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DUALIZATION IN LABOUR MARKETS AND HOUSING OUTCOMES:
INSIDERS VERSUS OUTSIDERS

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Rowan Arundel & Christian Lennartz

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DUALIZATION IN LABOUR MARKETS AND HOUSING OUTCOMES: INSIDERS VERSUS OUTSIDERS

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Abstract

Past decades of economic growth, relatively widespread employment security and expanding mortgage markets promoted growing homeownership sectors. Recent years have witnessed the foundations of this growth undercut across advanced economies, evidenced by a rise in other tenures and increasing housing precarity. Various studies have shown that these housing outcomes largely follow more fundamental changes in labour markets. By adapting the established concept of labour market dualization to housing markets, this paper seeks to give a more precise view of how employment and housing positions are intertwined under late capitalism. Examining the salient case of the Netherlands through household-level data from the LISS panel study, we demonstrate that being a labour market outsider vastly increases the likelihood of being a housing market ‘outsider’ in terms of equity, security of tenure and housing wealth accumulation. Comparing housing and labour market dualization over 2008 and 2016 we further show that the share of multiply disadvantaged households has grown substantially, supporting the idea that the Global Financial Crisis has worked as a catalyst of rising socio-economic inequalities.

1 Introduction

Key research in the social sciences have identified processes of growing divides in labour markets across post-industrial economies. A long-term increase in labour market inequality has been evidenced in studies across OECD countries, further exacerbated in recent years following the Global Financial Crisis (GFC) (Nolan et al. 2014; Arundel & Doling 2017). The *dualization* literature has brought particular attention to increasing disparities between securely employed market-insiders and expanding proportions of precarious market-outsiders (see Emmenegger et al. 2012; Häusermann & Schwander, 2012; Oesch 2006; Rueda 2005). Dualization theory has argued that, beyond divides between employed and unemployed households (see Lindbeck & Snower, 1988), growing differentiation in employment contracts, career advancement prospects, and unemployment risks have become fundamental in structuring societal inequalities (Rueda, 2005; 2007).

Similar and related trends have been witnessed in housing markets across advanced economies. Where the expansion of mortgage credit and the implementation of homeownership-centered policies, once promoted a model of more widespread owner-occupied housing, it appears that large sectors of the population have been increasingly shut out from “stepping onto and moving up the housing ladder” (Doling & Ford, 2007; Malpass, 2008; Ronald, 2008; Lennartz & Ronald, 2017). Mortgage system reorientation towards more secure lenders, especially in the post-crisis period, have limited access to credit (Forrest & Hirayama 2015). Continued house price growth across many contexts has increased affordability barriers for many (Whitehead & Williams 2011). Similarly, options in the rental sectors have seen deteriorations in social housing provision, rent regulation and tenancy protection (Dewilde & De Decker, 2016). Where many older and wealthier households have seen limited impact or even thrived in post-crisis housing markets, first-time buyers – and in particular those who cannot rely on parental support – have faced growing constraints in accessing or remaining in homeownership (Arundel & Lennartz, 2017; Lennartz et al., 2016; Filandri & Bertolini, 2016). Beyond developments within housing markets, housing outcomes are largely defined by positions on the labour market where employment security and career prospects fundamentally structure opportunities for mortgage credit and homeownership access (Lersch & Dewilde, 2016; Arundel & Doling, 2017)

This paper aims to further clarify the links between labour and housing market positioning of households. The argument presented here is that the concept of dualization also provides a salient

lens through which housing market dynamics can be understood.¹ Housing reflects many similar insider-outsider dualisms – whether homeowners versus renters, stable versus precarious tenure, affordable versus unaffordable, or those shut out or not from mortgage credit access. Fundamentally, successfully moving onto and up the housing ladder is contingent on one's economic position where dualization in the labour market can clearly structure housing outcomes. Bridging these literatures, the article addresses two essential questions: *how can the concept of labour market dualization be translated to emerging housing divides?* And, *to what degree do dynamics of labour market dualization reflect and reinforce housing market dualization?*

Accordingly, the first part of the paper addresses our theoretical conceptualization of dualization as applied to housing. The subsequent empirical exercise then applies this by examining the links between labour and housing market dualization. In our empirical approach, we turn to the salient case of the Netherlands. Over the past 20 years, the Dutch labour market has undergone a substantial transformation towards growing shares of part-time, temporary, and self-employed contracts, while the housing market has seen increasingly restricted access to both social housing and homeownership among younger adults, especially since the Global Financial Crisis of 2008. The empirical results reveal a strong and intensifying translation of labour to housing market divides in the Dutch context, as well as emphasizing the potential of a dualization lens in identifying insider-outsider divides across key housing dimensions.

2 Labour and housing market transformations in advanced economies

2.1 Labour market dualization

Labour market transformations have been gradual yet considerable across advanced economies. A growing sector of the population has seen a critical longer-term shift towards declining security and diminished financial rewards of employment (Sarfati & Bonoli, 2017). These trends have largely preceded the GFC although greatly exacerbated by its consequences. At the root of labour market changes, have been processes of economic restructuring over the longer-term, undermining elements of economic certainty that characterized the preceding Fordist-era (Beck, 1992; Giddens, 1999). Firstly, technological developments and mechanisation have seen the displacement of employment, mostly in the lower and middle-income distribution (Brown et al., 2011; OECD, 2011). Globalisation and neo-liberal deregulations further promoted an increasing mobility of capital and labour; allowing companies to cut costs through relocation, thereby also reducing union bargaining power (Baccaro et al., 2010; Eichhorst and Marx, 2011). Broader forces of financialization have seen investment deregulation, the empowering of shareholders and aligning of management interests

¹ Not to be confused with Kemeny's 'dualist rental housing markets' (Kemeny et al., 2005), *dualization* describes structural divides between market insider & outsiders.

to short-term profits, with an increasing concentration of economic returns among capital holders over wage earners (see Wood, 2016; Arundel & Doling, 2017). This has further been associated with a growing highly-divided service sector among advanced economies (Oesch 2006).

Taken together, these drivers promoted an increasing ‘dualization’ between more securely employed market insiders and insecurely (un)employed outsiders in contemporary labour markets. Dualization theory has its roots in understanding persistent divides between employed and unemployed households (see Lindbeck & Snower, 1988). More recently, dualization scholars have argued for the fundamental importance of also taking into account crucial dimensions of contract security, career advancement and unemployment risks (Rueda 2005; 2007). This growing focus on the role of non-standard or ‘atypical’ contracts coincided with a continued flexibilisation of the workforce in advanced economies that saw – even where employment rates rose – rising shares of temporary, part-time and self-employed (Oesch 2006; Arundel & Doling 2017).

