

Do REITs Charge Higher Rents in the Purpose-Built Rental Market?

**Evidence from the Greater Toronto
and Metro Vancouver Areas**

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Author: Wahid Abdallah, Senior Specialist, Housing Research

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Abstract

Canada is in the midst of a housing affordability crisis, and increasing housing supply, including that in the rental market, is widely regarded as a strategy that could improve affordability. Increasing supply, however, requires significant investment in the housing market. Real estate investment trusts (REITs) could be one of the potential sources of private investment in the housing market, as they could access capital using their ability to raise funds from stock markets. It is then important to understand whether there are any rental market implications (differences in rents, for example) of such investments. This paper investigates the spatial pattern of REIT-owned purpose-built rental (PBR) properties in Toronto and Vancouver and its effect on rent. We combine CMHC's Rental Market Survey data with Altus property transaction data to create a timeline of ownership for a large number of PBR properties. We use change in ownership in our study period (2008–2022) as a treatment (or an event) to construct a quasi-experimental design and use a staggered difference-in-difference setup to estimate the effect of REITs' ownership on rent. We find that: i. REITs own a relatively small (10%) share of all PBR properties in the Greater Toronto Area and the Metro Vancouver (or Greater Vancouver Area), ii. REIT-owned properties are clustered in a few neighbourhoods, iii. REIT-owned properties are located closer to various amenities compared to properties owned by other investors, and iv. there is an increase in rents after a REIT purchases property; however, this effect disappears if we narrow the comparison of REIT-owned properties' rents to rents in other properties from the same neighbourhood (so that distance to amenities remains similar between REIT and non-REIT properties). In short, there is no difference in rents in REIT-owned and non-REIT-owned PBR properties when the comparison is like-to-like.

Executive Summary

Canada's rental market is going through an affordability crisis. There is a consensus that a lack of housing supply is its root cause and significant private investment is needed in the purpose-built rental (PBR) housing sector to fill this supply gap. Real estate investment trusts (REITs), with their ability to raise significant resources as publicly traded companies, could be an important source of new housing supply without causing financial pressure on the banking sector.

However, it is not clear in the literature what implications REITs could have on the rental market. On the one hand, REITs, with their access to capital, can have scale effects, lowering maintenance and operational costs, and can improve building quality through renovations, then pass the resulting savings on to tenants. On the other hand, the increased presence of REITs in the rental market may grant them a certain market power and lead to higher rents. A more careful examination of the impact of REITs' ownership of housing units is needed to better understand these various opposing effects.

This paper intends to investigate the effects of REIT ownership of PBR properties on market rent. We follow a two-step methodology in this study. First, we combine three datasets: i. the Rental Market Survey, for rents and other structure-specific information, ii. the Altus transaction database for transaction dates and the names of buyers of PBR properties, and iii. the Proximity Measures Database (PMD), for the latitude and longitude of amenities. Second, we track changes in PBR property ownership with the help of transaction dates and use change in ownership as a treatment (or event) to examine the effects of REITs' ownership on rents using a staggered difference-in-difference setting. We also use the PMD to calculate the distance of PBR structures from various amenities.

We find three important results:

1. REITs own roughly 10% of all PBR units in our matched data, and these PBR properties are clustered in a few neighbourhoods, suggesting that REITs are not a major player in the GTA and GVA PBR markets.

2. The REIT-owned PBR properties are located closer to various amenities than other PBR properties, suggesting that REITs may pursue an investment strategy of locating their properties in neighbourhoods with gentrification potential.
3. There is no difference in rents in REIT-owned and non-REIT-owned PBR units when similar properties are compared. There is a minor increase (1.7% to 5%) in rents after a REIT purchases a PBR property if we use our full dataset, but if we restrict our comparison to PBR properties in the same neighbourhood, so that distance to amenities remains similar for REIT and non-REIT properties, the rent effect disappears.

Our findings have several implications and caveats. First, REITs' investment strategies seem to focus on properties where building quality and neighbourhood amenities create a rent premium compared to other PBR properties. After controlling for these factors, the effect of REIT ownership on rent becomes statistically insignificant. Second, since the market share of REITs is small, they likely have to act as a competitive landlord and therefore do not have much room to charge a higher rent. This may change if they gain more market power. Future research in this area may be informative. Third, we have not investigated jurisdictions without rent control (for example, Alberta), something future research could look into. Finally, there are other institutional investors, like venture capitalists, asset management firms, pension funds, etc., which may have different behavioural patterns than those of REITs.

Résumé

Le marché locatif canadien est en pleine crise de l'abordabilité. L'accord se fait généralement sur l'idée que la cause principale de cette crise est une pénurie de logements et que des investissements privés substantiels dans les logements destinés à la location sont nécessaires pour en augmenter l'offre. Les fiducies de placement immobilier (FPI), étant des sociétés cotées en bourse, ont accès à des ressources considérables qui pourraient être mobilisées pour créer de nouveaux logements sans mettre de la pression financière sur le secteur bancaire.

Toutefois, selon la documentation analysée, il n'est pas clair quels effets la présence des FPI pourrait avoir sur le marché locatif. D'une part, les FPI peuvent, grâce à leur accès au capital, réaliser des économies d'échelle et ainsi réduire les coûts opérationnels et d'entretien et peuvent aussi améliorer la qualité des bâtiments en les rénovant, ensuite transmettre ces économies aux locataires. D'autre part, une présence accrue des FPI sur le marché locatif pourrait leur accorder une certaine emprise sur le marché et ainsi entraîner une hausse des loyers. Un examen approfondi de l'effet de la présence des FPI sur le marché locatif est nécessaire pour mieux comprendre ces forces contraires.

Ce rapport vise à examiner les effets de la détention de logements destinés à la location par des FPI sur les loyers du marché. Nous suivons une méthodologie en deux étapes pour procéder à notre analyse. D'abord, nous recueillons et croisons des données provenant de trois sources : i. l'Enquête sur les logements locatifs, pour les loyers et d'autres données propres aux immeubles; ii. la base de données des transactions immobilières d'Altus, pour les dates des transactions et les noms des acheteurs de logements destinés à la location; iii. la Base de données des mesures de proximité, qui donne la latitude et la longitude des commodités et services. Deuxièmement, nous suivons les transferts de propriété des logements destinés à la location en repérant les dates des transactions et considérons ces transferts comme des traitements (ou événements) pour évaluer les effets sur les loyers de la détention de logements par les FPI en appliquant une méthode des doubles différences échelonnées. Nous utilisons aussi la Base de données des mesures de proximité pour calculer la distance entre les immeubles de logements destinés à la location et les commodités et services.

Notre analyse mène à trois principales constatations :

1. Environ 10 % des logements destinés à la location présents dans nos données croisées appartiennent à des FPI. De plus, ces logements sont concentrés dans un petit nombre de quartiers. Ensemble, ces

résultats indiquent que les FPI ne sont pas des acteurs majeurs sur les marchés locatifs des régions du Grand Toronto et du Grand Vancouver.

2. Les logements appartenant aux FPI sont situés plus près de divers services et commodités que d'autres logements destinés à la location. Cela suggère que la stratégie d'investissement des FPI consiste notamment à acheter des logements dans des quartiers ayant un potentiel d'embourgeoisement.
3. Lorsqu'on compare des logements destinés à la location semblables, il n'y a aucune différence entre les loyers des logements appartenant à des FPI et ceux des logements appartenant à d'autres types de propriétaires. Si on considère toutes les données, on voit une légère hausse des loyers (pouvant aller de 1,7 % à 5 %) après l'achat d'un immeuble par une FPI. Cependant, si on limite la comparaison aux logements situés dans un même quartier (pour que la proximité aux commodités et services des logements des FPI soit à peu près la même que celle des logements appartenant à d'autres propriétaires), cet effet disparaît.

Il y a quand même quelques mises en garde qui doivent accompagner nos résultats. D'abord, les FPI semblent viser des immeubles dont la qualité et la proximité aux commodités et services permettent d'exiger des loyers plus élevés que ceux des autres logements destinés à la location. Or, si on tient compte de ces facteurs, l'effet sur les loyers de la détention par une FPI devient statistiquement insignifiant. Deuxièmement, étant donné la petite taille de la part du marché des FPI, ces derniers doivent vraisemblablement agir comme des propriétaires concurrentiels et n'ont donc pas le pouvoir d'exiger des loyers beaucoup plus élevés. Cela pourrait changer si les FPI avaient plus d'emprise sur le marché. Des recherches plus approfondies sur cette question pourraient révéler des données intéressantes. Troisièmement, nous n'avons pas examiné les territoires ou administrations qui n'ont pas de contrôle des loyers (l'Alberta, par exemple). Ce serait un bon sujet pour des recherches futures. Enfin, il existe d'autres investisseurs institutionnels, comme les sociétés de capital de risque, les sociétés de gestion d'actifs et les caisses de retraite, qui pourraient avoir des comportements différents de ceux des FPI.

