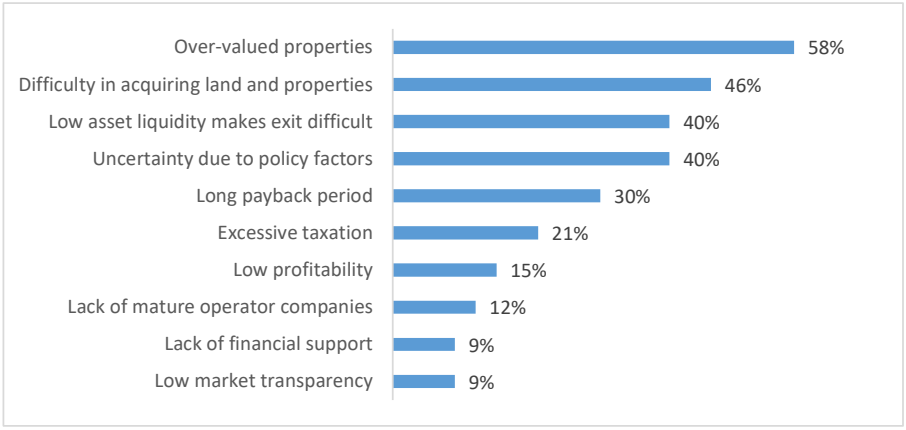

FIG. 6.1 Major challenges for the development of China's LTRA market.
Sources: JLL (2021)

Over-valued properties

It can be seen that the biggest challenge is "over-valued properties", which means that the housing prices are perceived to be too high. For investors, to transfer existing housing stock into long-term rental housing has become the mainstream avenue to enter the rental market. However, the prices of existing assets, especially

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the ones in the core areas of big cities in China are too high. Taking the cost of housing renovation into consideration, the return on investment is often lower than the expectations of investors. As a result, investors would lose the motivation to invest in the LTRA companies. It is thus not hard to imagine some other challenges such as “difficulty in acquiring land and properties”, “long payback period”, and “low profitability” also become landlords’ concerns, which was also demonstrated in our previous research (Authors, submitted). According to HouseChina (2020), the price-to-rent ratio (housing price/annual rent) in 50 major Chinese cities reached 51 in 2020. Taking into account the current house prices and rental earnings, it would take 51 years of renting to earn back the house price. This number is much lower in some western countries, for example, 31 years in Germany, 28 years in the UK, and 10 years in the US (NUMBEO, 2020).

Difficulty in acquiring land and properties

Besides over-valued properties, difficulty in acquiring land and properties is another major challenge for LTRA companies, according to JLL (2021). This might be due to the fact that many local governments do not provide enough land lots for building rental housing (Authors, submitted). As mentioned previously, the “double centralized” policy issued in February 2021 required 22 major cities to provide at least 10% of the total land supply for the construction of rental housing (NIFD, 2021). However, only 1 out of the 22 major cities accomplished the task while 14 cities failed to achieve even 30 percent of the planned amount of rental land provision (MeadinAcademy, 2022). The major reason is that many local governments are not fiscally motivated to provide their scarce land for the construction of rental housing (Yan, et al., 2022b).

As for the difficulty in property acquisition, fierce competition between LTRA companies is another reason except for high property prices. Between 2015 and 2019, LTRA companies rushed to expand their business scale at all costs, because they believed that the capital market would only invest in the one with the largest potential to be the winner-take-all player, who will have the pricing power and gradually raise the price later to achieve a turnaround (Chen, et al., 2022; Jia & Winseck, 2018). Therefore, on the one hand, LTRA companies bid against each other to obtain properties from individual homeowners, and on the other hand, they have to lower the rents to secure customers (Sina News, 2020). This expansion pattern apparently intensifies the competition among companies to acquire properties and poses a high risk to both the company and the tenants, which will be discussed in Section ‘Distrust of LTRA companies.

Another problem in acquiring properties is that a sizable portion of existing private rental housing is of poor quality in some cities (Li, et al., 2021). Renovation of these rentals is quite expensive while the profit is low. Meanwhile, our interview with LTRA companies showed that they were very hesitant about acquiring these substandard rentals because they might have potential safety hazards (Authors, submitted).

Low asset liquidity makes exit difficult

Investing in purpose-built rentals is a risky decision for investors as they need to hold the rentals for a long period. Due to the strict financial regulations and underdeveloped securitization[69] in China, there are very limited ways for investors to cash out. At present, most investors still believe that in-kind sale exit will be the main exit means for LTRA investment in the short term (JLL, 2021). Furthermore, as the LTRA industry in China is still in its nascent stage, there is a lack of reference cases in terms of exit means and asset pricing, which have become one of the most concerning problems for investors (JLL, 2021).

6.4.3 Challenges as perceived by tenants

The well-being of tenants is of vital importance and can be even considered the criterion for a well-functioning PRS (Smith, et al., 2017). By this standard, the PRS in China is still underdeveloped as many tenants living in the PRS have a low satisfaction level (Li, et al., 2021).

Preference for homeownership

The first challenge for the PRS concerns the low status of private renting compared to owning a dwelling. Private renting in China has long been a stigmatized and undesired option for several reasons. First of all, Chinese culture and traditions favour homeownership instead of renting. Owning a home is regarded as a sign of wealth, a symbol of well-being and social status, and even a prerequisite for marriage (Huang, 2004; Wrenn, et al., 2019; Yao, et al., 2013), while renting

69 Securitization is "the process in which certain types of assets are pooled so that they can be repackaged into interest-bearing securities" (Jobst, 2008).

is considered to be a 'long-term financial loss' and 'unstable' by many Chinese (Nie, 2016). Furthermore, homeownership in China is linked to different social welfare such as access to quality public schools and Community Healthcare Service (Huang, et al., 2017). Only the children of homeowners with local hukou (household registration) can attend nearby public schools (Feng & Lu, 2013). Therefore, renting is to some extent only the last resort for people who cannot afford to buy a home.

Poor housing experiences living in private rented housing

A second challenge for the PRS from the viewpoint of the tenants is the low housing quality of the rental dwellings. An online survey of young people living in first-tier cities shows that only 16% of young tenants were satisfied with their housing in 2015 (Sohu News, 2015). Another study, performed in 2020 in Shenzhen, showed that only 31% of the respondents were satisfied with their housing (Li, et al., 2021; Authors, submitted). Tenants living in urban village housing were significantly less satisfied with their residential environment than those living in commercial rented housing and LTRAs. We also found that 41% of tenants experienced at least one form of social exclusion, which was manifested by perceived unequal citizenship rights, perceived losing face, and perceived discrimination (Authors, submitted). Interestingly, social exclusion is significantly associated with sub-sector and leads to lower life satisfaction of private tenants (Authors, submitted). By analysing our qualitative interviews with tenants in Shenzhen, we also found that many tenants have poor living experiences such as frequent rent increases, substandard housing conditions, and insecure tenancy, especially for those living in the informal sector such as urban villages. Furthermore, we found that many tenants had experienced displacement, for various reasons such as the landlord deciding to renovate or sell the dwelling, or the landlord raising the rent to an overly high level (Authors, submitted).

Our previous research has revealed that the poor housing experiences of tenants can be largely attributed to the informality of the PRS, the absence of basic laws and regulations, as well as discrimination from the society and institutions (Li, et al., 2021, Li, et al., 2022; Authors, submitted).