Furthermore, the dualization literature has examined consequences of labour market exclusion, focusing particularly on access to social benefits as well as political representation. Häusermann and Schwander (2012), for example, reveal significant divides based on labour market dualization in social protection access and political integration across a variety of European countries. The authors make the case ‘that it is crucial to look not only at labour market segmentation and policies, but also at outcomes, if we want to assess the political relevance of the insider-outsider divide’ (Häusermann & Schwander 2012:2). Others have pointed to ways in which labour market outsiders may be structurally excluded from political representation in terms of a lack of unionized influence, marginal numbers, or an absence of political parties working in their defence (see Saint-Paul et al. 1998; Rueda 2005; 2007). While housing considerations remain deficient in dualization literature, such labour market transformations have likely significant implications for housing outcomes.

2.2 Housing market divides

As labour markets have seen restructuring, interconnected changes in housing markets have further put pressure on conventional housing careers, traditionally characterized by a transition from renting to owning and at a relatively young age (Kendig et al. 1987). In the second half of the 20th century, most advanced economies saw remarkable growth in homeownership and housing wealth accumulation, particularly among a broad middle class but often including many lower-middle-income households (Forrest & Hirayama 2015). This growth was facilitated by relatively stable economic growth, high employment rates, and the primacy of homeownership in policy and socio-political discourse (Ronald, 2008).

The financialization of housing markets and changing nature of housing finance played a particularly central role to homeownership developments (Aalbers, 2016). A ‘defining characteristic of financialization’ was the transformation of property into the main collateral for expanding debt

(ibid., 2016) alongside an associated global rise of (cheap) credit and financialized mortgage markets that allowed growing access to property loans. In the pre-crisis decades, the ongoing relaxation of mortgage lending norms appeared to partly mask growing divides on the labour market as loans increasingly extended to more precarious households – however, often a ‘hollow’ homeownership involving high degrees of debt and financial risk. Marginal borrowers further represented those most likely to be affected by deteriorating labour market conditions, including many younger people at the start of work and housing careers (Arundel & Doling 2017; Hoolachan et al., 2017).

The essential outcome of expanding credit was to promote a major inflation of the value of collateral assets, thereby pushing up property values (Stiglitz 2012). Increasing housing values were additionally fuelled by the increasing attractiveness of property markets as an absorber of a global glut of capital (Aalbers 2016). House price inflation over the long-term became an essential driver of growing disparities, promoting wealth accumulation for insiders, while worsening affordability barriers for those without sufficient economic capacity (Allegré & Timbeau 2015). Increasingly complex global interdependencies underpinning finance and credit markets drove market volatility and new cleavages between those relatively advantaged and disadvantaged by timing or ability to ‘sit out’ fluctuations (Arundel 2017). Added to this, flows of housing capital became more spatially uneven, concentrating into specific sub-markets (Fernandez et al. 2016) and shaping growing divides between ‘high-gain’ ‘hotspot’ markets and more peripheral, ‘cooler,’ markets of limited asset growth (Arundel & Hochstenbach, 2018).

The fragility of the ‘financialized housing model’ became starkly apparent with the onset of the GFC. In response, stricter lending practices were implemented which implied a growing exclusion of those with fewer savings or in more precarious employment (Arundel & Doling 2017; Lennartz, et al. 2016). Mortgage credit instead saw a reorientation towards those in better economic positions, including a growing class able to invest in additional properties (Ronald et al. 2017; Kemp 2015). As other investments saw lower returns, flows into property increased for those with available capital (Green & Bentley 2014), limiting any clear ‘correction’ in property values in many countries and particularly in specific prime markets (Whitehead & Williams 2011; Arundel & Hochstenbach 2018).

Furthermore, transformations in housing and labour have been entangled in and shaped by changing state policy contexts. Most countries witnessed welfare state retrenchment from the 1980s onwards, accelerating in the post-crisis era (Forrest & Hirayama 2015). Despite diversity across jurisdictions, by and large, policy reforms have favoured labour and housing market insiders, often compounding other dimensions of economic divergence (Häusermann, 2010). On-going welfare rollback continues to particularly disadvantage lower-income, more vulnerable and younger households (Kemp 2015; Hills et al. 2013; Buchmann & Kriesi 2011). State transformations in many contexts have thus both compounded barriers to homeownership entry and property wealth

accumulation for many while simultaneously increasing the importance of private assets towards household economic security (Ronald et al. 2017; Lennartz & Ronald, 2017).

Bringing housing, labour market and policy trends together, these domains are likely to run along similar demographic and socio-economic categories: outsiders are more likely to be younger, lower-educated, from less-wealthy parental backgrounds, and from more disadvantaged groups such as ethnic minorities. In short, changing labour, housing and state contexts cannot be considered in separation. Particularly, dualization in labour markets is likely to be reflected in essential ways across housing outcomes. Herein, we propose building on existing dualization theory in applying it towards a valuable theoretical and empirical understanding of housing market divides. Before turning to the conceptualization of housing dualization, we will first briefly look at how these structural shifts have played out in the Netherlands, as a salient case in understanding such dynamics playing out across advanced economies.

2.3 Housing and labour divides in the Netherlands

The Dutch case, like many other contexts, experienced significant transformations in their labour, housing and policy contexts over the past couple of decades. Yet, one could argue that the Netherlands is a particularly extreme case in these regards.

In terms of housing, the Netherlands is characterized by both the largest share of social housing in Europe - just under 30% of all dwellings in 2017 (Statistics Netherlands, 2018) - and, on the other hand, a highly financialized homeownership market, exhibiting the highest European mortgage-debt-to-GDP rates at 95.3% in 2016 (EMF, 2018; Wind et al., 2017). Developments in recent decades have seen a gradual decrease in the social housing share with reduced supply and privatisation of existing stock. While the decline in total stock has been gradual and those already in the social sector have faced limited pressure, opportunities for new entrants has declined starkly. The introduction of an income limit for entry has also played a role in that shift. Conversely, the free-market rental sector² where initial rent as well as increases are not regulated has experienced a sharp resurgence from a historically marginal role, to about 13 percent of the total housing stock as of 2017 (Statistics Netherlands, 2018). Both social and free-market tenants are covered by strong protections against eviction; however, high housing costs in the free-market sector, especially in major cities, poses a significant risk in the event of reduced income (Lennartz, 2017). An additional smaller subset – harder to quantify – may fall outside protected tenancies, often in semi-legal or illegal subletting arrangements (Hochstenbach & Boterman 2015).

² Including all dwellings that fall above a point threshold, calculated based on a system that takes into account dwelling size, quality, amenities and – more recently – location and assessed value (Boelhower & Priemus 2014).

