

Measuring the invisible: The dispossession of the rent gap as a form of displacement

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Introduction

In 2005, Eric Clark called scholars to accept the 'order and simplicity' of gentrification whilst defining it as "a change in the population of land-users such that the new users are of a higher socio-economic status than the previous users, together with an associated change in the built environment through a reinvestment in fixed capital" (Clark, 2005, p. 258). Henceforth 'users' can be understood as those with enough power to either transform the space where they live in, or where other people live, whilst 'change of population' can be no other way than social replacement or displacement. Marcuse's (1985) and Slater's (2009) contributions were useful at defining the several possible ways displacement can be, although without further explanations on how to measure it. This paper aims at contributing to a methodological discussion about the research on displacement, in a context like Santiago de Chile where processes of gentrification are not always simply visible.

In the rapidly transforming major Latin American cities, both new users and social change are part of the same repertoire of class-related urban restructuring. Santiago de Chile's gentrifiers are not those middle-class newcomers largely described in the international literature and so claimed by some scholars to be part of the contextually attached features of gentrification (Maloutas, 2012) but absentee large-scale real estate entrepreneurs that deploy their economic power to transform the social geography in the inner city, creating large amounts of displacement.

In Chile, the inner city housing redevelopment market is basically new-build gentrification (Davidson & Lees, 2005, 2010) that works as a process of class- monopoly absorption of the rent gap (Clark, 1987, 1988, 1995, 2005; Smith, 1979, 1987, 1996) that generates land rent dispossession among lower-income residents (owners and tenants) who cash-in lowered land

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prices, and so they are unable to find replacement housing accommodation, hence subject to high levels of displacement. This has been called “gentrification by ground rent dispossession” by López-Morales (2009, 2010, 2011), which is a form of differential ground rent absorption, namely: a) a low level of capitalized ground rent (CGR-1, i.e. capitalization achievable by current owner-residents under the current building regulations, in a city where roughly 80% are owner-residents) and b) a higher capitalized ground rent (CGR-2, i.e. class-monopoly rent given the concentration of technical and financial capacities by a few leading market agents).

According to this theory, a low social capture of CGR-1 means gentrification-led displacement pressure or exclusionary displacement (Marcuse, 1985; Slater, 2009), i.e. economic incapacity of residents/sellers to find replacement accommodation within the gentrified area. Policy-induced redlining devalues the space as the city lacks low-rise regeneration policies; site-abandonment by incumbent absentee landlords and/or developers also works as a mechanism of neighbourhood devaluation, hence, giving rise to rent-gap amplification. The ‘ratio of accumulation’ (CGR-2/CGR-1) expresses the loss of use value in the inner city and its exploitation as pure exchange value, whilst the ‘rate of displacement’ shows the (usually lowered) purchasing capacity of petty land-owners to buy replacement accommodation *in situ*, after selling his/her landed property to the private redeveloper (López-Morales, in revision).

Since 1990, and as mirrored by the major and most rapidly expanding Chilean cities, Santiago’s market of high-rise inner city renewal has produced 230,000 units (for a city’s population of 5.5 million). Between 1990 and 2008, the share of the residential market in the 11 municipal districts located within the inner city area, almost exclusively high-rise private condo buildings, increased six fold, from 7.5% to 44% of the total production in the region, with construction mostly aimed at the middle classes.

Starting in the year 2000, the average sale price for these residences has increased by 40% (current selling price per flat is US\$ 85,000), while their average size has decreased at a similar rate. This situation has led to increasing profits for high-rise developers to the detriment of the price actually paid for the land, which has gone down, and has been paid poorly to the owners of that land. This has led to the impossibility for the two lowest quintiles of the population to stay in or access this market (displacement pressure or exclusionary displacement, respectively). It has been also accompanied by a sustained decrease in the production of social housing located within the metropolitan area, as the land value of the whole metropolis has increased considerably (Cortínez & Arriagada, 2010; Trivelli, 2011), thus “relegating” social housing to the extra-metropolitan fringes (Hidalgo, Zunino, & Alvarez, 2007). Fundamentally, these are latent displacement processes, “invisible” to the simple empiric observation of gentrification and to the analysis of the public policy that as of this date has not been capable of identifying the true profit margins achieved by the owner-resident inner city population, in terms of income capitalization and power of residential relocation.

This research focuses on six different municipal districts of Santiago. Results indicate the ground rent value capitalized by petty land owners which sell out to the market for redevelopment *vis a vis* the increasingly higher rent gap captured by the redevelopers.

Additionally, a survey was applied to 746 potentially-displaced households. Results indicate that easily 30 percent owner-residents at any rate cannot afford similar replacement accommodation in the market in case of land redevelopment, and around 70 percent cannot afford at least 50 percent of the existing residential supply, being subject to potential direct displacement to a distant area. In the next section, the paper debates the theoretical and methodological issues at the moment to engage the rent gap theory as a device for measuring displacement.

Figure 1. Perspective of Santiago's new build gentrification "by ground rent dispossession"



Source: author

1. The gentrification of the neoliberalized Latin American cities: A research agenda on rent gap and displacement

The rent gap theory (Smith, 1979; Clark, 2005) defines urban renewal as a spatial production process that triggers housing investment in the inner city. Said housing reinvestment appears

precisely when we combine the effect of capitalized ground rent based on the current use of the land, and the effect of potential ground rent derived from the location within the city. Capitalized ground rent (CGR) is defined as the current amount of ground rent captured by the owner of the land considering its current use, while potential ground rent (PGR) is the amount that could be earned by means of a better, more intense land use (Smith, 1996).

In Chile, the rent gap is understood as the difference between the capitalized ground rents obtained by the two agents that intervene in the urban development process. While gentrification occurs when the potential ground rent is at its highest levels, and is captured by the real estate developer as Capitalized Ground Rent 2 (CGR-2), which is defined as the maximum potential ground rent feasible to obtain with the technical means available only to entrepreneurs, the CGR-1 obtained by the owner-renters is low enough to imply attractive land prices for the real estate developer. This disparity is especially crucial in the case of urban economies that are based on high amounts of petty land property (López-Morales 2010, 2011). A very similar theoretical perspective has been applied by Shin (2009) to analyze the differential absorption of the rent gap by urban redevelopment in Seoul, South Korea. The ratio between the CGR-1 and the CGR-2, i.e., the difference between the ground rent absorbed by the petty owner-resident and the real estate private redeveloper respectively, can be defined as a "ratio of accumulation". A high CGR-2 is usually related with high prices of new residential units.

It is important to consider the following context factors in the analysis:

- a) **Urban land property:** The social and political development of Santiago from the 1930s to 1973 (Espinoza, 1988; Garcés, 2002; López-Morales, 2010b) filled the inner city with state-built residential areas, but also with informal settlements which were later formalized in the 1960s (Hidalgo, 2005). This context was part of a state policy aimed to provide well located housing solutions to the middle and lower-middle class segments, and this led to a current rate of land owner-residence close to 80% (MINVU, 2008). While there are still small petty-land owners that have historically rented their properties out to lower income segments, and with a currently growing housing demand by low-income Latin American immigrants (Borsdorf & Hidalgo, 2013), these petty-land owners do not have enough capital to absorb the high potential ground rent levels, currently existing in the inner city.
- b) **Production of gentrification:** While a still dominant perspective coming from the Global North sees gentrification as highly localized in certain types of neighborhoods and fostered by a conspicuous bourgeoisie composed by yuppies, young artists, bohemians, etc. (see Lees, Slater, & Wyly, 2008; chapter 3), Santiago de Chile has lived the opposite scenario, as the urban renewal process has mostly consisted in the private capture of most of the rent gap, at large metropolitan scale, with the help of considerable state incentives to the private sector for high-rise housing production in certain strategic areas (López-Morales, Gasic, & Meza, 2012), but without a state

policy that makes it possible for low-income social groups to stay put in urban centers, as it exists in the case of Brazil, for example (Sandroni, 2011).

