Beyond the mean: essays on labor and housing economics

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APPENDICES

APPENDIX FOR CHAPTER 2

Derivation of Formulas in the Theory Section

From Brueckner (1986):

$$x_1^R = (1-\tau_1)y_1 - s^R - Q \tag{A.1}$$

$$x_2^R = (1-\tau_2)y_2 + (1+(1-\tau_2)r)s^R) - Q \tag{A.2}$$

$$x_1^H = (1-\tau_1)y_1 - s^H - Q \tag{A.3}$$

$$x_2^H = (1-\tau_2)y_2 + (1+(1-\tau_2)r)s^H) - (1-\tau_2)Q \tag{A.4}$$

We plug in equations A.1 - A.4 in the owner-renter utility differential and get:

$$\begin{aligned}\Omega = {} & u((1-\tau_1)y_1 - s^H - Q) \\ & + \theta u((1-\tau_2)y_2 + (1+(1-\tau_2)r)s^H - (1-\tau_2)Q) \\ & - u((1-\tau_1)y_1 - s^R - Q) \\ & - \theta u((1-\tau_2)y_2 + (1+(1-\tau_2)r)s^R) - Q)\end{aligned} \tag{A.5}$$

First-time home buyers in general have low current income and higher future income: $y_1 < y_2$. Moreover, we assume that they cannot borrow against future income to make the down payment (like Brueckner (1986)). This implies that the down payment constraint is binding. First-time home buyers save just enough to be able to make a down payment, because additional savings reduces utility if the down payment constraint is binding. This implies that $s^H = \alpha P$. Note that from the non-profit

condition, housing costs are $Q = rP$ for both renters and homeowners (Brueckner, 1986). Substitution of $s^H = \alpha P$ and $Q = rP$ in equation A.5 yields:

$$\begin{aligned}\Omega = {} & u((1-\tau_1)y_1 - \alpha P - rP) \\ & + \theta u((1-\tau_2)y_2 + (1+(1-\tau_2)r)\alpha P - (1-\tau_2)rP) \\ & - u((1-\tau_1)y_1 - s^R - rP) \\ & - \theta u((1-\tau_2)y_2 + (1+(1-\tau_2)r)s^R) - rP) \end{aligned} \tag{A.6}$$

Take the partial derivative with respect to house prices P:

$$\begin{aligned}\frac{\delta\Omega}{\delta P} = {} & -(\alpha + r)u'(x_1^H) \\ & + \theta((1+(1-\tau_2)r)\alpha - (1-\tau_2)r)u'(x_2^H) \\ & + ru'(x_1^R) \\ & + \theta ru'(x_2^R) \end{aligned} \tag{A.7}$$

Rewriting A.7 results in equation (2.1).

Brueckner (1986) assumes that house prices are constant, so the price of the down payment is equal to the price after the house is sold. The down payment is made at the beginning of period 1 and the house is sold at the end of period 2. Denote those prices as P_1 and P_2, respectively. Substitute $s_H = \alpha P_1$, $Q = rP_1$ in period 1 and $Q = rP_2$ in period 2. In the original model, αP cancels out of the constraint for homeowners in period 2, because they get the down payment back after selling the house. In the model with varying house prices, the down payment does not cancel out, because house prices can change. Moreover, homeowners can make a loss or profit on the part of the house financed by a mortgage, $(1-\alpha)$, as well. The constraints become:

$$x_1^R = (1-\tau_1)y_1 - s_R - rP_1 \tag{A.8}$$

$$x_2^R = (1-\tau_2)y_2 + (1+(1-\tau_2)r)s^R - rP_2 \tag{A.9}$$

$$x_1^H = (1-\tau_1)y_1 - \alpha P_1 - rP_1 \tag{A.10}$$

$$x_2^H = (1-\tau_2)y_2 + (1+(1-\tau_2)r)\alpha P_1 - (1-\tau_2)rP_1 + P_2 - P_1 \tag{A.11}$$

after substituting in equations A.8-A.11, the owner-renter utility differential is now:

$$\begin{aligned}\Omega = {} & u((1-\tau_1)y_1 - \alpha P_1 - rP_1) \\ & + \theta u((1-\tau_2)y_2 + (1+(1-\tau_2)r)\alpha P_1 - (1-\tau_2)rP_1 + P_2 - P_1) \\ & - u((1-\tau_1)y_1 - s^R - rP_1) \\ & - \theta u((1-\tau_2)y_2 + (1+(1-\tau_2)r)s^R - rP_2) \end{aligned} \tag{A.12}$$

Take the first-order derivative with respect to to P_1 using the envelope theorem (note that P_1 is not in x_2^R):

$$\begin{aligned}\frac{\delta\Omega}{\delta P_1} = & -(\alpha + r)u'(x_1^H) \\ & +\theta((1+(1-\tau_2)r)\alpha - ((1-\tau_2)r - 1)u'(x_2^H) + ru'(x_1^R)\end{aligned} \tag{A.13}$$

rewriting (A.13) results in (2.2). Now take the derivative of (A.12) with respect to P_2:

$$\frac{\delta\Omega}{\delta P_2} = \theta u'(x_2^H) + \theta r u'(x_2^R) \tag{A.14}$$

which coincides with equation (2.3).