On top of limited access to social rental and high free-market sector costs, generous mortgage tax deductibility and loan guarantees for all homeowners have created a strong push towards homeownership. However, given substantial house price increases in recent years, particularly in urban centers, many aspiring buyers cannot act on their intentions to move into homeownership. Together, these housing dynamics have implied a strong and growing division between an older generation, likely either in affordable social housing or homeowners with substantial equity, and younger starting households less likely to access social housing and facing strong affordability barriers to homeownership (Hochstenbach, 2017; Tu et al, 2018). Given such intergenerational divides, a further distinction arises among younger cohorts based on the availability of parental assets in either helping to buy or more generally in assisting with high housing costs (Hochstenbach & Boterman 2015).

Similarly, the Dutch labour market has seen substantial transformations in the past two decades, particularly in employment participation and income inequality. Following trends in other advanced economies, the Netherlands has seen stagnation in real wages, both over periods of high and low unemployment, alongside a growing divide between employment-based income and returns from capital and dividends (Safart & Bonoli, 2017; Wolbers, 2016). The Dutch labour market is a particularly interesting case, however, in terms of shifting employment types, characterized by a sharp growth in the shares of flexible, temporary, and self-employed (IMF, 2018). Moreover, the Dutch context has a particularly high share of both voluntary and involuntary part-time worker, standing out among OECD countries in terms of low average working hours (OECD, 2018).

3 Empirical Approach

3.1 Operationalisation and variables

In testing the interconnectedness of housing market and labour market dualization we first establish a working definition of these concepts. Labour dualization in this paper builds on existing definitions in the dualization literature, while housing dualization is a new concept that we introduce below that follows the logic of its labour market counterpart.

3.1.1 Labour market dualization

We apply a classification of labour market dualization that builds on three key dimensions: *income*, *employment contract*, and *career advancement prospects*. These then together also reflect a *combined labour market dualization* position. All variables are calculated at the household level based on both household income as well as characteristics of the reported head of household.³

³ Head of household is selected as main income-earner in household (or in some cases equal earner).

Income position is based on the net household value, equivalized to control for household size.⁴ Income ‘outsiders’ are then classified as those in the bottom two quintiles (i.e. bottom 40%) as adopted in World Bank measures of income inequality (World Bank, 2017). Conversely, the top three income quintiles are then included as income ‘insiders.’ Clearly, a binary division in income can be problematic but remains useful in the descriptive analyses as a parsimonious means of capturing housing outcomes for income ‘outsiders’ who display significantly lower income levels. Nonetheless, the subsequent regression analyses treat the income measure as a continuous variable.

Employment contract position can be classified more consistently in terms of insider-outsider divides and is defined based on similar criteria as in Rueda (2005). ‘Insiders’ include those who are employed with full-time and permanent contracts. Those who are employed part-time but in permanent contracts and report not wanting to work more hours are also considered insiders. On the other hand, ‘outsiders’ include those not employed (unemployed, student, or in other non-employment situations), those with temporary or fixed-term contracts, and those employed part-time involuntarily (reporting wanting to work more hours).

Career advancement prospects is measured based on responses to two relevant survey questions. Including those not in employment, ‘outsiders’ are those reporting poor ‘prospects of career advancement/promotion’ in their job, as well as reported uncertainty that their current job ‘will continue to exist’. Conversely, ‘insiders’ are those employed and reporting an expectation that their job will continue to exist and/or prospects for advancement/promotion.

Finally, a *combined labour market dualization* position is based on all three categories (income, employment contract, and career advancement prospects) with ‘full outsiders’ falling into an outsider category across all three dimensions, ‘full insiders’ being insiders across all three, and ‘partial outsiders’ having a combination. A summary of the applied operationalization of labour market dualization is presented in Table 1a.

3.1.2 Housing market dualization

As discussed previously, the article tackles a conceptualization of housing market dualization that reflects the similar insider-outsider divides applied to the labour market. Here the comparable three key dimensions of the housing market evaluated are: *housing equity*, *tenure security*, and *asset accumulation prospects*. Again, together these compound to a measure of *combined housing market dualization* classifying households as ‘full outsiders’, ‘full insiders’, or ‘partial outsiders.’

⁴ Equivalization was based on the common OECD square-root scale

Housing equity position reflects the housing wealth a household holds where ‘equity’ is defined as the reported value of all owned properties⁵ minus all outstanding housing debts. Housing equity ‘insiders’ are homeowner households holding some equity in their house, thereby excluding homeowners with either negative equity or negligible equity (defined as less than 1% of their household value). Conversely, housing equity ‘outsiders’ are all non-homeowners as well as those with negative or negligible equity.

Tenure security position reflects the degree of future risk for loss of residence. Here the specifics of the Dutch housing system are of importance in operationalization as strong tenant security exists across all standard contracts both in the private and social sector (Boelhouwer & Priemus, 2014). As such, the cost-burden of housing becomes the key consideration of likely stability of residence. We follow the 40 percent housing cost threshold (net rent cost plus utility bills) used by Eurostat to define an overburdened household. ‘Outsiders’ thus include all rental tenants with a high housing cost burden, as well as homeowners having both negative or negligible equity and a high housing cost burden. Those in sub-tenancy contracts are included among ‘outsiders’ as they frequently consist of nonstandard contracts with precarious tenancy protections. On the other hand, tenure security ‘insiders’ thus include all rental tenants as well as homeowners without a high housing cost burden, as well as all homeowners having non-negligible equity.

The last housing dualization dimension, *asset accumulation prospects* is, firstly, a reflection of whether or not a household is a property owner with the possibility of accumulation housing assets. The measure then considers among homeowners the (more difficult to quantify) factor of potential future asset accumulation where significant variation in housing developments structure gains, such as between ‘hot’ versus ‘cool’ housing sub-markets. A primary factor differentiating housing sub-markets is property location. Given limitations of our dataset (discussed below), a proxy is used to determine the likelihood of being in a higher-gain or lower-gain housing market. This is based on an available measure of ‘urban density.’ Given that highest property gains have been concentrated in core urban areas of the country (Arundel & Hochstenbach 2018), asset accumulation prospect ‘insiders’ are defined as homeowners residing in areas of ‘very’ to ‘extremely’ urban character (densities of 1500 to 2500 dwellings/km²). Conversely, ‘outsiders’ include all non-homeowners and homeowners in areas ranging from non-urban to moderately urban (<1500 dwellings/km²).

The *combined housing market dualization* position follows the same principles as the combined labour market dualization category with ‘full outsiders’, ‘full insiders’ and ‘partial outsiders.’ A summary of the operationalization of housing market dualization is presented in Table 1b.

⁵ This includes their primary property of residence where they are owner occupiers as well as all reported secondary properties of the household.

