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Miltenburg, E.M.

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NEIGHBOURHOOD EFFECTS FOR DIFFERENT HOUSEHOLD CONFIGURATIONS OVER THE LIFE COURSE

Abstract The field of neighbourhood effects studies on individual socio-economic outcomes has two main shortcomings. Most studies (i) ignore the impact of the neighbourhood on the duration of inactivity and timing of entering the labour market and, (ii) disregard the heterogeneity of these neighbourhood effects for different household configurations over the life course. Yet, it is likely that the neighbourhood influences its residents in heterogeneous ways. This study analyses the differential impact of the neighbourhood on the individual transition rates from inactivity to work from a life course perspective. It applies a discrete time event history analysis with unique individual-level population panel data from 2004 to 2011 in the Netherlands, covering a random sample of over 30,000 individuals with changes in employment status, household position, and neighbourhoods over time. The models suggest that residing in a deprived neighbourhood only hampers the transition to work for women, above and beyond their individual characteristics and household resources, as well as that this association hinges on their household composition: our findings show that only for partnered mothers with the youngest child below 4 years and single mothers with the youngest child between 4 and 12 years a higher level of neighbourhood deprivation results in a statistically significant reduction in the odds of making the transition to work. These conditional neighbourhood effects reveal unexplored mechanisms and generate different kinds of policy implications from the ones we usually see.

INTRODUCTION

Over the past few decades, much scholarly attention has been given to the question whether the neighbourhood in which one lives has an

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impact on one's socio-economic chances in life (e.g. Andersson et al., 2007; Musterd et al., 2003; van Ham and Manley, 2010). However, little is known about the impact of the neighbourhood on the dynamics of life transitions. Whereas labour market studies have since long moved from questions asking *whether* transitions take place to *when* they take place, the neighbourhood effects literature has mostly retained a static empirical approach thus far. Even though scholars have employed longitudinal data to study the impact of the neighbourhood on the persistence of poverty across years of investigation (Galster et al., 2008; Manley and van Ham, 2012; Hedman et al., 2015), no appropriate dynamic modelling techniques have been employed that enable the study of detailed life transitions happening on a monthly basis. Hitherto, the impact of the neighbourhood of residence on the transitory dynamics of an individual's employment status—incorporating the *duration* of inactivity and *timing* of entering the labour market—has been virtually unexplored. Moreover, while some studies have suggested that neighbourhood effects are dissimilar across groups of residents (Ellen and Turner, 1997; Lupton, 2003; Sharkey and Faber, 2014; Small and Feldman, 2012), it has not been assessed how an individual's specific household configuration and related neighbourhood involvement affects the strength of the association between neighbourhood characteristics and labour market transitions.

The negligence of the dynamics of labour market and life transitions in the neighbourhood effects field is even more surprising given the fact that tackling residents' persistent unemployment is at the core of urban renewal policies. Neighbourhood improvements are said to break the downward spiral of accumulated disadvantage by reducing the negative norms towards work as well as to improve the social networks (Pinkster, 2009; Wilson, 1987, 1996). The employment opportunities of disadvantaged residents are, then, more easily encouraged in improved neighbourhoods because resourceful contacts and job information becomes more easily available. Thus, we particularly expect neighbourhood effects to manifest in either hampering or enhancing residents' transitions from inactivity to work.

Already before the turn of the century, neighbourhood effect heterogeneity was claimed as the "perhaps most critical" challenge in the field (Ellen and Turner, 1997, p. 835). Although, since then, scholars have been aware of the idea that the neighbourhood affects the lives of some residents more than others, Sharkey and Faber (2014) argue

that most of this research is still too descriptive and exploratory, lacking clear-cut theoretical frameworks and strict empirical tests.

As of yet, there is thus no apparent consensus “whether neighbourhood effects differ for families with different characteristics. As a consequence, the empirical literature offers remarkably little help to policy makers trying to design or assess strategies for helping families who live in distressed neighbourhoods” (Ellen and Turner, 1997, p. 835). Individuals with different household configurations bear different levels of involvement in the neighbourhood which makes them more or less vulnerable to negative spill-over effects of living in a deprived neighbourhood. So far, most neighbourhood effects scholars only controlled for static household positions, while the influence of the neighbourhoods should thus theoretically vary with resident’s changing household composition over their life course. In the present study, we pose the question whether the level of deprivation in the neighbourhood of residence hampers the transition from inactivity to work and, moreover, whether this neighbourhood effect differs for individuals in different household configurations.

THEORY

Individual life transitions and decisions are embedded in different structures over time. Huinink and Feldhaus (2009) stress the importance of incorporating this theoretical multilevel perspective in studying life course events and the constraints, opportunities and resources that individuals encounter. The authors make a distinction between the macro-level, the societal context comprising institutions with rules and regulations and political and economic conditions; the meso-level, the social context and social networks, among which neighbourhoods play an important role; and finally, the micro-level, consisting of individual resources and internal conditions that configure and characterize individuals’ outcomes. These different situational characteristics can alter the motivations and opportunity structures for individuals, either advancing or hampering their transition from inactivity to work.

Individual effects and institutional barriers

Individual characteristics such as having young children, the position in the household, age, and ethnicity are expected to be related to the transition from inactivity to work. Having a child is known to keep women from entering a job (Aisenbrey et al., 2009), although this negative impact tends to be transitory and declines as the child grows older (Bernhardt, 1993): women with children older than four years are not found to be less committed to work than women without children (Evertsson, 2013). In contrast, men's labour force attachment tends to increase with family formation (Blossfeld and Drobnic, 2001). Age is expected to be negatively related to the transition into employment and first- and second-generation ethnic minorities are expected to be less likely to make the transition into employment (Dahl and Lorentzen, 2003).

The current study is carried out in the Netherlands and this particular institutional context is important for men and women's responses to family formation (Blossfeld and Drobnic, 2001; Ziefle and Gangl, 2014). The Dutch motherhood ideology is rather strong (Bettio and Verashchagina, 2009). Also, in the Netherlands there is no public provision of child care and since the Child Care Act (2005), municipalities have less regulating powers over the local provision of child care and market forces have come into play. Although lower-income groups are granted larger child care subsidies, there has been a sharp decline in childcare possibilities in poorer, rural areas (Noailly and Visser, 2009).

