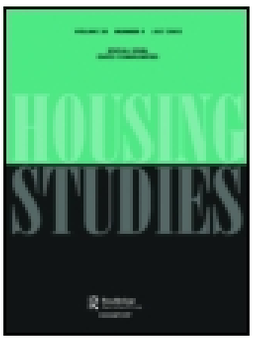

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Patterns of distributive justice: social housing and the search for market dynamism in Amsterdam

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ABSTRACT

Housing policy changes in the Netherlands have been in line with OECD and IMF policy advice to increase market dynamism by downsizing the large social rental sector. The impact of such policies on households, however, is rarely acknowledged. Therefore, in this article, distributive effects on social housing tenants in Amsterdam between 2004 and 2014 are evaluated against two standards for distributive justice: sufficiency and priority. These standards befit the policy aim to provide adequate (sufficient) housing for households with a certain need (priority). The analysis shows housing policies have amplified the impacts of the global financial crisis on households. The occurrence of sufficiency increased significantly until 2008, but decreased thereafter. In regards of the priority standard more households with a significant need benefitted from social housing after 2008. However, many of these households still do not meet the sufficiency threshold. While spatial patterns remained rather stable, the impact has been greater in the areas with already relatively low residual incomes.

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Distributive justice; housing policy; social housing; sufficiency; priority

Introduction

Despite similar concerns about the affordability of housing and access to the housing market in many growing cities around the world, national policies have—in recent decades—focused on the promotion of owner-occupied housing and the partial privatization and residualization of social housing in many countries (Malpass, 2014; Ronald, 2013). While similar trajectories can be distinguished, countries and cities have different histories of social housing policies and provision (Harloe, 1995; Malpass, 2014). Ranging from large scale provision of social housing in Europe (Scanlon *et al.*, 2015) to support-programs to enable households to find adequate market rental housing in the United States (Infranca, 2015; Priemus *et al.*, 2005; Schwartz, 2010). Recently, demands for the provision of more social housing and a

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more efficient use of available social housing (e.g. the U.K. bedroom tax, see Gibb, 2015) exist alongside continued processes of the sale of social housing (Kadi & Musterd, 2015; Murie, 2014) and a search for increased market dynamism. With limited (and decreasing) shares of affordable housing and higher real-estate values (Ball, 2016), concerns over social housing allocation and distribution have increased in several countries (e.g. Germany, the Netherlands, United Kingdom and United States) and cities (e.g. Berlin, Amsterdam, London and New York) (Granath Hansson, 2019; Kadi & Musterd, 2015; Lazarovic *et al.*, 2015; Marom & Carmon, 2015). A lack of affordable housing options may push households to under-consume, impede the adjustment of housing consumption if household needs change (i.e. overcrowding or living in substandard conditions; Clark *et al.*, 2000; Soaita, 2014), cut-back on necessary non-housing expenses (Clark *et al.*, 2000), or move (outwards) to less expensive areas (Hochstenbach & Musterd, 2017).

The overall functioning and responsiveness of markets are addressed by institutions like the Organization for Economic Co-operation and Development (OECD)[1] and the International Monetary Fund (IMF)[2] (e.g. Caldera & Johansson, 2013; IMF, 2011). These organizations' policy recommendations propose, from an economics point of view, further liberalization and residualization of the social housing sector. Alternative arguments for government intervention, e.g. redistribution and securing ample access for those least well off, are not (fully) acknowledged. Different housing policies impact tenure structures and distributive outcomes of 'who gets what' out of the scarcely available resources. This influences the distributive justice of housing. How different policies affect the distributive justice outcomes will depend on what is understood by distributive justice and the standard by which the comparative allotment of receipts (in this regards housing in different quantities and qualities) among persons or households (Cohen, 1987; Frankena, 1966) is morally judged. What is understood by a just outcome, however, often remains undefined and/or implicit, both in policy and research (Buitelaar *et al.*, 2017). Which standard to apply may depend on the nature of the receipts distributed (Frankena, 1966), but even for one and the same receipt there may be plausible arguments for the application of different standards.

The aim of this article is to explore the effects of changing (national) policy and more general economic circumstances on the distributive justice outcomes of social housing over time in Amsterdam. The associated research question is *To what extent do changes in economy and social housing policy influence the distributive justice of housing?* Amsterdam's social housing sector over the 2004 to 2014 period has been assessed, applying two distinct standards of distributive justice (i.e. sufficiency and priority) to assess the development of physical adequacy and affordability for households. The observed case and period provide a—in economic and policy terms—very dynamic period, which expectedly have resulted in significant changes in distributive outcomes.

Amsterdam was selected for this exploratory study as it provides an extreme case (Gerring, 2007) in regards of the uniquely large social housing sector of 45 percent of the total housing stock combined with a high market pressure. While demand is high, a major part of the housing stock is reserved for households with a low to

moderate income of at most €36 798 a year (in 2018). The number of social housing units exceeds the number of Amsterdam households who are, based on their income, formally eligible for social housing (Janssen-Jansen & Schilder, 2015). However, the social housing stock and the number of dwellings available for new tenants each year are decreasing (AFWC, 2005-2016), and the long waiting list also includes eligible households not currently living in Amsterdam. At the same time, the private rental sector is small, market rate housing is becoming more expensive, and social housing waiting lists are long. Therefore, the city is—despite its large social housing stock—being confronted with concerns of households' access to adequate and affordable housing (Uitermark & Bosker, 2014). This resulted in a plea for increasing the construction of housing and restricting the use of privately owned dwellings as (Airbnb) holiday rentals (Municipality of Amsterdam, 2017). But the concern is also about the allocation and distribution of the current stock of social housing and how social housing can be allocated to those in need in an efficient (maximizing the effect) and effective (satisfying needs by providing housing that is adequate) way (Municipality of Amsterdam, 2017). Different national and local policies and programs have been implemented to influence the outcome of social housing allocation (Jonkman & Janssen-Jansen, 2018; Kromhout & Zeelenberg, 2014) and thus alter the distributive justice produced through housing.

In the next section, the two perspectives of distributive justice will be discussed in relation to social housing. Thereafter, the methodology is described and the study area is further introduced. Subsequently, the housing policy recommendations from the OECD and the IMF are presented and compared to recent social housing policy change in the Netherlands. Finally, the empirical analysis will be presented for Amsterdam, before ending with a discussion and conclusion.

Distributive justice: sufficiency and priority

A distributive justice approach is concerned with the question 'who gets what' (Cohen, 1987) and a subsequent normative valuation of the distribution over (aggregates of) individuals (Jonkman *et al.*, 2018). In several critiques, the boundaries of distributive approaches to justice have been drawn. Distributive approaches are argued to be prone to greater disregard of structural flaws (Young, 1990) and deeper class disparities (MacPherson, 1978). Young (1990) argues that the distributive logic is being applied to—relational—rights and duties that can actually be assigned to all without concerns of scarcity. Furthermore, distributive justice may be necessary but is not sufficient, as there are several other important dimensions to socio-spatial justice and the Just City—like concerns for democracy, diversity (Fainstein, 2010) and recognition (Fraser, 1995). Despite these limitations, evaluations of distributive justice are important for assessing the outcomes of policies. In terms of housing, it concerns the distribution and provision of a primary good catering to a social right (Wells, 2018; Yung & Lee, 2012).

'Who gets what' can be addressed by describing a certain distribution. Considering the distributive justice, however, also requires a standard to which the distribution can be valued. Different types of such standards exist, including equality, beneficence,

efficiency (Cohen, 1987), utility (Feldman, 1995), sufficiency (Frankfurt, 1987) and priority (Casal, 2007). While equality and utility are also of concern in debates about social housing, sufficiency and priority are selected because they align with the central policy aim for social housing in the Netherlands: providing those households with a certain need (i.e. giving priority) with adequate (i.e. sufficient) housing. Next, the standards of sufficiency and priority will be discussed in relation to social housing provision.

Sufficiency and priority

Normative concern, according to Frankfurt (1987), should focus on the question of whether people have enough of a certain good. He argues that there are no moral grounds to strive for equal distributions and that most arguments for equality actually stem from concerns about some people not having enough. In specific contexts, equality may prove an efficient way to achieve sufficiency, but this is not necessarily the case. Frankfurt (1987) provides an example in which there is only enough medicine to cure five out of ten patients. Distributing the available medicine evenly to the ten patients would not cure a single one of them. By maximizing sufficiency, only five patients would be provided medicine and would receive enough medicine to be cured. Horizontal equity, treating equals equally (McDaniel & Repetti, 1993), does in itself not have to result in households having enough, because the equal treatment of equals may still not be enough. Whether vertical equity, 'requiring an 'appropriate' pattern of differentiation among unequals' (McDaniel & Repetti, 1993, p. 607), results in households having enough depends on what is deemed appropriate. Striving for an equal outcome for households or striving for the maximization of the occurrence of sufficiency, can both be regarded legitimate approaches of vertical equity. The medicine example furthermore shows the nature of the good distributed may impact which standard is to be preferred for assessing justice. The consequence for not having enough medicine may be very dichotomous (e.g. not being cured with just too little medicine), while the effects of insufficiency in the provision of housing may be more gradual. This may result in different priorities of whom to provide additional units to or how to distribute an in total insufficient total amount of a good.

According to Casal (2007, p. 307) Frankfurt 'fails to establish that when not everyone can have enough, egalitarian considerations have no relevance.' Even in the case of having not enough medicine so all patients may survive, an egalitarian perspective could, according to Casal (2007), aim for a fair and equal chance of survival for everyone. Frankfurt (2015) responds to this critique by stating that providing equal chances and preventing discrimination to occur is a matter of respect, not refuting the basic argument about the normative basis of equality. This corresponds to the distinction between horizontal equity of treating equals equally and vertical equity of treating unequals unequally (McDaniel & Repetti, 1993; Yung, 2007). Providing equal opportunities to be treated with medicine can be seen as horizontal equity, even though this does not mean everyone receives the same. This, however, does not excludes unequals being treated unequally based on needs, rights or merit. But to what extent would discrimination be accepted if this leads to a greater level of

sufficiency maximization?[3] Next to the possible tensions between needs, rights, deserts (Yung, 2007), merits (Walker & Marsh, 2003), preferences and desires (King, 1998), there may exist trade-offs between horizontal and vertical equity.