Distrust of LTRA companies

The third challenge is the tenants' distrust of LTRA companies because a large number of LTRA companies have gone bankrupt due to capital chain rupture since 2018 (FinanceChina, 2022; Sohu News, 2020; Xinhua News, 2020b). According to Heimao Complaint (2021), in 2020, the platform received about 55,000 complaints about LTRA companies of which 76% were related to the bankruptcy of LTRA companies.

As described above, some LTRA companies acquire properties at high prices but let them out at low prices to capture market share. However, this expansion model relies heavily on constant capital infusion. Once the rate of liquidity inflow lags behind cost growth, the company quickly runs out of cash to pay for its existing landlords and faces the risk of bankruptcy (Chen, et al., 2022). To maintain cash flow, many LTRA companies induce tenants to pay a large amount of rent for six months or one year. If the tenants cannot afford such a large sum of money, some LTRA companies would introduce a 'rent loan', which means the tenant borrows a lump sum of money from a financial institution to pay the LTRA company, and then the tenant makes monthly repayments to the financial institution (Chen, et al., 2022). Although more than 100 LTRA companies have gone bankrupt due to the cash chain rupture (Beijing News, 2020), COVID-19 in 2020 sparked a storm of bankruptcies around the country. In 2020, 27 LTRA companies closed down in Chengdu alone, involving about 120,000 landlords and tenants (Xinhua News, 2021a). Furthermore, in some cases, tenants do not even know that the LTRA company has used their credit to take out a loan (Shanghai Observer, 2019). These tenants had to continue paying back the loan to the bank, even though they had been evicted from their home by the original landlords. These scandals have further exacerbated tenants' distrust of LTRA company.

In this section, we have identified three problems on each of the three sides based on the literature review and our previous research (see Table 6.2). Next, we are going to explore what solutions can be proposed to cope with these problems.

TABLE 6.2 Challenges of promoting the PRS and possible solutions on the local government, landlord, and tenant sides

	Challenges	Solutions	Action by
On the local government side	The informality of the PRS	Cooperate with LTRA companies and letting agents; Develop a tiered tax system for rental income and exempt the landlords from past unpaid taxes; Implement Affordable Rental Housing Programme	Government
	Reliance on land finance	The central government provides financial support to local governments to provide rental land; Establish a human-centered appraisal system for officials	Central government
	Opposition from homeowners	Increase the number of public schools; Publicize the risk of falling house prices and the acceptance of "equal rights between homeowners and tenants"	Government
On the landlord side	Over-valued properties	Acquire properties in non-core districts and areas near industrial parks	LTRA companies
	Difficulty in acquiring land and properties	Increase rental land provision to private LTRA companies and prevent destructive competitions	Government
	Low asset liquidity makes exit difficult	Introduce REITs into rental housing projects	Government
On the tenant side	Preference for homeownership	Promote equal citizenship rights between tenants and homeowners; Increase the supply of public resources; Advertise the advantages of renting to the public	Government
	Poor housing experiences living in private rented housing	Set minimum living conditions and moderate rent regulation through legislation; Implement Affordable Rental Housing Programme; Establish a tenant association or official mediation department; Eliminate social stigmatization of urban villages	Government
	Distrust of LTRA companies	Strengthen the regulations on LTRA companies and issuers of rent loans	Government

6.5 Proposition of possible solutions based on literature and own research

In this section, we seek to provide some policy recommendations to the government and landlords to deal with the aforementioned challenges of the PRS.

6.5.1 On the local government side

For the government, the first and arguably the most important step is to formalize the PRS by having the tenancies registered at the municipality. This enables local governments to better understand the status of the PRS such as the number of rentals, distribution of location, rent levels, and physical conditions of the rentals. The formalization of the PRS should aim primarily at rentals let out by individual landlords such as urban village housing and commercial rented housing because LTRAs have been formalized (Authors, submitted). We propose three avenues to formalize the PRS. First, local governments could cooperate with letting agents who have extensive information about the PRS as most individual landlords rely on letting agents to seek tenants (Authors, submitted). Second, we suggest local governments should develop a tiered tax system for rental income and exempt the landlords from past unpaid taxes to encourage individual landlords to have their rental contracts registered. Third, the ongoing conversion of individually owned housing into affordable rental housing can be promoted, given that affordable rental housing is managed and allocated by the local government.

The second challenge concerns the reliance on land finance. It is our opinion that land finance reliance has become a major obstacle for the local governments to develop the PRS. To address the two causes of land finance (fiscal decentralization system and pressure on governmental officials to boost GDP growth) identified by Qun, et al. (2015), three avenues can be considered. To start with, the central government could allocate grants to local governments which provide land for the construction of rental housing. Furthermore, local governments could explore other sources of extra-budgetary revenue such as property tax and corporate tax. More importantly, the central government should cease using GDP growth as the main indicator for judging the promotion of officials. Other people-oriented indicators such as citizens' satisfaction, social equality, and newly provided rental land can be considered to measure the performance of government officials.

Finally, the third challenge concerns the opposition from homebuyers, which focuses on two main aspects, namely, tenants crowding out educational resources and potential housing price declines. Therefore, we once again call on local governments to increase the number of public schools to cover the children of tenants. Meanwhile, the government should make it clear in the legal terms and housing purchase contracts that the risk of falling housing prices is taken by the homebuyers themselves. In addition, decrees should be enacted by the central government as soon as possible to provide a legal basis for tenants to have rights to public services. Local governments could increase publicity efforts to promote the acceptance of 'equal rights between homeowners and tenants' among their citizens.

6.5.2 On the landlord side

To cope with the challenge of over-valued properties, LTRA companies are advised by JLL (2021) to acquire housing located in 'non-central' districts and industrial parks. Since LTRA companies target mainly young professionals whose work location is more flexible, many of them tend to value housing quality, design, and accessibility over the central location of the housing (JLL, 2021). In addition, areas near industrial parks are also a good choice to acquire properties because these areas have attracted a large number of enterprises, and subsequently, many young professionals, due to the economies of scale brought about by industrial clustering. Through precise positioning and sound operation, these LTRA projects can often achieve an ideal occupancy rate and rental income (JLL, 2021).

The main reason for the difficulty in acquiring land for LTRA companies is insufficient rental land supply by the local government. Therefore, we recommend that local governments increase the supply of rental land, especially for private LTRA companies. At present, most rental land plots have been acquired by state-owned or municipality-owned companies (JLL, 2021). In addition, measures should be taken to prevent destructive competition between LTRA companies for properties.

With regard to low asset liquidity, REITs might be a good solution. REITs are holding companies or mutual funds that invest in income-producing real estate assets and enable private and institutional investors to hold commercial and residential real estate indirectly (Lizieri, 2009; Wijburg, 2019). The liquidity of REITs is better than that of real estate because investors do not need to hold the in-kind real estate and can trade REITs in the stock market. Rental housing is one of the highly favoured assets in the REITs market due to its large investment scale, long payback period, and stable cash flow. On the other hand, REITs can provide a high-quality exit

channel for rental housing projects to quickly recoup funds and effectively enhance the liquidity of the rental housing market (JLL, 2021).