Blossfeld and Drobnic (2001) moreover emphasize that there is a positive association between the labour force attachment of partners in social-democratic welfare states, while in conservative and Mediterranean countries a negative association exists between the partner's resources and a person's labour force attachment. Given that the family is less central in Dutch labour market policies than in other conservative welfare states like Germany, and the Netherlands has adopted a mixture of social-democratic and liberal policies in the past decade, we expect a positive association between household income and the transition to work (Bernasco et al., 1998; Verbakel and de Graaf, 2008), not only for main earners but also for partners of main earners.

Concerning social assistance, individuals on welfare benefits and unemployment benefits are required to be registered as a job seeker,

attend job application trainings, and to apply for all kinds of generally acceptable labour. Only in certain cases individuals are exempted from the obligation to apply for jobs or accept work. For instance, a single parent receives higher social assistance than a single individual without children, and when the children are young, a single parent is not obliged to search for a job. We therefore hypothesise that single parents with young children are less likely to make to transition to employment, while single individuals are hypothesised to be more likely to make to transition to employment. Individuals in a couple without children receive relatively low welfare benefits compared to singles and one might expect these individuals to have an even higher probability of getting employed compared to singles (van der Klaauw and van Ours, 2003). Individuals on other social security benefits (social security act, sickness/disability act, (early) pensions/surviving dependants act) are subject to less stringent rules when it comes to reintegration into the labour market.

Neighbourhood effects on transition from inactivity to work

Concerning the meso-level, there are theoretical and empirical grounds for allocating an important role to the neighbourhood in affecting a resident's transition to work over and above individual effects. One of the most influential pioneers in the neighbourhood effects debate is Wilson (1987; 1996). He introduced the concept of 'social isolation' in neighbourhoods; due to de-industrialisation and a shift towards a more service-producing economy, the middle-class and skilled working-class residents have left the American urban inner cities, leaving individuals without skills and opportunities behind. The prospects of neighbours in these disadvantages areas are presumed to be interdependent (here one can recognize the concept of 'linked lives' by Elder, 1994): the concentration of disadvantage in the neighbourhood, including deviant work norms and no access to job networks and information, is argued to be detrimental for the residents' chances on the labour market (Wilson, 1987, 1996).

Ever since, many researchers aimed to empirically verify that residing in deprived neighbourhoods indeed affects individual socio-economic outcomes. The vast majority of these neighbourhood effects studies focus on income development (e.g. Andersson et al., 2007;

Brännström, 2004; Bolster et al., 2007; Galster et al., 2008) or change in employment status between a few points in time (e.g. Feng et al., 2015; Musterd et al., 2003; Musterd and Andersson, 2006; van Ham and Manley, 2010), but neglect the transitory dynamics of an individual's employment trajectory. Notable exceptions are the few studies that do employ a survival analysis of neighbourhood characteristics on the transition to work (see Dawkins et al., 2005; Hedberg and Tammaru, 2013; van der Klaauw and van Ours, 2003; Vartanian, 1997), although these studies do not explicitly deal with the neighbourhood effects heterogeneity for different household types, the second main component in this study.

Yet, no matter how scholars operationalise socio-economic outcomes, they often allocate the neighbourhood effects to *social-interactive mechanisms*, including processes such as socialisation (local social norms and role models) and social resources and networks in the neighbourhood (Galster, 2012). The neighbourhood is seen as an opportunity structure in which different kinds of support, information and resources can be accessed to achieve instrumental goals, such as climbing the socio-economic ladder (Coleman, 1988; Granovetter, 1995; Lin, 1999). Frankly, however, the causal pathways remain a black box in the neighbourhood effects field on socio-economic outcomes. There are other mechanisms that we cannot rule out. For this brief discussion, we borrow heavily from the recent work by Hedman et al. (2015) and Galster (2012) who, next to the social-interactive mechanisms discussed above, elaborate on the environmental, geographical and institutional mechanisms behind neighbourhood effects on socio-economic outcomes. The *environmental mechanism* refers to exposure to violence, crime, and the physical state of buildings. These indicators might lead to stress and indirectly affect individuals' socio-economic status. The *institutional mechanism* deals with processes external to the neighbourhood, namely stigmatisation by employers and institutional resources that can restrict access to services which hampers residents' employment opportunities. The *geographical mechanism* deals with the proximity to jobs, services, and local political authorities and can also be referred to as the well-known 'spatial mismatch' hypothesis (Galster, 2012; Hedman et al., 2015).

Galster (2012, p.41) concludes that most empirical evidence is found for the social-interactive mechanisms behind neighbourhood effects rather than the spatial mismatch theory. Based on the social-interactive

mechanism, which is regarded as the core of the neighbourhood effects field (Hedman et al., 2015, p.199), we hypothesise that a labour inactive individual living in a neighbourhood with a high level of socio-economic deprivation is less likely to make to transition to employment.

Neighbourhood effect heterogeneity on transition from inactivity to work

We expect differential vulnerability within neighbourhoods, as certain household types are more harmed by the supposedly detrimental impact of living in a deprived neighbourhood than others. Sources of neighbourhood effect heterogeneity are differences in local social networks, different behavioural adaptations to neighbourhood conditions, and varying family structures and capacities (Galster et al., 2010; Harding et al., 2011a). In addition, Lupton emphasizes that the “neighbourhood might have *different meanings* to people in different points in the life course, with different circumstances or different characteristics” (Lupton, 2003, p.10, italics in original). So far, conditional effects have hardly been empirically assessed.

In most studies the neighbourhood effects for different positions in the household and life stages are conflated, despite the fact that there are theoretical expectations for neighbourhood effect heterogeneity among these groups (e.g. Manley and van Ham, 2012; Small and Feldman, 2012). The study by Galster et al. (2010) does incorporate neighbourhood effect heterogeneity. The study builds upon the social-interactive mechanism behind neighbourhood effects and deduces that individuals with children spend more time in the neighbourhood, are more likely to be subject to socialisation, and will probably have a denser network of social contacts within the neighbourhood. The authors indeed find effect heterogeneity: the effect of the neighbourhood income mix on individual annual labour income is stronger for individuals with children, regardless of their gender.