What is sufficient or deprivation, can be regarded both in absolute or relative terms. Sen (1983) argued how both purely absolute and purely relative views of poverty are problematic. While relative poverty may be limited or absent, people could still suffer from starvation or a lack of shelter; forms of absolute poverty that cannot be denied whatever the distribution. An absolute view on poverty, on the other hand, may miss out on the significance of relative poverty. For example, people's dignity and ability to fully participate in society may depend on their relative poverty. Sen (1983) illustrates this with the example of the importance of owning a car in a fully car centric society. So 'poverty is an absolute notion in the space of capabilities but very often it will take a relative form in the space of commodities or characteristics' (Sen, 1983, p. 161).

The *sufficiency* standard is defined by Crisp (2003, p. 762) as follows: 'compassion for any being B is appropriate up to the point at which B has a level of welfare such that B can live a life which is sufficiently good.' The basis of this approach lies in the compassion people feel for persons whom do not have enough. A sufficiently good life can be interpreted as the capability one has to transfer means into meaningful ends (Sen, 2009). Once a certain threshold is met and persons can live a sufficiently good life, there is no moral ground for giving priority to those worst off, though one may still wish someone further increases in welfare (Crisp, 2003). What is sufficiently good can be related to an absolute level of deprivation, for example, if substandard housing conditions have a clear negative effect on people's health or if budgetary constraints deprive people of other primary goods. While in theory what is regarded as sufficiently good may be identified behind a 'veil of ignorance' (Rawls, 1971) or by an 'impartial spectator' (Crisp, 2003),[4] what is sufficiently good can in practice be relative and contextual. So also, in this regards the level of sufficiency is both absolute in terms of meaningful ends and relative in terms of what is in a specific context required to provide a sufficient basic level of provision that provides the capability to achieve such ends.

Within this article, the sufficiency standard holds the maximization (in number of households and persons) of the occurrence of sufficiency—meaning being adequately housed. Households living in social housing may, despite below-market rents and housing allowance, still be housed inadequately (cramped or unaffordable). Besides, inefficient use of available means (living very cheaply and under-occupied) may also hamper the maximization of households and persons meeting the sufficiency standard, as the same means could potentially lift more persons over the sufficiency standard. The level of sufficiency will be unequal for different households or persons and is predominantly determined based on needs. The sufficiency standard could lead to increased inequality since moving persons past the threshold is prioritized over improving the situation of those worse off and because equality is of no direct concern. What is regarded adequate will be discussed later.

Prioritarian standards differ from sufficiency standards as they assume favoring the least well off has more valuable advantages or otherwise less harmful

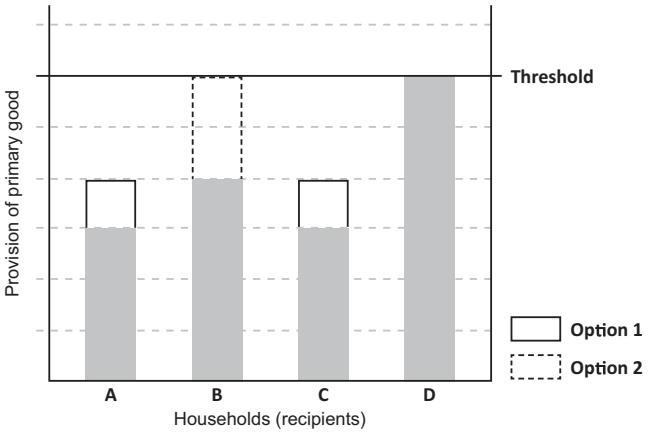

Figure 1. Hypothetical change in distribution of means. Source: author. Depending on the perspective, additional recourses would be differently distributed. From a priority perspective option 1 would be preferred, while from a sufficiency perspective option 2 would be preferred.

disadvantages than not doing so (Casal, 2007). Crisp's (2003) approach gives more attention to favoring those worse off than focusing on getting as many persons as possible beyond the threshold:

> absolute priority is to be given to benefits to those below the threshold at which compassion enters. Below the threshold, benefiting people matters more the worse off those people are, the more of those people there are, and the greater the size of the benefit in question (Crisp, 2003, p. 758).

In Frankfurt's medicine example there was a clear natural threshold; either being cured or remaining ill. In many other cases, improvements for people who have the least may be more significant even if the improvement does not lift them past the threshold. In this article, the prioritarian standard will consist of two elements. First, social housing should be targeting those households with a certain need over those already better off. The need may, for example, be defined based on a household's income or chances on the private housing markets. Second, among those with a certain need, improvement of the position of those worse off should be given priority. Such an approach would lead towards more equality even though this is not the primary goal. In a later section, *a certain need* and *those worse off* will be operationalized. Sufficiency thus corresponds to a level that, within the context studied in this article, provides people a housing-related basic level to adequately participate in society.

To mark the distinction between the two standards, Figure 1 shows a theoretical distribution over four recipients (households A to D) and two options for distributing additional resources, for example, a rent reduction. The bars can represent the level of affordability, taking into account different incomes and needs of the households. The two options can represent the allocation a rent reduction, which would positively impact the affordability of the receiving household. Option 1 favors the least well off, by allocating the rent reduction to households A and C. In option 2, all additional resources are allocated to household B, lifting this household over the threshold (i.e.), thus maximizing the occurrence of sufficiency. This household will live affordably. In

this example, equality would improve in option 1 and not in option 2. Option 2 would be the preferred option in terms of meeting the sufficiency standard, while option 1 would be the preferred option meeting the prioritarian standard which attributes greater value to improving the situation of those worse off (i.e. the greater the gap towards the threshold) without necessarily aiming for equality. A possible third option—not visualized in the graph—would be to redistribute means from household D to the other households. Equality could be optimized this way by providing all household to an equal level of affordability, but no household would meet the threshold. Redistribution could also take place if no additional receipts become available. In such a zero-sum situation someone inevitably has become worse off in order for others to receive more.

In regards of housing, many different qualities are distributed and could be evaluated based on the standards discussed above. Housing may, for example, provide protection from weather, privacy, a place to study (Office of the Deputy Prime Minister, 2004), a place from which jobs and services (physically and digitally) can be accessed (Cai & Lu, 2015; Fincher & Iveson, 2008). Some qualities relate to the housing structure itself (e.g. quality and size), while others relate to the conditions under which the structure may be used (e.g. rent) or the location of the dwelling (e.g. relative to jobs, services and other people). In this article, the focus is on the physical adequacy and affordability of social housing. Adequacy and affordability of housing are identified by Yung & Lee (2012) as two central dimensions of the right of housing. Different households are endowed with different capabilities that enable them to transfer housing-related means into ends that constitute 'a good life' (Nussbaum, 2000) or provide physical health and autonomy (Doyal & Gough, 1991). Therefore, adequate and affordable housing is a means and not an end in itself. By incorporating household size and composition in measures of physical adequacy and affordability, it is more likely that housing that is assessed to be adequate will indeed provide the means to be transferred into ends that contribute to 'a good life'. Still, there are several other capabilities that determine the transferability of housing means into such ends that are not taken into account in this article. For example, a physical disability could make it impossible for someone to make full use of the means provided by a house or the surrounding amenities (e.g. parks, shopping center), if no necessary adjustments are made to the dwelling or additional support to the tenant is provided (see Basta, 2016).

Methodology

After identifying two standards (sufficiency and priority) and two core dimensions (adequacy and affordability), in the following section, these components are operationalized to assess the distributive justice produced by social housing in Amsterdam.

Methods and data

Since the normative judgement of the distribution of housing depends on what is provided to different households, household-level micro-data are used. A longitudinal

design enables the assessment of developments over time and to explore the influence of different factors on the position of different households. The period of time studied (2004 until 2014) stretches from before the global financial crisis until after economic recovery began. During this time period, several policy changes were implemented. Both economic influences and policy changes are expected to have had a significant impact on the development of distributive outcomes. The scope is restricted to the single case of the municipality Amsterdam and the social housing sector to enable an in-depth analysis. While from a household-perspective municipalities surrounding the city of Amsterdam may also provide suitable housing options, the analysis in this article is focused on the use of the housing stock in Amsterdam and its different neighborhoods.

The development of housing adequacy and affordability will be assessed by looking at the change between different observations through the use of a longitudinal dataset of bi-yearly microdata from 2004 until 2014. The database was made available by the housing associations in Amsterdam and consists of their entire Amsterdam housing portfolio[5] (i.e. the entire population) matched with household microdata from the *Sociaal Statistisch Bestand*.[6] The housing unit data contain variables on location, rent, number of rooms and type of housing unit. The household data include variables on the household composition (i.e. sex and age of the residents), the yearly gross and disposable household income. The housing and household data are merged at the micro level and anonymized, providing a large dataset for the analysis at the micro-level. Non-private households (e.g. retirement homes and nursing homes) are excluded, together with households with a disposable income below €8 000 (in 2012, corrected for other years) to exclude students and units with rent under €100 (in 2012, also corrected for other years), because these often entail anti-squat units (only a service fee may be charged and many regular tenant rights do not apply, see Huisman, 2016) that distort the measured affordability. Shared housing units in which a unit is rented out to multiple households, were also excluded from the dataset. These units primarily consist of student dorms. About three percent of liberalized dwellings (units rented out by social housing associations in the liberalized sector). The final dataset, after performing these selections and merging the datasets consisted of 94 percent of the housing units rented out to a one household and on average 180,000 units per observation. The results from this analysis have been checked and discussed with a focus group of Amsterdam housing professionals from two municipal departments, five housing associations and the Federation of Amsterdam Housing Associations (AFWC) in a workshop and presentations at the AFWC.

Measuring and assessing affordability and adequacy

In order to apply the distributive standards of sufficiency and priority to social housing in Amsterdam, these standards need to be operationalized for this specific context and use. In the Netherlands, social housing provision is rooted in the constitution (Grondwet, art. 22.2) describing the responsibility of the government to housing in primarily quantitative terms: 'Advancement of sufficient housing is object of concern of the government'. The Dutch government also states that it 'wants households to be able

Table 1. Relative residual income and room stress.