- c) **State-led redlining:** Whilst the capture of the potential ground rent is policy assisted to allow the highest absorption of that rent by the private sector, some central and local state regulations and/or regulations from the financial and banking sectors (Aalbers, 2011) promote a virtual redlining, which excludes certain land plots or entire metropolitan areas from housing development, as López-Morales (2011) accounts for the case of southern metropolitan Santiago. This means the way in which the state has established regulatory conditions to intensify the housing activity and, at the same time, obstruct small scale investment in the properties that are increasing the potential rent to be captured by those real estate agents with more capital. Further analysis of this subject has been excluded from this paper due to space restrictions.
- d) **A different narrative of gentrification:** The figure of the 'revitalizing' agents does not seem important in the capture of the potential ground rent, which leads us to conclude that even when this process can be carried out in some historical neighborhoods in downtown Santiago, which have similar contextual characteristics than some nor-Atlantic cases of gentrification (see accounts by Contreras, 2011; Inzulza-Contardo, 2012; Schlack & Vicuña, 2011, for instance), the colonization of these pioneer groups has not made the areas attractive for the large-scale housing renewal capitals.

For this case, the concept of exclusionary displacement (Marcuse, 1985; Slater, 2009) is then defined as the effect of devaluation and dispossession practices by the real estate agents over central areas, which can be considered as the main method used for gentrification in Santiago de Chile. In order for this displacement to be generated, the residents are compelled to sell their properties, by means of the mentioned ground rent devaluation and dispossession practices. If for many Europeans and North Americans, gentrification is classically difficult to conceive without the active practice by the investors of forcing the displacement of the renters, within the Chilean context, this practice exists within the tense interaction seen between the real estate firms and the inner city petty land-owners.

However, gentrification is not defined by exclusionary displacement alone, as displacement processes are far from being immediate or direct. As Marcuse (1985) and Slater (2009) observed, there are chains displacements, or historical displacement processes that are important to place within a critical theory of gentrification. There are at least four forms of displacement, namely:

- a) *Direct last-resident displacement:* of physical or economic characteristics, ie when the renters cut off utilities and force occupants to leave, or with increased lease value or, in the case of Chile, higher land taxes or changes in the expropriation public rights.
- b) *Direct chain displacement:* the process seen before the abovementioned actions. These residents must be eventually considered as previously displaced, while the

neighborhood or urban unit started to decay. The emptying out/ gentrification of a neighbourhood is a long process that takes several years or decades.

- c) *Exclusionary displacement*: refers to the households that cannot have access to urban space that has been gentrified (properties, land, housing). The process considerably reduces the opportunities for owners or renters to find replacement housing in the same area.
- d) *Displacement pressure*: Refers to devaluation (actual or potential) of economic and symbolic means experienced by low-income households during the transformation of the spatial structure associated to the gentrification.

The process of gentrification by ground rent dispossession generates a situation where an important number of owner-residents are not capable to afford decent relocation whilst they are compelled to sell their landed properties cheap to the redevelopers. Strictly speaking, accumulation by dispossession operates in the space through the commodification and privatization of the land and the forced expulsion of the residents (Harvey, 2003). However, gentrification does not only affect those living within the central areas and that experience displacement pressure, but also those that cannot get access to these central areas and that, as a group or social class, have historically lived in those zones, i.e. exclusionary displacement.

2. A research method

The project identified the two components of the rent gap (López-Morales, 2011), namely CGR-1 and CGR-2 for a period between 2000 and 2012, as applied to six municipal districts in the inner city of Santiago. An analysis was carried out for ground rents obtained from the petty land-owners and real estate redevelopers respectively. Later, during 2012 a survey was carried out among 746 residents of non-renewed properties, located within urban renewal areas, with a sample error margin below 7%, according to amount of inhabitants per zone. This quantity has been estimated according to the 2002 National Population Census (INE, 2002) by adding up the inhabitants of the blocks included in the zones under study. The survey comprises seven sections, one of which is dedicated to the socio-economic characterization of the residents in the zones under study. The rest of the sections verify the households' housing tenancy, the perception by the residents about the positive and negative impacts of the urban renewal, and also asks about the housing relocation preferences of the residents, in case the properties they currently live in were sold. Below, the methodological steps taken:

1. **Calculation of Capitalized Ground Rent 1 (CGR-1) by previous residents**: The data obtained in the Property Registry Data Base (PRDB) of Santiago has been used to calculate the rents obtained by the residents that sold their landed properties later used for the construction of 177 projects considered part of the high rise urban renewal, in the six different zones under study, between 2000 and 2010.
2. **Estimation of existing housing supply in each zone**: A specialized website is used (www.portalinmobiliario.cl) to extract data about the amount of new flats actually supplied, according to typology (number of bedrooms) and the price of the units. An

average sales price was estimated by typology for each project, i.e. 1-, 2- and 3-bedroom flats.

3. **Calculation of Capitalized Ground Rent 2 (CGR-2):** This is the ground rent obtained by the real estate producer, discounting all the associated costs for the execution of the project. The formula is: $CGR-2 = V - L - C$, where V corresponds to sale value of all the offered residential units; L is the land price paid to petty land-owner (according to the information provided by the PRDB) and C the construction costs (unitary cost value informed by the corresponding state agency, by the number of built square meters, plus selling and marketing costs) (López-Morales, 2011).
4. **Housing demand by the potentially displaced:** The survey was used to identify cases of owner-residents (excluding tenants), who were asked about the quantity of inhabitants in their homes. Based on this amount, the study inferred the housing typology needed.
5. **Dimensions of the currently inhabited property:** Each surveyed property is analyzed using GIS to obtain the respective land plot size area, using the land plot division layout provided by the corresponding municipal database.
6. **Estimate of the ground rent achievable by every owner depending on the surface of the land plot:** This is calculated according to the land plot size area, and the average ground rent obtained by previous owners that have sold their land plots in the same zone. As well as this 'average scenario', a 'high rent' and a 'low rent' scenario have been established, due to the considerable standard deviation of the rents observed in the study. To this end, total captured ground rents have been sorted in the zone, dividing them in three rent groups: low, middle and high.
7. **Relocation rate:** The rate between the ground rent the surveyed owner-resident would obtain if the property was sold, and the price of the new property required to relocate in the same zone. This implies that the owner-resident will use the whole ground rent amount obtained in purchasing a new property, without the need to ask for loans or any kind of external economic support besides the CGR-1.
8. **Correlation analysis:** Correlations were established between the temporal variation 2000-2010 and the CGR-1 and CGR-2 variations, to observe the coefficient of determination (r^2). This value indicates the degree to which the changes of the first variation (time) explain the variation of the second and the third (CGR-1 and -2). It is considered that the variations above 0.1 (10% expressed in percentage) imply a correlation of little significance, while those above 0.2 imply a considerable correlation. The values below 0.1 are considered irrelevant. This correlation analysis aims at observing the zones where the rents obtained by the owners steadily increase or remain flat, in order to check for spaces where real estate activity could be benefitting the land owners economically (according to the neoclassical assumption that a greater and better use of land produces a higher ground rent price) and which are the areas where this effect will not be seen.