Introduction

Canada's rental market is going through an affordability crisis. CMHC's various rounds of Rental Market Reports highlight that market rents have been growing fast nationally for the last few years (8% in 2023 and 5% in 2024). There is a consensus that a lack of housing supply is the root cause of this affordability crisis. Indeed, from 2005 until 2014, the average annual number of purpose-built rental completions in the six largest census metropolitan areas (CMAs) amounted to only 3,450 units (CMHC fall 2024 Housing Supply Report).¹ While that number went up to almost 14,000 units from 2015 to 2024, the lack of supply in the previous decade, coupled with population growth in recent years, has strained the rental housing markets in Canada, especially in large CMAs like Toronto and Vancouver. Significant private investment is needed in the purpose-built rental (PBR) housing sector to fill this supply gap. Real estate investment trusts (REITs), with their ability to raise significant resources as publicly traded companies, can play an important role without causing financial pressure on the banking sector.

However, it is not clear in the literature what implications REITs may have on the rental market. On the one hand, REITs may have a positive impact. With their access to capital, REITs can expand and gain from potential scale effects, resulting in lower operational and maintenance costs (Scherrer (1995), Bers and Springer (1997), Zells (1997), Yang (2001)). They could also further invest in their PBR properties by doing landscaping and making renovations and retrofits, thereby improving building quality (Mills (2019), Nethercote (2020), Fuller (2021)). These investments may then have positive spillover effects on the neighbourhood, e.g., crime reduction (Gurun et al. 2023). On the other hand, a few studies (August and Walks (2018), August (2020), August (2022)) suggest that property improvements made by REITs and other institutional investors may be motivated by the possibility of higher rents in turnover units and above-guideline increases in rents, and that that might encourage the forcible displacement of long-term tenants in rent control-vacancy decontrol cities like Toronto. Furthermore, the economies of scale available to REITs may also provide them with more market power and a greater ability to assess markets and diversify risk, resulting in higher rents (Brady and Conlin (2004), Hanlon III et al. (2009)). With these various opposing effects, it is not clear which ones will eventually dominate. As a result, whether REITs are involved in a practice that eventually results in higher rents in Canada remains an open research question.

This paper intends to investigate the effects of REIT ownership of PBR properties on market rent. The paper considers several research questions. First, we explore the spatial variation of REITs' holdings across cities and neighbourhoods in the Greater Toronto Area (GTA) and the Metro Vancouver (i.e., Greater Vancouver Area or GVA) to understand potential clustering or dispersion in their locations. Through this exercise, we intend to find out whether REITs have any market power in the GTA and the GVA. Second, we examine whether REIT properties are located closer to amenities compared to other properties. Both market power and proximity to amenities are crucial spatial factors that could cause higher rents. And third, we test whether rents are higher in REIT-owned PBR properties compared to non-REIT-owned PBR properties.

We follow a two-step methodology in this study. In the first step, we combine three datasets: i. the Rental Market Survey, which provides rents and other structure-specific information, ii. the Altus transaction database, which contains transaction dates and the names of buyers and sellers of PBR properties, and iii. the Proximity Measures Database (PMD), which has the latitude and longitude of amenities. In the second step, we track changes in PBR property ownership with the help of transaction dates and use change in ownership as a treatment to design a staggered difference-in-difference (D-i-D) setting. We estimate our D-i-D by using three different models: i. a two-

¹ Condominium apartment completions during the same period in the six largest CMAs were 19,799 annually, reducing the pressure on the rental market to some extent.

way fixed effect (TWFE) model, ii. the Callaway and Sant’Anna (2021) estimator, and iii. a synthetic difference-in-difference model. We also use the PMD to calculate the distance from PBR structures to various amenities.

We find three important results:

1. REITs own roughly 10% of all PBR units in our matched data, and these PBR properties are clustered in a few neighbourhoods, suggesting that REITs are not a major player in the GTA and GVA PBR markets.
2. The REIT-owned PBR properties are located closer to various amenities than other PBR properties. This suggests that REITs may follow an investment strategy of locating their properties in neighbourhoods with gentrification or gentrification potential.
3. There is no difference in rents in REIT-owned and non-REIT-owned PBR properties when comparing like to like. There is an increase in rents after a REIT purchases a PBR property. However, if we restrict our comparison of REIT and non-REIT properties to only those located in the same neighbourhood, so that distance to amenities remains similar between them, the rent effect disappears.

Several studies have examined ownership status, including ownership by REITs, and its various potential effects on rents in housing markets. Brady and Conlin (2004) find that REIT-owned hotels with amenities similar to those of non-REIT-owned hotels do not have significantly higher prices or revenue per average room, or in general. However, REITs do have higher prices or revenue per average room when compared to other similar-sized companies. This increase can be attributed to the type of hotels (high-end or mid-scale) that they own, which forms a particular segment in the hotel industry. Once this segment effect is controlled for, the higher rent effect goes away. Brady and Conlin (2004) also find that REITs are concentrated in a few markets, but market power from such practices does not cause a higher price or revenue per average room. While the study provides important insights, it is not exactly a look at the rental market, and rental markets are different in many ways than the lodging market. Hardin III et al. (2009) explore the PBR market in Atlanta and find that both the rents and occupancy rates of REIT-owned multi-family properties are higher compared to similar non-REIT-owned properties. They use a hedonic pricing model where they control for several operational (for example, scale and branding) and property characteristics. The authors do not, however, screen out the neighbourhood effects and effects of time-invariant unobservable property characteristics. As a result, the higher rents reported in their paper may have omitted variable bias.

Gurun, Wu, Xiao and Xiao (2023) implement a more careful research design to investigate the effect of institutional investor ownership of rental properties on market rent in the United States. They use institutional mergers as a treatment (or event) and test whether they result in higher market rents (stemming from increased market power). Applying a difference-in-difference approach, they find that market rents go up in the neighbourhoods where both parties in the merger have properties (i.e., overlapped neighbourhoods) compared to non-overlapped neighbourhoods. They also find that the crime rate falls in overlapped neighbourhoods.

Our analysis is similar in spirit and design to Gurun et al. (2023), but also different in other ways. Our design involves controlling for unobservable time-invariant property characteristics as well as neighbourhood effects so that a more precise estimate of the effect of REIT ownership becomes feasible. Our study is different in that we use property purchases by REITs as the treatment (event). Furthermore, our rich dataset allows us to conduct the study at the structure-bedroom level (while Gurun et al. (2023) conduct the study at the neighbourhood level) and helps us to choose the comparison groups from the same neighbourhoods where property purchases by REITs take place. As a result, we are able to conduct our analysis at a more granular level.

The rest of the paper detailing our analysis is as follows: Section II describes the data we use for this study. Section III provides an outline of our econometric strategy. Section IV gives the descriptive statistics, presenting an overview of the rental market and REIT ownership in the PBR market. Section V depicts our major findings. Section VI concludes.

Analysis

Data

The data for this study comes from three sources. First, the Rental Market Survey (RMS) data collected by CMHC. The RMS is an annual structure-level survey that covers most purpose-built rental (PBR) properties and that has been conducted since the 1980s. The survey ensures that any structure that has 20 or more units is covered, every year, in urban areas with a population of more than 10,000. The survey dataset contains the address of the structure, construction year, number of units, number of vacant units, rent amounts in different units, etc. Each structure is geocoded with its latitude and longitude. The survey also collects data on turnover rates since 2017. The survey is conducted once every year in October and is the prime data source for annual rental market statistics in Canada. The survey assigns a structure ID to each structure, which allows researchers to create a panel dataset at the structure level. This paper uses RMS data from 2008 until 2022, covering 15,256 structures, and a balanced panel data is available for 11,224 of those structures. The RMS does not, however, contain the ownership information of a structure.

The second data source is the commercial and multi-unit residential property transaction data gathered by Altus Group in the Toronto and Vancouver census metropolitan areas (CMAs) and in surrounding cities. The dataset contains the legal and operational names of the buyers and sellers, date of transaction, purchase amount, address of the property, etc. The data ranges from 1996 to 2023. We define a buyer or seller as a REIT if it has the term “REIT” or “real estate investment trust” in its legal or operational name. The rest of the buyers/sellers are treated as non-REITs.