Relative residual income	Example
Disposable household income	€1600
- Housing related expenses	€550 (*€420 rent + €130 for gas, water and electricity*)
- Other necessary expenses[a]	€1186 (*based on minimum budget for this family type*)
Residual income	−€136 (*€1600 −(€550 + €1186)*)
/Disposable household income	
* 100	
Relative residual income	−8.5 ((*−€136/€1600*)*100)
Room stress	Example
Number of rooms	3
/Required number of rooms[b]	4 (*two parents = 2 + a boy and a girl aged 12+ = 2*)
- 1	
Room stress	−0.25 ((3/4) −1)

Source: made by author.
[a]Other necessary expenses are based on minimum budgets calculated for different households, based on size and composition, by the Dutch budget research institute Nibud.
[b]For the required number of rooms, two rooms are allotted to a single adult or two adults, after which one room is added for each additional adult or couple. Children under the age of ten are supposed to be able to share a room, while older children are supposed to be able to share a room if they are of the same sex. Other than in the original measure developed by the Panel Studies of Income for the U.S. (see Huang 2003), a studio-apartment is also regarded suitable for a single-person household, thus for single-person households the required number of rooms is one or two. This change (in line with the standard applied by Soaita 2014) was made in order to better fit the Amsterdam context, after discussions with local housing association professionals.

to live in affordable, safe, healthy and energy efficient housing' (Rijksoverheid, n.d.-a). While these goals can also be reached through private rental and owner-occupied housing markets, the Housing Act[7] further explicates rights and duties of social housing providers along those lines. Housing associations should 'give priority to housing (…) persons who because of their income or other circumstances have difficulty finding appropriate housing' (Woningwet, art. 46.1). The Housing Act includes additional rules concerning rent levels and the share of units that should be rented out to households that qualify for housing allowance, in order to restrict housing allowance expenses and to increase effectiveness. Housing associations are furthermore expected to comply with municipal housing policy goals, to the extent of what can be 'reasonably expected'. In general, housing policy and housing associations' activities should aim to provide adequate housing for households with a certain need. What is adequate can be interpreted in different ways, but affordability is central. A household's purchasing power greatly determines their competitiveness on the market, and thus their ability to independently find appropriate housing. Given the central policy aim of providing adequate and affordable housing for households with a certain need, there is concern for attaining a certain level of sufficiency ('adequate housing') and effectiveness (addressing households with 'a certain need'). More efficient use of means will result in the cheaper provision of the goods or in providing adequate housing for more households and/or persons (i.e. increase occurrence of sufficiency).

The distribution of housing to households will be assessed by focusing on the key dimensions of affordability and physical adequacy (Yung & Lee, 2012). The affordability is assessed through a relative residual income measure (see Table 1). The relative residual income is commonly used (see Haffner & Heylen, 2011; Heylen & Haffner, 2013) and—as opposed to rent-to-income ratios—takes into account the household size and composition and what this means in relation to other necessary household expenses. This measure looks at the remaining share of income a

household has or comes short at the end of the month after paying housing and other necessary expenses. For the housing expenses, real data are used. The other necessary expenses are estimated utilizing minimum budget norms from the Dutch budget research institute Nibud (2012).[8] The room stress measure (see Clark *et al.*, 2000; Huang, 2003) describes the size of the dwelling in relation to the size and composition of the household, reflecting the physical adequacy of the dwelling for its tenants (see Table 1).

Both the relative residual income measure and the room stress measure applied to contain norms that are subjective and debatable. For the income measure, this concerns the minimum budgets used to determine what are the necessary non-housing expenses for different households. In regards of the room stress measure, such norms consist of the number of rooms deemed adequate for different household sizes and compositions. The applied measures and incorporated norms have been discussed with local housing professionals at housing association presentations and the AFWC and a workshop with local housing actors from housing associations and the municipality of Amsterdam. The housing budget norms are rooted in and developed for the Dutch context, since they are developed by the Dutch budget research institute Nibud based on empirical studies on necessary expenses for different types of households. The applied norms remain subjective and disputable and their transferability to other contexts is restricted. Nevertheless, the measures—including incorporated norms—and the output scores provide an operationalization for the comparison of the development of affordability and physical adequacy of housing over space, time and among different groups.

The two measures are used separately and in combination in the housing match matrix, in which every household or aggregate of households can be situated. In the measures of room stress and relative residual income, a norm for sufficiency is incorporated. Ideas on the number of required rooms and what is considered other necessary expenses may vary. In this article, a score of 0 on the room stress measure reflects a household has just as many rooms as required according to the measure and incorporated norms. A family with two children would require three rooms. Living in a three room apartment would result in a score of 0, having less rooms in a negative score and more rooms in a positive score. A score of 0 on the relative residual income measure reflects the income of the household is exactly the same as what is required after adding housing costs and other necessary expenses. An income exceeding housing costs plus other necessary costs would result in a residue and a positive relative residual income score. Households located in the housing match matrix with positive scores on both measures are housed adequately and efficiently.

To establish the occurrence of sufficiency, in this article, the shares of households meeting a threshold of 0 on both measures will be assessed. A positive relative residual income-score reflects meeting the affordability norm set by the Dutch budget research institute Nibud (2012) and thus having sufficient means to meet both housing and non-housing necessary expenses. A positive room stress score means the number of rooms is sufficient for the household size and composition. To assess the extent to which the prioritarian standard is met, first the share of households of all social housing tenants identified with a significant need is determined. As the

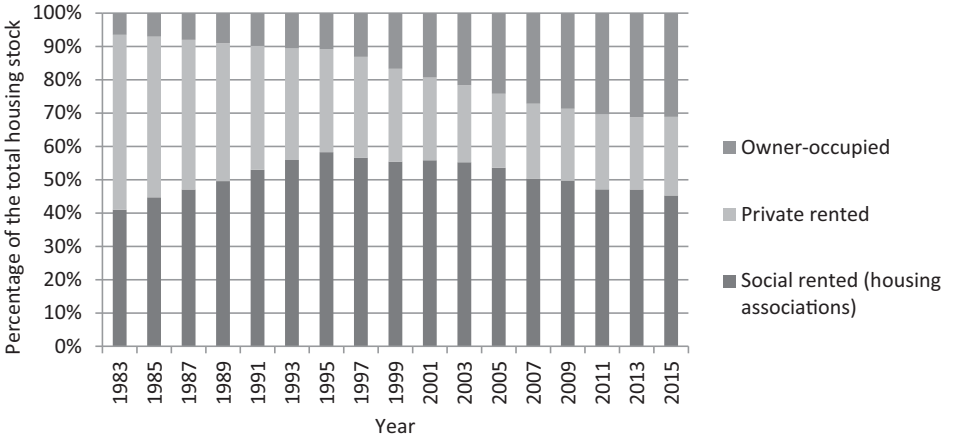

Figure 2. Tenure structure in Amsterdam, 1983–2017. Source data: OIS Municipality of Amsterdam & WiA, see AFWC (2016).

threshold for this need, a room stress-score of 0.8 and a relative residual income-score of 25 percent will be used. In cases of higher positive scores, the same dwelling could more easily be provided to a household with a greater need. Larger households with a required number of rooms of four or more[9] still not surpass that threshold of 0.8 if they live in a house with seven rooms. Because only a very share of the houses have six or more rooms (0.8 percent), most of these households will live in housing with no more than five rooms, scoring 0.25 on the room stress measure. These households will consequently not live inadequately. In regards of the residual income measure, households with a lower necessary income can also surpass the 25 percent threshold with a lower absolute amount of spare income. Since incomes occur in greater variation than the number of rooms, which rarely exceed five, residual incomes measure is more suited for cross-sectional comparison. After identifying those with a significant need, the position of those worse off is perceived by comparing the average scores for different groups of households. Increases in the average score for the groups with the lowest scores are considered preferential in regards to the priority standard.

Policy reform and expected distributive effects

The Netherlands is advised by the OECD and the IMF to significantly change its housing policies in order to increase the responsiveness of its housing markets. Even though several other (domestic) advisory reports on housing policy reform exist with more attention to distributive effects (e.g. Boelhouwer *et al.*, 2014; SER/CSED, 2010), here the focus is on the OECD and IMF advice to illustrate this internationally recurrent line of argument and how this aligns with recent reform of Dutch housing policy.

Study area: social housing development and allocation

In the municipality of Amsterdam, the share of social housing reached its peak in the 1990s at 57 percent of the total housing stock (see Figure 2). In 1995, object subsidies

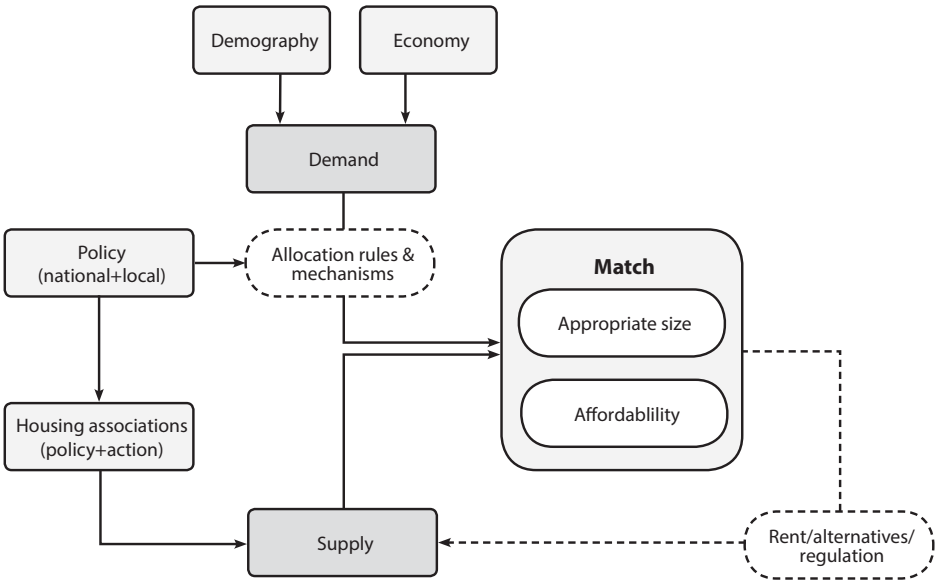

Figure 3. Conceptual model of social housing distribution. Source: author.

were abolished and future subsidies were paid off by the national government. Consequently, housing associations were to finance new constructions and upkeep with revenues generated from their housing stock (Elsinga & Lind, 2013). To increase the housing associations' earning potential, maximum allowed rents became more market oriented[10] and the (conditioned) sale of social housing was allowed (Elsinga & Wassenberg, 2014; Koffijberg, 2005) and became more attractive for housing associations as housing units were no longer tied to object-subsidies (Parliamentary Committee of Inquiry into Housing Associations, 2014). In addition, municipal policy was aimed at promoting the conditioned sale of social housing and the construction of higher shares of owner-occupied housing. The social housing stock in Amsterdam, of which the large majority is owned and managed by eight associations, consequently decreased from 206 000 to 183 000 units from 2001 to 2013 (i.e. from 55.5 percent to 46.1 percent of the housing stock) (Dignum, 2013). Next to a decrease in the total stock of social housing, the yearly number of units that become available for new tenants has seen an even more pronounced decline from 16 000 units in 1999 to about 6 000 units in the 2013 to 2016 period. This was the result of decreasing tenant turnover, a net loss in social housing stock and more units being reserved for targeted groups including refugees who obtained a status (AFWC, 2016). The average time spent on the waiting list by new tenants increased from around 7 to little over 8 years between 2003 and 2013 (AFWC, 2005-2016).