From equation (2.4), $s^H \geqslant (1+\rho-\gamma)P$. Assuming that this constraint is just binding, substitution of $s^H = (1+\rho-\gamma)P$ in x_1^H and x_2^H yields:

$$x_1^H = (1-\tau_1)y_1 - (1+\rho-\gamma)P - Q \tag{A.15}$$

$$\begin{aligned}x_2^H = {} & (1-\tau_2)y_2 + (1+(1-\tau_2)r)((1+\rho-\gamma)P) - (1-\tau_2)Q \\ & - (1+\rho-\gamma)P + (1-\gamma)P \\ = {} & (1-\tau_2)y_2 + (1+(1-\tau_2)r)((1+\rho-\gamma)P) - (1-\tau_2)Q - \rho P\end{aligned} \tag{A.16}$$

The renter's constraints x_1^R and x_2^R do not change. The owner-renter utility differential becomes (after some simplification):

$$\begin{aligned}\Omega = & u((-1-\rho+\gamma)P) \\ & + \theta u((1+(1-\tau_2)r)(1+\rho-\gamma)P + \tau_2 Q - \rho P) \\ & - u(-s^R) \\ & - \theta u(y_2 + (1+(1-\tau_2)r)s^R))\end{aligned} \tag{A.17}$$

Take the first-order derivative of the owner-renter utility differential with respect to γ:

$$\frac{\delta\Omega}{\delta\gamma} = u'(P) - \theta u'((1+(1-\tau_2)r)P \tag{A.18}$$

which coincides with equation (2.5).

Coefficients in Predicted House Value Model

The coefficients of the OLS-model on house purchase prices are listed in Table A.1. The sample consists of all first-time home buyers in our sample who actually purchased an house in or before 2016 and are in the LLD. The dependent variable is the original purchase price of the house from the LLD denoted in 2016 prices, using a Statistics Netherlands national price index. The explanatory variables age, (household) income, residential status (living at parents or renting), partner, gender, year of birth, highest level of education achieved, and region are from Statistics Netherlands registration files (see Section 2.3) and are step wise added to the model. Region is the municipality of the individual's first owner-occupied house in the first model. In the second model, it is the municipality of the latest house before the transition to homeownership is made. The latter leads to a decrease in the predictive power of the model and hence we use the municipality of the first owner-occupied house in models 3-5. The R^2 improves from 0.186 (model 1) to 0.247 (model 3) after replacing income and income^2 by household income and household income^2. Finally, adding the level of education and house tenure status increases the predictive power of the model further to 0.285. We use the coefficients of model (5) to predict house values for first-time home buyers.

Table A.1: OLS-model of house purchase price at origination

	1	2	3	4	5
Age	0.004***	0.001***	0.001***	0.001***	0.000*
Female	0.075***	0.015***	0.014***	0.016***	-0.001
Income	0.100***				
Income^2	-0.001***				
Household income		0.178***	0.184***	0.179***	0.148***
Household income^2		-0.002***	-0.002***	-0.002***	-0.001***
Lives at parents				0.010***	0.027***
Without partner					-0.096***
Level of education					
Medium					0.032***
Bachelor					0.077***
Master					0.133***
Constant	11.855***	11.878***	11.898***	11.866***	11.945***
Year of birth	Included	Included	Included	Included	Included
Region	Current	Previous	Current	Current	Current
R^2	0.186	0.260	0.246	0.260	0.285
N (1000 obs)	286	286	286	283	223

Source: DNB loan level data (dependent variable) and Statistics Netherlands Microdata (other variables), own computations.
Notes: Dependent variable: Log value of the house at origination of observed transitions, denoted in 2016 prices. * = 10%, ** = 5%, * = 1% significance level.