6.5.3 On the tenant side

The first challenge for tenants concerns the preference for homeownership. According to Williamson (2000), traditions and social norms are extremely difficult to change. However, some tenants expressed that they would be willing to rent for a long time, on the condition that the tenure is stable and their children have the same rights to education as the children of homeowners (Authors, submitted). Thus, private renting seems to be disliked not only because of tradition but also because of the impeded citizenship rights, which is something that could be changed. Therefore, equal citizenship rights between tenants and homeowners must be promoted to make private renting an attractive tenure. Nevertheless, equal citizenship rights can only be achieved gradually given the expected opposition by homeowners and the fact that public resources (especially high-quality education) in the cities are simply not sufficient to cover all residents. This would ask for an increase in the supply of public resources. Apparently, the solutions discussed here go beyond housing policies and are linked to social welfare and citizenship rights, which will not be further elaborated in this paper. However, our previous research has found that people's renting intention is influenced by some specific beliefs, such as "facilitate easy job-changing", "reduce financial pressure", and "avoid housing prices fall" (Li, et al., 2022). Therefore, advertising these advantages of renting to the public could perhaps help balance people's preferences for home ownership and renting.

The second issue concerns the poor housing experience of tenants. Up to now, the law has provided little protection for tenants in China, and the tenant–landlord relationship is highly unbalanced. As a result, private tenants often have little tenure security and poor living conditions. Against this background, legislation and a certain degree of regulation should be in place. For example, local governments should explicitly specify by law the circumstances under which a tenant can be evicted. Besides, we recommend setting minimum housing standards and introducing moderate rent regulation through legislation (e.g., less than 20% or 15% increase within three years following Germany (Deschermeier, et al., 2016)). Given the difficulty of large-scale implementation, it would be wise to first accumulate experience by piloting affordable rental housing. More importantly, measures must be taken to ensure the legislation is followed and violations will be penalized. The establishment of a tenant association or official mediation department can be considered. To promote the social integration of urban village tenants, efforts need to be made to eliminate social stigmatization of urban villages and residents living in them.

Finally, measures should be taken to restore consumers' trust in LTRA companies. In the past decade, the government has taken a laissez-faire approach to LTRA companies to promote the professionalization of the PRS. However, this approach has caused the problem of over-financialization of LTRA companies, which has further led to the bankruptcy of LTRA companies and displacement and monetary loss of tenants (Chen, et al., 2022). We recommend that the government strengthen the regulations on LTRA companies and issuers of rent loans by, for example, prohibiting LTRA companies from using their customers' credit without their knowledge, and setting a cap on advance rent (e.g., three months). Table 6.2 summarizes the possible solutions to address the challenges on the local government, landlord, and tenant sides.

6.6 Conclusion

In recent years, the Chinese government has embarked on the promotion of the PRS to accommodate young people and migrants who cannot afford to buy a home in megacities. However, this initiative faces many challenges that make implementation difficult. The current paper aims to identify the key challenges of promoting the PRS in metropolitan China and to provide policy recommendations to cope with these challenges. The issue under discussion might also be of interest to other countries where the PRS is still in its infancy and lacks certain rules and regulations.

Based on the literature and our own research results, we suggest that the government on the one hand should continue to promote the professionalization of the PRS, for example by increasing the supply of rental land and expanding the implementation of REITs. On the other hand, it is recommended that the government should improve the housing experiences of tenants by promoting equal rights between tenants and owners and setting minimum living conditions and rent regulations.

As has been demonstrated above, the PRS in China is not an isolated island but a system related to many other institutions such as the hukou system, social benefits system, and decentralized fiscal system. Reforming the PRS requires institutional change at the same time. Otherwise, the butterfly effects of the reform should be considered. In addition, the challenges facing the PRS are unlikely to be removed by a single policy or in a short period. Instead, it requires long-term efforts and systemic reform. Due to the lack of official data and reference cases, our

recommendations can be considered preliminary and experimental. Further empirical data, research, and dialogues between different sectors are needed to come up with a systematic plan to reform the PRS in China. Furthermore, since our past research has used Shenzhen as an example, the generalization of the recommendations should be made with caution. Future studies could compare the PRS in other cities with Shenzhen to have a fuller understanding of the PRS in China.

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TOC

7 Summary and conclusion

Since 2015, the central government of China has been promoting the rental housing sector, marking a profound difference from past housing policies that promoted homeownership as a means of boosting the economy. However, these policies and initiatives have achieved limited effects so far. We argue it is due to a lack of understanding of the PRS and different players within it, namely the tenants, landlords, and governments. Therefore, the dissertation aims to gain an in-depth understanding of the tenants, landlords, and governments within the PRS in metropolitan China. Based on the knowledge, the dissertation seeks to explore what initiatives can be taken to achieve a better-functioning PRS.

To achieve the aim, this dissertation uses Tenant-Landlord-Government as its ordering conceptual framework and is organized as follows.
Chapter 2 to 4 investigates tenants' various beliefs towards private renting, their intention to rent a private rental dwelling, and their satisfaction with residential environment and life. More specifically, Chapter 2 examines the determinants for people's intention to rent a private rental dwelling. Chapter 3 and Chapter 4 focus on the satisfaction of private tenants, which is during the tenancy. Chapter 3 proposes a typology to divide the PRS into sub-sectors and evaluates residential satisfaction levels in different sub-sectors. It also examines the determinants of residential satisfaction in different sub-sectors. Chapter 4 explores the determinants for life satisfaction of private tenants and examines the relationship between residential environment, social exclusion, and life satisfaction of tenants. Chapter 5 and Chapter 6 are mainly concerned with landlords and governments, respectively. Chapter 5 studies how different types of landlords manage their properties, and how their management practices influence tenants' housing experiences. While Chapter 6 seeks to identify key challenges towards a well-developed PRS in China and propose possible solutions to cope with the identified challenges. The present chapter summarises the main findings of the thesis, shows the theoretical and policy implications of the research, and proposes the agenda for future research.

7.1 Summary of main findings

7.1.1 Determinants for private renting in metropolitan China

Research question 1: What are the determinants of people's housing tenure choice towards private renting?

Using the Theory of Planned Behaviour (TPB), we designed questionnaires and collected personal data from 476 private tenants living in Shenzhen. We found that people's intention to rent a private rental dwelling was most influenced by their attitudes toward private renting, followed by subjective norm (people's perceived social pressure to rent privately) and perceived behavioural control (people's perceptions of their ability to rent privately). To be able to formulate concrete policies or initiatives to promote private renting, it is important to understand what specific beliefs shape people's attitude, subjective norm, and perceived behavioural control. More specifically, it was found that the more one believed in "renting can facilitate easy job-changing", "renting can reduce financial pressure", and "renting can avoid housing prices fall", the higher his or her intention to rent. In contrast, the more one desires sense of belonging, the lower his or her intention to rent. As for the beliefs that shape people's subjective norm, it was found that the more one valued families' opinion, the higher his or her intention to rent. Regarding the beliefs that shape perceived behavioural control, it was found that the more one believed in "housing prices will rise fast" and the more power one perceived of rental housing shortage, the higher his or her intention to rent. In addition, seven background factors are also included in the analysis, which are gender, educational level, marital status, living with offspring, local hukou, individual income, and occupation type. However, only marital status was found to have significant total effect on renting intention. Those who are married have higher renting intention than the unmarried. These findings have important implications for policy makers who are interested in promoting the PRS. For example, advertising the advantages of renting (facilitate job changing, reduce financial pressure, and avoid housing prices fall) can be considered by the policy makers to improve people's attitude toward private renting. Meanwhile, measures should be taken to enhance the sense of belonging of renters.