The present study includes more detailed and transitory measures of the position in the household and thereby goes beyond the dichotomous premise that individuals with children are more involved in the neighbourhood and therefore more vulnerable for negative spill-over effects of living in a deprived neighbourhood. The incorporation of more fine-grained life course transitions—such as changing house-

hold configuration over time and children in the household growing older—enables us to capture the dynamics over the life course behind neighbourhood effect heterogeneity.

The age of children is of crucial importance, the younger the child(ren) in the household, the higher the levels of involvement in the neighbourhood, as parents engage more in neighbourhood activities and bring their children to their primary school, which is often in the neighbourhood of residence (Campbell and Lee, 1990; Forrest and Kearns, 2001). The younger the child(ren) in the household, the larger the impact of the neighbourhood of residence on the transition to work is expected to be. Furthermore, we expect the influence of the neighbourhood to be even stronger for single parents, who are more restrained to the neighbourhood. Singles and couples without children spend on average less time in the neighbourhood and are hypothesised to be less subject to the neighbourhood context.

DATA AND METHODS

This study employs data coming from several administrative register files of the Social Statistical Database as made available by Statistics Netherlands. This database is an individual-level longitudinal data file that covers the entire population of the Netherlands. We have information on the residential, demographic, household and socio-economic status. Data on educational attainment are not available as education is not registered for the entire population. We limit our observational window to eight years (96 months) from 2004-2011.

Data selection and analytical strategy

Individuals are selected through a multistep process. First, a two percent random sample is drawn from the total population that is registered in the Netherlands from 1995 onwards. This was followed by selecting individuals who are not older than 55 and not younger than 18 years in our observation window 2004-2011, restricting ourselves to the working-age population before the (early) retirement phase. Then, we confined our sample to those that were registered on an address and have a record on the employment status for each of the 96 months in the 2004-2011 time span. Information from different ad-

ministrative registers were linked and combined in one long-format person-month datafile.

After this initial data selection, we prepared our dataset for the discrete time event history analysis. An individual is *at risk* when inactive on the labour market. Concretely, this means being either on unemployment benefits, welfare benefits, social security benefits (combination of recipients of social security benefits, sickness/disability benefits, and (early) pension/surviving dependants benefits), or 'other without income' (when an individual in a particular month has no personal income and is not enrolled in full-time education). Our focus lies primarily on the general transition from becoming active after a spell of inactivity, not on a specific transition (e.g., the transition from welfare to work only).

We only analyse single events and an *event* occurs when an individual becomes active on the labour market.¹ The length of duration of inactivity is recorded in months: individuals that became inactive during our observation window are followed from the month of initial inactivity (which occurs in some month during our observation window 2004-2011) until the month of becoming active on the labour market (or until December 2011, right-censoring). Left censoring arises for those individuals who were already at risk (thus inactive on the labour market) at the start of our observation period in January, 2004. As we do not know the exact time at risk of these individuals, we omitted these individuals from the dataset. Individuals that are employed or students are not considered at risk, but can enter the risk set once they get inactive on the labour market. In sum, our approach is a strict empirical test: only individuals that became inactive during our observation window 2004-2011 are included in the risk set. This selection strategy results in a dataset of about 30,000 individuals. We will estimate separate models for men and women. We employ a logit model for discrete time event history analysis with robust standard errors (SEs) clustered by individual.² Duration is modelled as a quadratic function. We report the odds ratios which indicate how the odds are affected by a one-unit increase in an independent variable in a month, given that no event has occurred before the start of that month.³

Measurements

Time-invariant characteristics of the individual are ethnicity and the status of the individuals the month before initial inactivity (either student or active on labour market). We include the time-varying variable age and include year dummy variables to capture temporal macroeconomic factors that could impact the transition from inactivity to work. To control for and capture the variety of types of inactivity (and the accompanying differences in conditions and obligations concerning benefits), we will include a time-varying variable that denotes the type of inactivity: unemployment benefits, welfare benefits, social security benefits or 'other without income'.⁴

This research focuses on individuals rather than households as a unit of analysis. This does not, however, by any means imply that we ignore the household. We assess the neighbourhood effect heterogeneity for different household patterns over the life course by tracking the changing households configuration over time. For household position we constructed eight categories for males and ten categories for females. Besides the household configurations living at the parental home, single, partner in couple without children and 'other', we further distinguish between the household configurations partner in a couple with child(ren) and single parents on basis of the age of the youngest child in the household (both for males and females in a couple with child(ren) and only for single mothers, not for single fathers due to the low number of observations). Disposable equivalised household income is only available on a yearly basis (taken from the calendar year before the spell in the risk set), is adjusted for inflation until 2010 using the Consumer Price Index, and is measured by the natural logarithm.⁵ We include a dummy for being the main breadwinner (with and without partner) or not (only available on a yearly basis and taken from the calendar year before the spell in the risk set).⁶ Household income in interaction with the individual being the main earner is included as a way to test whether there is still an impact of the neighbourhood over and beyond the individual and household characteristics. Table 4.1 shows the individual characteristics that are included to estimate the transition rates from inactivity to work.