The third dataset is the Proximity Measures Database (PMD). The PMD contains the centroid-level data of 10 important amenities, namely, workplace, pharmacy, childcare, healthcare, grocery, primary school, secondary school, library, parks, and transit. This is a static dataset prepared by Statistics Canada. We use the 2022 updated data in our analysis.

We match, at the structure level, these datasets to create a final dataset for our study. Matching RMS and Altus transaction data helps us identify the owner of a structure in the RMS, while the PMD provides a measure of distance between a structure and each amenity. RMS and Altus data are matched through addresses. For the RMS and PMD, nearest distances are computed using the latitude and longitude of RMS properties and those of amenities in the PMD. For RMS-transaction matching, we consider both the buyers’ and sellers’ names to identify ownership information from 2008 to 2022. For all the properties that are in the Altus dataset and are not traded in the period from 2008 to 2022, we identify the buyer of the last transaction in the period from 1996 to 2007 and merge it to the RMS data.

The matching exercise between RMS and Altus data resulted in a much smaller dataset than the initial one. This is expected, since a larger proportion of PBR properties have not been traded at all from 1996 to 2023 and therefore do not appear in Altus transaction data. As a result, the owners of these properties remain unknown. Furthermore, not all the properties in the Altus data are in the RMS for several reasons. First, a large number of them are located outside but adjoining the boundaries of the GTA or the GVA (e.g., Abbotsford). Second, some properties included in Altus transaction data are hotels, chalets, and mixed-purpose properties, and not included in the RMS.

Methodology

The structure-level panel data in the RMS and the Altus property transactions database provides us a setting for quasi-experimental design. In particular, the property transaction timing allows us to identify the properties that are purchased by a REIT from a non-REIT entity. We can then use these purchases as a treatment, and the transactions at various years provide us a staggered difference-in-difference (D-i-D) setting. We therefore implement this difference-in-difference setup using the following two-way fixed effect (TWFE) model:

$$Y_{ijkt} = \alpha + \beta_1 REIT_{ikt} + \sum_{l=2} \beta_l X_{ijklt} + \gamma_i + \delta_j + \tau_t + \epsilon_{ijkt},$$

where Y_{ijkt} is natural log of rent in structure i , bedroom type j in neighbourhood k at year t and $REIT_{ikt}$ is a dummy variable that equals 1 if structure i located in neighbourhood k is owned by a REIT at year t . X_{ijklt} is a vector of control variables that includes: ownership types dummy with base ownership type being real estate companies, vacancy rate in structure i of bedroom type j in neighbourhood k at year t , total number of units in neighbourhood k at year t , vacant number of units in neighbourhood k at year t and average rent in neighbourhood k at year t . γ_i , δ_j and τ_t capture structure, bedroom type and year fixed effects, and ϵ_{ijkt} is the error term.

The above-described TWFE model is a popular choice to fit a staggered (D-i-D) model; however, recent research has indicated two drawbacks to the model and has suggested modifications to the original model (see, for example, de Chaisemartin, and D'Haultfœuille (2022) and Roth, Sant'Anna, Bilinski and Poe (2023)). First, the TWFE model in the staggered setting assumes a constant treatment effect, which is very unlikely to be satisfied. Second, as Goodman-Bacon (2021) showed, it is important to avoid the “bad comparisons,” i.e., the units that are already treated (in this case, structures that are already purchased by REITs), as inclusion of these units will necessarily bias the treatment effect. Several studies have suggested various techniques to take care of these issues, including de Chaisemartin, and D'Haultfœuille (2020), Callaway and Sant'Anna (2021), Sun and Abraham (2021) and Wooldridge (2021). We adopt Callaway and Sant'Anna (2021)'s heterogeneity-robust D-i-D estimator, which also allows us to choose two different comparison groups to a treatment group: i. those that are not yet treated, but will be treated later, and ii. those that are never treated. We choose the ones that are never treated (i.e., those structures that are never the subject of a transaction). Finally, properties that are purchased by non-REIT owners within our study period (2008 to 2022) are also included in the model.

All the D-i-D models make the parallel trend assumption: had there been no treatment, the treatment group and control group would trend in parallel. This assumption, however, may not hold. As a further robustness check, we apply the newly developed synthetic difference-in-difference method (see Arkhangelsky, Athey, Hirshberg, Imbens, and Wager (2021)), which combines the synthetic control method (SCM) developed by Abadie and Gardeazabal (2003) and the standard difference-in-difference method. Like SCM, synthetic D-i-D creates a synthetic version of the treatment group based on pre-treatment observations from a subset of a donor (or control) group such that the synthetic version is trending in parallel at the pre-treatment stage. But unlike SCM, it does not require the synthetic version to be at the same *level*, which makes synthetic D-i-D more flexible. On the other hand, as the control group by construction is synthetic and parallel, the required parallel trend assumption for D-i-D is not needed for synthetic D-i-D. The deviation in trends after the treatment year is then estimated using the standard D-i-D method. The technique employs a valid block bootstrapping method for an average treatment effect on the treated (ATT) estimate and statistical inference (see Arkhangelsky et al. (2021) for details).

Descriptive Statistics

This section will provide a descriptive analysis of REIT ownership in the purpose-built rental (PBR) markets of the GTA and the GVA. We will first discuss the share of REIT ownership of PBR properties in the GTA and the GVA in 2022 and how it evolved since 2008. We then highlight how REIT ownership of PBR properties varies spatially in the GTA and the GVA. We also illustrate how REIT-owned properties fare in terms of distances from various amenities. Finally, we look at how market rents in REIT-owned properties differ from those in non-REIT-owned properties.

Figures 1 and 2 illustrate the distribution of ownership type in the GTA and the GVA in 2022. Figure 1 shows the distribution of ownership in terms of structures. Of all the PBR properties in our matched dataset, about 7.0% are owned by a REIT in the GTA. In the GVA, the proportion is slightly lower (5.96%). It is possible, however, that REIT-owned PBR structures are different in size than non-REIT-owned PBR structures. Furthermore, the number of units is a more direct measure of housing supply and size of rental market than the number of structures, and is presented in Figure 2. REITs have higher share (10%) of PBR property ownership in terms of number of units, and this share is the same in the GTA and the GVA, suggesting that REIT-owned PBR structures are larger (in terms of number of units) than non-REIT-owned PBR structures. Indeed, as Figure 3 shows, REIT-owned PBR structures have, on average, 91 units in the GTA compared to non-REIT-owned PBR structures, which have 59 units, on average. In the GVA, REIT-owned properties have 49 units, compared to 28 units in non-REIT-owned PBR structures. Furthermore, when we compare the age of the REIT-owned buildings with that of the non-REIT-owned ones in terms of number of years since construction, the REIT-owned PBR structures are more recently built in both the GTA and the GVA (by 9.5 years in the GTA and 11 years in the GVA), as Figure 4 shows.

Figure 1: Ownership distribution of purpose-built rental properties, by number of structures, 2022

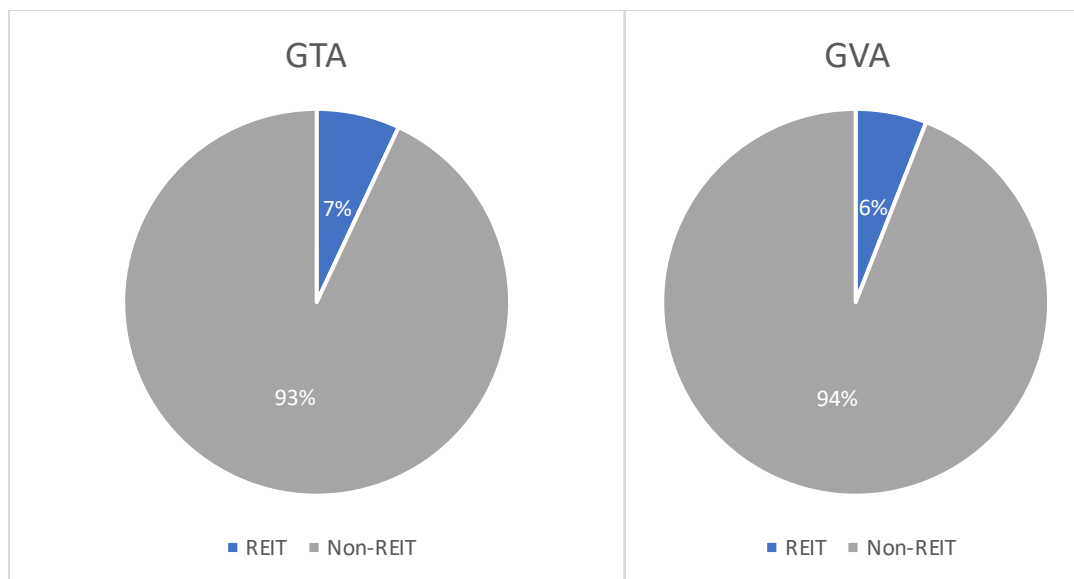


Figure 2: Ownership distribution of purpose-built rental properties, by number of units, 2022