Although some factors were found to have insignificant effects on people's intention to rent, the mean values of these factors can also reveal the status quo of the rental housing market, thus leading to some policy implications. For example, 55% of the

respondents believed there was a shortage of good private rented dwellings before they moved in, while 60% of the respondents believed the PRS was unregulated. Therefore, the expansion of the rental housing supply and the enactment of regulations on the private rental market should be taken into consideration by the local government.

7.1.2 Residential satisfaction of private tenants in different sub-sectors

Research question 2: What are the determinants of residential satisfaction in different sub-sectors?

By using the Structure of Housing Provision thesis developed by Ball (1986a, 1986b), three sub-sectors of the PRS were identified, which are the urban village housing, commercial rented housing, and Long-term Rented Apartments (LTRAs). Based on the questionnaire survey in Shenzhen, we examined the characteristics of the three sub-sectors and tenants living in each sub-sector. Furthermore, we evaluated whether the residential satisfaction levels varied significantly in different sub-sectors and the determinants of residential satisfaction in each sub-sector. The results of an ANOVA showed that tenants living in commercial rented housing and LTRAs were more satisfied than those living in urban village housing while the satisfaction levels between commercial housing tenants and LTRA tenants did not differ significantly.

In addition, we examined the determinants of residential satisfaction in different sub-sectors using Ordinary Least Squares (OLS) regression analysis. The regression results showed that the determinants of residential satisfaction vary considerably among different sub-sectors. The presence of a park and less commuting time are two common determinants for residential satisfaction in each sub-sector. For tenants living in urban villages, the statistically significant predictors were household income, educational attainment, occupation, living space, housing layout, presence of cooking facilities, inner-city, presence of shopping mall nearby, “having a written contract” and “ensuring that living conditions are hazard-free”. For commercial housing tenants, the significant determinants were housing layout, “adequate space”, “written contract”, and “maintaining a pest-free environment”. In the LTRA sub-sector, the statistically significant predictors were age, household income, educational attainment, dwelling space, presence of balcony, “adequate privacy”, presence of hospital, and “pest-free”. The results of the study suggest that different groups of tenants have various aspirations about their living conditions. Therefore, policies should be framed accordingly in different sub-sectors.

7.1.3 Social exclusion and life satisfaction of private tenants in different sub-sectors

Research question 3: What is the relationship between residential environment, social exclusion, and life satisfaction of private tenants?

Based on the analysis of data collected from 619 tenants in Shenzhen, we found that 30%, 43%, and 47% of the tenants living in urban village housing, commercial rented housing, and LTRAs were satisfied with their life respectively. The one-way ANOVA results suggested that urban village tenants were significantly less satisfied with their life compared with commercial housing tenants and LTRA tenants. However, no significant difference was found between commercial housing tenants and LTRA tenants concerning life satisfaction.

With regard to the determinants of life satisfaction, we found subjective factors have generally larger impacts on life satisfaction than objective factors. Residential satisfaction has the largest influence on life satisfaction, followed by the perception of reasonable rent. Among other subjective attributes of the residential environment, perception of equal citizenship rights and perception of discrimination were significantly related to life satisfaction. Specifically, the more tenants perceived to have equal rights, the higher levels of life satisfaction they expressed. Perceived discrimination was found to negatively influence life satisfaction. However, perceived losing *mianzi* was not significantly associated with life satisfaction. All objective attributes of the residential environment (except rent) were found to be significantly associated with life satisfaction. More specifically, tenants living in dwellings that are larger than 60 square meters, with better housing quality, with more public facilities nearby, and with more landlord services had significantly higher levels of life satisfaction. In addition, LTRA and commercial housing tenants showed higher life satisfaction than urban village tenants. Among personal characteristics, only commuting time had a significant total effect on life satisfaction. Tenants who spent more than half an hour on commuting were less satisfied with their life.

Concerning the role of social exclusion, we found both perceived equal rights and perceived discrimination have a mediating role between sub-sectors and life satisfaction. To be more specific, tenants living in commercial housing were significantly more likely to perceive equal rights than those living in urban village housing. Meanwhile, the more one perceived equal citizenship rights, the more he or she was satisfied with life. As for perceived discrimination, tenants living in LTRA and commercial housing were less likely to perceive discrimination than urban village tenants. Furthermore, the more one perceived discrimination, the lower his or her life satisfaction.

7.1.4 Landlord's management practices and the influence on the housing experiences of tenants

Research question 4: How do landlords in different sub-sectors manage their rented properties? In what way do landlords' management practices influence the housing experiences of tenants?

By adopting Nieboer's (2005) taxonomy of real estate management, 13 in-depth qualitative interviews were conducted with landlords from different sub-sectors. We found that landlords' management practices in the three sub-sectors vary considerably. In the urban village and commercial housing sub-sectors, housing management activities are mostly on the property management and asset management level, such as tenant seeking, maintenance, rent setting and collection, refurbishment. While management in the LTRA sub-sector is more sophisticated and strategic than those in the urban village sub-sector and commercial housing sub-sector. Besides property management and asset management, LTRA companies are also engaged in portfolio management. In the context of Shenzhen, an important content of portfolio management is to determine whether urban village housing should be incorporated.

With regard to the second research question, in what way landlords' management practices influence the housing experiences of tenants, we found that some landlords' management practices did seriously impact the living experiences of private tenants by undermining the affordability, residential conditions, and tenure security of rental housing. For example, we found the affordability of rental housing can be impacted by frequent rent increase and unauthorized pricing of utilities. Furthermore, we found that landlords' decision to maintain or renovate the housing and facilities they provide directly shape the living experiences of tenants. As for tenure security, we found that many tenants reported to have experienced displacement because their landlords need to renovate or sell the property, or the LTRA company faced severe cash flow problem, or the landlord raised the rent to an unacceptable level. Nevertheless, there are also some management practices that can improve tenants' housing experiences, such as prompt response to tenants' repair requests, providing elegant or new furnishings, and organizing social events.

7.1.5 Challenges facing the PRS and possible solutions

Research question 5: What are the key challenges towards a well-developed PRS and possible solutions to cope with the challenges?

By reviewing both academic and grey literature, we identified three major challenges on the government side, landlord side, tenant side, respectively. The results of our previous research were also used. On the government side, the three challenges are the informality of the PRS, reliance on land finance, and opposition from homeowners. On the landlord side, the three challenges are over-valued properties, difficulty in acquiring land and properties, and difficulty in cashing out due to low asset liquidity. On the tenant side, the three challenges are preference for homeownership, poor housing experiences living in private rented housing, and distrust of LTRA companies. These challenges have hindered the development of LTRA companies, led to a prevailing prejudice against the PRS and poor living experiences of tenants, and complicated the management and regulation of the PRS for governments.

To cope with these challenges, we recommend that the government should formalize the PRS, promote equal citizenship rights between tenants and homeowners, and introduce certain regulations. More specifically, we suggest the central government should provide financial support for local governments to motivate them to increase rental land supply and establish a human-cantered appraisal system for local officials. Local governments should strengthen the regulations on LTRA companies and issuers of rent loans, expanding the implementation of REITs, and setting minimum housing standards and moderate rent regulations.

7.1.6 Synthesis of the results

To develop a better-functioning PRS in metropolitan China, the following key results derived from the research should be taken into account by the policy makers.