Table 4.2 shows the neighbourhood characteristics (income and welfare benefits measures) that were used to construct an index for the

Table 4.1: Individual-level variables

Variables	Values	Frequency
Event	0 (<i>at risk</i>) Unemployment benefits, welfare benefits, social security benefits or other without income 1 (<i>event</i>) Active on labour market	monthly
Duration	Time-to-event in months	monthly
Status before getting at risk	0 Student 1 Active on labour market	time-invariant
Ethnicity	1 Native Dutch 2-3 Turkish (1st/2nd generation) 4-5 Moroccan (1st/2nd generation) 6-7 Surinamese (1st/2nd generation) 8-9 Antillean/Aruban (1st/2nd generation) 10-11 Western (1st/2nd generation) 12-13 Other non-Western(1st/2nd generation)	time-invariant
Age	Age in years and fraction of year	monthly
Household configuration for males	1 Living at parental home 2 Single 3 Partner in couple without child(ren) 4 Partner in couple with child(ren) (youngest child <4 years) 5 Partner in couple with child(ren) (youngest child 4-12 years) 6 Partner in couple with child(ren) (youngest child >12 years) 7 Single father 8 Other	monthly
Household configuration for females	1 Living at parental home 2 Single 3 Partner in couple without children 4 Partner in couple with child(ren) (youngest child <4 years) 5 Partner in couple with child(ren) (youngest child 4-12 years) 6 Partner in couple with child(ren) (youngest child >12 years) 7 Single mother (youngest child <4 years) 8 Single mother (youngest child 4-12 years) 9 Single mother (youngest child >12 years) 10 Other	monthly
Type of inactivity	1 Unemployment benefits 2 Welfare benefits 3 Social security benefits 4 Other without income	monthly
Breadwinner	0 Not the main breadwinner 1 Main breadwinner in household	yearly
Disposable equivalised household income	Disposable income of household corrected for inflation and divided by the household equivalence scale	yearly

Table 4.2: Measures used for the index of neighbourhood deprivation

Characteristic	Measure	Years	Frequency
Average income per income recipient	The average personal income per income recipient	2004-2011	yearly
Average income per resident	The average personal income per resident	2004-2011	yearly
% Low income	Percentage of income recipients with income less than or equal to the 40th percentile of the national income distribution	2004-2011	yearly
% High income	Percentage of income recipients with income equal to or greater than the 80th percentile of the national income distribution	2004-2011	yearly
Welfare benefits	Number of welfare benefits per 1,000 households	2004-2011	yearly

neighbourhood's level of deprivation (obtained from register database *Key Figures Districts and Neighbourhoods* of Statistics Netherlands). A high share of residents on welfare, a high share of low-income people and low share of high-income people, and a low average income per resident and per income recipient captures the level of socio-economic deprivation in the neighbourhood. The neighbourhood is the area delineated and as operationalised by the Statistics Netherlands, with an average size of about 1,500 residents.

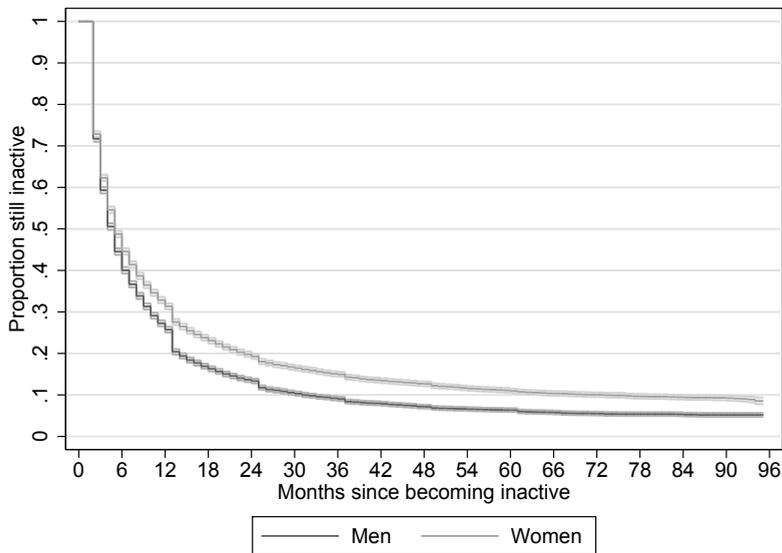
A standardised index of neighbourhood deprivation is created for each year based on all Dutch neighbourhoods for which socio-economic information is available in that year. The internal consistency for the index was examined using Cronbach's alpha for standardised items and is high (mean alpha of standardised items of 0.89). The Kaiser-Meyer-Olkin postfactor measure is also reasonably high (mean KMO is 0.79). Using principal component analysis (unrotated), only one component for each neighbourhood is estimated yearly, which explains on average over 70 percent of the variance (eigenvalue of this component is on average 3.58). The index of neighbourhood deprivation is standardised for each year and included in the model as a continuous independent variable.⁷ Table A4.1 (appendix) shows measures on the consistency and factorability of the neighbourhood deprivation index over the years.

RESULTS

Descriptives

Figure 4.1 shows notable differences between the Kaplan-Meier survival curves for men and women and leads to the conclusion that the transition to work is slower for females than for males.

Figure 4.1: Survival curve by gender[†]



This difference is also reflected in the incidence rate (number of events divided by total time at risk), which is 0.087 for males and 0.063 for females. Building upon this exploratory analysis, we will estimate separate models for men and women.

Table 4.3 shows the descriptives of our dataset for males and females. For the time-invariant variables, the frequencies are presented per individual. For the time-varying characteristics we present the summary statistics based on person-months.

[†] Source: authors' calculations using Social Statistical Database, Statistics Netherlands.

Table 4.3: Descriptives

Time-invariant variables	Males		Females	
	N individuals	Perc.	N individuals	Perc.
	N individuals: 15,439		N individuals: 15,615	
Ethnicity				
Native Dutch	11,822	78.09	12,330	78.96
Turkish (1st generation)	375	2.48	255	1.63
Turkish (2nd generation)	142	0.94	132	0.85
Moroccan (1st generation)	303	2.00	176	1.13
Moroccan (2nd generation)	86	0.57	117	0.75
Surinamese (1st generation)	243	1.61	287	1.84
Surinamese (2nd generation)	173	1.14	157	1.01
Antillean / Aruban (1st generation)	89	0.59	83	0.53
Antillean / Aruban (2nd generation)	30	0.20	52	0.33
Western (1st generation)	387	2.56	592	3.79
Western (2nd generation)	901	5.95	879	5.63
Other non-Western (1st generation)	497	3.28	445	2.85
Other non-Western (2nd generation)	91	0.60	110	0.70
Status before getting at risk				
Student	1,155	7.63	1,130	7.24
Active on labour market	13,984	92.37	14,485	92.76