3. Supply analysis of the new residential space

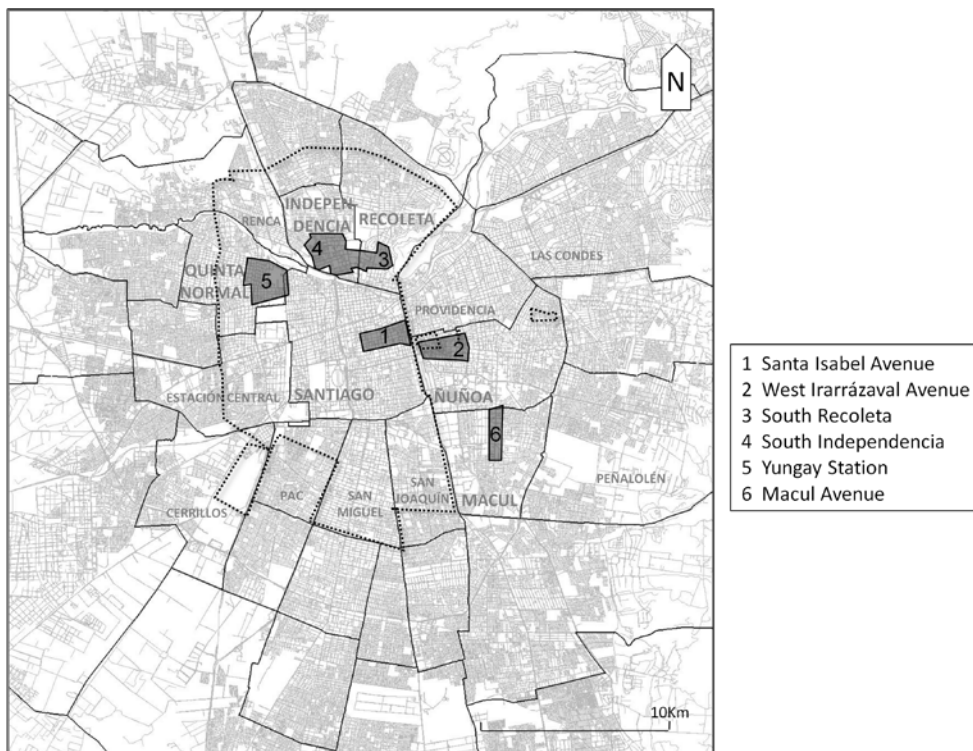
In order to carry out a gentrification study, it is indispensable to analyze the supply produced by real estate developers in each of the zones under study; later on, the issues of displacement and exclusion (basically, the actual demand) must be analyzed. This supply was analyzed by assessing the average price and size of the flats. A database with 177 buildings, 5-stories or higher, has been created, which covers the zones under study. All the construction permits for these buildings were issued between 2000 and 2010. For the purpose of this analysis, the localization, height and price of the projects and the size of the offered units are shown.

Table 1. Summary of real estate production in urban renewal zones

| Case study zones | N° of projects | Height (floors) | Average selling price per flat | Average floor area size per flat |
|-------------------------|----------------|-----------------|--------------------------------|----------------------------------|
| Santa Isabel Avenue | 90 | 23 | 1,442 UF | 54.7 m ² |
| West Irarrázaval Avenue | 44 | 16 | 2,844 UF | 72.3 m ² |
| South Recoleta | 17 | 18 | 1,630 UF | 52.9 m ² |
| South Independencia | 5 | 21 | 1,146 UF | 39.9 m ² |
| Yungay Station | 6 | 7 | 1,305 UF | 50.1 m ² |
| Macul Avenue | 15 | 19 | 1,985 UF | 57.9 m ² |

Source: own elaboration

Figure 2. The six case-study zones within Santiago's inner city



Source: own elaboration

The intensity of the construction activity in the Santa Isabel Avenue and West Irarrázaval Avenue zones is significantly higher than in the rest of the areas, which even makes them the zones with the greater concentration of high rise real estate activity in the Great Santiago area. This explains why 76% of the total selected sample for research is concentrated within these two zones. The rest of the zones can be grouped in two blocks: South Recoleta and Macul Avenue, with a slower real estate development but with internal sub-zones that concentrate a significant real estate activity, while the cases of Yungay Station and South Independencia show quite a lower number of projects for the period under study, and hence will be left out from the exclusionary displacement analysis in section 4 below.

Regarding prices, the most important value is seen in West Irarrázaval Avenue, with typologies above 3.000 UF², a sharp contrast with the typologies offered in other zones, due to its privileged location near the uptown part of the city, a place the higher social segments have traditionally chosen for self-segregation within Santiago, though this area also includes low income residents. The second one with higher prices corresponds to Macul Avenue, close to Irarrázaval Avenue, of similar characteristics, but with a higher share of low-income residents, and a mean of 1.985 UF sales price per new unit. From there on, prices begin to gradually descend with differences of 150-200 UF between zones: South Recoleta (1.630 UF), Santa Isabel Avenue (1.442 UF), Yungay Station (1.305 UF) and South Independencia (1.146 UF), the last two zones have traditionally housed lower income residents and concentrate working class people. As can be observed, the mean in West Irarrázaval Avenue is close to double the mean in the Santa Isabel Avenue, Yungay Station and South Independencia zones.

When adding the variable of size, the average for the group in the sample is 55m², which is representative of the South Recoleta, Santa Isabel Avenue and Macul Avenue zones (52,9 m²; 54,7 m² and 57,9 m² on average, respectively). On the other hand, extreme values are quite steep in West Irarrázaval Avenue, with flats considered spacious in the Chilean context (72,3 m² average), while South Independencia, shows an offer with the least available space (39,9 m² average). While West Irarrázaval Avenue is the zone with the highest price per unit, it is also the one with the biggest flats. On the contrary, South Independencia is the zone with the flats at the lowest prices, which is explained by an offer based on extremely small flats, below 40 m².

Regarding the capture of rent gap, the biggest difference between zones is generated when the CGR-2 and the rates of accumulation are analyzed. Clearly, the higher CGR-2 (captured by real estate producers) is found in Santa Isabel Avenue, where the group of redevelopers and investors who intervene can obtain a mean of 91 UF/m². In second place, we find West Irarrázaval Avenue which, while showing a similar gap to that of Yungay Station, keeps its position with a substantially higher CGR-2 (48 UF/m²) than Yungay due to the ground rent

² One UF corresponds to US\$ 47.5, and 3,000 UF is equivalent to US\$ 142,500, at current exchange price (May 2013). The *Unidad de Fomento* (UF) is a Unit of account used in Chile that reflexes the constant adjusting exchange rate between the UF and the Chilean peso due to inflation, so that the value of the UF remains constant. In Chile, prices of land, homes and real estate financing instruments are defined at UF.

capture achieved by the original owners of renewal zones. In third place, there is South Recoleta with 40 UF/m², with a CGR-1 and a slightly higher CGR-2 over Macul Avenue, Yungay Station and South Independencia. The last three zones produce almost identical CGR-2, at around 35 UF/m².

When observing the ground rent accumulation ratio, i.e., the CGR-2/CGR-1 ratio, the following can be seen: the two zones with the highest ratio are Santa Isabel Avenue (11,7) and Yungay Station (10,9), while the zone with the lowest rate is West Irarrázaval Avenue (2,2). The cases of Macul Avenue, Independencia and South Recoleta have average ratios slightly over 3. This shows that in the Santa Isabel Avenue and Yungay Station zones, the owner-residents get a worse portion of the total ground rent obtained by the real estate developer after they sell their projects. These zones show a higher real estate rent capture by paid ground price. On the other hand, the West Irarrázaval Avenue zone becomes a high rent gap zone, but with a lower ratio of accumulation, which is due to a higher share of the ground rent obtained by the original petty land-owners in the renewal process (consider that West Irarrázaval Avenue is the zone with the highest CGR-1, at 16 UF/m²).

On the other hand, when analyzing the data from a temporal perspective, a pretty clear increase tendency in the differential between the CGR-1 and the CGR-2 emerges between the years 2000 and 2010 for the whole group of zones under study. Between 2000 and 2001, the average CGR-2 does not reach 20 UF/m², a figure that doubles by 2005, with values that are always over 40 UF/m². The years 2006 and 2007 are the ones with the highest number of registries which show an important increase in the rent gap for the period of time under study, which is extremely different between 2000 and 2007, as the registry for this last year is 74 UF/m², almost seven times higher than the average for the year 2000. At the end of the period, the rent gap absorbed by the urban renewal market is 488% higher than when it started. On the other hand, as already mentioned, the CGR-1 does not increase during the period, which implies a ratio of accumulation that goes consistently up. Before 2007, the ratio of accumulation for these zones was below 4, while that particular year presented the highest ratio (6.2), which has later remained at between 4.6 and 5.8.