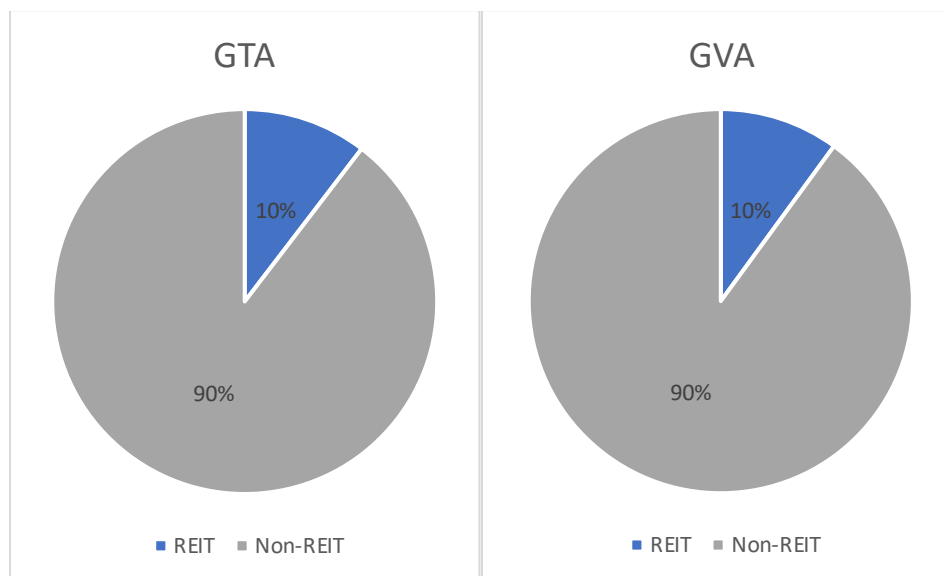


Figure 3: Size (average number of units) of purpose-built rental properties, 2022

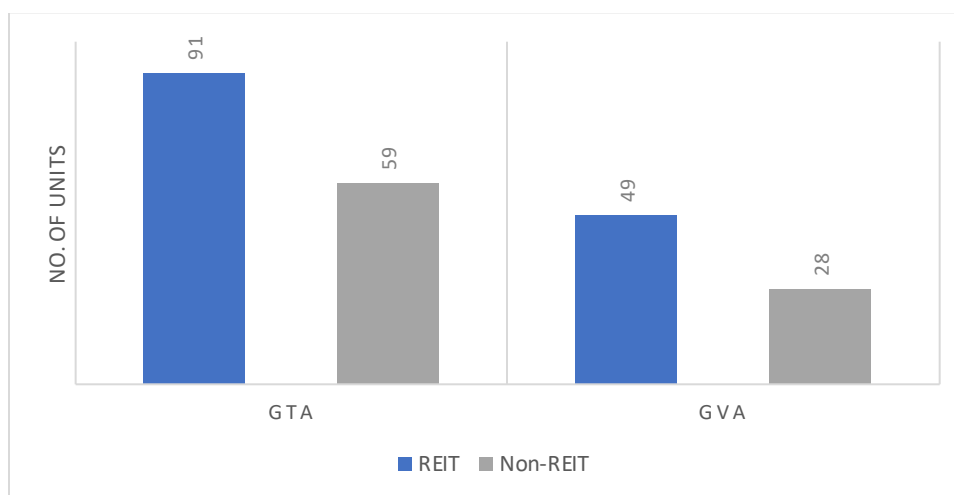
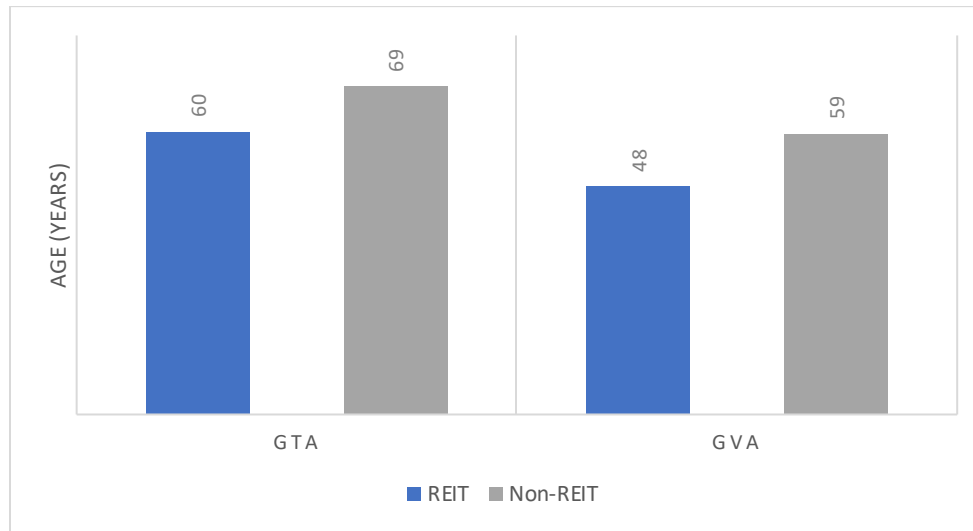
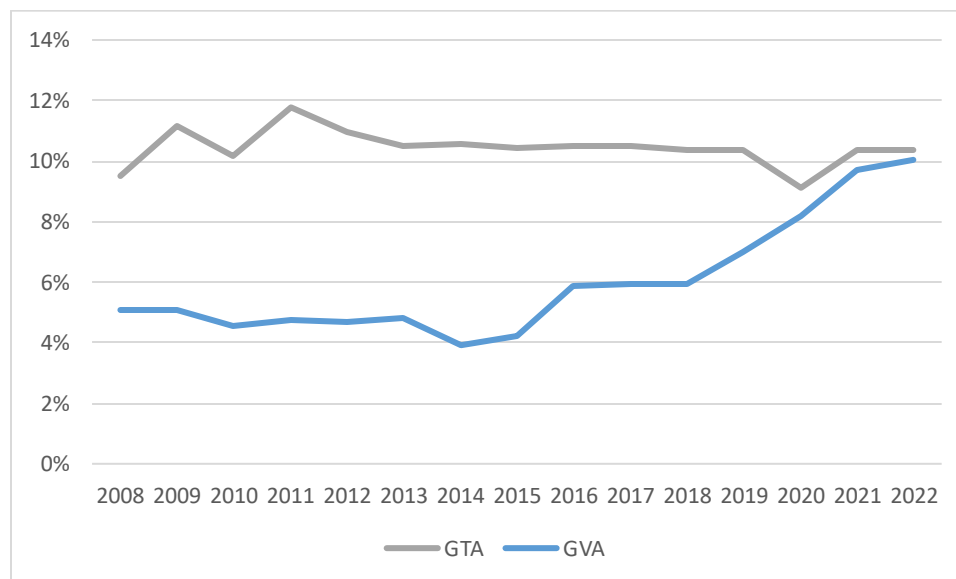


Figure 4: Age of structures (average number of years since construction) of purpose-built rental properties, 2022



The REIT-owned share of PBR units has evolved differently in the GTA and the GVA since 2008 (Figure 5). REITs' share of PBR properties in the GTA is found to remain stable in the 9% to 12% range over the years. In the GVA, however, there has been an increase in REITs' share of PBR property ownership: it rises from the 4% to 6% range (between 2008 and 2018) to 10% in 2021 and 2022. Nevertheless, with 10% ownership of the PBR market, which, in turn, is shared by several REITs, it is highly unlikely that a single REIT would have considerable market power in the PBR market in the GTA or the GVA. However, it could still be concerning if all these properties cluster in a few neighbourhoods, since that would provide market power at the neighbourhood level. Is that the case?