Source: authors' calculations using Social Statistical Database, Statistics Netherlands

Table 4.3: Descriptives (continued)

Time-varying variables	Males		Females	
	N person-months	Perc.	N person-months	Perc.
Type of inactivity				
Unemployment benefits	39,173	25.43	33,957	16.16
Welfare benefits	10,966	7.12	13,038	6.21
Social security benefits	44,382	28.82	58,741	27.96
Other without income	59,494	38.63	104,339	49.67
Household configuration				
Living at parental home	20,948	13.60	10,469	4.98
Single	40,160	26.08	25,922	12.34
Partner in couple without children	25,878	16.80	33,573	15.98
Partner in couple with child(ren) (youngest child < 4)	19,039	12.36	49,453	23.54
Partner in couple with child(ren) (youngest child 4-12)	24,170	15.69	34,116	16.24
Partner in couple with child(ren) (youngest child > 12)	16,936	11.00	30,172	14.36
Single father	2,544	1.65		
Single mother (youngest child < 4)			5,313	2.53
Single mother (youngest child 4-12)			8,545	4.07
Single mother (youngest child > 12)			8,691	4.14
Other	4,340	2.82	3,821	1.82
Breadwinner				
Not the main breadwinner	45,468	29.52	143,575	68.34
The main breadwinner in household	108,547	70.48	66,500	31.66
	mean	SD	min.	max.
Age	38.215	8.827	18.330	54.913
Neighbourhood Deprivation Index	0.190	0.990	-6.409	3.474
Log disposable equivalised household income	9.613	1.710	0	13.540
	mean	SD	min.	max.
	37.723	8.486	18.251	54.913
	0.145	0.958	-9.953	3.818
	9.706	1.397	0	13.892

Source: authors' calculations using Social Statistical Database, Statistics Netherlands

Table 4.4: Association between neighbourhood's level of deprivation and transition to work (monthly)

	Males		Females	
	Odds ratio	(SE)	Odds ratio	(SE)
Duration	0.931***	(0.002)	0.909***	(0.002)
Duration²	1.000***	(0.000)	1.001***	(0.000)
Neighbourhood Deprivation Index	0.982*	(0.009)	0.968***	(0.009)
Year dummies	included		included	
Intercept	0.159***	(0.009)	0.125***	(0.009)
N person-months	154,015		210,075	
N individuals	15,139		15,615	
Pseudo R²	0.0580		0.0841	

Two-tailed test: † $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Robust standard errors (clustered by individual). Source: authors' calculations using Social Statistical Database, Statistics Netherlands

Models

Table 4.4 shows the association between the neighbourhood's level of deprivation and the transition to work without controlling for individual and household characteristics. For a one-unit increase in the neighbourhood deprivation index, our models show a *monthly* reduction in the odds of making the transition to work by 1.8% for males and 3.2% for females.

The findings could, however, be the result of a compositional effect. In Table 4.5 we control for household and individual characteristics and no significant impact of the level of neighbourhood deprivation on transition to work is found for males. Concerning the individual characteristics, for most variables, the impact is the same for men and women and our hypotheses are confirmed: getting older indeed reduces the odds of making the transition to work. Furthermore, individuals that were active on the labour market the month before they got inactive are more likely to make the transition compared to those that were students the month before initial inactivity. Compared to those on unemployment benefits, individuals on welfare benefits, social security and 'other without income' have smaller odds making

the transition to work (with the exception for males in the 'other without income' category). Compared to native Dutch, ethnic minorities (especially the first generation) are less likely to make the transition to work. This is most pronounced for males, only Turkish and Moroccan women of both generations and other non-Western first generation women are less likely to make the transition the work compared to native Dutch women.

The difference between men and women is most apparent on the household position variable. Concerning the position in the household, most hypotheses are confirmed. We expected that a lower exit rate of inactivity towards work is more pronounced for women with a child, and that this depends on the age of the youngest child. Indeed, compared to single women, being a mother with the youngest child below 4 years substantially reduces the odds of making the transition to work, but this effect is not significant for women with a child between 4 and 12 years old. Women with the youngest child above 12 years (both with a partner and single mothers) are more likely to make the transition compared to single women, and the same holds for partnered women without children. Compared to single men, males with a partner (both with and without children) have higher odds of making the transition to work. As expected, there is a positive association between household income and the transition to work. This association does not vary between those who are main earners and those who are not.

A substantive impact of the level of deprivation in the neighbourhood can still be found in our model for women: even beyond the household resources, the neighbourhood's level of deprivation is detrimental for a woman's odds to make the transition to work: a one-unit increase in the level of deprivation in the neighbourhood of residence decreases the monthly odds of making the transition to work for women by 2.4% and on a yearly basis this translates into an over 25% reduction in odds.

We have also estimated the predicted probabilities of the transition to work for women for different scores on the neighbourhood deprivation index.⁸ The predicted probability of making the transition to work reduces with 0.6 percentage points from 6.6% monthly in an affluent neighbourhood (score of -2 on the neighbourhood deprivation index) to 6.0% monthly in a relatively deprived neighbourhood (score of 2 on the neighbourhood deprivation index). The relative probab-

Table 4.5: Individual and neighbourhood effects on the transition to work (monthly)