How the available social housing stock in Amsterdam is used and to what extent it provides households with adequate and affordable housing primarily depends on how available housing units are allocated to households (see Figure 3). The social housing units are—in the Netherlands and in Amsterdam—mostly, allocated to the household that has spent the longest time on the waiting list,[11] out of all eligible households that applied for a specific advertised unit. General allocation rules are set by the national

government,[12] while additional matching criteria may be set in agreements between local housing associations and municipalities. The initial match depends on demand, supply and the allocation rules and mechanisms in place. Maximum allowed rents of rental housing are determined through a point valuation system. The quality of a dwelling is reflected by a point-total, which corresponds to a maximum allowed rent irrespective of the type of owner (i.e. housing association or for-profit). Housing may become available for a new tenant after a household moves out, but also after a forced relocation due to major renovations or as a result of new constructions or acquisitions.[13] Dwellings that become available can again be matched to households through the allocation system. Housing units with a point-total of more than 142 (i.e. corresponding to a maximum allowed rent of €710.68, price level 2017) may (but do not have to) be liberalized and rented out for any sum at the moment of tenant turnover.

Once a house has been allocated, the match between household and dwelling can change as a result of alterations in household characteristics (e.g. income changes or changing household size and compositions), rent charged, or other necessary expenses of the household (e.g. energy costs). In the Netherlands, there is no general income test to re-evaluate eligibility for social housing tenants after they moved in and rents are not dependent of or directly linked to the income of the tenants. Therefore, the expensive and inexpensive mismatch can develop over time as a result of consecutive rent increases or income changes. Yearly rent increases of all units initially rented out at rents below the liberalization limit (i.e. social housing) are subject to a maximum percentage set by the national government. While the maximum allowed rent increase applies to all regulated units, landlords set the actual rent increases and may differentiate among tenants. However, since landlords only know the household composition and income at the moment of entry, but they do not know if these characteristics have changed, they have little information to base differentiations of rent increases on (Jonkman *et al.*, 2018).

Looking at the development of average rents in comparison to average incomes shows that after a period in which the income growth has outpaced inflation and average rent increases, average income levels have recently decreased relative to the rent levels (Figure 4) (AFWC, 2014). This was primarily the result of the introduction of income-dependent rent increases in 2013. Both the introduced income-dependent rent increases[14] and housing allowances[15] are based on the household income. Income dependent rent increases enable higher rent increases for higher-income households and housing allowances mitigate the effects of rent increases for lower-income households. Although housing allowance is need-based, households receiving it may still live unaffordable and households with a significant need may still not be eligible (e.g. because the rent exceeds the boundary of €710.68). Responding to changes in affordability by adjusting housing consumption, may be difficult due to practical, supply or regulatory restrictions. Besides, in case of under occupancy and inexpensive mismatch, from a household perspective, there may be no need to adjust housing consumption at all.

OECD & IMF advice

The Netherlands is singled out by the OECD as a country with a very irresponsive housing market in which increases in prices hardly affect the supply of housing

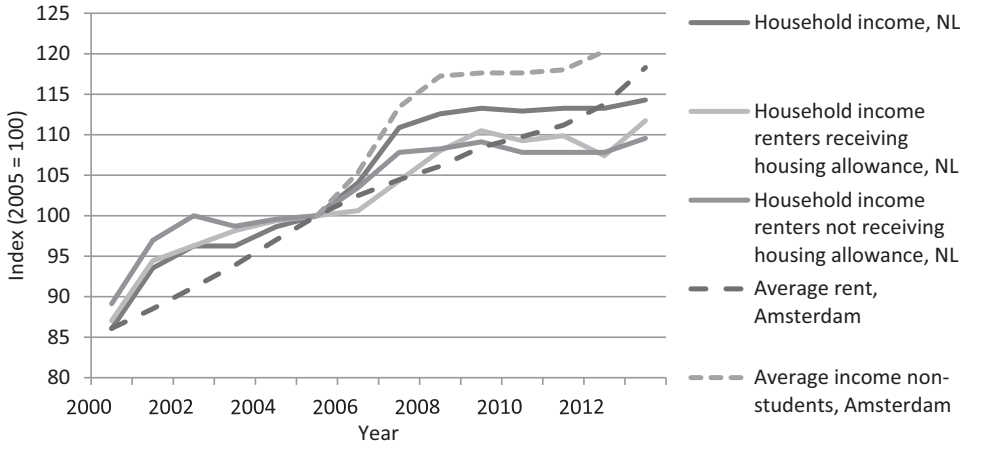

Figure 4. Indexed rent and income development in Amsterdam and the Netherlands, 2000–2013, 2005 = 100. Sources data: Statistics Netherlands Statline, 2015; OIS Municipality of Amsterdam, made by author. Incomes increased relative to rents in the 2001 to 2003 and the 2006 to 2008 periods. In between 2003 and 2006 and after 2008 average incomes remained stable, while average rents continued to increase.

(Caldera & Johansson, 2013; OECD, 2010). This lack of market responsiveness is being related to the country's high population density, expensive owner-occupied house prices, and the way rent regulation discriminates between new and long-term renters (OECD, 2010). The OECD urged the Dutch government to extensively reform its housing policies. Recommended changes, on the one hand, concerned slowing down mortgage lending, by for example lowering the maximum loan-to-income (LTI) and loan-to-value (LTV), and on the other hand, restricting space for social housing providers to maneuver in order to enable the private rental housing market to develop. The IMF confirms OECD's overall assessment and states: "Broader regulatory reform to lessen distortions in the private rental market and in social housing is important (…). In addition, social housing is not targeted efficiently to low income groups" (IMF, 2011, p. 18).

In regards to social housing, both the OECD and the IMF argue measures should be taken to shrink the social housing sector in order to provide space for the private rented housing sector to develop, and increase its efficiency (see Table 2). 'The size of the [social housing sector] should be scaled back to focus on its social mandate and allow the development of the private rental market' (IMF, 2014, p. 22). Measures proposed by the OECD include the transfer of capital from housing associations to the government, liberalization of rents of newly constructed units, making rents better reflect market rates, extending means testing of renters, focusing more on low-income households, and increasingly providing affordable housing through subject subsidies (i.e. housing allowance). The IMF policy recommendations mirror those of the OECD. The IMF, in addition, more specifically proposes to continue to raise taxes on housing associations as a way to transfer means from housing associations to the government.

Different measures proposed by the OECD and the IMF have already been implemented, as has been acknowledged by both organizations (IMF, 2014; OECD, 2014).

Table 2. Social housing policy measures in the Netherlands (since 2004) and related OECD and IMF recommendations.

No.	Policy measure	Related OECD recommendation	Related IMF recommendation
1	Greater influence market value in calculation max. allowed rents (2011; 2015)	Make rents better reflect the market value of housing; Liberalize rents for new contracts.	Actual costs need to play a larger role; Direct subsidies to lower income groups; Lift price controls.
2	Broadening legal framework (2013)	Incentives to sell social housing.	
3	Landlord levy (2013)	Incentives to sell social housing; Transfer housing association's capital to the government; Provide social housing through housing allowance	Sale of social housing for the increase of private rental housing sector; Continue to raise taxes on housing associations.
4	Income dependent rent increase (2013)	Focus on low-income households; Extend means testing of tenants.	Periodic income testing to focus on low income households.
5	Access to government-backed loans for activities that are *not* Services of General Economic Interest (SGEI) denied (2011)	Make rents better reflect the market value of housing; Focus on low-income households.	Scale back public support through guarantees.
6	Target group redefined (2011)	Focus on low-income households.	Freeze threshold rent between regulated and unregulated sector; Improve targeting of social housing.
7	Introduction corporate income tax for housing associations (2008)	Transfer housing associations' capital to the government.	Continue to raise taxes on housing associations.
8	Rent sum policy (2016-2017)	Make rents better reflect market value of housing.	
9	Appropriate allocation policy (2017)	Focus on low-income households.	
10	Powerful Neighborhoods levy (heffing krachtwijkenbeleid) (2008)		
11	Urban renewal policies (Big Cities Policy II, III, III+, and Powerful Neighborhoods policy ('Krachtwijkenbeleid')) (1998-2012)		

Source: IMF (2011, 2014); OECD (2014), made by author.

Increasing market responsiveness and functioning lead within the argumentation, while distributive effects (the impact on households) and the relation to other (social) policy goals are omitted.

Policy change and expected impact

Three policy changes that are expected to have had a significant impact on the distribution of affordability and physical adequacy in the social housing sector in the 2004–2014 period are the introduction of scarcity points, the redefining of the social housing target group, and the different urban renewal policies. The first two closely relate to OECD and IMF recommendations. The latter concerns earlier initiated place based policies that have not been proposed by either the OECD or the IMF.