Table 1: Operationalization of labour market & housing market dualization

<i>1a) Labour market dualization</i>				
	<i>Income</i>	<i>Employment contract</i>	<i>Career advancement prospects</i>	<i>Combined labour market dualization</i>
<i>Outsiders</i>	Household net equivalised income in bottom two quintiles	Not employed, <i>or</i> employed in non-permanent contract, <i>or</i> 'involuntary' part-time employment contract	Reported 'poor prospects for promotion' + reported 'unlikely that job will continue to exist'	<i>Income + Employment contract + Career advancement</i> 'full outsider'
				Partial outsider
<i>Insiders</i>	Household net equivalised income in top three quintiles	Employed in full-time, permanent contract, <i>or</i> 'voluntary' part-time permanent contract	Reported positive prospects for promotion <i>or</i> positive that job will continue to exist	<i>Income + Employment contract + Career advancement</i> 'full insider'
<i>1b) Housing market dualization</i>				
	<i>Equity</i>	<i>Tenure security</i>	<i>Asset accumulation prospects</i>	<i>Combined housing sector dualization</i>
<i>Outsiders</i>	Non-homeowner, <i>or</i> homeowner with negligible/negative equity	Tenant with high housing cost burden, <i>or</i> homeowner without equity with high housing cost, <i>or</i> sub-tenant	Non-homeowner, <i>or</i> homeowner located in area of low to moderate urban density	<i>Equity + Tenure security + Asset accumulation</i> 'full outsider'
				Partial outsider
<i>Insiders</i>	Homeowner with equity	Homeowner <i>or</i> tenant with low housing cost burden, <i>or</i> homeowner with equity	Homeowner in area of high urban density	<i>Equity + Tenure security + Asset accumulation</i> 'full insider'

3.2 Dataset and empirical strategy

The analysis is conducted using the LISS dataset (Longitudinal Internet Studies for the Social Sciences) consisting of a ‘true probability sample’ derived from the Statistics Netherlands full population register (LISS Panel, 2017a). To maintain the representativeness of the data, refreshment samples are drawn at regular intervals. Furthermore, a stratified sample approach is used to correct representativeness for difficult to reach groups (LISS Panel, 2017b). The LISS study is repeated longitudinally every year.

We limit our sample to households headed by working age individuals (18 to 65 years old). Combining the data across relevant questionnaire modules yields roughly 2,000 households per year (a bit over in 2008 and just under in 2016). As some cases had to be dropped because of missing values, somewhat lower sample numbers were available depending on the examined variables (as noted by the N values in result tables). Regression analyses using the 2016 data reflect some more sample loss due to missing values across the combination of variables, however, n-values remain large and amply sufficient for the statistical models.

In measuring changes in the Dutch housing and labour market, we analyze two periods, 2008 and 2016. Firstly, dualization dynamics are examined descriptively, examining housing outcomes across labour market positions as well as changes between the two years. Subsequently, pooling the 2008 and 2016 sample, correlations between labour market insider-outsider divides and each housing outcome are estimated through logistic regression models. Separate models are run for each separate housing dualization dimension with the dependent variable defined as being an ‘insider’ (see Table 2).

Control variables included age, gender and education level⁶ as well as a year dummy. While a binary insider-outsider divide was used for the descriptive analysis, a continuous variable of the log of net equivalised household income is used for in the regression models wherever possible. For each dimension, separate submodels were run including (a) contract position on top of the controls and income measure, (b) career prospect position on top of controls and income measure, (c) the measure of labour market full outsider⁷ on top of controls, and (d) looking at interaction effects of labour market full outsider and year to evaluate any change in effect over 2008 and 2016. Finally, the same set of models were run in predicting the starkest outcome of housing market full outsider.

⁶ Control variables are based on the head of household. Ethnicity could not be included as it is absent in the 2008 data. Nonetheless, robustness tests with only 2016 including ethnicity revealed similar results across all key variables, as well as ethnicity being strongly correlated with included income and education controls.

⁷ For full labour market outsider, a binary instead of continuous income variable is used as it is included within combined labour market outsider classification.

4 Results

4.1 Descriptives

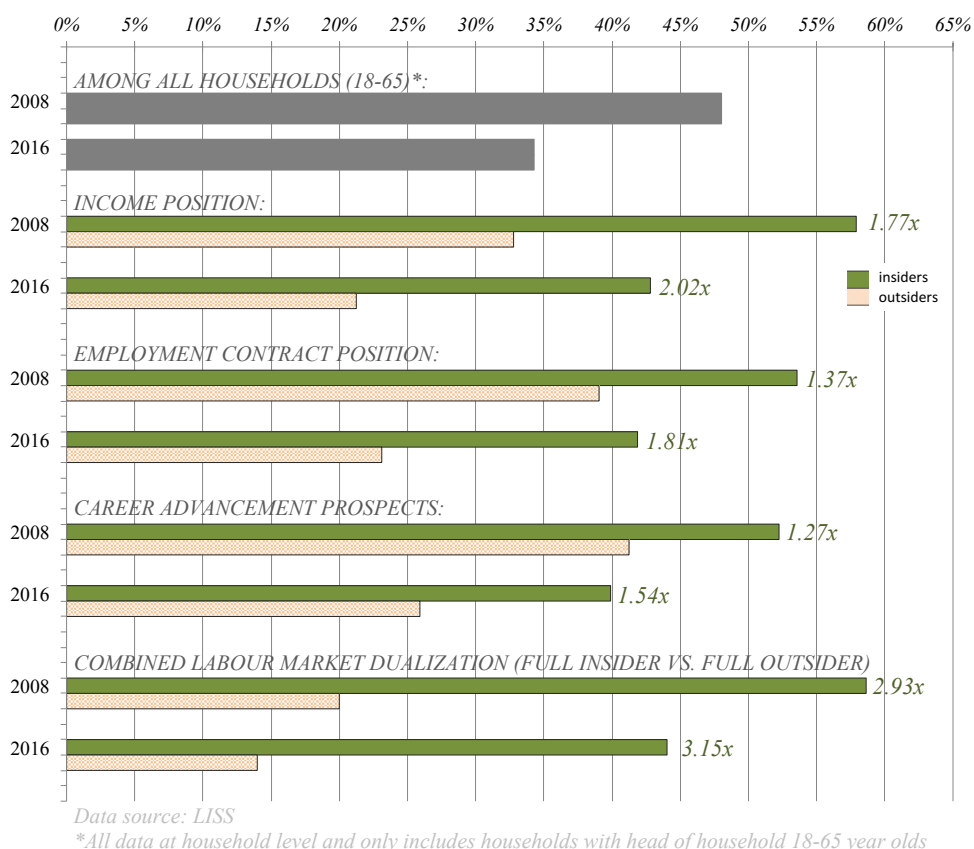
Each dimension of housing market dualization is investigated with regards to absolute shares and proportions within each labour market insider/outsider divide, alongside changing dynamics over the 2008-2016 period. The results are presented below in order of the three housing outcomes - housing equity, tenure security, and asset accumulation prospects – followed by an assessment of combined housing market dualization.