	Males		Females	
	Odds ratio	(SE)	Odds ratio	(SE)
Duration	0.950***	(0.002)	0.923***	(0.002)
Duration²	1.000**	(0.000)	1.000***	(0.000)
Age	0.963***	(0.001)	0.968***	(0.001)
Ethnicity (ref: native Dutch)				
Turkish (1st generation)	0.645***	(0.037)	0.664***	(0.049)
Turkish (2nd generation)	0.701***	(0.067)	0.703**	(0.072)
Moroccan (1st generation)	0.549***	(0.036)	0.608***	(0.058)
Moroccan (2nd generation)	0.741*	(0.092)	0.735**	(0.084)
Surinamese (1st generation)	0.872†	(0.062)	0.896	(0.064)
Surinamese (2nd generation)	0.867†	(0.074)	0.986	(0.082)
Antillean/Aruban (1st generation)	0.825†	(0.090)	0.890	(0.105)
Antillean/Aruban (2nd generation)	0.967	(0.183)	0.923	(0.141)
Western (1st generation)	0.788***	(0.045)	0.974	(0.048)
Western (2nd generation)	0.897**	(0.036)	1.043	(0.040)
Other non-Western (1st generation)	0.685***	(0.036)	0.814***	(0.045)
Other non-Western (2nd generation)	0.708**	(0.082)	0.913	(0.096)
Status before getting at risk (ref: student)				
Active on labour market	1.300***	(0.052)	1.132**	(0.043)
Type of inactivity (ref: unemployment benefits)				
Welfare benefits	0.594***	(0.034)	0.568***	(0.034)
Social security benefits	0.578***	(0.019)	0.495***	(0.016)
Other without income	1.005	(0.020)	0.922***	(0.020)
Household configuration (ref: single)				
Living at parental home	1.011	(0.040)	1.043	(0.049)
Partner in couple without children	1.205***	(0.035)	1.103**	(0.038)
Partner in couple with child(ren) (youngest child < 4)	1.273***	(0.039)	0.805***	(0.031)
Partner in couple with child(ren) (youngest child 4-12)	1.280***	(0.041)	1.009	(0.041)
Partner in couple with child(ren) (youngest child >12)	1.373***	(0.055)	1.125*	(0.051)
Single father	1.057	(0.106)		
Single mother (youngest child <4)			0.685***	(0.053)
Single mother (youngest child 4-12)			0.931	(0.057)
Single mother (youngest child >12)			1.119†	(0.069)
Other	0.818*	(0.064)	0.977	(0.075)
Log household income	1.037*	(0.016)	1.046**	(0.015)
Main breadwinner in household	1.247	(0.223)	1.299	(0.235)
Log household income x main breadwinner	0.980	(0.018)	0.982	(0.018)
Neighbourhood Deprivation Index	1.013	(0.010)	0.976*	(0.010)
Year dummies	included			
Intercept	0.278***	(0.048)	0.242***	(0.038)
N person-months	154,015		210,075	
N individuals	15,139		15,615	
Pseudo R²	0.0754		0.0998	

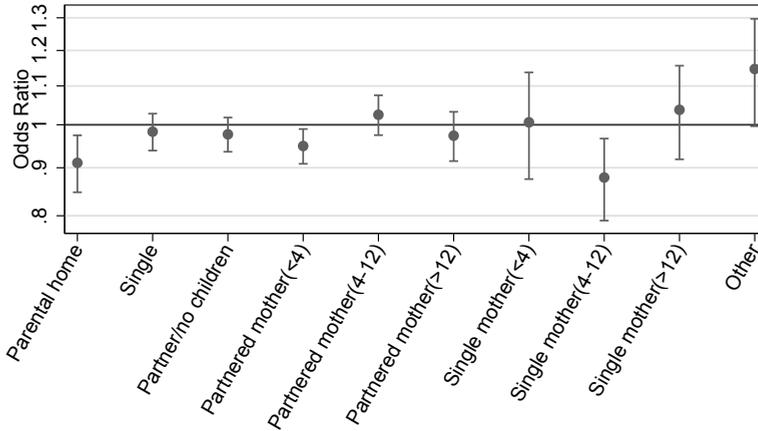
Two-tailed test: † $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Robust standard errors (clustered by individual).
Source: authors' calculations using Social Statistical Database, Statistics Netherlands

ity difference indicates that living in a more deprived neighbourhood reduces the probability of making the transition to work substantially for women.

The main goal of this study, however, is to explore the differential vulnerability of neighbourhood effects for different household configurations.⁹ Figure 4.2 shows the odds ratios for the relation between the neighbourhood's level of deprivation and transition to work for women per position in the household. This indicates clearly that the neighbourhood does not matter equally for all household configurations. Contrary to our expectations, we do not find that partnered mothers with the youngest child above 4 years and single mothers with youngest child above 12 years are vulnerable to neighbourhood effects. The model also suggests that the odds of making the transition to employment for single mothers with a child below 4 years are independent of their neighbourhood of residence. This is not surprising, as single parents with young children are exempt from compulsory job applications.

In line with our expectations, for single women and partnered women without children—who we believed to be less involved in the neighbourhood—no significant effect of a higher level of neighbourhood deprivation on the odds of making the transition to work was found in our models. Only for women living at the parental home (odds ratio (O.R.)=0.911, SE=0.032, $p=0.009$), mothers with a partner and the youngest child below 4 years (O.R.=0.949, SE=0.021, $p=0.017$) and single mothers with the youngest child between 4-12 years (O.R.=0.879, SE=0.045, $p=0.011$), we find statistically significant effects that indicate that, for these women, living in a neighbourhood with a higher level of neighbourhood deprivation reduces the odds of making the transition to work.¹⁰ The group of women living at the parental home is very heterogeneous. We therefore continue focusing on the mothers with a partner and the youngest child below 4 years and single mothers with the youngest child between 4-12 years. For these two household types, we estimated a three-way interaction between neighbourhood deprivation, inactivity status and household configuration.