Scarcity points refer to 15 or 25 points that, since 2011, can be added to the total housing valuation score, which determines the maximum allowed rent a landlord can charge for a dwelling. The extra scarcity points are allocated to dwellings in areas with high house prices (i.e. greater housing scarcity). At least 15 scarcity points can be added for the whole municipality of Amsterdam and for a large part of the city 25 scarcity points can be added. A housing association, however, does not have to charge the maximum allowed rent. For a long time, the rent levels for new tenants on average were about 70 to 80 percent of the maximum allowed rents. The economic crisis, the 'Krachtwijken' levy, the introduction of corporate income tax and the landlord levy have all put pressure on housing associations' finances, influencing their price-setting (Priemus, 2014). Next to higher maximum allowed rents in high demand areas, the added scarcity points lift more units over the 142 points boundary resulting in more units that can potentially be liberalized (i.e. transferred to the non-regulated sector). The increased opportunities to charge higher rents for new tenants provided by the scarcity points—combined with the increased financial pressure on housing associations—are expected to have resulted in an increased divide between short and long-term tenants, as a result of higher rents for new entries. Furthermore, an overall decrease in the occurrence of sufficiency since 2011 is expected (defined as a relative residual income of at least 0) as a result of increased rents and stagnating incomes since the global financial crisis.

The social housing target group has been redefined after lengthy deliberations with the European Commission. Private investors had issued a state-aid complaint, because housing associations provided housing to middle- and higher-income households while making use of state aid in the form of lower interest rates for government-backed loans. In 2011, the target group was set to households earning up to €33 614 annually, to be indexed yearly (Elsinga & Lind, 2013; Jonkman & Janssen-Jansen, 2015; Priemus & Gruis, 2011). Ninety percent of available social housing units must be allocated to households that are part of this target group. Elsinga & Lind (2013) argue that the middle classes were the most negatively impacted by these changes. The target group setting has immediate impact on which households can enter social housing. This could, on the one hand, result in an improved match between households and housing units for new renters, but could, on the other hand, result in a decreased average affordability as less middle- and higher-income households are provided access to the sector. The redefinition of the social housing target group is expected to have worsened the occurrence of sufficiency, since households entering the sector are expected to increasingly have low incomes and lower affordability scores which do not exceed the sufficiency standard. In regards of the priority standard, this measure is expected to have resulted in an increase in the targeting of households with a significant need. More households with a significant need expectedly have gained access to social housing. The position of those worse off, however, may still have remained stable. The affordability or room stress scores of those worse off may not have improved. Also in this regards, the economic crisis may have even deteriorated the position of those worse off.

The Powerful Neighborhoods (*Krachtwijken*) policy does not directly relate to the OECD and IMF recommendations, but is expected to have had a significant effect on

Figure 5. Amsterdam neighborhoods part of the Powerful Neighborhoods policy (*Krachtwijkenbeleid)*. Source: Tweede Kamer der Staten-Generaal (2008); Sources basic layer files: CBS, 2008; CBS, 2009; Ministry of Transport, Public Works and Water Management, 2011; made by author.

the distributive justice in the time period observed. It is a billion euro program focused on physical and social restructuring of 40 Dutch neighborhoods with the lowest scores on a set of socioeconomic indicators) executed from 1998 to 2012, which has impacted the tenure structure of several neighborhoods. The program opened opportunities to replace social rental housing by private rental and owner-occupied housing. Besides, increased rent harmonization, resulting from urban renewal projects for which households have to move out, can lead to rents more closely reflecting the market value of housing. The Powerful Neighborhoods policy had an especially significant impact on targeted neighborhoods. In total, 17 Amsterdam neighborhoods in *Amsterdam West* (*Bos en Lommer*), *Amsterdam East*, *Amsterdam New-West, Amsterdam-North* and *Amsterdam Southeast* were addressed by this policy (Figure 5). Building upon the earlier Big Cities policies (see Musterd & Ostendorf, 2008), social housing units have been replaced by mixed income and mixed tenure estates through restructuring programs, changing the tenure compositions in order to achieve an 'undivided city' with 'a broad access of housing in all parts of the city and a pleasant and harmonious living-environment in all neighborhoods and city districts' (Ministry of Housing, Spatial Planning and the Environment, 2008, p. 18). Additionally, investments were made in the social and economic 'pillars' in these neighborhoods (Ministry of Housing, Spatial Planning

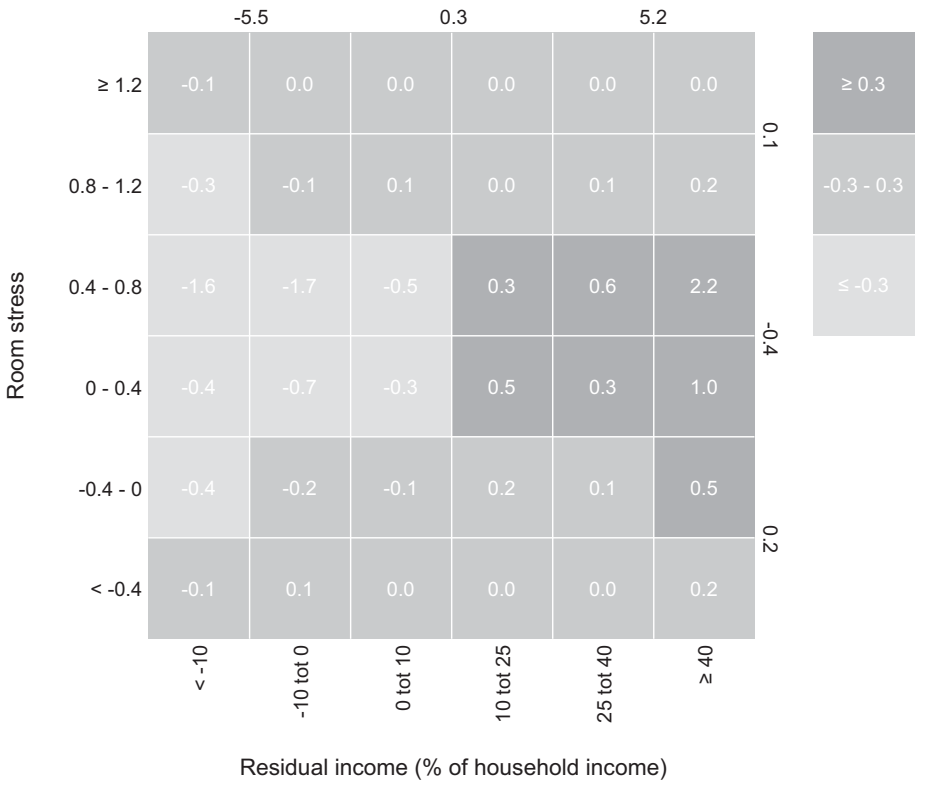

Figure 6. Housing match matrix percentage point change per cell for social housing in Amsterdam, 2004–2008. Sources data: AFWC, 2008–2014; CBS/CvB, 2008–2014, calculation by author. The occurrence of room stress remained stable, while affordability increased. 5.5 percent of the households moved passed the residual income threshold of 0 (the level of sufficiency) and the share of households with a residual income of more than 40 percent increased by 5.2 percent.

and the Environment, 2007, 2008). The most pronounced developments in regards of the occurrence of sufficiency and priority are expected to have taken place in the areas that were targeted by place-based urban renewal policies. Increased tenant turnover, new constructions, and home improvements provide opportunities for landlords to increase rents, which could lead to a decrease in the occurrence of sufficiency in these parts of the city. Data from the AFWC (2005-2016) show tenant turnover as a percentage of the social housing stock per city district was especially high in Southeast in 2005 and 2007 and in West and in New-West in the period from 2009 to 2013. Increased tenant turnover will expectedly result in a larger share of households with a significant need, because households with higher incomes are excluded from entering social housing. Higher rents are expected to lead to a more pronounced divide between short and long-term tenants as the gap between rents of long-term tenants and increased rents of new tenants increases. The developments in the social housing distribution, regarding housing adequacy and affordability, are thus anticipated to have had a different effect on the occurrence of sufficiency than it had on the position of those worse off.

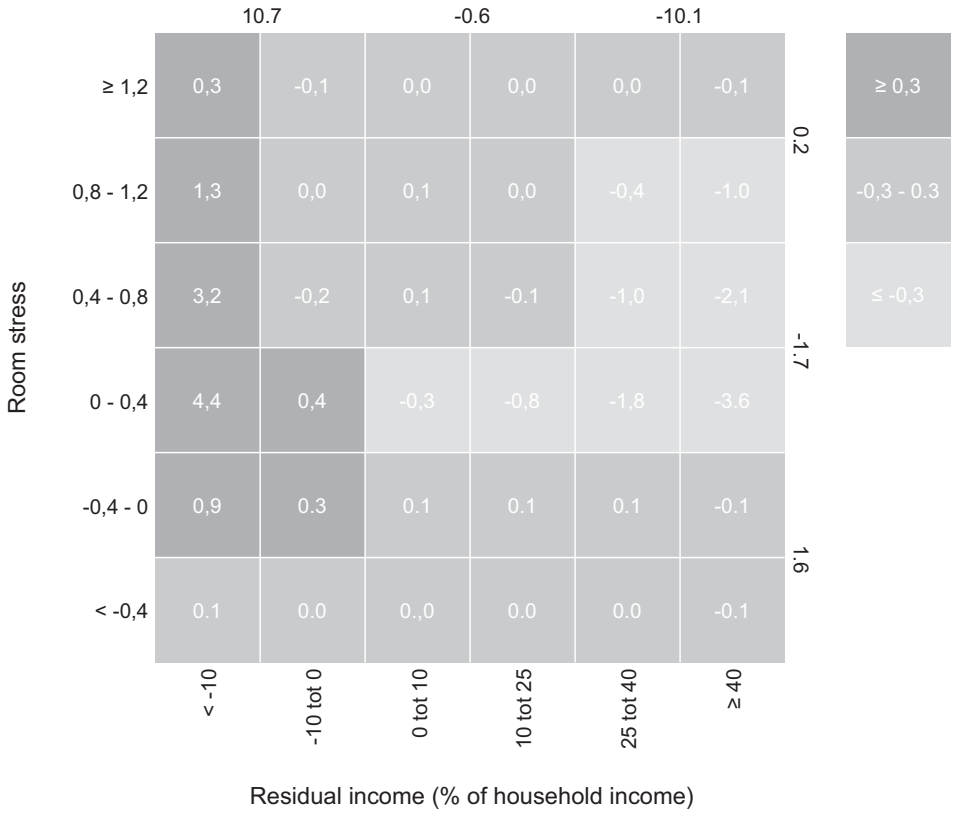

Figure 7. Housing match matrix percentage point change per cell for social housing in Amsterdam, 2008–2014. Sources data: AFWC, 2008–2014; CBS/CvB, 2004–2008, calculation by author. In the 2008–2014 period, the occurrence of room stress increased by 1.6 percent. The share of households not meeting the affordability threshold, a positive residual income, increased by over 10 percent.