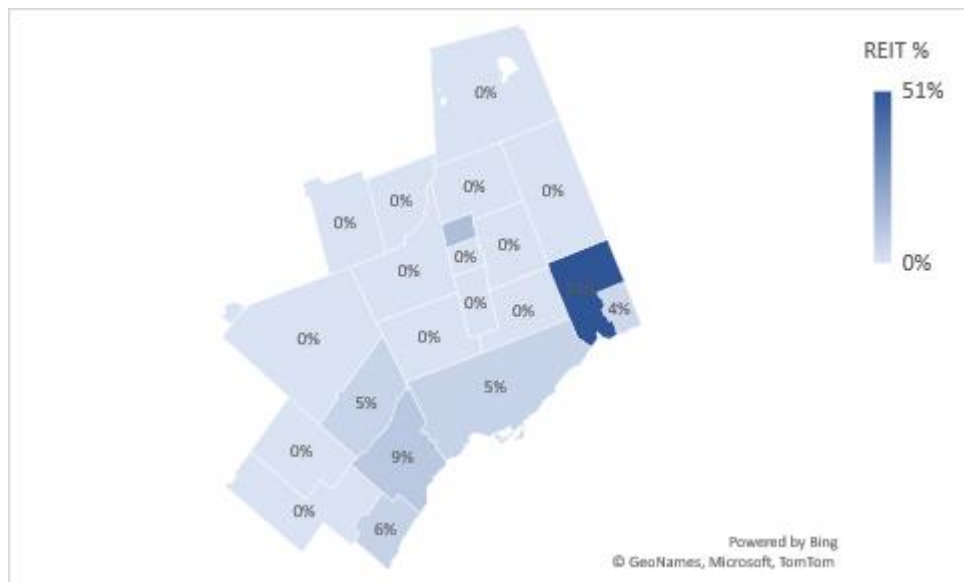
Figure 5: REIT-owned share of PBR units in the GTA and the GVA over time



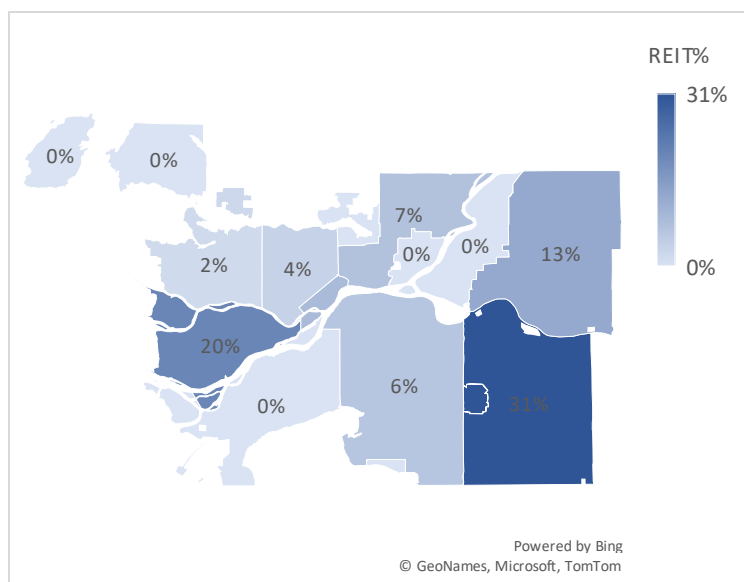
To explore this possibility further, we look into where these properties are located. Figure 6 shows the proportion of PBR properties owned by REITs in cities in the GTA and the GVA. It turns out that REITs own PBR properties in 7 out of 21 cities in the GTA and in 10 out of 18 cities in the GVA. Furthermore, the share of REIT ownership of PBR properties in cities varies significantly in both the GTA and the GVA. In the GTA, Pickering has the highest share of REIT-owned PBRs, at 51%, whereas Ajax has the lowest (among the cities where REITs have ownership), at 4%. In the city of Toronto, REIT ownership of PBR properties is 5.4%. In the GVA, the REITs' share of PBR properties is highest in the municipal district of Langley (31%) and lowest in Vancouver (2%). Hence, located in only a handful of cities, REITs do not have significant market power in most of the cities in the GTA and the GVA.

Figure 6: Spatial variation of REIT share of ownership of PBR structures over cities in GTA and GVA, 2022