Developers keep the CGR-1 steadily low by managing to keep paying low prices for the land they purchase. In that sense, the following features have been detected in connection with processes of land and property devaluation:

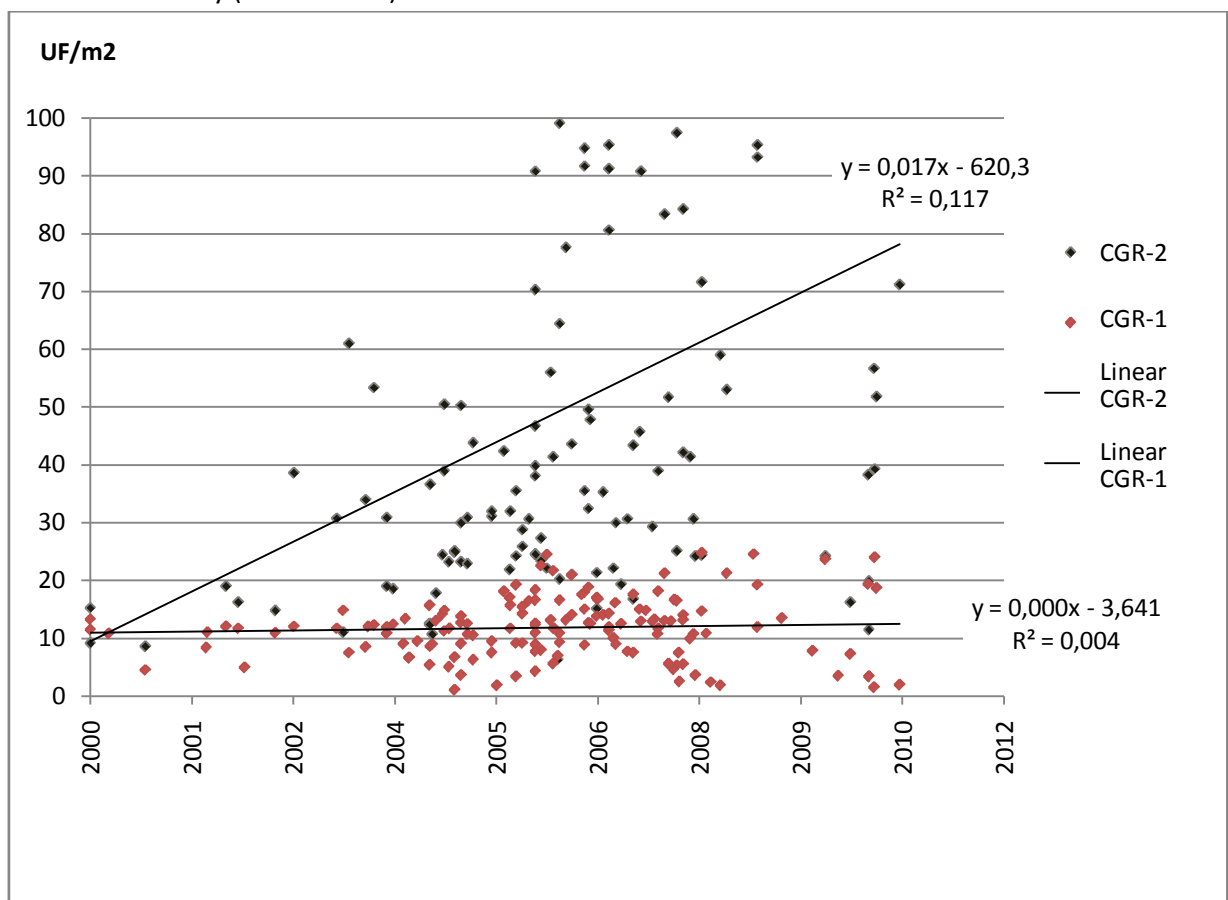
- i) **Monopoly buying of land plots:** Highly correlated with the trends of the corporatized real estate market, as results indicate that for the case of Santiago-Centro, four very large-scale redevelopers dominate a 53 percent market share. The disparity in the distribution of power and market information between the land buyer and the land seller matters. The survey indicates that more than 80 percent of owners did not know the market-level price to expect, and this expected price is usually 50 percent lower than the average market land price.
- ii) **Blockbusting:** a common practice by real estate firms, i.e., buying one or two pieces of land in a block previously targeted for redevelopment (colloquially

speaking, *pinchar la manzana*), immediately reducing the chances of different real estate firms to participate in a possible negotiation for the acquisition of that land, and putting extra pressure on the potentially successive seller at the moment of negotiating the price, who would usually receive a lower price. Thirty one percent of the cases surveyed in Santa Isabel Avenue revealed that at least one land plot inside the blocks where they are located had been bought by a redeveloper.

- iii) **Redlining:** Santa Isabel Avenue is the only case where state-led redlining existed. From 1995 to 2003, the municipality set up a policy that discouraged small scale redevelopment by overcharging 200% of normal land tax (*contribuciones*) to any building below four stories.
- iv) **Construction-led deterioration of the surrounding areas:** This is very common and derived from the disturbing and deteriorating effects of high-rise construction in the usually one-century old physical fabric that characterizes the inner city of Santiago.

The data was also analyzed by establishing linear correlations with a temporal variation, which is summarized in Figure 3, where a positive rent gap variation can be observed. When applying correlations between variations in time units (2000 – 2010) and rent gap variation by project, the determination coefficients are over $r^2 = 0.10$ for the four areas, excluding the cases of South Independencia and Yungay Station. The cases of South Recoleta and Santa Isabel Avenue show the biggest correlations, with 19% and 18% variation in rent, which is explained by the respective temporal variations. Macul Avenue and West Irarrázaval Avenue are located lower, with 12% and 11%, respectively. As shown in the dispersion chart in Figure 3, all the six zones show 11.78% for the same correlation ($r^2 = 0,1178$), which is not an insignificant figure if we also consider, that in the case of the CGR-1, the determination coefficient for temporal variation is 0.4% ($r^2 = 0,0044$). This data shows a considerable evolution in the rent gap through time, which is generalized for at least four of the six zones, and with an emphasis in South Recoleta and Santa Isabel Avenue. The data, on the other hand, shows an insignificant variation in the CGR-1 for the same period, with the exception of the West Irarrázaval Avenue zone, where an important variation can be seen (35% of CGR-1 explained by the temporal variation).

Figure 3. Dispersion chart to identify CGR-1 and CGR-2 correlation – temporal variation in the zones under study (2000 – 2010)



Source: own elaboration

4. Exclusionary displacement and displacement pressure

4.1. Displacement pressure due to environmental factors

As a first step, the survey of 746 residents located in properties close to the zones undergoing a renewal process, was useful to get some empirical observations made by the residents themselves, regarding situations that could have implied displacement pressure due to the high rise urban renewal in their neighborhoods. When asked about the effects caused by the building closest to the property of the surveyed resident, the most frequently mentioned problems are “visual blockings” and “congestion”, with 52.5% and 50.1% of the surveyed residents, respectively, considering these factors a direct consequence of urban renewal. Also, the “shadow cast” factor gets a significant share of the answers, with 45.3%. The mention of positive impacts (such as “better lighting” and “more security”) is considerably lower, with close to 30%, approximately.

In the case of Yungay Station, the urban renewal process has implied a physical alteration that has generated a negative perception for its impact below 40%. This situation is explained by the initial state of the properties, which were abandoned and deteriorated and led to the real renewal process in the zone, with new buildings that are considerably lower than those located in the rest of the pericenter (7 stories), which decreases the impact of the edification over the adjacent land plots. On the contrary, the Santa Isabel Avenue zone shows the strongest perception of negative impact. Regarding the three factors included in the survey (Shadow cast, Visual blockings and Congestion) 60% of those answering the survey perceive these effects from the closest building. It is a remarkable contrast with the perception of the positive impacts, as Better lightning and Improved Safety do not go over 30%. The West Irarrázaval Avenue, Macul Avenue and North Inner City zones (for this specific analysis, South Recoleta and South Independencia areas were joint into a single zone) show similar results, though the latest one presents lower values for the factors related to built mass (Shadow cast and Visual blockings).