4.1.1 Housing equity

Figure 1 presents a descriptive look at the share of *housing equity* ‘insiders’ across the Dutch sample.⁸ The first notable result is that the total share of housing equity insiders has very sharply decreased by over 10 percentage points from 48% in 2008 to 35% in 2016. This is a very strong reduction in the total share of the population being homeowners with equity compared to equity outsiders (as either non-homeowners or homeowners with negligible or negative equity). Outsiders conversely saw an increase from 52% to more than 65%. In relation to labour market dualization measures, the results reveal a stark translation of labour insider-outsider divides to housing wealth position with dramatically higher shares of equity insiders across all dimensions of labour market insiders. This pattern is even more apparent when considering the compounded effect of the measure of combined labour market dualization where there are roughly three times more equity insiders among full insiders versus full outsiders.

Beyond the stark change in the total share of housing equity insiders over the 2008 to 2016 period, the analyses also suggest a *widening* gap in the translation of labour market to housing equity dualization. While ratios between income, employment contract, career advancement, and combined labour market insiders to outsiders were already high in 2008, the data indicates a growing disparity for housing equity outcomes across all dimensions in 2016. In other words, despite the decrease across the board in equity insiders even among labour market insiders, employment position appears to matter even more for housing equity in 2016 than in 2008. More precisely, labour market full insiders were 3.27 times more likely than full outsiders to hold equity in 2016, from 2.24 in 2008.

⁸ For interpretability, only the shares of insiders are graphically presented for the three figures of separate housing dimensions, however, outsider shares are simply the remainder adding to 100%. As with subsequent figures, the first two thick grey bars indicate absolute shares across the entire sample, while subsequent bars measure shares among insiders (solid) and outsiders (patterned) for each of the labour market dualization dimensions. Finally, the noted values at the end of the solid bars indicate the ratio of housing equity insiders among the respective labour market dimension for insiders compared to the share among the same labour market dimension for outsiders.

Figure 1: Share of **housing equity insiders** in the Netherlands

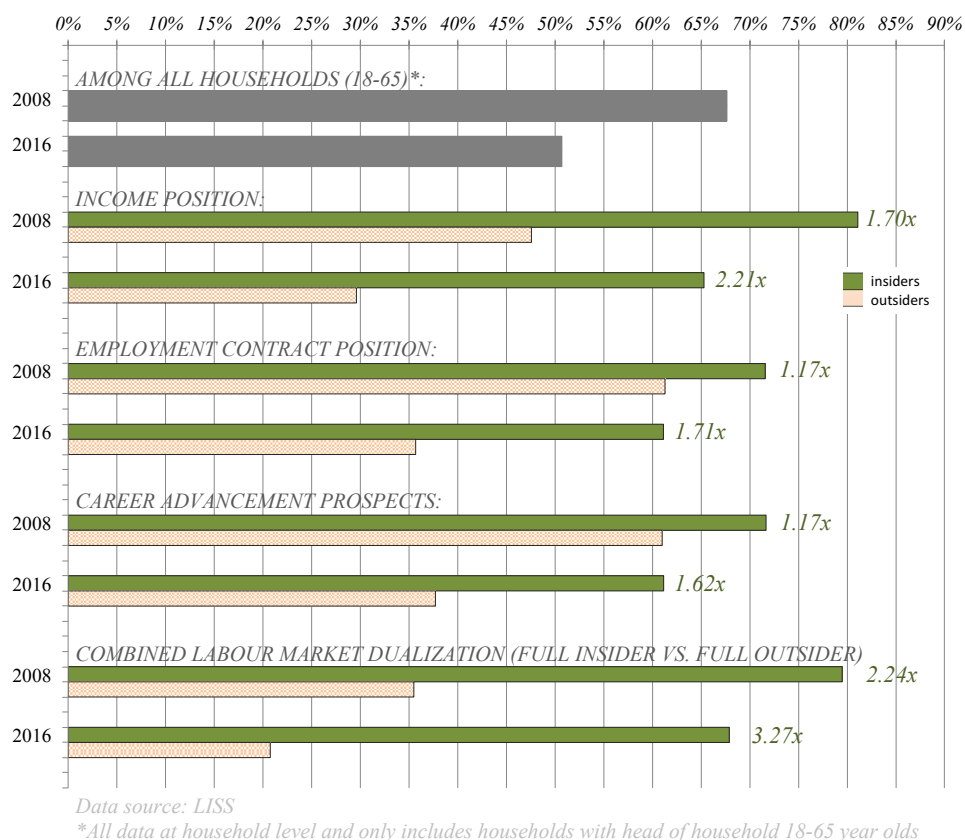
4.1.2 Tenure security

The second housing dimension examined is tenure security position. Although the Dutch housing context is one of strong tenancy protection, the degree of housing cost burden helped assess risk levels for renters and homeowners without equity towards potential for failure to meet housing costs and, indirectly, tenancy loss. Households in sub-tenancy arrangements were also included as associated with lower tenant protection. Results in Figure 2 reveal a very sharp decrease in absolute shares of tenure security insiders from 67.7% of households in 2008 to barely over half in 2016.

The results further reveal significant differentiation across labour market dimensions. While income position translates to the sharpest difference between insiders and outsiders in tenure security, both employment contract position and reported career prospects display strong disparities. Looking at the combined measure, shares with tenure security among labour market full insiders are at roughly 80% and 68% in 2008 and 2016 respectively, while full outsiders only attain levels of about 35% and 21% in the same years. Given the traditional role of the social housing sector in the Dutch context in providing secure and affordable housing to a large sector of the population, the extent of disparity across labour market divides is striking. In examining further trends over the

2008 and 2016 period, the analysis reveals a very clear pattern of significantly⁹ widening ratios between labour market insiders and outsiders across all three dimensions, seemingly indicating a growth in the importance of income, contract and career prospect positions towards tenure security. Assessing the combined measure, labour market full insiders were 2.24 times more likely to have tenure security compared to full outsiders in 2008, rising to 3.27 times more in 2016.