1 The PRS is highly heterogeneous and consists of different sub-sectors. Each sub-sector has its own characteristics and accommodates different groups of people who have different needs and expectations of their residential environment. Specifically, urban village tenants were more likely to be married, have a child(ren), and live with families than their counterparts living in commercial housing and LTRA, which suggests urban village tenants were generally on the later stage of the life circle. In contrast, LTRAs accommodate mainly young professionals. In addition, urban

village tenants were apparently overrepresented in the low and lower-middle-income categories and below-bachelor educational attainment categories. While commercial housing tenants were more affluent than other tenants. Housing and neighbourhood conditions and landlord services are also worse in the urban village sub-sector than the other two sub-sectors. Therefore, housing policies should be formulated differently in various sub-sectors. For example, minimum housing standards should be enforced for urban village housing.

2 The measurement of tenants' residential satisfaction and life satisfaction is an important and useful approach to evaluate the functioning of the PRS in a city. Furthermore, knowing the determinants of tenants' satisfaction can help policy makers to better understand their needs and preferences and to make informed decisions about housing policies and programs. For instance, since the presence of a park nearby is the common determinant for residential satisfaction in three sub-sectors, urban planners could consider building public parks in residential areas. In the urban village sub-sector, the most important determinant of residential satisfaction is the presence of cooking facilities in the rental dwelling. Therefore, urban village landlords might consider equipping their rental dwellings with kitchenware.

3 The relationship between sub-sector and tenants' perception of social exclusion (manifested through perceived discrimination, perceived unequal citizenship rights, and perceived losing *mianzi*) should be noticed. It was found that urban village tenants were more likely to perceive social exclusion than commercial housing tenants and LTRA tenants. It implies that urban village might have been a stigmatized sub-sector at the bottom of the social and housing hierarchy. Therefore, measures should be taken to remove the stigma attached to urban villages and facilitate the social inclusion of urban village tenants. One possible way to de-stigmatise urban villages is to upscale a small proportion of urban village housing to meet the needs of higher income groups. More importantly, the overall housing and neighbourhood conditions of urban village housing should be improved. In this way, the general public might gradually change the stereotype of urban villages.

4 Landlords in different sub-sectors have very different management practices, which directly shape the housing experience of tenants. In general, the management practices of LTRA companies are more sophisticated and strategic than individual landlords, namely urban village landlords and commercial housing landlords. LTRA companies can also provide better and more prompt landlord services to the tenants. It can be partly explained by the expertise division, strong capital support, and the use of digital technologies in the LTRA sub-sector. However, to expand their business scale, some LTRA companies adopt a 'rent loan' model, which is to ask the tenants

for a large sum of money (e.g., one year's rent) and use the money to buy property use rights from individual landlords. This model poses significant potential risks to the tenure security and the smooth operation of the enterprises. Therefore, the LTRA sub-sector should be promoted under certain regulations. As for individual landlords, many of them performed unreasonable actions (e.g., frequent rent increase, unauthorized pricing of utilities, providing low-quality facilities) to maximize their rental income. However, the tenants in many cases have limited recourses against these exploitative practices. Therefore, to improve the housing experience of tenants, policies should aim at either empowering the tenants or restricting the power and unruly behaviour of landlords. For example, moderate rent regulation through legislation and the establishment of a tenant association could be considered.

5 From the local governments' perspective, the establishment of a well-functioning PRS poses several major challenges for them. For example, during the past two decades, many Chinese local governments have depended largely on land grant premiums and land tax revenues as two primary sources of their fiscal revenues. Providing scarce urban land for building rental housing will substantially reduce their fiscal revenue. Furthermore, the lack of quality public resources (especially the quality public schools) and opposition from homeowners also make it difficult to realize 'equal rights between tenants and homeowners'. Therefore, the establishment of a well-functioning PRS can be achieved only if other sectors or systems (e.g., tax system, education system) are reformed simultaneously.

7.2 Reflections on the research

7.2.1 Reflections on the theories

This research has adopted a variety of theories or analytical frameworks to develop research methods and answer different research questions. Most of these theories have rarely been used by previous scholars to answer the proposed research questions. Therefore, some of my research findings and my reflections on the theories might be useful for future researchers who are interested in adopting these theories.

Theory of Planned Behaviour (TPB)

Following Lennartz (2013) and Zheng et al., (2019), this study is among the first to apply the Theory of Planned Behaviour (TPB) developed by Ajzen (1991) to investigate people's intention to rent a private rental dwelling. The fit indices of the path analysis model showed that the that intention to rent in the PRS could be explained on the basis of attitude, social norm and perceived behavioural control, conforming the efficacy of the TPB. We also have two reflections on the application of the TPB in our study.

First, we have adopted a retrospective methodology. We asked tenants to recall their intention to rent before they moved to the current dwelling and the various beliefs that they held at the time when they decided to rent a dwelling in the PRS, instead of inquiring about their intention to rent in the future. What is the ideal population for this study? Roughly there are three types of residents: those that live with their parents, those that rent a dwelling and those that own a dwelling. The latter group seems less suitable as most homeowners would not intend to rent because they have already bought a home. Residents that live with their parents are difficult to find using a survey that is randomly distributed on the street. Besides, these residents have probably not seriously thought about the positive and negative consequences of renting a dwelling in the PRS. In contrast, residents that already rent in the PRS have more insight into their beliefs and attitude towards the PRS. However, it would seem unreasonable to ask these tenants about their future renting intention as they already are renting in the PRS. For this reason, the retrospective approach was chosen, which is a compromise given the nature of housing tenure choice. However, we have to admit that this approach could introduce inaccuracy because the respondents might be overly positive toward private renting due to cognitive dissonance reduction (Festinger, 1962). If a person holds two cognitions that are inconsistent with one another, (s)he will experience the pressure of an uncomfortable motivational state called cognitive dissonance, a pressure which (s)he will seek to remove, among other ways, by altering one of the two "dissonant" cognitions (Bem, 1967). In our case, some respondents might dislike renting, but they finally chose to rent for some reason. Therefore, they may alter their attitudes more positively to alleviate their aversive feelings, which thus results in their attitudes being measured overly positive. Therefore, we suggest future studies carry out a longitudinal research design and include only respondents who have a relocation intention in the future.

Second, we found the response rate was quite low during our field survey because of the length of TPB questionnaire. It is because each specific belief has a corresponding outcome evaluation. According to Ajzen (2002), the two items should be multiplied as a new variable. However, this method has been questioned by

many researchers, and they proposed to perform a hierarchical regression analysis before the use of multiplicative terms (Evans, 1991; Schmidt, 1973). In our analysis, we found that the multiplicative rule was disconfirmed based on a hierarchical regression analysis. Thus, future researchers could check whether they should include the multiplicative terms in their studies after they collected a certain amount of samples (e.g., 200 respondents). If the multiplicative rule is disconfirmed, they could choose to include either the strength of beliefs or outcome evaluations for the following respondents. In this way, the length of the questionnaire might be reduced.

Structure of Housing Provision (SHP)

Generally, structures of housing provision are defined by the institutions and agencies participating in the process of housing provision, which refers to processes of production and reproduction, exchange and consumption of housing, and the social relations between these participants (Martens, 1990). In a clarifying paper, Ball and Harloe (1992) emphasise that the concept does not itself 'explain any housing issue' but instead can be seen as an intermediate theoretical tool. Wu (1996) also maintains that SHP is not a specific model or theory, but an operational theoretical concept that can be useful in empirical research. According to Ball (1998), research on housing should concentrate on describing and analysing the development of relationships between the social agencies involved in the production, allocation and consumption of housing and housing services in specific housing categories or SHPs.