This is made worse by the existence of mechanisms created for the deliberate reduction of the sales price, such as blockbusting (anticipated purchase of a land plot by the redeveloper, in order to negotiate in case there is a possibility to buy the adjacent land plots at a lower price), detected in 31% of all surveyed cases. As already mentioned, this procedure sets a monopoly condition for the private buyer of the ground, in relation to the rest of the adjacent petty land-owners.

4.2. The “invisible” desires of the potentially excluded ones

Regarding the disposition to stay put or move from the residential zones, 53% of the surveyed owners indicated their preference to remain in their homes and 17% to move within the same district. This situation presents more clearly in the West Irarrázaval Avenue zone, where the preference to stay put reaches 62% and the idea of moving within the same district is shared by 20% of the residents. On the contrary, the North Inner City zone shows the lowest level, with 46% of residents that prefer to stay in their homes. In any case, the behavior between zones is quite similar, and hence the media values mentioned here are considered representative.

It has also been asked whether the idea to move or stay put is conditioned by the rent that could be obtained by selling the property, the possibility to access a state subsidy to relocate in other property, or if the person is definitely not willing to leave its property under any circumstance. In the West Irarrázaval Avenue zone, 42.9% is not willing to sell their property, which is almost the same number registered in Santa Isabel Avenue (41.3%) and Yungay Station (43.1%). The rate for the Macul Avenue and North Inner City zones is lower, at close to 34%. In the case of Macul Avenue, 40% of the surveyed *“Is interested in moving from their homes only if the price offered was very good”*, an alternative which is also important for the rest of the zones, though to a lesser degree. It is interesting to see that the Yungay Station area is where the *“Interested in moving but needs state subsidy”* alternative is most mentioned, which coincides with the lower socio-economic level of the residents of the area.

These are in fact not surprising findings. Residents know that any relocation to the metropolitan periphery leads to a considerable increase in the cost and time needed for mobility, and to a loss of their central location (due to the more limited access to crucial public goods and services needed for human development existing in the periphery, mainly a variety in employment offers, good-quality municipal health services, and public-municipal schools, all of which is located in the core of the city).

Some data related to the housing demand for the residents of the zones under study has also been analyzed, in terms of flat typology preference. In the first place, and this is a common characteristic for all the zones, houses are strongly preferred over flats. Only 15% of the surveyed parties prefer flats, with West Irarrázaval Avenue (20%) and Yungay Station (19,7%) as the zones where the willingness to move to flats is strongest. Another important result is that 86% of the residents who answered the survey prefer to buy and not to rent a property, and in the case of the West Irarrázaval Avenue zone there is also a remarkable preference for used, rather than new, housing, which is also observed in other zones, though less clearly.

There was also a question regarding the typology of the flat needed by the surveyed residents, in case it was necessary to relocate to renewal zones. In general terms, 64% of the surveyed residents either requires or prefers, depending on the needs of their families, a 3 or more bedroom flat (Figure 5). While 28% demands 2 bedrooms and only 8% prefers a Studio flat or a one bedroom flat. These results are quite homogeneous amongst the different zones, except in the particular case of the Macul Avenue zone, where the demand for flats with 3- or more bedrooms skyrockets to 77%, while it shows the lowest numbers for the zones under study in terms of the demand for 1- or 2- bedroom flats.

Figure 4. Alternatives in case of a purchase offer for the land plot

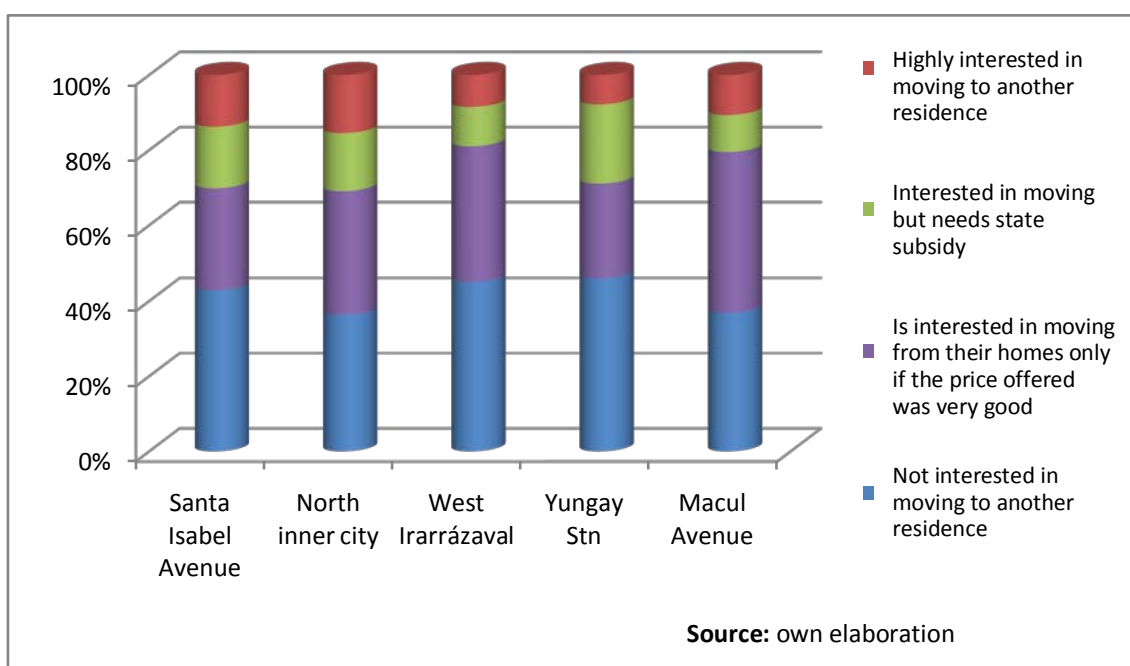
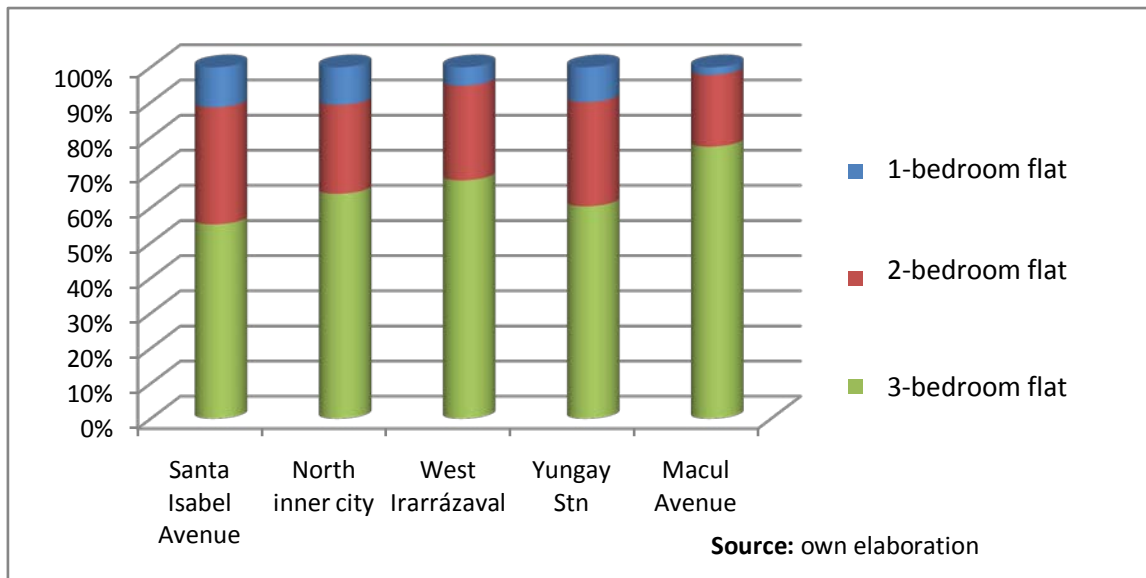


Figure 5. Preference of department typology in case of sale of the current property

4.3. Capitalized Ground Rent 1 – measuring the economic landed asset

As indicated in the methodology, the CGR-1 data that allows us to estimate the relocation rates was put together by means of the registry of all the property transactions inscribed in the PRDB for the execution of real estate projects between 2000 and 2010. Then, an average was set for unitary value (UF/m²) for each zone, and the surface of each surveyed property was calculated (m², calculated according to the Land Plots Layouts provided by the respective municipal council house's database), which permitted an estimation of the capitalized ground rent 1 achievable by each owner-renter surveyed. Table 2 shows the average central position statistics by zone, for the land plot surface data, unitary rent and potential rent.