Figure 2: Share of **tenure security insiders** in the Netherlands



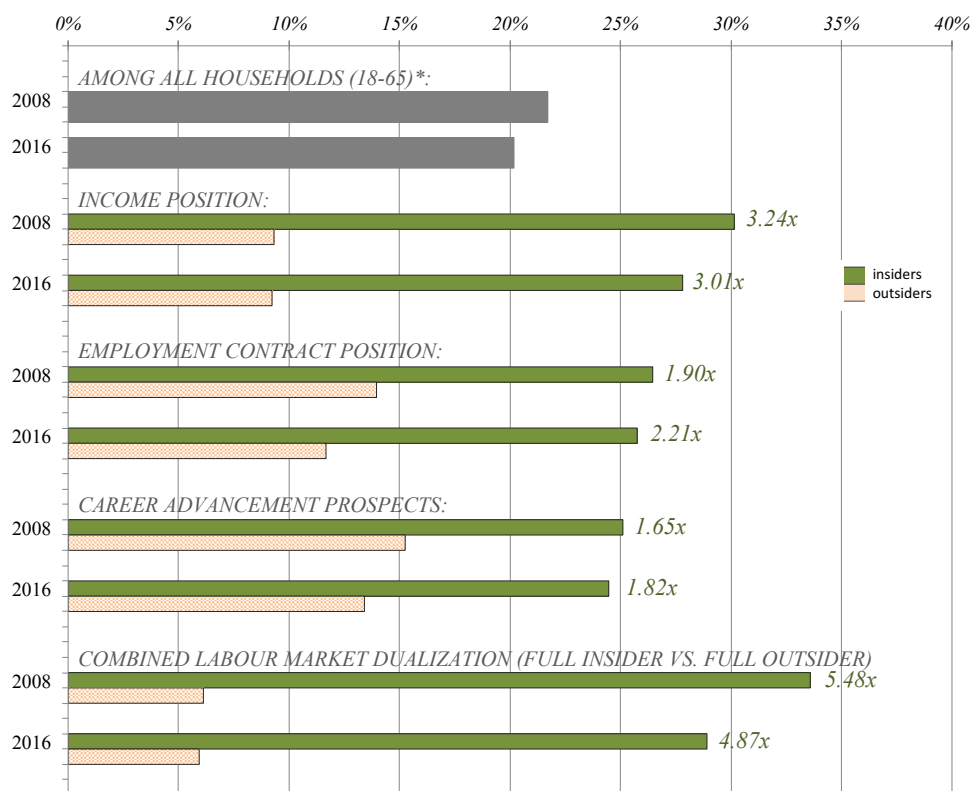
4.1.3 Asset accumulation prospects

Figure 3 looks at the third dimension of housing market dualization, as a measure of the potential for households for future housing asset accumulation. Beyond looking at whether or not households are indeed property owners, the dimension assesses whether they are located in an area of likely higher price appreciation potential (by a measure of urban character). The results in Figure 3 do show decrease – albeit small – in the absolute shares of asset accumulation insiders in the Netherlands from slightly above to near 20% of households. While there is less obvious change over the 2008 to 2016 period, the results reveal a very strongly entrenched differentiation in terms of labour market positions. Again, income position proves the most important towards the likelihood

⁹ T-tests were further conducted to measure the statistical significance between the changing ratios for the 2008 and the 2016 data samples.

of being an asset accumulation insider with over triple the share among those in the top three income quintiles (insiders) versus bottom two (outsiders). Again, both employment contract position and reported career prospects also display strong variation in the measure of asset accumulation prospects. As the change across the period is more minimal than other housing dimensions, the trends in changing ratios are more ambiguous. While employment contract and career prospects showed a slightly widening gap in accumulation potential, income and the combined measures displayed a slight decrease. Overall, looking at shares based on combined labour market dualization revealed a very strong disparity in asset accumulation prospects, albeit with a slight decrease in the gap ratio over the years.

Figure 3: Share of **asset accumulation insiders** in the Netherlands



Data source: LISS

*All data at household level and only includes households with head of household 18-65 year olds

Notwithstanding the inherent uncertainty in assessing future accumulation, the results seem to indicate a strong disparity in the prospects for asset accumulation based on labour market position. Remarkably, even only among homeowners a similar pattern of differentiation in asset accumulation potential based on labour market position was found.¹⁰ These divisions are further supported by associated research showing strongly concentrated asset accumulation among (certain) core urban

¹⁰ Further analyses from the authors available upon request

areas in the Netherlands, as well as trends in increasing spatial polarization in recent years (Arundel & Hochstenbach 2018).

4.1.4 Full housing market outsiders

In the final descriptive analysis, we focus on the starkest case of being a combined housing sector *full outsider*. Looking at Figure 4, the first striking result is the very dramatic increase in full outsiders from 2008 to 2016 in the Dutch housing context. The proportion of households without housing equity, in precarious tenure arrangements, and with poor asset accumulation prospects has increased from roughly 28% in 2008 to 43% in 2016. While each housing dimension has independent significance towards household circumstances – i.e. whether the ability to rely on housing equity, the risk of tenancy loss, or the divergent potential in accumulating assets – the combination of outsider position across all dimensions poses the most clear compounded disadvantage. Given the nature of the Dutch housing system, many of those in the rental sector, while disadvantaged in terms of housing equity and asset accumulation potential, may often still find themselves in a secure tenure situation and with affordable housing costs. The clear increase in combined dualization across all housing dimensions is thus a significant shift towards growing shares of households in strongly disadvantaged outsider positions.

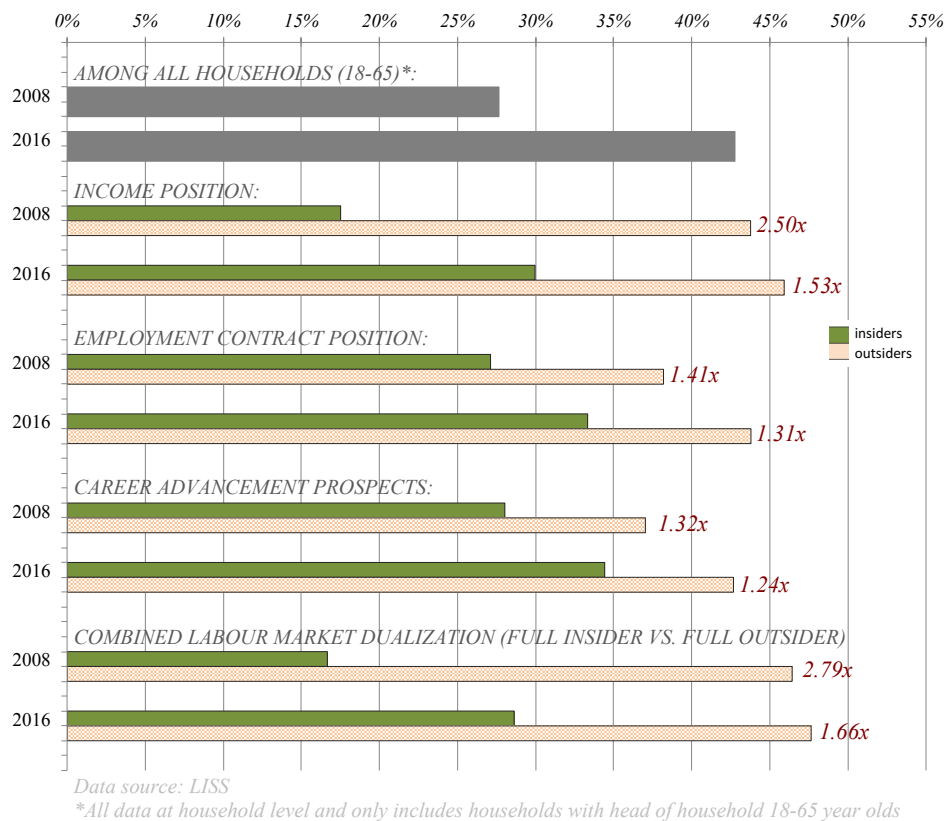
Looking at shares in relation to labour market situation, the translation of disadvantage from employment position to housing market is once more clearly reflected. Income position, as expected, again relates to the starkest divides, but both contract position and reported career prospects reveal strong differences in compounded housing outcomes. The translation of combined labour market dualization to combined housing market dualization reveals the highest divergences with close to half of labour market full outsiders being housing market full outsiders in 2016 compared to under 30% among labour market full insiders.