(a) GTA

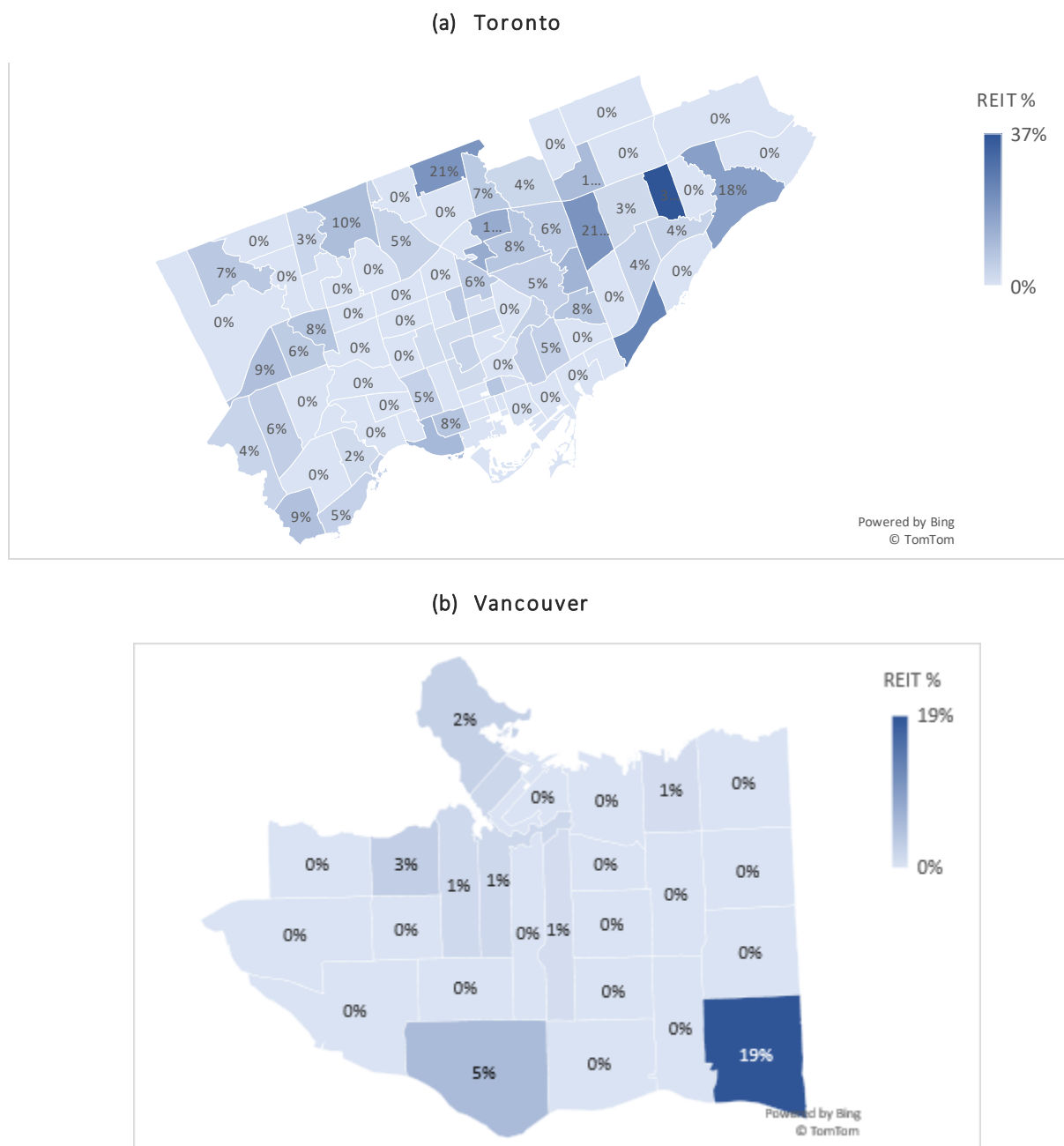


(b) GVA



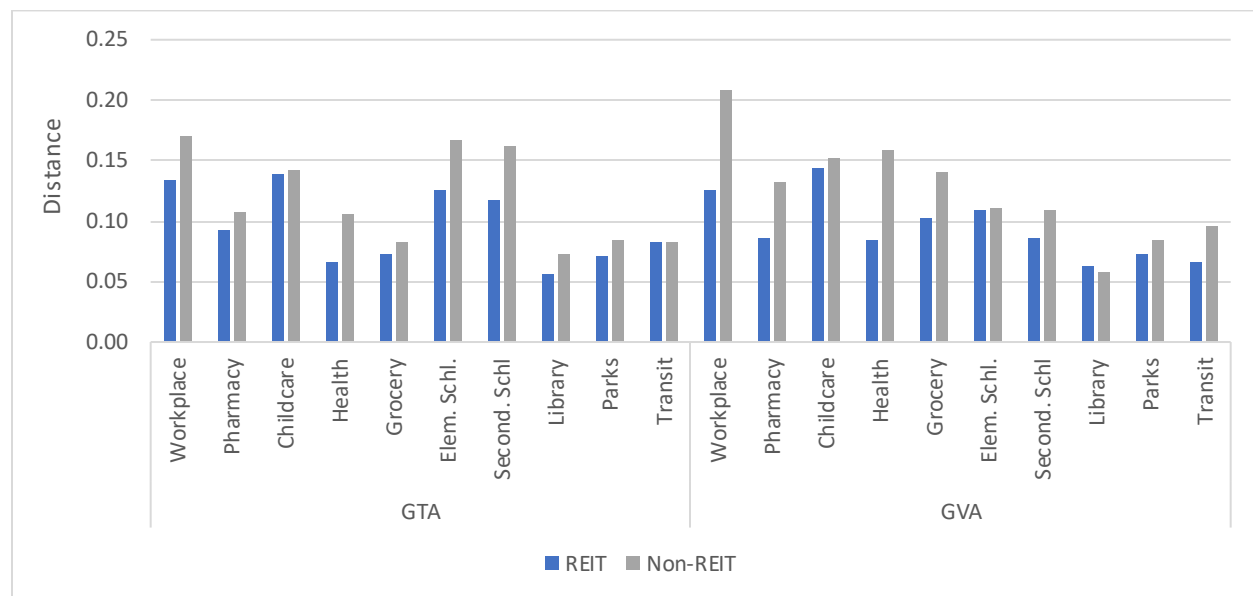
This pattern is observable at the neighbourhood level, too. Figure 7 depicts the variation in the ownership share of REITs by neighbourhood, where a neighbourhood is defined by the forward sortation area (FSA), the area designated by the first three characters of a Canadian postal code. REITs have a share of PBR properties in 45 out of 92 neighbourhoods in the city of Toronto (Figure 4 (a)) and in 9 out of 28 neighbourhoods in the city of Vancouver (Figure 4 (b)). The REIT ownership share varies significantly across the neighbourhoods as well, ranging from 1% to 37% in Toronto and from 1% to 19% in Vancouver, in neighbourhoods where REITs have ownership. Given that, REITs do not seem to have much market power in neighbourhoods in the GTA and the GVA (with some exceptions), though even at the neighbourhood level, they seem to concentrate on a few neighbourhoods.

Figure 7: Spatial variation of REIT share of ownership across the neighbourhoods in Toronto and Vancouver, 2022



What can explain such location choices made by REITs? One factor that shapes purchases of PBR properties is the availability of such properties for sale. In addition, REITs seem to have a certain investment strategy that they follow consistently. This strategy appears to involve purchasing properties in neighbourhoods with or closer to various amenities, or those that have high potential for future amenities.² To explore this, we calculate distance between amenities and all the REIT and non-REIT PBR properties in our dataset. Figure 8 shows average distances of 10 amenities from PBR properties by ownership type in 2022 in the GTA and the GVA. It turns out that the distances from PBR properties to amenities are lower for REIT-owned PBR properties than for non-REIT-owned properties, and the pattern is observed in both the GTA and the GVA (except one single case of proximity to a library in the GVA).

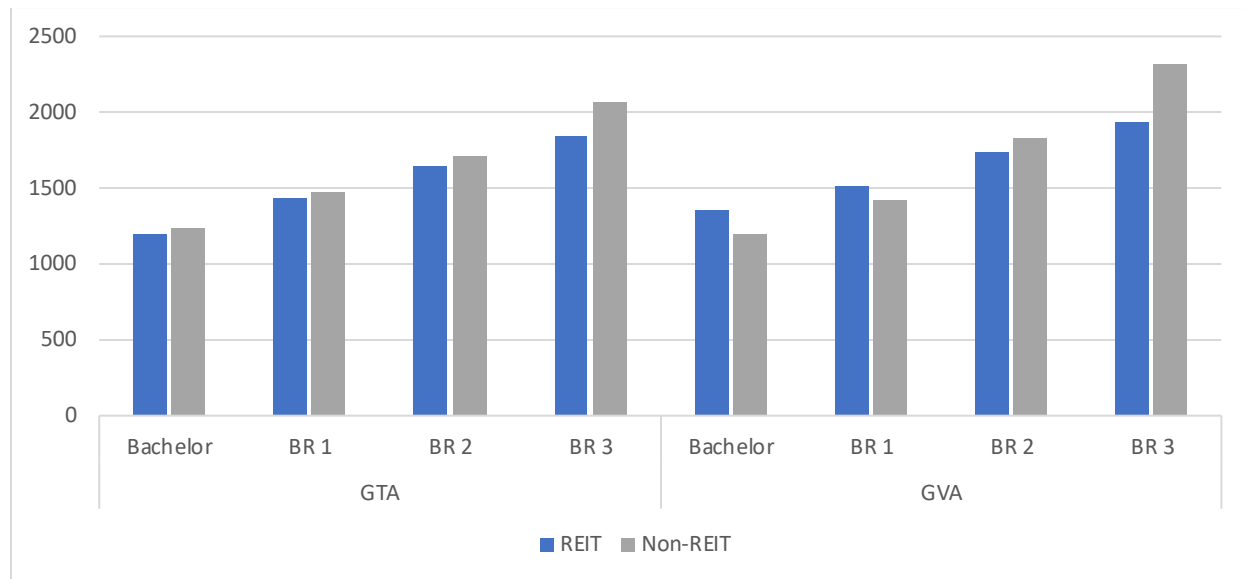
Figure 8: Distance of amenities from PBR properties by ownership type, 2022 in the GTA and the GVA



Finally, we compare rents in REIT-owned PBR properties with those in non-REIT-owned PBR properties. Figure 9 presents the average market rent of each unit type (number of bedrooms) by ownership type in 2022 in the GTA and the GVA. Figure 9 illustrates that the average market rent of all unit types is similar, if not slightly lower, in REIT-owned properties compared to non-REIT-owned properties in the GTA. In the GVA, rents for bachelor and one-bedroom units tend to be higher in REIT-owned properties, but lower for two- and three-bedroom apartments compared to non-REIT-owned properties.

² Since we do not know when the amenities are established, it is not clear whether amenities or REIT ownership came first. Given REITs entered the rental market in 1996 and their presence grew gradually over the years, it is more likely that many important amenities were already there before REITs purchased property. Nevertheless, it is possible that some amenities were established after REITs purchased property in a neighbourhood.

Figure 9: Average market rent of each unit type by ownership type, 2022 in the GTA and the GVA



Overall, several key issues emerge from the above discussion. First, the REITs are not the major owners of PBR properties in either the GTA or the GVA. However, they are located in clusters in several neighbourhoods. Second, the REIT properties are located near various important amenities. Third, REIT-owned PBR structures are also larger, in terms of number of units, and newer than non-REIT properties. Fourth, and finally, rents seem to be lower in REIT-owned properties for larger units, but could be higher or lower depending on the location, for smaller units. This suggests that rental comparisons need to adjust for the confounding factors mentioned above (location, age and size of the structure, etc.), as well as other potential factors that were not mentioned above (for example, other unobservable structure and neighbourhood characteristics, trends in rents, etc.). A more rigorous econometric technique is therefore required to get a more precise estimate of rent effects.

Results

Econometric Findings

In this section, we apply the more rigorous econometric methods described in the Methodology section to our primary research question: Do REITs charge higher rents than non-REIT owners after the change in ownership of a PBR property? The Descriptive Statistics section indicates otherwise, but a significant number of factors (e.g., age and size of the building, proximity to various neighbourhood amenities, vacancy rate in the building and the neighbourhood, average rent in the neighbourhood, year, etc.) also influence rent, and a cleaner estimate is warranted. We therefore use a staggered difference-in-difference method by taking REIT purchases as the treatment/event, properties that are eventually purchased by REITs as the treatment group, and properties that are owned by non-REITs as the control group. The control group therefore consists of both never-traded PBR properties as well as those purchased by non-REIT entities within the study period (2008 to 2022).

The findings of our econometric analysis are included in Table 1. The first two columns present the findings from the TWFE models. We then provide findings from the more rigorous Callaway and Sant'Anna (2021) D-i-D Estimator (CSDiD) models in the third and the fourth column. Finally, we exhibit results from the synthetic D-i-D (SDiD) models in the fifth and sixth columns. Within these three pairs, the first column presents results from the full dataset (i.e., all the PBR properties in all the neighborhoods). We, however, need to be careful in choosing our control group, because REITs, as the Descriptive Statistics section shows, tend to own properties closer to amenities, resulting in their operating in certain neighbourhoods. To ensure that the properties in the control group have similar distances to amenities, we select only those neighbourhoods where REITs operate in our analysis. This would ensure comparisons of REIT-owned properties with non-REIT-owned properties from the same neighbourhoods and similar distances from amenities. The second column shows results from the restricted dataset.