Table 2. Average plot size, CGR-1 and total ground rent obtained after the selling, 2000-2010

| | Santa Isabel Avenue | West Irarrázaval | Macul Avenue | South Recoleta |
|--------------------------|----------------------|------------------|--------------|----------------|
| Land plot surface | (m ²) | | | |
| Mean | 201.80 | 212.87 | 333.66 | 297.64 |
| Median | 127.93 | 175.72 | 259.24 | 278.61 |
| Variation coefficient | 63.18% | 50.16% | 56.70% | 38.53% |
| CGR-1 unitary | (UF/m ²) | | | |
| Mean | 12.63 | 15.97 | 11.68 | 11.67 |
| Median | 12.87 | 14.84 | 12.62 | 11.42 |
| Variation coefficient | 40.96% | 33.10% | 27.48% | 33.49% |
| CGR-1 gross | (UF) | | | |
| Mean | 2,287.74 | 3,399.25 | 3,896.21 | 3,473.51 |
| Median | 1,615.96 | 2,805.91 | 3,027.16 | 3,251.40 |
| Variation coefficient | 70.40% | 50.16% | 56.70% | 38.53% |

Source: own elaboration

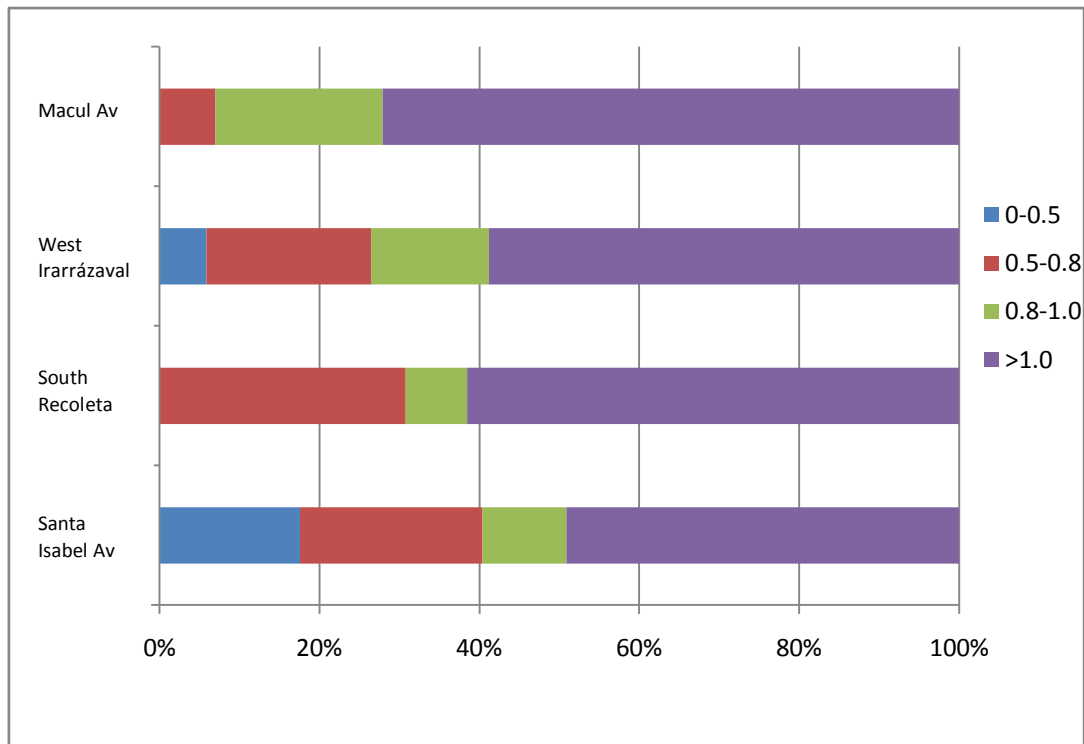
Regarding land plot surface, there is an important difference between zones, as the Santa Isabel Avenue and West Irarrázaval Avenue zones show 50% of their land plots below 128m² and 176m², respectively, while for Macul Avenue and South Recoleta the median is above 250m². This first differentiation between both district groups is crucially relevant as it becomes the main explanatory variable for the differences found in gross capitalized ground rent. This is due to the fact that, with the exception of West Irarrázaval Avenue, the unitary ground rents 1 do not greatly differ amongst the zones.

By considering these data, it is possible to identify the lowest gross CGR-1 (2.287 UF average) in Santa Isabel Avenue, as the land plot surface is significantly smaller than in the rest of the zones. By contrast, Macul Avenue shows the highest gross ground rents (3.896 UF average) because of the land plot surface of their properties, which are big enough to control the effect of a higher ground price when compared to West Irarrázaval Avenue. In this case and for South Recoleta, gross ground rents 1 are estimated, with mean values close to 3.400 UF. Notably, the variation coefficient (standard deviation / average) of the CGR-1 in Santa Isabel Avenue is 70%, considerably higher than the rest of the zones, which implies a high deviation compared to the mean data.

4.4. Exclusionary displacement from the rate of relocation

Regarding the mean relocation rates, for the sample of the whole inner city areas, it reaches 1.34, while the median is 1.10. Expressed as a percentage, 59% of the surveyed owner-renters get rates equal or above 1, which means that using the ground rent capitalized from their property they could afford the average price of the existing flats in the same area under renewal. Out of 41% of the cases that obtain rates below 1, 7.7% corresponds to owners who can afford at least half the price of the flat they need; and 25% can cover up to 80% of the same price. These data allows estimations about the possible relocation for owner-residents in average-priced flats within the area under study.

Namely, relocation rates are considerably lower in Santa Isabel Avenue, where only 49% of the sample in the same zone could afford the price of the flat needed with the ground rent to be obtained from the current property, while 17.5% of the surveyed owner-residents show rates below 0.5. This implies that the ground rent to be obtained, according to the mean values registered for the zone and the land plot surface for each owner, is enough to afford at least half the flat needed by the owner, according to the number of residents in their households. On the other hand, Macul Avenue appears as the zone with the highest relocation rate for the pericenter under study. The area does not show rates below 0.50 and only 7% is between 0.5 and 0.8. In fact, 72% of the sample could relocate within the same area, which is considerably higher than the rate seen for Santa Isabel Avenue. Meanwhile, 6% of the sample for West Irarrázaval Avenue shows rates below 0.5 and a total of 58% of the residents could relocate. As mentioned, South Recoleta shows a very small sample, though 60% of the surveyed residents can be potentially relocated within the same area in average-priced flats.