Patterns of distributive justice

This section shows the temporal developments in regards to meeting the distributive justice standards of sufficiency and priority for the dimensions of affordability and physical adequacy in Amsterdam. The earlier formulated expected developments all concern the affordability of housing and not the physical adequacy, as the policies primarily impact rent levels and the income levels of households entering the sector. Notwithstanding, the developments in regards to room stress are also considered to see whether policy and economic developments have (indirectly) impacted the distribution of living space.

Housing match matrix and household types

The housing match matrices, combining the affordability and physical adequacy measures, show a sharp increase in affordability of the population until 2008 (Figure 6), and a sharp decrease in affordability in the period after 2008 until 2014 (Figure 7). The share of households with a relative residual income of 0 to 25 percent

Table 3. Development of shares of households located in the four-cell corners of the housing match matrices for social housing in Amsterdam, 2004–2014.

Matrix corner	2004	2006	2008	2010	2012	2014
Spacious-very affordable	6.7	6.8	7.1	6.3	6.1	5.8
Spacious-not affordable	5.0	4.8	4.4	5.0	5.5	6.0
Crowded-very affordable	1.8	2.1	3.3	2.3	2.0	2.2
Crowded-not affordable	2.0	1.7	2.1	2.4	2.8	2.9

Sources data: AFWC, 2008–2012; CBS/CvB, 2008–2014, calculation by author.

of the household disposable income is stable, but significant changes are visible for the scores below 0 and scores higher than 25. Considering a relative residual income of 0 as the threshold for sufficiency, in the period from 2004 to 2008, 5.4 percent of the households moved past this boundary. In the period from 2008 until 2014, however, almost 11 percent fell below the threshold, no longer meeting the affordability threshold. There is far less movement when considering room stress, though there is an increase of 1.6 percentage points in the occurrence of room stress (i.e. score below 0) between 2008 and 2014. The share of social housing tenants sufficiently housed according to both measures first increased from 63.6 to 68.6 percent in between 2004 and 2008 before dropping again to 57.6 percent in 2014, primarily due to fluctuations in housing affordability.

The share of tenants having to cope with both room stress and not living affordably—who in this regard can be considered the least well off—increased from 2 percent in 2004 to 2.9 percent in 2014 (Table 3). On the opposite side of the matrices, the share of households that both live spaciously and very affordably increased slightly to 7.1 percent in 2008 and decreased to 5.8 percent in 2014. This development points towards a worsening in light of the prioritarian standard aiming for improvement for those least well off, but also signals a decrease in affordable and spatial mismatch and an increase in the share of households with a significant need (households with a relative residual income below 25 percent).

Considering different types of households, households with (especially younger) children on average are housed less spaciously (Figure 8). The average room stress of the household types with the lowest scores further decreased, while the average scores of the highest scoring households increased. Following the prioritarian standard, the distribution of living space has become less equitable. There is also a remarkable increase in average room stress of multi-person households under 30. This is a relatively small group of households (1.5 percent of all tenants in 2014). As people, due to long waiting lists, will often enter social housing around the age of 30, this score is more volatile. A decrease of three-person households in two-room apartments and couples in studio apartments are the main causes of this sharp increase in the occupancy score. Because one spare room results in a higher room stress score for a small household than for a larger household, the average room stress scores of smaller household types are more differentiated. Therefore, shares of households meeting the level of sufficiency are more suitable for cross-sectional comparison of room stress.

The development of affordability over the years for different household types (Figure 9) mirrors the earlier described breakpoint in 2008. There is some convergence visible between the highest and lowest scoring household groups. The average scores, after improving until 2008 have since decreased and after 2012 dropped below

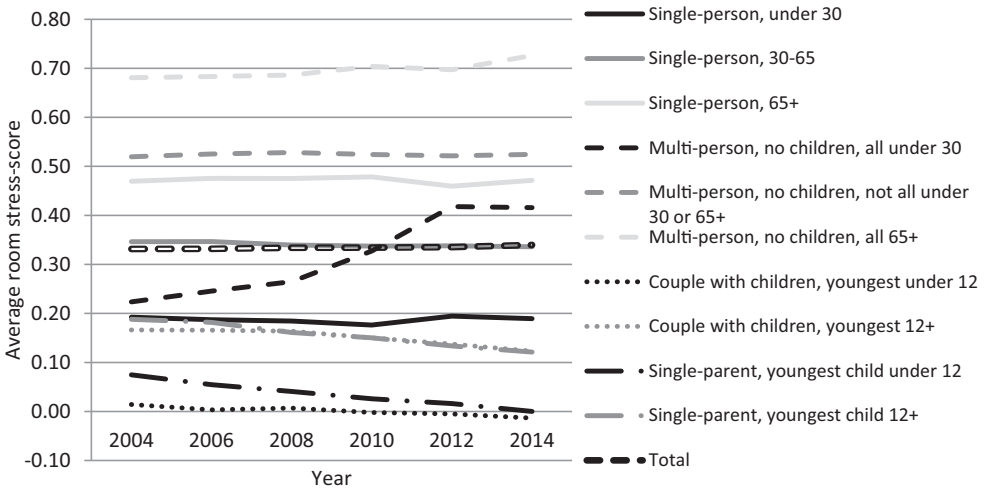

Figure 8. Average room stress-score per household type for social housing in Amsterdam, 2004–2014. Sources data: AFWC, 2004–2014; CBS/CvB, 2004–2014, calculation by author.

2004 affordability levels. While the average relative residual income levels of the other household types continue to fall or remain stable between 2012 and 2014, couples with children have been the first household groups with increasing scores.

The share of households meeting the affordability threshold of a relative residual income of 0 for most groups of households increased until 2008 and declined thereafter (Figure 10). Most extreme are the rise and fall of affordability scores for single-parent households. The large improvement for single-parent households with the youngest child above 12 years of age—the least well off—was followed in 2014 by a decrease approaching the 2004 level. For many other household types, however, the score in 2014 is lower than the score in 2004. While the shares of households meeting the threshold increased again in the last two years of the data, this was not the case for single-parent households with the youngest child above 12. The occurrence of sufficiency in terms of physical suitability remained more stable over the observed period. Nevertheless, there has been an improvement for multi-person households under 30 and a decrease of the share of households meeting the threshold, especially among households with children.

The second expectation in regards of the development of the occurrence of sufficiency is that, overall, it has worsened as social housing has increasingly been targeted towards lower income households. The above showed that until 2008 the overall affordability improved and also lifted households over the threshold of sufficiency. After 2008, affordability indeed worsened. More households than were initially lifted over the threshold before 2008 (5.4 percentage points) dropped below the threshold after 2008 (11 percentage points). The share of households that dropped below the room stress threshold slightly increased after 2008. Physical adequacy, however, showed far less volatility than affordability.

Regarding the occurrence of priority, it was expected that residualization and increased means testing resulted in increased targeting of households with a

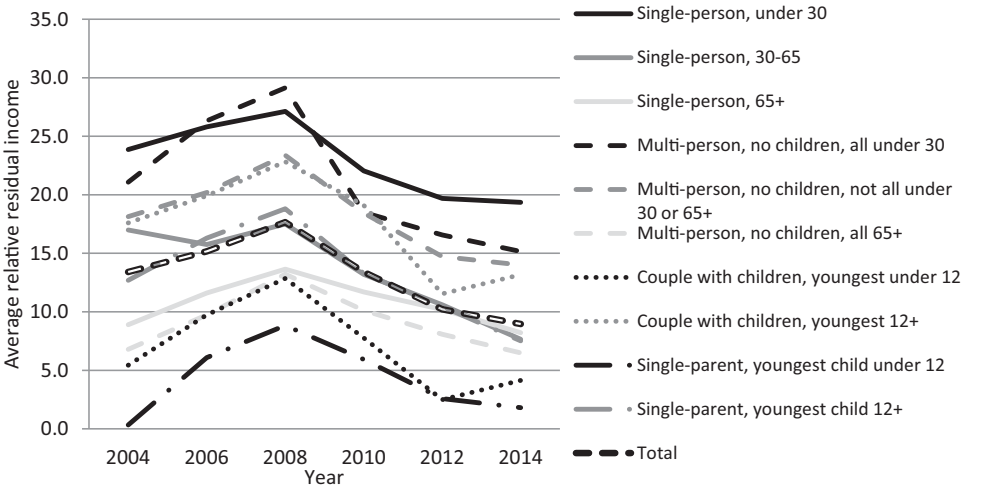

Figure 9. Average relative residual income (as a percentage of the disposable income) per household type for social housing in Amsterdam, 2004–2014. Sources data: AFWC, 2004–2014; CBS/CvB, 2004–2014, calculation by author.