Table A.2: Key variables for the treatment and control group before and after selection

	Without unknown residence type	Parents' wealth available	Control variables available
Gender			
Male	51.6	52.8	52.4
Female	48.4	47.2	47.6
Level of education			
Low	22.8	21.4	21.1
Medium	53.4	55.0	55.2
Bachelor	16.9	17.0	17.1
Master	6.9	6.5	6.5
Migration background			
Dutch	67.5	78.5	78.0
Western	14.6	7.0	6.8
Non-western	18.0	14.5	15.3
Socioeconomic category			
Employee	71.6	75.9	79.9
Self-employed	18.9	15.0	14.1
Other	9.5	7.6	6.0
Median values			
Age	28	27	25
Observations (million)	8.1	4.6	3.8

Source: Statistics Netherlands Microdata, own computations.
Notes: Categorical variables are reported in percentages, age is denoted in years. The value of variables can change over time. In this table, the last available value for every individual is reported. We use current values in our empirical model.

Used data sources

GBAPERSOONTAB: Demographic information on individuals registered in the Netherlands Key Register of Persons (Basisregistratie Personen) from October 1st 1994.

GBAADRESOBJECTBUS: Addresses in The Netherlands of everyone registred in the Key Register of Persons since 1995, including beginning- and end date.

EIGENDOM(WOZ)TAB: Information about addresses, including ownership status.

KINDOUDERTAB: Parents' ID of every individual in the Key Register of Persons since 1995.

GBASAMENWONERSBUS: Information about living together in a couple for every individual in the Key Register of Persons, including beginning- and end date of living together. Beyond marriage, having a child together, moving together from one address to another or being fiscal partners count as being a couple.

VRKTAB: Received inheritances, applicable to inheritance tax.

SCHTAB: Inter vivos gifts, applicable to gift tax.

(S)POLISBUS: Information about jobs and wages of employees in The Netherlands.

HOOGSTEOPLTAB: Highest level and field of education achieved.

INPATAB and INTEGRAAL PERSOONLIJK INKOMEN (previous version): Annual income information for Dutch inhabitants.

VEHTAB: Annual wealth level of Dutch households.

APPENDIX FOR CHAPTER 4

Table A.3: Estimations of probability to have a fixed term and a flexible hour contract or a permanent contract using Logit model, 2006-2019

	FIXED-TERM	FLEX HOURS
Female	-0.068***	0.048**
	(0.009)	(0.023)
Migration background (reference=none)		
Western	0.190***	0.453***
	(0.023)	(0.047)
Non-Western	0.137***	0.280***
	(0.015)	(0.033)
Second generation	-0.065***	-0.229***
	(0.019)	(0.043)
Age (reference=$\leqslant$24)		
25-35	-0.330***	-0.654***
	(0.015)	(0.033)
35-45	-0.643***	-0.813***
	(0.017)	(0.037)
45-55	-0.804***	-0.807***
	(0.017)	(0.037)
$\geqslant$55	-0.985***	-0.649***
	(0.018)	(0.037)
Part time (reference=full time)	0.124***	1.453***
	(0.009)	(0.022)
Job duration (reference = $\leqslant$ 1 year)		
1-2 years	-0.897***	-0.631***
	(0.011)	(0.029)
2-5 years	-2.085***	-1.286***
	(0.010)	(0.026)
5-10 years	-3.070***	-1.789***
	(0.013)	(0.029)
10-20 years	-3.898***	-2.217***
	(0.017)	(0.033)
$\geqslant$20 years	-4.178***	-2.158***

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Table A.3 – Continued from previous page

	FIXED-TERM	FLEX HOURS
	(0.026)	(0.042)
Sector of employment(reference=agriculture)		
Manufacturing	0.047	-0.829***
	(0.039)	(0.083)
Electricity, gas, water	-0.145***	-2.110***
	(0.055)	(0.261)
Construction	-0.164***	-0.540***
	(0.041)	(0.089)
Trade	0.238***	0.386***
	(0.038)	(0.074)
Transportation and storage	0.286***	-0.225***
	(0.040)	(0.081)
Accommodation, food	0.704***	0.619***
	(0.043)	(0.080)
ICT	-0.002	-0.699***
	(0.042)	(0.104)
Finance and insurance	-0.135**	-1.954***
	(0.043)	(0.143)
Business services	0.365***	-0.238**
	(0.038)	(0.076)
Public administration	0.179***	-3.423***
	(0.040)	(0.196)
Education	0.593***	-1.494***
	(0.041)	(0.099)
Health, social work	0.326***	-0.323***
	(0.039)	(0.078)
Other service activities	0.491	-0.287***
	(0.041)	(0.083)
Company nr of employees (reference=$\leqslant$10)		
10-50	-0.018	-0.142***
	(0.012)	(0.026)
50-250	-0.276***	-0.342***
	(0.012)	(0.028)
$\geqslant$250	-0.523***	-0.269***
	(0.011)	(0.024)