Figure 6. Residential relocation rates according to urban renewal zones

Source: own elaboration

Regarding the highest priced flat offered for the same period of time, only 35% of the surveyed residents can afford it with the ground rent they would obtain by selling out their property. The average and the median for the cases show rates below 1, while 20% could not even afford half the highest priced flat offered in the zone between 2000 and 2010. Considering this rate relative to the highest priced flat, Santa Isabel Avenue and West Irarrázaval Avenue are the zones with the lowest relocation rate, very distant from Macul Avenue and South Recoleta. The first two ones present close to 70% of the cases with no capacity for relocation, with rates that are even lower than 0.5 (afford less than half the price of the flats) by 20% for West Irarrázaval Avenue and 37% for Santa Isabel Avenue. Macul Avenue and South Recoleta hold, 46% and 58% of the cases with no capacity for relocation, respectively. Especially in the case of Macul Avenue, there are no owner-residents with rates below 0.5, which ratifies its behavior as the zone with the strongest relocation capacity.

In the specific case of Santa Isabel Avenue, as mentioned in the methodology, the data for the rents obtained by the owner-residents that sold their properties between 2000 and 2010 was stratified to establish three possible scenarios for the current owner-residents. The objective is to observe relocation in a more accurate fashion, according to these three scenarios, and also to quantify the portion of the housing market the surveyed residents could have access to in case of selling their properties. The important thing in this case is not the relocation rate

relative to a mean, minimum or maximum price, but the percentage of the stock produced to which the owners could relocate to, according to these three different scenarios. In this way, Low Ground Rent scenario, which is a mean for the segment receiving the lowest ground rents, corresponds to a rent of 7.5 UF/m². The High Ground Rent Scenario, on the other hand, groups the third of the highest rents with a mean value of 21.2 UF/m². Lastly, there is a Mean Scenario that corresponds to the average value for the rents obtained that are equal to 14.7 UF/m².

Each scenario permitted an estimate of the CGR-1 for the owner-residents that were surveyed as part of the study. This way, and considering the typology of the properties required by the surveyed parties, according to their household's size, the prices of the supplied flats and the ground rents that the owners could obtain when selling their land plots to the renewal market, according to the three scenarios, the following results can be presented (see Figure 7):

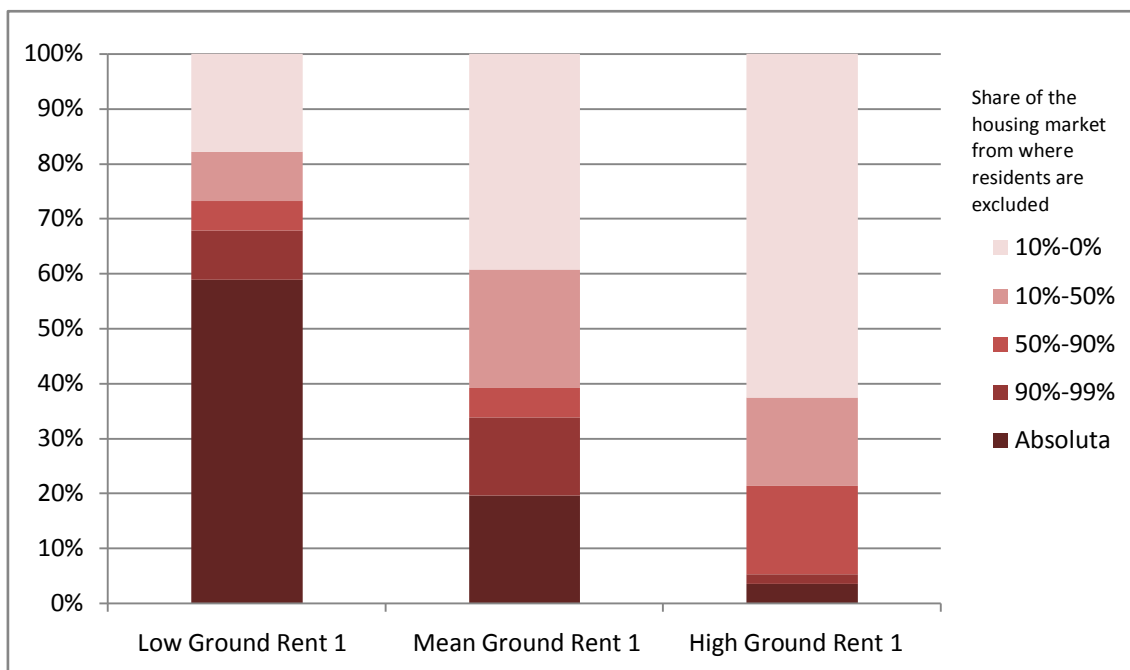
First, out of the 72 owners surveyed and whose property was identified, 16 do not have the possibility to access the market as their families include 5 or more people. The non-existence of flats with more than 3 bedrooms makes relocation impossible or considerably difficult for these households within the renewing areas. This situation must be understood as the first type of socio-spatial exclusion due to non coverage for the demand.

Then, from the remaining 56 owner-residents, there is a group of owners affected by an absolute exclusion from the market, since the ground rent they could obtain are not high enough to buy any property within the renewed area. When stratifying the prices of all the apartments offered, the ground rents for these owners are lower than the minimum price for the flats they require.

The important thing here is to see how exclusion varies within the three scenarios. For the Low scenario, which captures a ground rent of 7.5 UF/m², 33 out of the 56 households sampled show absolute exclusion. This group of absolutely excluded is drastically reduced to two households for the High scenario, i.e. they receive a high ground rent for their land. On the other hand, the Mean scenario shows a total of 11 surveyed households that could not relocate even in the cheapest flats.

In a Mean scenario, 19 out of the 56 households could not relocate in 90% of the properties produced. This is a social group with a possibility to relocate to 10% or less in the flats supplied, which reflects a high level of exclusion. For the Low scenario, the group of excluded residents from 90% of the stock of properties includes 38 households, while the High scenario shows a very low number of owners (3 households). Strictly speaking, the High scenario only shows significant levels when the exclusion from the market reaches 50% of the market, with a total of 12 households. Figure 7 shows these three scenarios.

Figure 7. Exclusion scenarios from the renewal housing market for the owner-residents in Santa Isabel Avenue zone



Source: own elaboration

5. Conclusions

The method here used allows to establish precise social exclusion observations related to gentrification, which is difficult to observe in any other way in the case of Santiago and the main cities in Chile. More than an empirical verification for the physical transformation of a neighbourhood, the resident's income increase, or the ever-present consumption patterns that characterize traditional gentrification studies, generally with an *ex post* verification of the existence of a displacement process (i.e., once the gentrified ones are gone), the method used here permits an *ex ante* and inductive visualization of displacement processes derived from real estate pressure, according to the pre-established guidelines for demographic and real estate market behavior, thus appreciating what seems invisible to the empirical study or analysis of traditional public policy.

In the context of such a highly commoditized land market as the Chilean one, and where land property is probably the only relevant asset for close to 80% of urban households, capitalized rent by the resident social subjects (Capitalized Ground Rent 1) appears as the fundamental element to ensure traditional residents will remain in the zones with an intensive urban renewal. The other decisive factor in having residents either stay put or evicted is the price of the new properties supplied on the site, which has shown a considerable increase since 2000, due to the monopolized production by the main market agents. The analysis of the rent gap

showed that while this is captured by the private redevelopers, the capture of “social” rent (CGR-1) remains increasingly stable and low, and in big part, at a value that does not ensure low income inhabitants to remain in the neighborhoods that have seen an intensified urban renewal.

It is important to gather, by means of a survey, evidence related to displacement pressure, as well as to get to know the preference to stay put or relocate of the individuals that reside in the areas under study. The mostly negative perceptions provided by traditional residents regarding the effects of moving from their neighborhood, as well as the high percentage of blockbusting, many times contrast with the optimistic perceptions by the state agencies in charge of regulating this type of market (López-Morales et al., 2012). Nevertheless, 70% of the residents declare their intentions of staying put in their households, and more than half have stated their intention to remain within the same municipal district. The mobility from these central zones towards the outside of the central urban radius is clearly perceived as a loss, for the clearly superior comparative advantages of the central location in a highly centralized metropolis. However, in the case of Santa Isabel Avenue, which is the most populous and centrally located, the analysis show that in the probable (intermediate) situation, 30% of the owner residents would be left out of any possibility of residential relocation within the neighborhood, 55% is left out from 90% of the existing housing supply in the neighbourhood, and 63% is left out of 50% of the existing housing supply in the neighbourhood.