Given that, column 1 (TWFE-full dataset) shows that there is a 5.1-percentage-point increase in rent after REITs take ownership of their properties, and the effect is statistically significant at the 1% level. The result of restricting the neighbourhoods to ensure a proper comparison in the TWFE model is in column 2. It shows that the effect is 3.7 percentage points in the restricted sample, and it is statistically significant at the 1% level.

Table 1: Effect of REIT ownership on rent in the GTA and the GVA

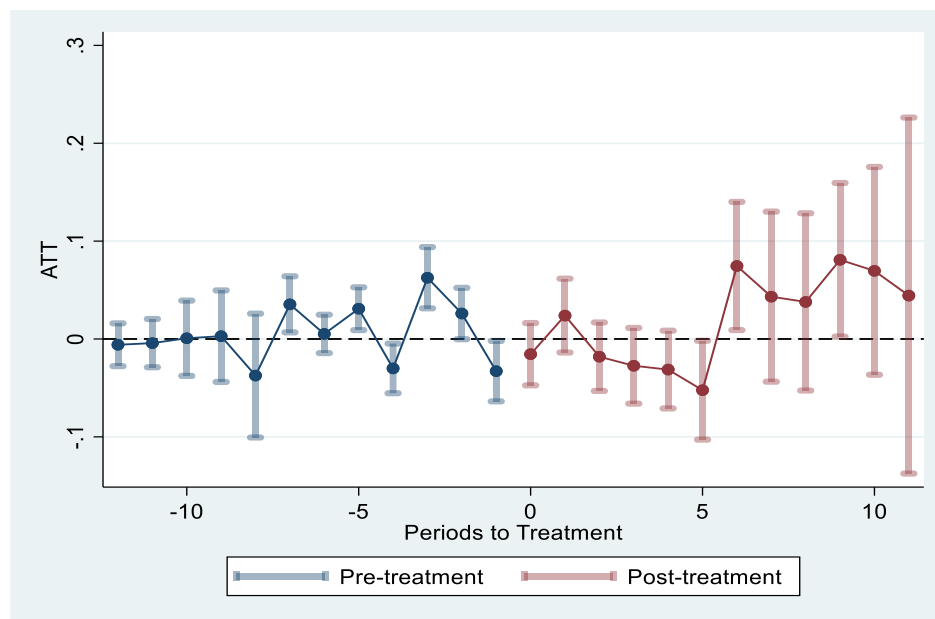
Dep Var:	(1)	(2)	(3)	(4)	(5)	(6)
Ln (rent)	TWFE	TWFE	CSDiD	CSDiD	SDiD	SDiD
REIT	0.051*** (0.013)	0.037** (0.015)	0.042*** (0.013)	0.007 (0.014)	0.018** (0.008)	0.006 (0.012)
Observations	13,515	3,090	13,515	3,090	13,515	3,090
Structure FE	Yes	Yes	Yes	Yes	Yes	Yes
BR FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Neighbourhood restrictions	No	Yes	No	Yes	No	Yes

Note: Robust standard errors are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. TWFE implies two-way fixed effect model, CSDiD is Callaway and Sant'Anna (2021) D-i-D estimator, SDiD is synthetic difference-in-difference estimator. Every specification has the following control variables: ownership type dummies, structure-level vacancy rate of a unit type (number of bedrooms) in each property, mean rent in the neighbourhood each year, total number of units in the neighbourhood each year, and number of vacant units in the neighbourhood each year.

We next present our findings from applying Callaway and Sant'Anna (2021), which provides a better estimate, as suggested in the Methodology section. The results with full dataset using CSDiD are presented in column 3. We find that there is a 4.2-percentage-point increase in rent after a REIT purchases a property, and the effect is statistically significant at the 1% level. We then run CSDiD in our restricted sample, and column 4 presents our findings. We observe a significant drop in the magnitude to 0.7 percentage point and, more importantly, the effect is not statistically significant.

We need to test whether the parallel trend assumption is satisfied in CSDiD analysis. To check this, we conduct a simple chi-squared test. Figure 10 provides an event study-style graph where differences in the demeaned trends between the two groups are plotted with their confidence intervals, with periods from treatment year on the x-axis (with treatment year as zero). The pre-treatment trends seem to deviate on several occasions (with confidence intervals beyond the 0-line). The chi-square statistic turns out to be 171.99, which is statistically significant at the 1% level, suggesting a strong difference in pre-trends and probable violation of parallel trend assumption.

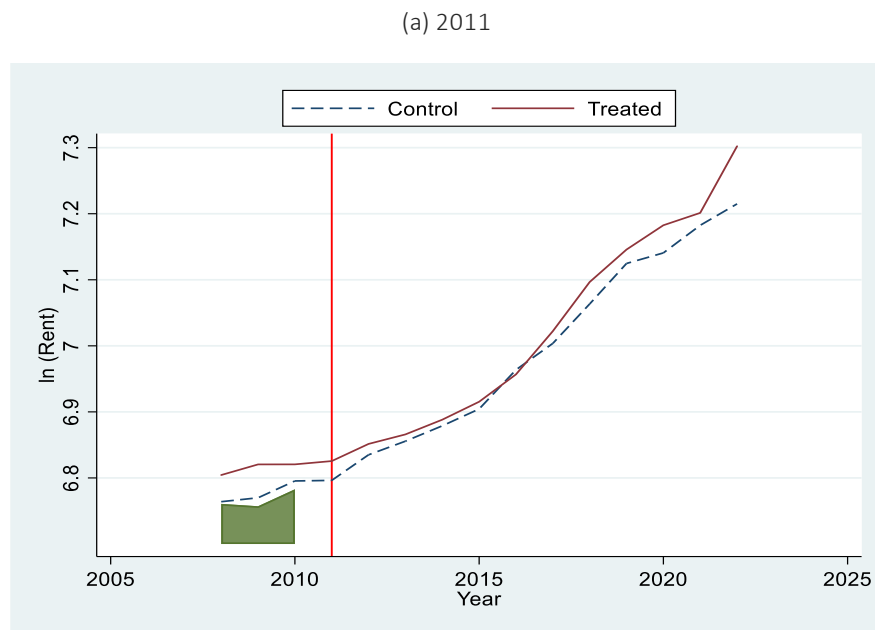
Figure 10: Event study plot to check pre-treatment trends



We therefore use a synthetic difference-in-difference approach, which creates the comparison group from a donor pool such that the pre-treatment trends are parallel by design. The results are presented in columns 5 and 6. With the full sample, we find that there is a considerable drop in effect of REIT ownership: REIT ownership results in a 1.8-percentage-point increase in rent, and the coefficient is statistically significant at the 5% level. When we look at the restricted sample, the effect drops further, to 0.6 percentage point, and is not statistically significant.

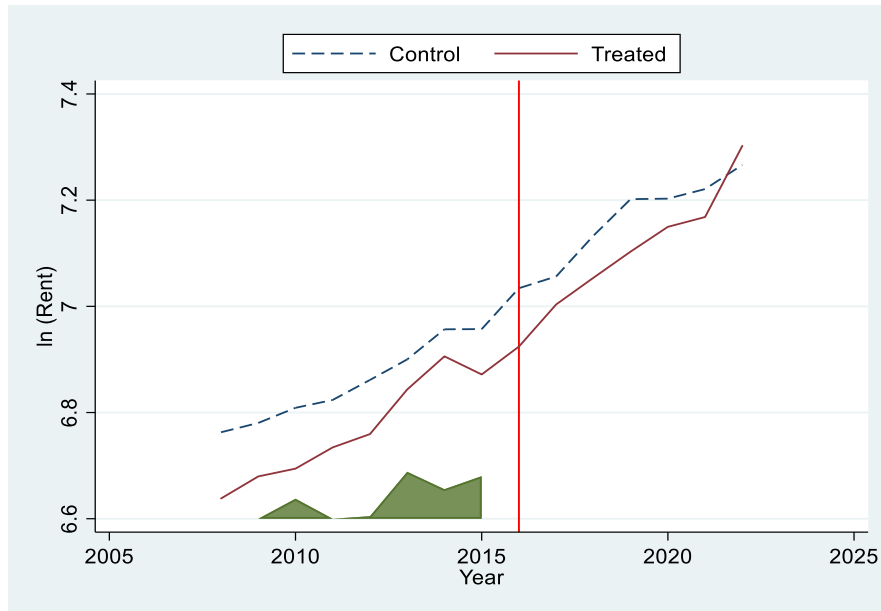
The SDiD model also allows us to track rents at the cohort level. A cohort here is the group of property transactions that occur in a specific year. This will help us to identify potential heterogeneity in the REIT effect, i.e., whether any of the cohorts have a different rent effect compared to the average treatment effect estimated in Table 1. For our balanced panel data, the PBR property transaction history reveals that REITs took ownership in three years: 2011, 2016 and 2021.³ Figure 11 (a), (b) and (c) compare the trend lines of rents of properties that REITs purchased in 2011, 2016 and 2021, respectively, with their respective synthetic control groups in our restricted sample. We do not find any statistically significant treatment effect for any cohort.