While the strong overall increase from 2008 to 2016 is of fundamental significance, there isn't evidence of increasing divergence in combined housing outcomes across labour market divides. On the other hand, the dimensions show a reverse trend, especially in terms of income, which also reflects in the combined labour market measure. An important explanation for this relative decline in ratios in 2016 is the finding that the share of housing sector full outsiders has also seen nearly a doubling even just among income insider (i.e. those in the top three income quintiles). On the one hand, this may be a reflection of the wide range included in income insiders¹¹ or may be reflecting

¹¹ As mentioned in the methodology section, income is the most problematic dimension in terms of assigning a binary dualization. For this reason, a continuous income variable is used for the subsequent regression analyses where the household net equivalised income variable is negatively correlated at similar levels and significance in pooled 2008, 2016 models as well as when separate 2016 and 2008 models were run. All additional analyses are available upon request from the authors.

some growing housing disadvantage even among higher earners, potentially among those with higher incomes but in outsider positions in terms of employment contract and career prospects.

Figure 4: Share of housing market 'full outsiders' in the Netherlands



4.2 Regression results

The logistic regressions reveal strong associations between labour market and housing dualization. Modeling separate dimensions of housing dualization outcomes (Table 2), reveals a highly significant effect of employment contract position ($p < 0.01$) towards the likelihood of being an insider for each outcomes of housing equity, tenure security, and asset accumulation potential (models 1a, 2a, 3a). The effect is much stronger than the positive effect of household income levels (significant across all models at $p < 0.01$) and the included controls. The odds ratios indicate that the probability of an employment contract insider also being a equity insider is about 1.89 times more than for a contract outsider, with similarly high effects of over 1.5 times for tenure security and asset accumulation.

All else being equal, reported career advancement prospects similarly show a strongly significant correlation ($p < 0.01$) with housing equity, tenure security, and asset accumulation positions (models 2a, 2b, 2c). Effect sizes were found of over twice the odds ratio for insider to insider versus insider

to outsider looking at housing equity, 1.63 times for tenure security and slightly lower at 1.35 times for asset accumulation.

Looking at the variable of combined labour market ‘full outsider’ reflects the compounded effect of being excluded across all labour market dimensions (models 1c, 2c, 3c). The results show a very strong negative association between being a labour market full outsider and dualization position in terms of the three housing dimensions ($p < 0.01$). Looking at the reverse of the odds ratios and even after taking into account controls, full outsiders are the equivalent of a full 4.4 times less likely to be housing equity insiders, nearly 5.8 times less for tenure security insiders, and 6.25 times less for asset accumulation insiders.

The included control variables reveal some further significant effects. Increasing age appears positively correlated with equity and tenure dimensions. On the other hand, households headed by a woman appear significantly less likely (controlling for other factors) to be an equity or tenure security insider while there is no significant correlation with asset accumulation. Education appeared significantly correlated with equity and asset accumulation position, reflecting further associations potentially with parental wealth or other correlated variables,¹² including the likelihood of higher-educated households settling in major urban areas where house price appreciation tends to be higher.

Including the dataset year, revealed a very strong and significant ($p < 0.01$) effect, other variables being constant, of decreasing likelihood for being an insider in 2016 across all housing dualization dimensions. This suggests an increased difficulty in being a housing market insider in recent years. In terms of housing equity, this likely reflects, decreasing access to homeownership in the face of stricter mortgage requirements in the post-crisis period as well as affordability barriers in some heated markets. Added to this, are potential declines in equity among existing homeowners where devaluation in some areas possibly increased indebtedness. Similarly, worsening tenure security outcomes in 2016 may reflect both worsening rental affordability and more precarious homeowners, as well as some increase in more precarious subtenant arrangements.¹³ While the independent year effect was strongly significant, in direct measures of interactions between being a labour market full outsider and the year (model 1d, 2d, 3d), it was not possible to detect a significant change in effect size over the two periods.

¹² In tests of only the 2016 dataset where it was possible to include ethnicity, education level and ethnicity variables were strongly correlated. Those further tests revealed a correlation between non-Dutch and especially non-Western respondents with lower odds of being housing insiders, while education became less significant.

¹³ While remaining a low share, the data revealed a measurable increase in the share of subtenant households.

Table 2: Regression results for each dimension of housing dualization

	(1) OUTCOME: HOUSING EQUITY INSIDER				(2) OUTCOME: TENURE SECURITY INSIDER				(3) OUTCOME: ASSET ACCUMULATION INSIDER			
	model (1a)	model (1b)	model (1c)	model (1d)	model (2a)	model (2b)	model (2c)	model (2d)	model (3a)	model (3b)	model (3c)	model (3d)
	Odds Ratio	Odds Ratio	Odds Ratio	Odds Ratio	Odds Ratio	Odds Ratio	Odds Ratio	Odds Ratio	Odds Ratio	Odds Ratio	Odds Ratio	Odds Ratio
Employment contract: insider	1.889**	2.036**	0.228**	0.194**	1.567**	1.634**	0.172**	0.160**	1.584**	1.348**	0.362**	0.323**
Career advancement prospects: insider	2.127**	2.184**	0.228**	0.194**	5.984**	6.483**	0.172**	0.160**	1.799**	1.851**	0.362**	0.323**
Log equivalized net household income (thousands)												
Labour market 'full outsider'				1.502				1.155				1.247
Labour market 'full outsider' * Year 2016				0.114				0.52				0.44
Age	1.059**	1.063**	1.065**	1.065**	1.015**	1.018**	1.030**	1.030**	1.006	1.005	1.008*	1.008*
Female	0.439**	0.429**	0.421**	0.419**	0.567**	0.564**	0.504**	0.504**	0.881	0.865	0.862	0.861
Education (ref= intermediate secondary or below)												
higher secondary or intermediate vocational	1.473**	1.554**	1.499**	1.493**	1.184	1.232	1.297*	1.295*	1.320*	1.347*	1.328*	1.326*
Higher vocational or university	1.981**	1.959**	2.133**	2.132**	0.963	0.996	1.449**	1.450**	2.034**	2.032**	2.171**	2.170**
Year 2016	0.431**	0.435**	0.460**	0.433**	0.546**	0.555**	0.644**	0.625**	0.936	0.981	1.022	0.999
Constant	0.004**	0.003**	0.049**	0.049**	0.007**	0.005**	1.016	1.028	0.022**	0.024**	0.175**	0.176**
N	2388	2285	2324	2324	2861	2736	2745	2745	3363	3207	3254	3254
R2	0.161	0.168	0.170	0.171	0.159	0.168	0.132	0.132	0.046	0.042	0.040	0.040