This research has empirically demonstrated that the PRS in China is highly diversified and should be analysed within different sub-sectors. For example, the determinants of residential satisfaction and management practices of landlord vary considerably in different sub-sectors. Similarly, the owner-occupied housing sector is also heterogeneous and can be classified into various sub-sectors (e.g., past privatized work unit housing, commercial housing, self-built housing). The SHP concept can help us to dig deeper and gain more nuanced knowledge than using the traditional 'tenure' concept.

Amérigo and Aragones' (1997) theoretical framework of residential/life satisfaction

Chapter 4 adopts Amérigo and Aragones' (1997) theoretical framework to unravel the relationship between residential environment, social exclusion, and life satisfaction. In the original model, Amérigo and Aragones (1997) operationalized subjective attributes of the residential environment by asking the residents to "quantify how he/she perceives the feature (a lot, quite a lot, a little, or not at all) in

his/her own residential environment". The current study seeks to incorporate social exclusion into the model. Although it would theoretically be possible to measure social exclusion in an objective way in some circumstances, this was not feasible for the current study. For this reason, social exclusion was only included in the form of a subjective attribute. However, it was expected that some other objective attributes of the residential environment would influence the perception of social exclusion, such as different structures of housing provision (Somerville, 1998). Our findings have shown that some objective attributes of the residential environment (e.g., sub-sector) have significant effects on social exclusion, which in turn influences residential satisfaction and life satisfaction. Therefore, our key contribution to the theory is that we have broadened the scope of application of the theory by suggesting a new mechanism between residential environment and life satisfaction, which is the mediating effect of the perception of social exclusion.

7.2.2 Limitations of the research

A number of limitations need to be considered regarding the studies described in the present thesis.

First of all, considering the thesis has only used Shenzhen as a case study, generalizations of the results need to be made with prudence. It is because Shenzhen has its own unique characteristics compared with other metropolitan cities. For example, the market share of the PRS in Shenzhen is the highest among all Chinese cities. 77% of the population lives in the PRS in Shenzhen (China Construction News, 2022). In contrast, only 33% and 40% of the population lives in the PRS in Beijing and Shanghai respectively. It is likely that people in Shenzhen are more encouraged by the society to rent privately compared with people in other cities because private renting is more normalized in Shenzhen. Another obvious distinction is that the PRS in Shenzhen is dominated by urban village housing while the share of urban village housing might be much lower in Beijing and Shanghai. For example, only 17% of tenants lived in urban village housing in Beijing in 2010 (Xuan and Zhang, 2010). In turn, other cities likely have other structures of housing provision that we have not considered in the dissertation. For example, an online survey into tenants in Beijing found that 13% of the tenants lived in housing provided by their employers (dan wei) (Xuan and Zhang 2010). Another 13% lived in reformed housing, which is former work unit housing sold to the sitting tenants during the housing reform. Given the fact that each city has its own unique characteristics and history, it is recommended to undertake further research in more cities (especially the mega cities) to gain a sound grasp of the PRS in metropolitan China.

The second limitation is concerned with the data collecting method adopted in our field survey with tenants. We have adopted a non-probability sampling method due to the lack of a complete list of private rental units along with contact information. Constrained by budget and time, we were also unable to collect data in every district of Shenzhen. Although a series of measures have been taken to reduce bias such as handing out questionnaires in different locations and on both weekdays and weekends, our sampling method can still cause sample selection bias. Therefore, future studies are encouraged to adopt a stratified sampling method to secure more representative data about the tenants. It can be achieved by a close collaboration between local governments, LTRA companies, and letting agents. In addition, constrained by resources, some specific types of landlords were not accessed, such as large commercial housing landlords and LTRA companies that adopt the asset-heavy business model. With an increasing number of Chinese cities starting to supply land specific for rental buildings, it is likely that the asset-heavy model will partly replace the current asset-light model. Therefore, more research is needed to understand the management practices of asset-heavy LTRA companies and their influence on tenants.

Third, in the thesis we have conducted qualitative or quantitative research on landlords and tenants. However, the opinions and voice of the local and central governments have been mostly gained through policy documents and literature. Constrained by the network, we were unable to access government officials or policy-makers in Shenzhen or even higher levels. It would be interesting to interview policy makers in different levels of the governments on various issues related to private renting. For instance, future studies could ask policy makers in the central government about their motivation to promote private renting and their long-term plan. It would be informative and valuable to ask officials in the local governments about their concerns and perceived barriers to the development of the PRS. Furthermore, since the central government started to shift the policy focus from promoting PRS to Affordable Rental Housing since 2021, it would be interesting to ask the policy-makers what factors have driven this policy shift.

Fourth, we examined the determinants of residential satisfaction separately in each sub-sector and found differences in residential satisfaction as well as in the determinants between the three sub-sectors (Chapter 3). However, we used the whole sample when we examined the determinants of private renting (Chapter 2) and life satisfaction (Chapter 4). We made this choice because we have used a path analysis as the statistical model in Chapter 2 and Chapter 4, and the sample sizes of the LTRA tenants and commercial housing tenants are insufficient to perform a path analysis in each of these groups. Since we have found that the three sub-sectors vary considerably, it is likely that the determinants of private renting and life

satisfaction might vary in different sub-sectors. Therefore, we suggest that future studies should collect adequately sized samples in each sub-sector to perform a multi-group path analysis.

7.2.3 Agenda for future research

In addition to filling the gaps mentioned above, future studies could focus on the following interesting and important directions.

First, future studies could explore possible pathways towards “equal rights between tenants and homeowners” (zugou tongquan in Chinese). In this dissertation, we have maintained that zugou tongquan is an important feature of a well-functioning PRS. The State Council (2022) also made it clear in the Outline of the Strategic Plan (2022-2035) that “progressively making tenants and homeowners have equal rights in terms of access to public services” is one of the main goals of developing the PRS. However, it is almost impossible to achieve zugou tongquan under the present education system. One the one hand, quality public schools are scarce resources in Chinese cities. The number of seats in these schools is simply not enough to cover all the children in the city. On the other hand, zugou bingju may well lead to a decline in housing prices, which would further result in strong oppositions from homeowners, especially for those who have bought properties at high prices in the attendance zone of a high-quality school so that their children can have access to this school (Yang et al., 2018). How to reach an agreement between homeowners and tenants deserves further investigation.

The second direction for future research concerns the treatment of urban villages and its potential effects on the PRS. We have empirically shown that urban village tenants have lower residential satisfaction and life satisfaction but higher social exclusion than LTRA tenants and commercial housing tenants. The neighbourhood and housing conditions in urban villages are also substandard. From this viewpoint, measures must be taken to address these issues. Should urban villages be demolished, upgraded, or maintained as they are? Should the local government marketize the urban villages by granting the villagers full rights to dispose of their properties and land? Will the marketization of urban villages lead to gentrification or a more robust PRS? Future studies could seek to answer these questions by probing into the views of urban villagers and investigating the ongoing urban regeneration projects (Tan et al., 2019).