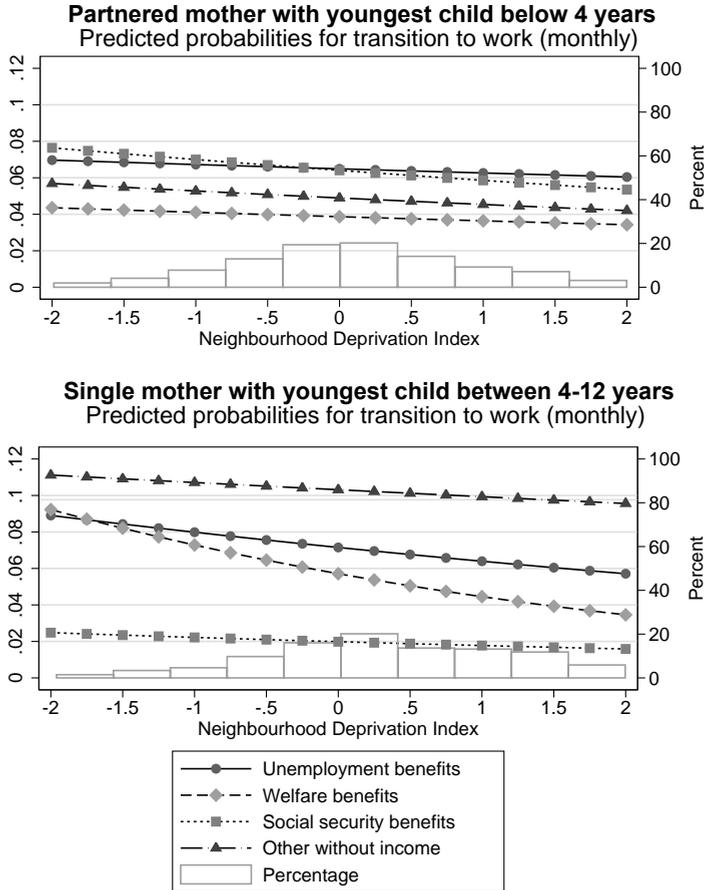
Figure 4.2: Odds ratio for transition to work (for women) for a one-unit increase in neighbourhood deprivation index (monthly, by household configuration)[†]



This interaction term is the most insightful in exploring the gendered type of inactivity and return to labour market for these household configurations (Figure 4.3 shows predicted probability plots). Our findings suggest that the neighbourhood effect for women with a partner and a child below 4 years is particularly pronounced for those on social security benefits (O.R.=0.906, SE=0.041, $p=0.030$) and 'other without income' (O.R.=0.921, SE=0.027, $p=0.005$). The neighbourhood effect for single mothers with the youngest child between 4-12 years hinges on those on welfare benefits (O.R.=0.763, SE=0.088, $p=0.019$). While single mothers with school-aged children are not exempt from job application duties anymore, our models suggest that living in a deprived neighbourhood substantially hampers their transition to work.

[†] Source: authors' calculations using Social Statistical Database, Statistics Netherlands. Note: These odds ratios and standard errors are obtained from ten models with an interaction term between household position and neighbourhood deprivation index and alternating reference categories for household position. We are not interested in the neighbourhood effect of one household position compared to another specific household position, but rather in the stand-alone effect of the neighbourhood for a certain household configuration. In other words, for which household positions does the neighbourhood matter? To answer this question, the main effect of neighbourhood deprivation index for each reference category is plotted in this standard error bar chart.

Figure 4.3: Predicted probabilities per inactivity status and household configuration for different scores on the neighbourhood deprivation index†



† Source: authors' calculations using Social Statistical Database, Statistics Netherlands. Note: Percentage refers to person-months spells of partnered/single mothers with, respectively, the youngest child below 4 and between 4-12 years. The percentage of person-months spells on unemployment benefits, welfare benefits, social security benefits or 'other without income' (not shown in graph) is respectively 13.2%, 1.7%, 17.2% and 67.9% for partnered mothers youngest child <4 years (N=49,453) and 16.5%, 31.6%, 41.2% and 10.7% for single mothers with youngest child between 4-12 (N=8,545).

CONCLUSION AND DISCUSSION

Our study aimed to estimate the impact of the neighbourhood of residence on the transition from inactivity to work and, moreover, the neighbourhood effect heterogeneity for different household patterns over the life course. Does residing in a deprived neighbourhood hamper the transition from inactivity to work? And are individuals with some positions in households more vulnerable to these negative spillover effects than others? For males we do not find such effects, but for women the answer is confirmatory. Our models suggest that residing in a more deprived neighbourhood particularly hampers the transition to work for partnered mothers with the youngest child below 4 years and single mothers with the youngest child between 4 and 12 years (above and beyond individual characteristics and household resources). For women who have other household positions (with the exception of women living at the parental home) no significant effect of a higher level of neighbourhood deprivation on the odds of making the transition to work was found.

Can we assign these findings to the social-interactive mechanisms (i.a. norms, social resources, networks, role models) behind neighbourhood effects? To some extent we can; the groups of women for which we found a significant impact of the neighbourhood have children and are therefore supposedly more embedded in the neighbourhood (cf. Galster et al., 2010). But we could not confirm our hypothesis that partnered women with the youngest child above the age of 4 years are also more vulnerable to neighbourhood effects. We would, however, also expect this group to be socially more embedded in and thus more influenced by their neighbourhood of residence. Also, we would expect neighbourhood effects to occur for males in certain household types but could not confirm these hypotheses.

If we focus on the spatial mismatch theory instead—rather than deviant work norms, lack of job networks and role models—we can deduce that living in a deprived neighbourhood in general also means lower local employment opportunities (VROM, 1997). Concurrently, it is well-known that women with children want to commute less and prefer working closer to home (Rosenthal and Strange, 2011): “particularly married women with young children, are very sensitive to commuting times when making labor force participation decisions” (Black et al., 2014, p. 60). Although geographical distances between

residential and working areas are usually rather small and commuting costs are generally not high in the Netherlands, it is still possible that for mothers with younger children commuting is stressful (e.g. Koslowsky et al., 1995). Partnered women with the youngest child below 4 years are more vulnerable to negative spill-over effects of the neighbourhood, while partnered women with child(ren) in the schoolgoing age are not. The latter group might be more flexible to commute a bit further, as children do not require care during the day and women can attune their schedules with their partner. A single mother with older children, in contrast, cannot negotiate the commuting time and their schedule with a partner. Therefore, a single mother is expected to have a preference to work closeby to home as she is the main care taker and is restrained to the limited local labour market opportunities.