Data source: LISS 2008, 2016. * p<0.05 ** p<0.01

Data source: LISS 2008, 2016

Lastly, the models looking at the starkest outcome of being a housing market full outsider (see Table 3) reveal similarly significant translations of labour market dualization with some even stronger effect sizes. Having an outsider contract arrangement significantly increases the odds of being a housing full outsider by over 1.39 times ($p < 0.01$). Reporting poor career prospects similarly reveals increased odds of 1.78 times ($p < 0.01$). Being a labour market full outsider shows a very strong significant effect, associated with 5.8 times more likelihood of being a housing market full outsider. Finally, the year effect revealed even stronger increases in the odds of being a housing full outsider in 2016, all else being equal, compared to 2008 (models 4a, 4b, 4c, 4d).

Table 3: Regression results for combined housing sector dualization

	(4) OUTCOME: HOUSING SECTOR FULL OUTSIDER							
	model (4a)		model (4b)		model (4c)		model (4d)	
	Odds Ratio	p> z	Odds Ratio	p> z	Odds Ratio	p> z	Odds Ratio	p> z
Employment contract: outsider	1.387 **	0.00						
Career advancement prospects: outsider			1.780 **	0.00				
Log equivalized net household income (thousands)	0.091 **	0.00	0.090 **	0.00				
Labour market 'full outsider'					5.820 **	0.00	6.141 **	0.00
Labour market 'full outsider' * Year 2016							0.880	0.61
Age	0.982 **	0.00	0.977 **	0.00	0.965 **	0.00	0.965 **	0.00
Female	1.727 **	0.00	1.735 **	0.00	2.144 **	0.00	2.147 **	0.00
Education (ref= intermediate secondary or below)								
higher secondary or intermediate vocational	0.776	0.05	0.772	0.06	0.699 *	0.01	0.701 *	0.01
Higher vocational or university	0.797	0.13	0.801	0.15	0.470 **	0.00	0.470 **	0.00
Year 2016	2.623 **	0.00	2.518 **	0.00	1.989 **	0.00	2.047 **	0.00
Constant	705.3 **	0.00	806.8 **	0.00	1.547	0.09	1.530	0.10
N	2202		2110		2115		2115	
R2	0.230		0.243		0.167		0.167	

Data source: LISS 2008, 2016. * $p < 0.05$ ** $p < 0.01$

5 Discussion and Conclusion

The aim of this paper was twofold. First, we employed the established concept of labour market dualization to frame emerging divides on the housing market. The dualization literature has emphasized the multidimensional nature of labour divides across not only income but also contract security and career advancement potential. A growing share of labour market outsiders are increasingly excluded from stable jobs, decent incomes and may have limited prospects to improve their employment situation. Our key argument is that such labour market divides are likely to have clear implications for housing outcomes as they are increasingly structured along divides between market insiders and market outsiders. We thus build on existing labour market literature in establishing a conceptual understanding of *housing market dualization*. We propose that housing

market divides play out across essential dimensions of equity, tenure security, and asset accumulation prospects. Just as with labour markets, these divisions may often be compounded into experiences of multidimensional exclusion. As such, our paper contributes both a significant conceptual application of housing dualization as well as an operationalizable definition for its application in housing research.

Our second goal was to empirically test these links between housing and labour market dualization. We turned to the salient case of the Netherlands, making use of micro household-level data from the LISS panel study. Our findings reveal a crucial translation of labour market divides to housing outcomes. Lower income levels, job insecurity or unemployment, and negative prospects for career advancement are all associated with lower levels of housing equity, security of tenure, and spatial disadvantages in further housing wealth accumulation. Full labour market outsiders are a full six times more likely of being a full housing market outsider. Beyond an expected translation of disadvantage between labour and housing markets, our analysis further suggests that, in terms of the Dutch case, the number of households experiencing multiple disadvantage has grown substantially over the past decade. While research has highlighted longer-term labour market restructuring and rising insecurity (Beck, 1992; Giddens, 1999; Arundel & Doling 2017), this asserts that the years since the GFC have further catalysed inequalities.

Even more striking, the results reveal an increased translation across many dimensions of labour market to housing market divides. In other words, it appears that the importance of one's position on the labour market towards housing outcomes is growing in importance. This trend ties in with the ongoing marketization of housing and the scaling back of de-commodified housing provision. Such processes are indeed apparent across advanced economies in the face of financialization and the increasingly investment-oriented nature of real estate (Aalbers 2016). In the Dutch case, a particularly strong tradition of social housing and tenancy regulations has witnessed gradual but steady retrenchment. The transformation of housing markets has thus seen them move from a role of potentially tempering labour market inequalities, towards becoming increasingly an amplifier of such disparities.

The finding of such a clear and strong link between labour and housing market positions has major implications for socio-economic inequalities and life-chances more broadly. Ample research has demonstrated how strongly employment and housing careers alone matter for the attainment of economic independence, wellbeing, and wealth accumulation. Beyond this, housing is entangled in more individual decisions such as marriage and childbearing. Our results then suggest that housing inequalities, significantly amplified by labour market positions and vice versa, point to a growing group of households that are disadvantaged along multiple dimensions. The link between career

advancement opportunities and housing asset accumulation prospects further implies dynamics that are likely to perpetuate, or even intensify, through the life-course.

Our final assertion is that understanding housing divides through multiple dimensions of insider-outsider dualization is both valuable conceptually and towards further empirical research. In proposing an operational definition of housing dualization, we entreat its application and adaptation across diverse contexts. For example, contexts that never developed the same standards of welfare protection and housing security as in the Netherlands, or that have seen even more drastic retrenchment and austerity policies in recent years. The existing dualization literature brought attention to entrenched divides in labour markets and argued for a broader understanding of how these reflect onto other dimensions of inequality. While dualization research has lacked direct engagement with housing studies, we argue for a necessary integration of the fields. Housing is clearly a central dimension of insider-outsider divides with fundamental consequences towards socio-economic wellbeing both at the individual level and in its role in structuring or amplifying societal inequalities.

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