Figure 11: Cohort-level effects

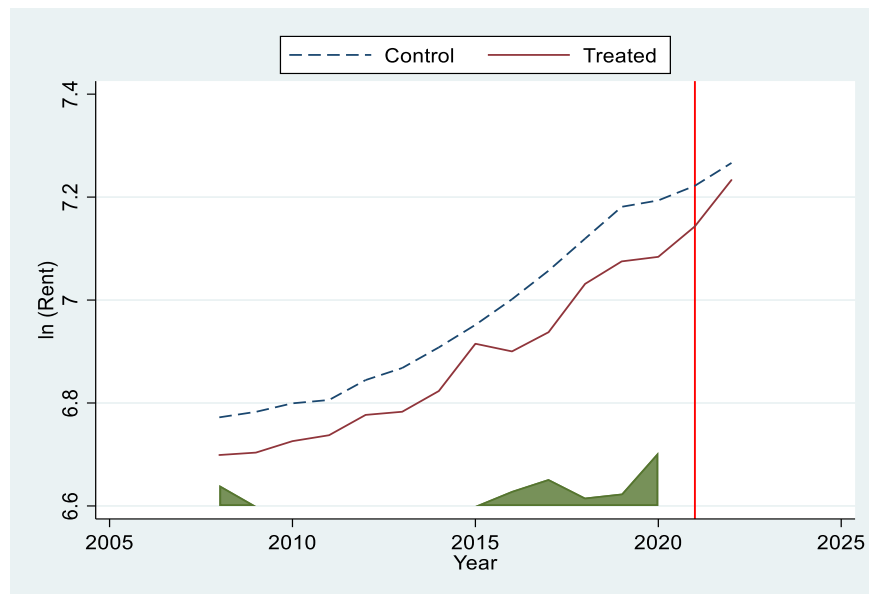


(b) 2016

³ REITs purchased properties in other years too. It is just that we don't have the balanced panel data for those properties.



(c) 2021



Conclusion

This paper looks at the impact of REIT ownership on market rents in the Greater Toronto Area and the Metro Vancouver. Our descriptive analysis reveals that rents in REIT- and non-REIT-owned PBR units in 2022 are similar. In order to get a more accurate comparison, we track the rents of PBR properties after purchase by a REIT and compare them with general trends in rents using a structure-unit type level panel dataset. Such econometric analyses on full sample data reveal that rents go up after REITs purchase a property, even though the magnitude of the rent increase is considerably small in our most robust analysis (1.8%).

A key element that requires attention, however, is that REIT-owned PBR properties are, on average, located closer to amenities compared to non-REIT PBR properties. It is therefore possible that the moderate rent premium in REIT-owned PBR properties is due to proximity to amenities rather than some issues innate to REITs. We therefore choose non-REIT PBR properties only from the neighbourhoods where REIT PBR properties are located, for comparison, so that the distances from amenities of REIT- and non-REIT-owned PBR properties remain similar. If there is any rent premium due to amenities, both the REIT- and non-REIT-owned PBR properties would have it. It turns out that, if we select our comparison group from the same neighbourhoods where these REIT purchases take place, the rent effect disappears. This suggests that the higher rent in REIT-owned properties observed in the full sample is due to proximity to amenities and not to factors innate to REITs.

These findings are important against the backdrop of the current housing affordability crisis in Canada, especially in the Toronto and Vancouver CMAs. While new supply is crucial to restoring affordability, the private sector needs to bring considerable funds to realize such investments. REITs, with their access to various financial instruments and stock markets, can pull considerable resources (Bert and Springer (1997), Yang (2001)) and help fill in the gaps. Governments at various levels can devise policies to encourage investments from REITs. For example, Canada Mortgage and Housing Corporation (CMHC) already has financial products like MLI Select that helps such investments. However, some voice concerns (for example, those raised by August (2020) and August (2022)) about an increase in ownership of rental properties by institutional investors, because that may result in increased rents. Based on the analysis of the Toronto and Vancouver CMAs, this study finds no such evidence. REITs are found to charge rents similar to those charged by non-REIT-owned properties that are located in the same neighbourhoods. The study also adjusts for various structure-specific observable characteristics (e.g. age of the structure and number of units in the structure) and other static and unobservable factors to ensure better comparison.

There are two issues future research can focus on. First, our findings need to be interpreted with one caveat: Since REITs do not have much market power, they possibly act as a competitive landlord and, therefore, do not have much room to charge a higher rent. In light of Gurun et al. (2023), it is important to look at whether the market share of REITs (or any other type of PBR owner) has any role to play in raising rents. In other words, even though we do not find that rents go up after a change in ownership, this might not be the case if a REIT has significant ownership, and therefore market power, in a city or neighbourhood. Since we did not have the ownership status of all the properties in our dataset, we could not test this possibility.⁴ Future research can gather PBR ownership data and test the role of market power. Second, there are other types of institutional investors (pension funds, venture capitalists, asset management companies, etc.) that are operating in the PBR market in Canada. These investors are different from REITs, as they are not publicly listed and may be different in size and market power, as well. Future research could delve deeper into these different institutional investors and their effects on rents and other factors. Finally, the effect of REIT ownership on rents in other jurisdictions should also be examined. A good example would be CMAs without any rent control (for example, Calgary and Edmonton, until recently), which may give a different outcome.

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⁴ As mentioned in the Data section, our ownership information comes from Altus transactions data. Since a large proportion of PBR properties were not traded since 1996, the ownership of these non-traded properties remains unknown.

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Appendix

In this section, we investigate the effect of REIT ownership on turnover rates. The regression strategy is similar to that used for rents (except the CSDiD, as it generates similar results to SDiD). We replace it with a Tobit model, since a large number of structures have zero turnover rates. We take advantage of the panel structure of the dataset to add a random effect in our Tobit model. Also, this analysis is done at the structure level instead of structure-bedroom type level.

The results are presented in Table 2.⁵ Column 1 presents the results of the TWFE model run on the full sample. We find that the turnover rate is 5.2 percentage points lower in REIT-owned properties, and the effect is statistically significant at the 1% level. Column 2 presents the results of the TWFE model run on our restricted sample. We find that the effect goes down to 1.7 percentage point lower than other ownership types, and the effect is not statistically significant. To allow for treatment heterogeneity, avoid bad comparisons and take care of potential violation of parallel trend assumption, we analyze using synthetic D-i-D, and the results are presented in columns 5 and 6. We find that the REIT ownership effect on turnover rates is negative 3.8 percentage points and negative 4.0 percentage points, but these effects are not statistically significant. Column 5 (full sample) and column 6 (restricted sample) present the results of RE Tobit model, and the effects are 1 percentage point and 2.2 percentage points higher, but these results are not statistically significant.

Table 2: Effect of REIT ownership on turnover rates in the GTA and the GVA

Dep Var:	(1)	(2)	(3)	(4)	(5)	(6)
Turnover Rate	TWFE	TWFE	SDiD	SDiD	RE-Tobit	RE-Tobit
REIT	-0.052*** (0.020)	-0.017 (0.032)	-0.038 (0.029)	-0.040 (0.047)	0.010 (0.030)	0.022 (.035)
Observations	1,057	203	1,057	203	1,057	203
Structure FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Neighbourhood restrictions	No	Yes	No	Yes	No	Yes

Note: Robust standard errors are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. TWFE implies two-way fixed effect model, RE-Tobit is random effect Tobit model, SDiD is synthetic difference-in-difference estimator. Every specification has the following control variables: age of the structure, number of units in the structure, mean rent in the neighbourhood each year, total number of units in the neighbourhood each year and number of vacant units in the neighbourhood each year.

⁵ The number of observations for turnover rate is much lower because the RMS starts collecting turnover data from 2017, and since 2017, there has been just one cohort of properties (cohort of 2021) that have been purchased by REITs.