In general terms, it can be said that at least two out of every five inhabitants in the inner city of Santiago is exposed to a strong level of displacement from the residential real estate market in zones of urban renewal, which leads to a considerable increase in the cost and time needed for mobility, and to the loss of their central location. The interesting part about the method here applied is that, more than reveal gentrification and displacement of the owner residents in the inner city of Santiago in a binary way (to be or not to be gentrified), it is shown ‘degrees’ or ‘possibilities’ of gentrification, according to the size of the household, the size of the inhabited land plot and the market cost for re-localization.

Gentrification in Chile is far from the ‘elitist’ urban regeneration process experienced in global cities, but rather a political construction aimed at the localization of extensive zones for intense real estate development, that generate high ground rent captured by a monopoly, and with intermediate zones where physical and economic deterioration is accelerated through land speculation. The market of high-rise urban renewal is made possible by public policies regulating the land, which are very efficient at the time of making the capture of the highest profits for the ground possible by private firms, or even by reducing the ground rent feasible to be socially capitalized (CGR-1), with such a level of influence that it excludes at least the two lowest quintiles of the population from the possibility of purchasing new properties. This is the reason why newcomers residents are irrelevant to analyze here, as the actual gentrifiers seem to be the redevelopers that deploy a strong power to transform the areas and excluded a large portion of the population from the renewing areas.

It is important to understand the urban gentrification process globally, extract it from the oversimplification derived from a visibly attractive cultural and media casuistry, and go further into recognizing that the profound changes experienced by the urban spaces that have been currently left to the will of market forces, unless changes are introduced, will continue to reduce the chances for the right to the urban public goods in all kinds of world cities.

6. References

- Aalbers, M. (2011). *Place, Exclusion and Mortgage Markets*. Oxford: Wiley-Blackwell.
- Borsdorf, A., & Hidalgo, R. (2013). Revitalization and tugurization in the historical centre of Santiago de Chile. *Cities*, 31, 96-104. doi: <http://dx.doi.org/10.1016/j.cities.2012.09.005>
- Clark, E. (1987). *The Rent Gap and Urban Change: Case Studies in Malmö 1860-1985* (Vol. 101). Lund: Lund University Press.
- Clark, E. (1988). The Rent Gap and Transformation of the Built Environment: Case Studies in Malmo 1860-1985. *Geografiska Annaler. Series B, Human Geography*, 70(2), 241-254.
- Clark, E. (1995). The Rent Gap Re-examined. *Urban Studies*, 32(9), 1489-1503.
- Clark, E. (2005). The order and simplicity of gentrification - a political challenge. In R. Atkinson & G. Bridge (Eds.), *Gentrification in a Global Context: The new urban colonialism* (pp. 256-264). Oxon: Routledge.
- Contreras, Y. (2011). La recuperación urbana y residencial del centro de Santiago: Nuevos habitantes, cambios socioespaciales significativos. *EURE*, 37(112), 89-113.
- Cortínez, J. M., & Arriagada, C. (2010). Garantías en Vivienda y Habitabilidad. In L. Moreno & M. Rosenblüth (Eds.), *Umbrales Sociales para Chile: Hacia una Futura Política Social* (pp. 87-126). Santiago: Fundación Superación de la Pobreza.
- Davidson, M., & Lees, L. (2005). New-build 'gentrification' and London's riverside renaissance. *Environment and Planning A*, 37, 1165-1190.
- Davidson, M., & Lees, L. (2010). New-build gentrification: its histories, trajectories, and critical geographies. *Population, Space and Place*, 16(5), 395-411.
- Espinoza, V. (1988). *Una Historia de los Pobres de la Ciudad*. Santiago: Ediciones SUR.
- Garcés, M. (2002). *Tomando su sitio: el movimiento de pobladores de Santiago, 1957-1970*. Santiago: LOM Ediciones.
- Harvey, D. (2003). *The New Imperialism*: Oxford University Press.
- Hidalgo, R. (2005). *La Vivienda Social en Chile y la construcción del espacio urbano en el Santiago del siglo XX*. Santiago: Dirección de Bibliotecas, Archivos y Museos.

- Hidalgo, R., Zunino, H., & Álvarez, L. (2007). El emplazamiento periférico de la vivienda social en el área metropolitana de Santiago de Chile: Consecuencias socio espaciales y sugerencias para modificar los criterios actuales de localización. *Scripta Nova*, XI(245).
- INE (2002). *Chile's National Population Census*. Instituto Nacional de Estadísticas.
- Inzulza-Contardo, J. (2012). 'Latino-Gentrification'? Focusing on Physical and Socioeconomic Patterns of Change in Latin American Inner Cities. *Urban Studies*, 49(10), 2085-2107. doi: 10.1177/0042098011423425
- Lees, L., Slater, T., & Wyly, E. (2008). *Gentrification*. New York, London: Routledge.
- López-Morales, E. (2009). *Urban Entrepreneurialism and Creative Destruction: A Case-study of the Urban Renewal Strategy in the Peri-centre of Santiago de Chile, 1990-2005*. PhD, University College London, London. Retrieved from <http://discovery.ucl.ac.uk/18707/>
- López-Morales, E. (2010a). Real estate market, urban policy and entrepreneurial ideology in the 'gentrification by ground rent dispossession' of Santiago de Chile. *Journal of Latin American Geography*, 9(1), 145-173.
- López-Morales, E. (2010b). *Santiago de Chile: Examining state roles in the transformation of a postindustrial inner city space*. Paper presented at the AAG 2010 Annual Meeting, Washington, DC.
- López-Morales, E. (2011). Gentrification by Ground Rent Dispossession: the Shadows Cast by Large Scale Urban Renewal in Santiago de Chile. *International Journal of Urban and Regional Research*, 35(2), 1-28.
- López-Morales, E. (in revision). Gentrification in Chile: A property-led process of dispossession and exclusion. The case of inner city Santiago. *Urban Geography*.
- López-Morales, E., Gasic, I., & Meza, D. (2012). Urbanismo Pro-Empresarial en Chile: políticas y planificación de la producción residencial en altura en el pericentro del Gran Santiago. *Revista INVI*, 28(76), 75-114.
- Maloutas, T. (2012). Contextual Diversity in Gentrification Research. *Critical Sociology*, 38(1), 33-48.
- Marcuse, P. (1985). Gentrification, abandonment and displacement: connections, causes and policy responses in New York City. *Journal of Urban and Contemporary Law*, 28, 195-240.
- MINVU. (2008). Actualización Plan Regulador Metropolitano de Santiago.
- Sandroni, P. H. (2011). Recent experience with land value capture in São Paulo, Brazil. *Land Lines*, 23(3), 14-19.
- Schlack, E., & Vicuña, M. (2011). Componentes normativas de alta incidencia en la nueva morfología del Santiago Metropolitano: una revisión crítica de la norma de "Conjunto Armónico". *EURE*, 37(111), 131-166.

- Shin, H. (2009). Property-based redevelopment and gentrification: The case of Seoul, South Korea. *Geoforum*, 40(5), 906–917.
- Slater, T. (2009). Missing Marcuse: On gentrification and displacement. *City - Analysis of Urban Trends Culture Theory Policy and Action*, 13(2), 292-312.
- Smith, N. (1979). Toward a Theory of Gentrification A Back to the City Movement by Capital, not People. *Journal of the American Planning Association*, 45(4), 538-548.
- Smith, N. (1987). Gentrification and the Rent Gap. *Annals of the Association of the American Geographers*, 77(3), 462-465.
- Smith, N. (1996). *The new urban frontier: gentrification and the revanchist city*. London, New York: Routledge.
- Trivelli, P. (2011). La propuesta de modificación del Plan Regulador Metropolitano de Santiago PRMS 100 requiere una justificación más sólida. *EURE*, 37(111), 179-184.