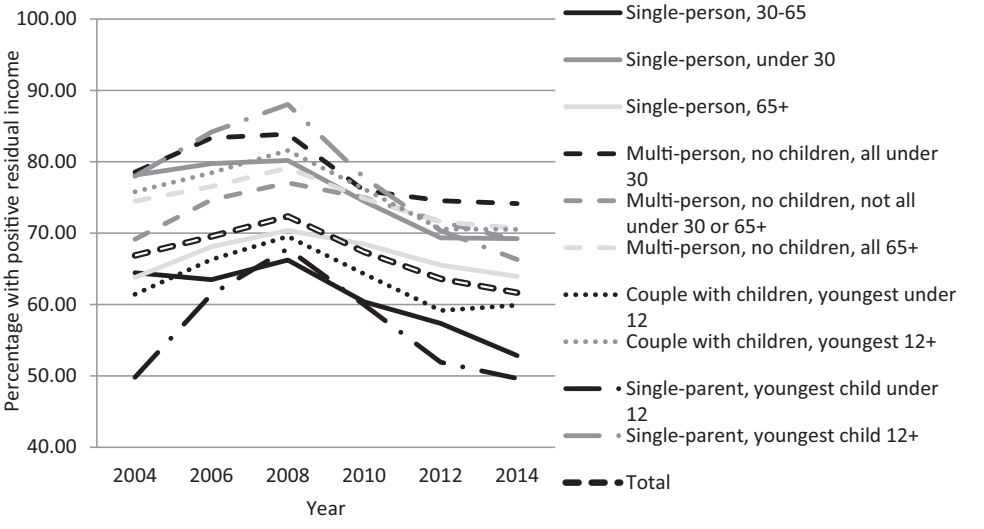

Figure 10. Development of shares of households meeting the affordability threshold of a relative residual income of 0 (as a percentage of the disposable income) for different household groups in social housing in Amsterdam, 2004–2014. Sources data: AFWC, 2004–2014; CBS/CvB, 2004–2014, calculation by author. Despite an overall trend of an increasing share households meeting the affordability threshold until 2008 and a decrease thereafter, the initial increase was relatively low for single persons under 30 and single-parents with young children.

significant need. The share of households with a relative residual income score below 25 percent also decreased until 2008 and increased thereafter. Concerning the other condition of the priority standard it is expected that this process not necessarily had a great impact on the position of those worse off, but that the economic crisis may have resulted in a deterioration of their position. After 2008, the share of households

Table 4. Development of shares of households meeting the affordability threshold of a relative residual income of 0 for three classes of length of residence in Amsterdam, 2004–2014.

Length of residence	2004	2006	2008	2010	2012	2014
<2 years	62.9	66.3	69.3	62.0	56.1	56.6
2–5 years	65.0	67.5	69.7	63.6	57.8	55.9
≥5 years	68.5	70.9	73.9	69.9	66.4	64.3

Sources data: AFWC, 2004–2012; CBS/CvB, 2004–2014, calculation by author.

with a relative residual income score below 25 per cent increased. This primarily was the result of an overall downshift, including for those worse off. Some convergence, however, can be observed in Figure 9. Considering the whole period, the relative position of the lowest scoring household types did slightly improve. The share of households meeting the threshold was about the same in 2014 compared to 2004 for single-parent households with young children. For most other groups (most notably for single-person households between 30 and 65 years of age), the share of households meeting the threshold significantly worsened.

Length of residence

The share of social housing tenants meeting the affordability threshold increased between 2004 and 2008 for all three household groups with different lengths of residence (Table 4). After 2008, the occurrence of sufficiency for the different groups first decreases and finally stabilizes around 2014. From a prioritarian perspective, the gap between the five-plus years renters and the other two groups of renters first decreases, but then worsens to greater degree for shorter-term tenants than for the other two groups. As a result, the position of the group least well off in this respect worsens most between 2008 and 2012. The gap between new and long-term tenants most notably increased in the 2008 to 2012 period and decreased again slightly between 2012 and 2014.

It was the expectation that an increasing divide between short and long-term tenants had occurred after the introduction of scarcity points in 2011 in combination with increased financial pressure on housing associations as a result of the economic crisis. This expectation is partly confirmed. The gap between new and long-term tenants decreased slightly up to 2008, but then increased, most notably in the 2008 to 2012 period. Since the scarcity points were introduced in 2011, this cannot be the primary driver. Other explanatory factors are decreasing income levels relative to rent levels (see Figure 4).

Neighborhoods

In both the 2004 to 2008 and 2008 to 2014 period, there has been significant change in the affordability in most neighborhoods in Amsterdam. There is some differentiation in the degree of change in different neighborhoods, but the neighborhoods subject to urban renewal programs like the Powerful Neighborhoods policy do not stand out. There is again a clear break around the year 2008 with affordability increasing before and decreasing after, while the spatial differentiation is minor.

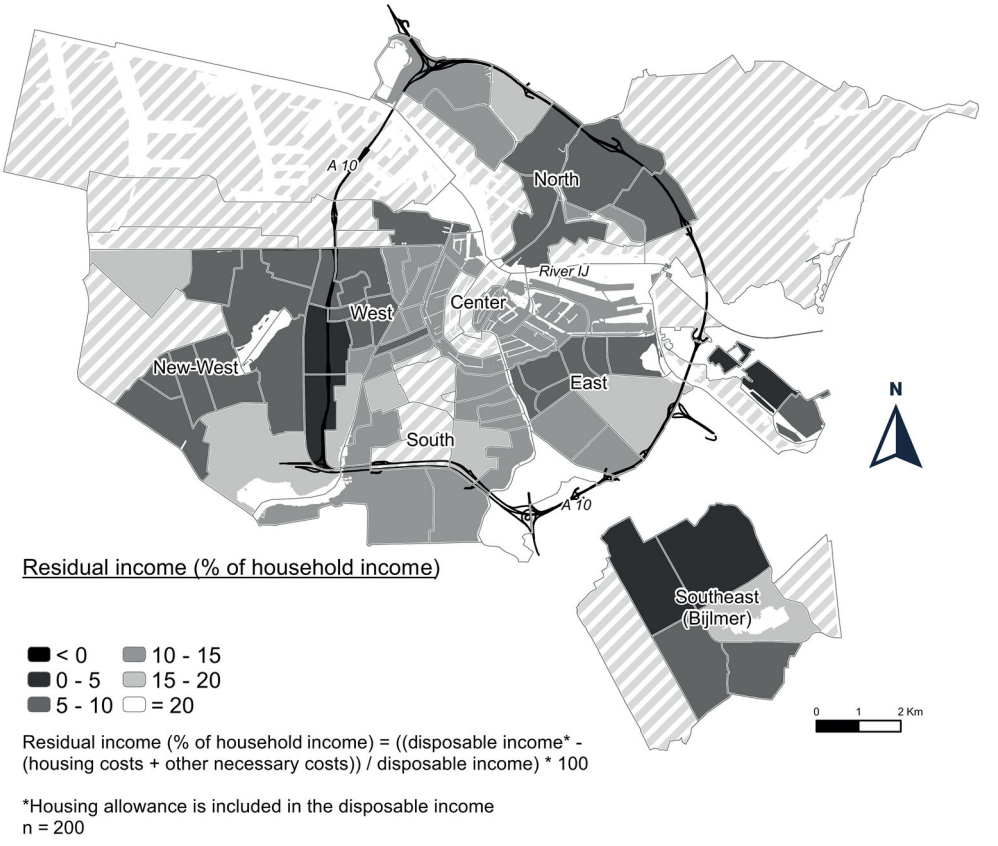

Figure 11. Average relative residual income per neighborhood for social housing in Amsterdam in 2014. Sources data: AFWC, 2014; CBS/CvB, 2014, sources basic layer files: CBS, 2008; CBS, 2009; Ministry of Transport, Public Works and Water Management, 2011; made by author. The average residual income is the lowest in IJburg-Noord, two neighborhoods of Southeast and Overtoomse Veld and Westlandgracht in West.

The lack of spatial patterning suggests spatial equity in the development of affordability. Figure 11, however, shows that the share average residual incomes per neighborhood are not evenly distributed, with the lowest average affordability scores in two Southeast neighborhoods (*Bijlmer-Centrum* and *Bijlmer-East*), two West neighborhoods (*Overtoomse Veld* and *Westlandgracht*) and one East neighborhood (*IJburg West*). Similar patterns are visible in Figure 12, showing the shares of tenants per neighborhood with a positive residual income. In three neighborhoods, matching the above (Overtoomse Veld and the Southeast neighborhoods), less than 55 percent of the tenants have a positive residual income. The highest scoring neighborhoods (above 75 percent meeting the affordability threshold) are *Houthavens* just northwest of Center, *Kadoelen* in North and *Sloten- en Riekerpolder* in New-West. Because the initial distribution was uneven, a similar decrease in affordability has a greater impact in the areas with existing relatively low residual incomes. Again, the least well off (in this respect the neighborhoods with most affordability problems) do not benefit most. Furthermore, none of the *Krachtwijken* have an average relative residual income above 10, but there are also several other neighborhoods with similarly low scores. Striking to note are the districts in

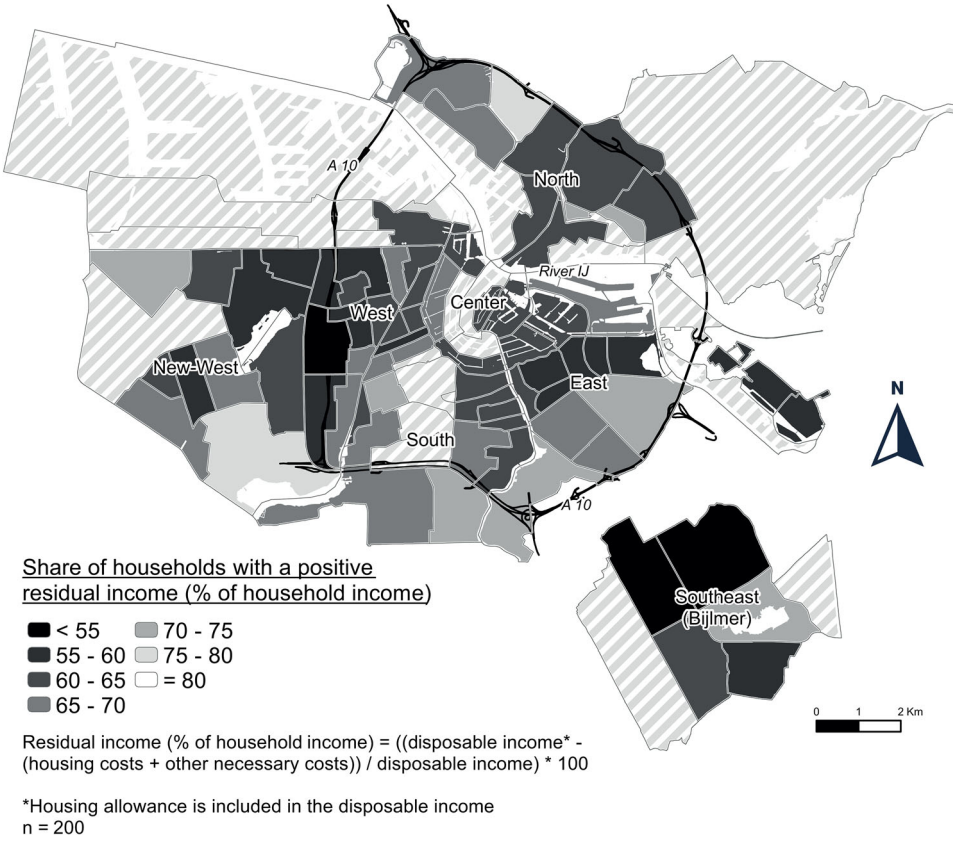

Figure 12. Shares of households meeting the affordability threshold of a relative residual income of 0 per neighborhood for social housing in Amsterdam in 2014. Sources data: AFWC, 2014; CBS/CvB, 2014, sources basic layer files: CBS, 2008; CBS, 2009; Ministry of Transport, Public Works and Water Management, 2011; made by author. The lowest shares of households meeting the affordability threshold occur in Southeast, IJburg in East and parts of West. The highest shares of more than 70 per cent occur in some neighborhoods in the Center and South and more low-rise residential neighborhoods at the edges of the city.