Finally, the influence of Affordable Rental Housing programme on the PRS could be further studied. As of November 2022, there are only a handful of Affordable Rental Housing projects in operation across the country, which makes it difficult to assess its performance and role in the housing system. Although Affordable Rental Housing is technically not Private Rental Housing, it is also inappropriate to count it as social renting because the rent level is only slightly lower than private renting (in most cases 90% of the market level). More importantly, it is not aimed at low-income households as public rental housing. Instead, it is more of a means for cities to attract talents, who are generally paid above average wages. Since there is a large overlap between the target population of Affordable Rental Housing and the PRS, massive construction of Affordable Rental Housing may extract the tenants from the PRS and lead to the residualization[70] of the PRS. Residualisation of the PRS can happen because Affordable Rental Housing has generally better housing conditions, stronger tenure security, but lower prices than private rentals. Tenants in the PRS have every reason to move to Affordable Rental Housing if they are offered the opportunity. In contrast, those who remain in the PRS will be the non-talents or low-income households. Besides, the construction of Affordable Rental Housing will lead to a decrease in market rent level, according to neoclassical economic theories. To compete for tenants, landlords in the PRS then have to make a choice between reducing the rent or converting their housing into Affordable Rental Housing. If the landlords choose to reduce their rents, they would probably also reduce their investment in housing maintenance to achieve a certain return rate, which would result in a decline in the overall housing quality of the PRS. However, it is also possible that private landlords will lower their return expectations and improve the condition of their housing and services to compete with Affordable Rental Housing. Some interesting research questions arise based on above analysis: if the Affordable Rental Housing Programme becomes a profitable business, what is the role of local governments and their affiliated companies[71]? Are they state landlords in a sense? Will the implementation of Affordable Rental Housing Programme lead to the residualization of the PRS or a more competitive rental market that has an added value for the society? Further studies with more focus on the relationship between Affordable Rental Housing and the PRS are encouraged.

70 Residualisation was originally used to describe "the case that social housing tenants who have the means often choose to exit this tenure, leaving behind neighbourhoods comprised of those with least resources and opportunities" (AHURI, 2019).

71 Most big cities in China have their own Chengtou (short for Chengshi Jianshe Touzi Gongsi, urban development and investment corporations), which are state-owned enterprises specialized in business ranging from infrastructure construction and utility management to large-scale land development (Feng, et al., 2022).

7.3 Final statement

Although the size of the PRS has increased substantially in metropolitan China, the PRS is still in its infancy of development. Using Shenzhen as a case study, this dissertation has developed an in-depth understanding of the PRS in metropolitan China and come up with policy recommendations to improve the functioning of the PRS. Some of the recommendations (e.g., equipping urban village housing with kitchenware) are more specific and easier to implement than the others (e.g., ensuring tenants and homeowners have equal rights in terms of access to public services). It is because the later requires a more fundamental change in other institutions such as the hukou system and education system. It is therefore difficult at the moment to predict when the PRS in China will eventually be developed. Nevertheless, the central government has recently written 'progressively make tenants and homeowners have equal rights in terms of access to public services' into its Strategic Plan for 2022-2035 (State Council, 2022). This demonstrates the government's determination to reform the PRS and promote equality. I am convinced that many interesting and fundamental changes in the PRS as well as in the other institutions will be witnessed in the near future. By then China will take a big step towards social justice.

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Appendices

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APPENDIX A

Chapter 2

TABLE APP.A.1 Generalized intention and reflective indicators of attitude, SN, and PBC

Variables	Value	Mean (S.D.)
Intention Before the move to my current dwelling:	1 – low intention **7 – high intention**	**5.10 (1.60)**
I intended to live in a private rented dwelling	1 - strongly disagree 7 – strongly agree	5.15 (1.72)
I wanted to live in a private rented dwelling	1 - strongly disagree 7 – strongly agree	4.95 (1.77)
I planned to live in a private rented dwelling	1 - strongly disagree 7 – strongly agree	5.20 (1.68)
Attitude Before the move to my current dwelling:	1 –negative attitude **7 – positive attitude**	**4.66 (1.47)**
I thought living in a private rented dwelling was…	1 – unpleasant 7 – pleasant	4.58 (1.62)
I thought living in a private rented dwelling was…	1 – bad 7 – good	4.70 (1.56)
I thought living in a private rented dwelling was…	1 – worthless 7 – valuable	4.71 (1.61)
Subjective norm Before the move to my current dwelling:	1 – weak SN **7 – strong SN**	**4.87 (1.43)**
Most people who are important to me think that … live in a private rental dwelling	1 – I should not 7 – I should	4.74 (1.69)
The people in my life whose opinions I value … of me living in a private rental dwelling.	1 – would not approve 7 – would approve	4.65 (1.67)
Many people like me live in a private rental dwelling	1 – strongly disagree 7 – strongly agree	5.22 (1.52)
Perceived behavioral control Before the move to my current dwelling:	1 – low PBC **7 – high PBC**	**4.79 (1.37)**
I was confident that I could live in a private rented dwelling if I wanted to	1 - strongly disagree 7 – strongly agree	4.86 (1.58)
I thought that finding a private rented dwelling would be…	1–extremely difficult 7 – extremely easy	4.67 (1.55)
Whether I live in a private rented dwelling or not was entirely up to me	1 - strongly disagree 7 – strongly agree	4.83 (1.80)

TABLE APP.A.2 Procedure of hierarchical regression analysis and results

Stage 1	Regress attitude, subjective norm, and perceived behavioral control separately on beliefs (bb_i; nb_i; cb_i), i.e., attitude is predicted by the behavioral beliefs, the subjective norm by the normative beliefs, and perceived behavioral control by the control beliefs.
Stage 2	Extend the three regression models from Stage 1 with the outcome evaluations (bbe_i), motivation to comply(nbe_i), and perceived power (cbe_i)respectively.
Stage 3	Extend the three regression models from stage 2 with the multiplication of beliefs and evaluations (i.e., bb_i*bbe_i, nb_i*nbe_i, cb_i*cbe_i) respectively.

TABLE APP.A.3 Regression results of attitude on behavioral beliefs and outcome evaluations

Variables	Unstandardized Coefficients	Standardized Coefficients	R^2 change from Stage 2 to 3	F change	Sig. F change
Constant	2.978		0.006	0.838	0.523
bb1	0.171***	0.214			
bb2	0.139**	0.163			
bb3	0.084*	0.112			
bb4	0.024	0.029			
bb5	-0.116**	-0.139			
bbe1	0.006	0.007			
bbe2	0.136**	0.153			
bbe3	0.039	0.046			
bbe4	-0.065	-0.076			
bbe5	-0.088*	-0.107			

*p<0.05; **p<0.01; ***p<0.001

TABLE APP.A.4 Regression results of SN on normative beliefs and motivation to comply

Variables	Unstandardized Coefficients	Standardized Coefficients	R^2 change from Stage 2 to 3	F change	Sig. F change
Constant	2.644		0.000	0.133	0.876
nb1	-0.082	-0.105			
nb2	0.008	0.010			
nbe1	0.327***	0.388			
nbe2	0.138**	0.160			

*p<0.05; **p<0.01; ***p<0.001

TABLE APP.A.5 Regression results of PBC on control beliefs and perceived power

Variables	Unstandardized Coefficients	Standardized Coefficients	R^2 change from Stage 2 to 3	F change	Sig. F change
Constant	3.007		0.022	3.905	0.004
cb1	.119**	.142			
cb2	.092	.107			
cb3	.007	.008			
cb4	.136**	.160			
cbe1	.225***	.236			
cbe2	-.027	-.029			
cbe3	.094	.107			
cbe4	-.045	-.051			

*p<0.05; **p<0.01; ***p<0.001

APPENDIX B

Chapter 3

FIG. APP.B.1 Commercial housing in Nanshan district. Source: Taken by Chi Jin

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FIG. APP.B.2 Urban village housing in Baoan district. Source: Taken by Chi Jin