In addition to commuting time, also the availability and costs of childcare in these more disadvantaged neighbourhoods and the regulations concerning welfare benefits is of importance. The costs of child care might be a barrier to employment for single and partnered mothers. Although the Child Care Act of 2005 grants low-income households higher subsidies which should enhance their access to child care, this Act has also led to a decline in child care provision in poorer, rural areas in the years following (Noailly and Visser, 2009). This decline in supply, costs in childcare and possibly the different attitudes and opinions of mothers on childcare — whether this is beneficial to their children or not — might also explain why mothers in deprived areas are less encouraged to make the transition to work (van Gameren and Ooms, 2009). Furthermore, the requirement to accept generally acceptable labour can be waived for single parents if the municipality is of the opinion that childcare possibilities in the neighbourhood are scarce and the educational level and capacity of the welfare benefit recipient are not considered to be sufficient. This is reaffirmed by Pinkster's (2007) case study, in which a social services official discouraged a single mother in a deprived neighbourhood to find a job.¹¹

As we cannot fully assign these conditional neighbourhood effects to the most often employed social-interactive mechanism, we suspect that the local labour market, childcare possibilities and regulations concerning welfare benefits are of crucial importance. We can thus speculate that women residing in deprived areas are less able to and

less encouraged to make the transition to work. The conclusion that this spatial mismatch for women residing in disadvantaged areas restricts their employment opportunities is, however, not something we could empirically study. Due to the complicated relation between job seeking efforts, local labour market opportunities, commuting preferences and childcare possibilities it is difficult to determine empirically what determines the impact on duration of inactivity, which emphasizes the need for further analyses.

However, as we found clear evidence that residents differ in the extent to which they are influenced by their neighbourhood, i.e. only women with children of a certain age seem to be hampered in their transition from inactivity to work, we can question the collective area-based interventions as a way to deal to tackle socio-economic deprivation (Musterd and Pinkster, 2009). In particular, both scholars and policymakers should focus more on women's economic disadvantage and local labour market opportunities. The reduced odds of making the transition from inactivity to work for women with children in deprived neighbourhoods reflect the type of jobs (part-time work and hourly pay) which are available to women, but most likely also whether there is affordable childcare in the neighbourhood. A lack of flexible part-time employment opportunities and child care services are possible causes that hamper the transition to work for women. Therefore, strengthening and improving upon this on the neighbourhood level seems to be an important step in enhancing women's socio-economic conditions.

APPENDIX

Table A4.1: Factor neighbourhood-level index of deprivation

	N neighbour- hoods	Cronbach's alpha	KMO	Eigenvalue	% of variance
2004	7,130	0.876	0.758	3.442	68.842%
2005	7,713	0.870	0.750	3.389	67.770%
2006	7,981	0.876	0.762	3.421	68.418%
2007	8,002	0.882	0.776	3.472	69.445%
2008
2009	8,276	0.904	0.820	3.679	73.576%
2010	6,873	0.917	0.821	3.813	76.270%
2011	7,632	0.921	0.818	3.861	77.221%

Source: authors' calculations using register database Key Figures Districts and Neighbourhoods, Statistics Netherlands. Unfortunately, income information on neighbourhoods is not available for 2008. As neighbourhoods change relatively little over time, we took the average of the neighbourhood deprivation indices of 2007 and 2009.

ENDNOTES

¹ Active on the labour market is taken in its broadest meaning, we follow the official definition of being active by Statistics Netherlands. For the vast majority this means becoming an employee, but sometimes it refers to self-employed and in seldom cases majority shareholder or other forms of being active. More general, the monthly (in)activity status is assigned by Statistics Netherlands by comparing sources of income in a certain month (in most cases the highest amount is the determining factor).

² This study focuses primarily on the dynamic character of the life course analysis, leaving some issues of nestedness untested. Yet, these issues are not severe; given that neighbourhoods get assigned a deprivation score each year, and that individuals are often only followed for a subset of the period under investigation, the factual nestedness is of individuals within neighbourhood-years. At that level, we get to an average of around 1.5 individuals per neighbourhood per year.

³ We will run the models only for individuals that had no missings on any of the variables during their time at risk (complete case analysis).

⁴ Obviously, for the month that individuals make the transition to work, no value is given on the type of inactivity variable. Therefore, we impute the value of the month before the event occurs, the last month at risk, as type of inactivity for this spell.

⁵ Disposable equalised household incomes that are zero or negative are set to 1, resulting in a log of 0.

⁶ Not being the main breadwinner can refer to the married or unmarried partner of the main earner, an adult child or an other household member.

⁷ Information on neighbourhood characteristics was obtained from the register database *Key Figures Districts and Neighbourhoods* of Statistics Netherlands. The neighbourhood deprivation score is standardised per year because the data collection and mea-

surement of (average) personal income has changed over the years (for information on key figures (in Dutch) by Statistics Netherlands see <http://download.cbs.nl/regionale-kaarten/toelichting-variabelen-kwb-2003-2012-versie-2014-12-10.pdf>) An individual's score on this index can change during the year when (s)he moves to another neighbourhood.

⁸ The predicted probabilities are based on the models as presented in Table 4.5 and we use the observed-value approach rather than the average-case approach. We fixed the values for household composition and our continuous neighbourhood deprivation index at values between -2 and +2 (with intervals of 0.25) and used the actual observed values for the other variables on each person-month. The predicted probability is computed for each person-month using these fixed and observed values of the variables; the predicted probabilities are then averaged across the observations.

⁹ We continue with the model for women only. For males, also no significant neighbourhood effects are found for different household configurations.

¹⁰ Residing in a deprived neighbourhood seems to encourage the transition to work for those in the 'other' household category (O.R.= 1.147, SE=0.077, $p=0.040$), but as this group is small and heterogenous we refrain from drawing conclusions about this.

¹¹ Lower educated women tend to take longer periods of time to return to the labour market (Ulker and Guven, 2011) and may be generally overrepresented in more deprived neighbourhoods. Unfortunately, due to a lack of data we are unable to control for educational level and we acknowledge that our results are to some extent provisional. We do, however, include household income which will take up most of this compositional effect. In our models selection bias is not eliminated: individuals with certain labour market orientations might select themselves into a specific type of neighbourhood. We expect these endogeneity issues to be less of an issue when it comes to duration of inactivity and more problematic when estimating neighbourhood effects on income level. Nevertheless, further analyses are still needed to determine how sensitive our results are to compositional effects and self-selection bias.