IJburg, a new neighborhood on a land reclamation project in the most eastern part of Amsterdam. These relatively new neighborhoods show how relative high rents of new dwellings put pressure on the affordability for its tenants.

The expected development concerning the occurrence of sufficiency is that its decrease was greatest in the parts of the city that have been targeted by place-based urban renewal policies. The relative position of households seems not to have changed significantly. A similar worsening, however, has a larger impact on neighborhoods already in a position of greater vulnerability. The expected relative worsening in those neighborhoods was not detected, but the position of those worse off also did not improve.

Discussion and conclusion

In recent years, several policy measures have been taken in the Netherlands that have impacted social housing. Many of these policy changes were in line with OECD and IMF

recommendations aimed at the improvement of housing market functioning and dynamism, but disregarded potential distributive effects. The aim of this article was to gain insight into the effects of changing national policy and economic circumstances on distributive justice outcomes, distributive justice having been evaluated by the use of two different standards of justice: sufficiency and priority of housing over time.

Horizontal equity—treating equals equally—is central in the Dutch social housing system with its clear procedures (e.g. waiting lists) and strong tenant protection. Maximizing the occurrence of priority, however, requires prioritizing (i.e. discriminating) even within the group of households with a certain need (who are all eligible for social housing). Pursuing the maximization of sufficiency and priority thus both require vertical equity of treating unequals unequally, in order to meet the different needs of households. In Amsterdam, differences between households (including household composition and disposable income) and neighborhoods (e.g. relatively high rents in more vulnerable neighborhoods due to rent harmonization) are only partly taken into account in the allocation system. While the economic crisis has provided the occasion and necessary political support for housing policy reform, the resulting policy changes have predominantly been pro-cyclical in terms of effects on the household level. The economic developments and policy measures (e.g. landlord levy) focused on increasing market dynamism moved housing associations to increasing rents in order to generate additional income. Other policies (e.g. scarcity points, income dependent rent increase) provided the regulatory space to do so. Without differentiating based on household need, this results in similar effects in affordability changes in absolute terms for different groups and different parts of the city.

The empirical analysis of the distribution of housing over different groups of households and different neighborhoods in Amsterdam between 2004 and 2014 has shown a significant increase in the occurrence of sufficiency up until 2008, but also a worsening between 2008 and 2014. In regards of the priority standard the share of households with a significant need experienced the greatest increase after 2008. More households that may otherwise not have had access to adequate and affordable housing profit from below market rate housing. However, while benefitting from the access to social housing and below market rate rents, many still do not meet the sufficiency threshold. Whether the position of the least well off increased depends on how the population is divided into groups. A small degree of convergence is visible, meaning the difference between the least well off and those better off somewhat decreased. Still, the least well off groups from different perspectives follow the general trend of improvement until 2008 and worsening thereafter. The affordability of the least well-off groups of household and in the least well-off neighborhoods were similarly affected as better off groups and neighborhoods. This resulted in a decrease in average affordability and an increase in the share of households not meeting the sufficiency threshold. The allocation system provides households with little opportunity to move to a house that better matches their (changed) circumstances and housing allowance only partly mitigates a rent increase or income decline and not fully protects those least well off from the effects of such changes.

The use of the residual income and room stress measures in combination with standards of distributive justice helps in assessing the distributive outcomes produced by a

complex set of policies incorporating different principles of horizontal and vertical equity. Applying two distinct standards of distributive justice for the assessment of social housing distribution in Amsterdam has shown that the perspective of justice determines the valuation of a distribution and related possible policy actions. While the sufficiency standard fits the broad policy aim of providing adequate and affordable housing, its focus on getting households past the threshold may result in increased inequality and lead to benefits being allocated not to those worse off, but to those slightly better off. In this sense, it may be at odds with the premise of social housing being targeted to those with the greatest need. The priority standard, therefore appears more befitting housing policy aims and more useful in assessing the distributive justice and effectiveness of social housing provision. Observing who reaches the thresholds of adequacy and affordability, can still be a valuable addition to see whether applied thresholds are met and whether improvements are taking place in this regard.

The presented and applied evaluative model could be improved by taking into account additional household and housing unit characteristics (i.e. the access to apartments via stairs or an elevator) in order to more precisely determine the household need and the quality of the match between households and dwellings. In addition, the room stress-scores display a larger range for smaller households than for larger households with a larger number of required rooms. This has implications for the suitability of the average room stress-scores for cross-sectional analysis. Alterations of the measures could be explored to improve its use for cross-sectional analysis, especially in regards of assessing the development of priority of different groups of households. Furthermore, the model can be used in different contexts by adjusting the affordability and physical adequacy measures to local norms. Given the absolute nature of sufficiency in the space of capabilities and the relative nature in the space of commodities, the norms should correspond to what is needed for the adequate participation within the local context. The contextualized nature of what is deemed adequate, however, also complicates the applicability in (international) comparative studies. Exploring the transferability of the model and the possibilities for comparative analyses would thus be a valuable next step. Next to Amsterdam, many cities and countries are seeking to improve housing market functioning and the effectiveness of the use of existing affordable housing. The Amsterdam case showed that while the policy changes aim for better functioning markets in the long run, they have also more direct (short and medium-term) distributive impacts on households. This underlines an important drawback of the absence of urgency and political will for extensive housing policy reform in times of economic upturn and its increase in times of economic crisis, when more households are already exposed to increased financial risk. Despite this political reality and the mentioned opportunities to further develop the model, this article contributes with a method for ex-post, but potentially also ex-ante, evaluation of distributive justice effects of policy.

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interdisciplinary 1M Homes-initiative is focused on how different design, management and engineering solutions contribute to a valuable housing futures.

Notes

1. The OECD, an intergovernmental organisation with 36 member countries, aims to promote economic growth and sustainable development. It is a forum for the member countries and it does research and cooperates on shared problems.
2. The IMF has 189 member countries and is aimed to ensure financial stability at the global level. The IMF monitors policies of the member states, the organization lends money to member countries and it aims to help countries develop their economy.
3. For example, if the amount of the medicine needed would be lower for one subgroup, this could result in a higher level of the occurrence of sufficiency if only individuals belonging to that group would be targeted.
4. The veil of ignorance and the impartial spectator are both notions about how a judgement on distributive justice or fairness requires a certain detachment of one's personal situation. The veil of ignorance refers to a situation in which individuals are not aware of their own attributes and position in society. The impartial spectator is one who has a certain distance from the distributive question at hand and is able to put himself in the shoes of all affected in order to be impartial.
5. The database *Databank Federation of Amsterdam Housing Associations/Platform Woningcorporaties Noordvleugel Randstad* (AFWC/PWNR) is used for housing data for the years 2004, 2006, 2008, 2010, 2012 and 2014.
6. For these household microdata, the non-public *Sociaal Statistisch Bestand* is used from the Centre for Policy Related Statistics/Statistics Netherlands (CvB/CBS) for the years 2004, 2006, 2008, 2010, 2012 and 2014.
7. The Housing Act, introduced in 1901, formalized the position of social housing associations and increased municipal powers to combat poor quality housing and expropriate for the sake of public housing (Van der Cammen & de Klerk, 2003). The Housing Act has been reformed multiple times. In 2015 activities of social housing associations were restricted to the providing social rental housing and rules on the distribution of social housing were changed (i.e. increased means testing) (Ministry of the Interior and Kingdom Relations, 2015).
8. Minimum budgets for other years are computed by correcting the 2012 minimum budgets for inflation for the different product groups. This way, changes in the norms will not impact the comparability of the outcomes.
9. For example, a family with two a boy and a girl older than ten, or a family with two boys and two girls.
10. The maximum allowed rents became partly based on the real-estate prices in the proximity of the dwelling.
11. In case of, for example, forced relocation due to urban renewal, a household can skip the waiting list for specifically selected dwellings. Additional criteria for certain housing units may apply in order to achieve a better fit in regards of the dwellings size (physical adequacy) and/or rent (affordability), or secure access to suitable housing for specific groups—including the elderly, students, or physically disabled persons.
12. Recently, the *passend toewijzen* policy ('improved match in allocation policy') was introduced, prescribing further filtering to more strictly match household income and rent (Rijksoverheid, n.d.-b) to secure affordability and limit government spending on housing allowance (Rijksoverheid, n.d.-b, 2016).
13. Only in specific cases (e.g. large rent arrears and disturbance) and after a court ruling may households be evicted. Evictions may furthermore take place because of drastic renovations or urban renewal projects. These households have to be offered alternative housing and compensation for moving costs.

14. For social housing tenants with a yearly income above €36 798 (price level 2018).
15. Housing allowance is awarded to households based on a set of criteria and their need, as defined by a formula including household income, rent level and household composition.

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