FIG. APP.B.3 LTRA in Baoan district. Source: Taken by Chi Jin

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APPENDIX C

Chapter 5

TABLE APP.C.1 Landlords and agents information

Number	Gender	Age	Category	Number of owned / managed rentals	Years of experience
1	F	50	Commercial housing landlord	1	10
2	M	33	Commercial housing landlord	1	5
3	F	40	Commercial housing landlord	2	3
4	F	26	Urban village landlord	24	1
5	M	38	Urban village landlord	30	5
6	M	45	Urban village landlord	30	10+
7	F	60	Manager of urban village housing	35	10+
8	M	38	Manager of urban village housing	45	8
9	M	32	Steward of LTRA company A	1000+	4
10	M	47	Founder of a LTRA company B	600-700	8
11	M	29	Executive of LTRA company C	7500	3
12	M	32	Letting agent	100	4
13	F	30	Letting agent	1000+	4

TABLE APP.C.2 TABLE APP.C.2 Tenant information

Characteristics	Number
Gender	
Male	8
Female	9
Mean age	
Mean age	29.3
Migration status	
Local	2
Migrant	15
Have experience living in	
Urban village housing	8
Commercial housing	11
LTRA	7

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Curriculum vitae

Bo Li was born on 17 February 1993 in Hubei, China. He had his high school education at the No.4 High School of Xiangyang, between 2008 and 2011. In 2015, he received his bachelor's degree in Civil Engineering from the Faculty of Architecture and Environment of Sichuan University. He received his master's degree in Architecture & Civil Engineering from Chongqing University in 2018. In the same year, he started his PhD research at the Faculty of Architecture & Built Environment, Delft University of Technology. The thesis was written under the supervision of Professor Peter Boelhouwer, Dr. Harry van der Heijden, and Dr. Sylvia J.T. Jansen. His research interests focus on the private rented sector, landlordism, young people's housing, and inequities in housing and regional development.

List of published or under review articles contained in this dissertation

Li, B., Jin, C., Jansen, S. J., van der Heijden, H., & Boelhouwer, P. (2021). Residential satisfaction of private tenants in China's superstar cities: The case of Shenzhen, China. *Cities*, *118*, 103355.

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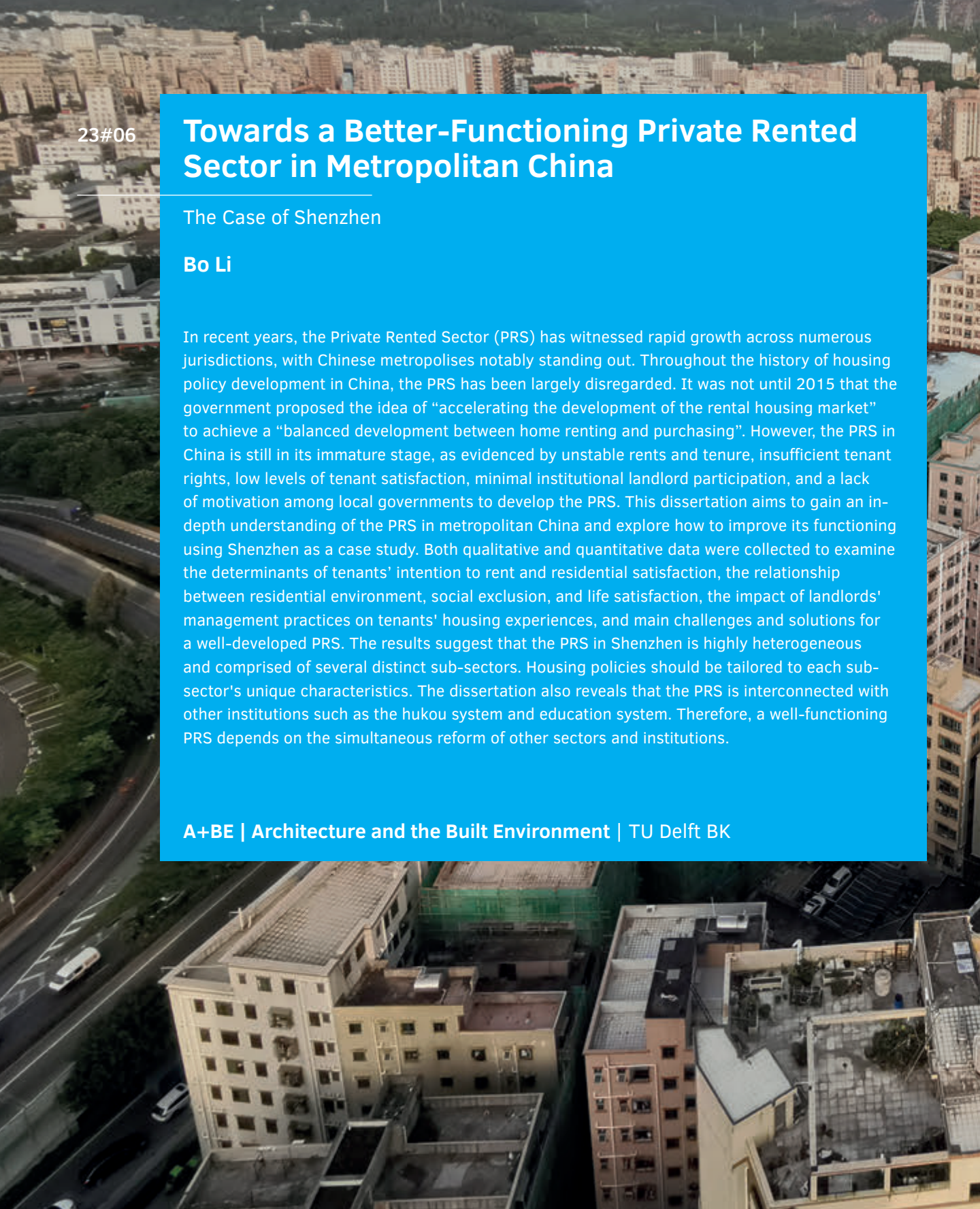

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Towards a Better-Functioning Private Rented Sector in Metropolitan China

The Case of Shenzhen

Bo Li

In recent years, the Private Rented Sector (PRS) has witnessed rapid growth across numerous jurisdictions, with Chinese metropolises notably standing out. Throughout the history of housing policy development in China, the PRS has been largely disregarded. It was not until 2015 that the government proposed the idea of “accelerating the development of the rental housing market” to achieve a “balanced development between home renting and purchasing”. However, the PRS in China is still in its immature stage, as evidenced by unstable rents and tenure, insufficient tenant rights, low levels of tenant satisfaction, minimal institutional landlord participation, and a lack of motivation among local governments to develop the PRS. This dissertation aims to gain an in-depth understanding of the PRS in metropolitan China and explore how to improve its functioning using Shenzhen as a case study. Both qualitative and quantitative data were collected to examine the determinants of tenants’ intention to rent and residential satisfaction, the relationship between residential environment, social exclusion, and life satisfaction, the impact of landlords' management practices on tenants' housing experiences, and main challenges and solutions for a well-developed PRS. The results suggest that the PRS in Shenzhen is highly heterogeneous and comprised of several distinct sub-sectors. Housing policies should be tailored to each sub-sector's unique characteristics. The dissertation also reveals that the PRS is interconnected with other institutions such as the hukou system and education system. Therefore, a well-functioning PRS depends on the simultaneous reform of other sectors and institutions.

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