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Table A.3 – Continued from previous page

	FIXED-TERM	FLEX HOURS
Degree of urbanization		
(reference=extremely urbanised)		
Strongly urbanised	-0.030**	-0.017
	(0.010)	(0.024)
Moderately urbanised	-0.074***	-0.048
	(0.012)	(0.028)
Hardly urbanised	-0.087***	-0.093***
	(0.011)	(0.026)
Not urbanised	-0.080***	-0.144***
	(0.015)	(0.035)
Household type		
ref= single without children		
Single parent	-0.033	-0.274***
	(0.020)	(0.045)
Couple with children	-0.238***	-0.331***
	(0.011)	(0.028)
Couple without children	-0.127***	-0.211***
	(0.012)	(0.028)
Other	0.072***	0.305***
	(0.016)	(0.037)
Level of education, ref=low		
Medium	-0.041***	-0.010
	(0.011)	(0.022)
Bachelor	-0.097***	0.069**
	(0.015)	(0.033)
Master	0.072***	-0.202***
	(0.017)	(0.050)
Field of education (reference=education)		
Arts and humanities	0.262***	-0.162*
	(0.025)	(0.065)
Social sciences, journalism and information	0.225***	-0.167*
	(0.025)	(0.074)
Business, administration and law	0.126***	-0.128**
	(0.020)	(0.051)
Natural sciences, mathematics and statistics	0.391***	-0.340**

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Table A.3 – Continued from previous page

	FIXED-TERM	FLEX HOURS
	(0.030)	(0.114)
ICT	0.095**	-0.255*
	(0.033)	(0.114)
Engineering, manufacturing and construction	0.176***	-0.399***
	(0.022)	(0.057)
Agriculture, forestry, fisheries and veterinary	0.161***	-0.599***
	(0.031)	(0.077)
Health and welfare	0.227***	-0.155**
	(0.021)	(0.050)
Services	0.309***	-0.160**
	(0.022)	(0.053)
Generic programmes	0.244***	-0.041
	(0.022)	(0.052)
Level of occupation (reference=Skill Level 1)		
Skill Level 2	-0.311***	-0.279***
	(0.019)	(0.032)
Skill Level 3	-0.527***	-0.975***
Skill Level 4	-0.521***	-1.542***
	(0.022)	(0.050)
Field of occupation		
(reference=educational jobs) Arts jobs	0.320***	-0.140
	(0.035)	(0.112)
Sales and PR jobs	0.132***	-0.036
	(0.023)	(0.052)
Administration jobs	-0.088***	-1.165***
	(0.020)	(0.052)
Managerial jobs	-0.136***	0.125
	(0.025)	(0.068)
Public admin. jobs	0.412 ***	-0.267**
	(0.027)	(0.086)
Technical jobs	0.064**	-0.702***
	(0.023)	(0.060)
ICT jobs	-0.236***	-0.795***
	(0.028)	(0.105)
Agricultural jobs	0.016	-0.014

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Table A.3 – Continued from previous page

	FIXED-TERM	FLEX HOURS
	(0.043)	(0.087)
Health, welfare jobs	-0.031	-0.315***
	(0.021)	(0.046)
Services jobs	-0.177***	-0.307***
	(0.026)	(0.053)
Logistics jobs	0.044	0.156**
	(0.027)	(0.060)
Other jobs	0.063	-0.545*
	(0.091)	(0.218)
Job with managerial tasks (reference=Yes)		
No	0.121**	0.056*
	(0.009)	(0.023)
Year, (reference=2006)		
2007	0.940***	0.534***
	(0.020)	(0.053)
2008	1.696***	1.037***
	(0.020)	(0.050)
2009	1.929***	1.160***
	(0.020)	(0.051)
2010	2.034***	1.269***
	(0.020)	(0.050)
2011	2.259***	1.438***
	(0.020)	(0.050)
2012	2.375***	1.577***
	(0.020)	(0.049)
2013	2.538***	1.763***
	(0.020)	(0.048)
2014	2.584***	1.817***
	(0.020)	(0.048)
2015	2.591***	1.802***
	(0.020)	(0.048)
2016	2.589***	1.855***
	(0.020)	(0.048)
2017	2.501***	1.941***
	(0.020)	(0.047)

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Table A.3 – Continued from previous page

	FIXED-TERM	FLEX HOURS
2018	2.307***	1.726***
	(0.020)	(0.046)
2019	2.090***	1.661***
	(0.020)	(0.046)
Constant	-0.842***	-2.213
	(0.055)	(0.119)
Number of observations (×1000)	902	785

Source: Statistics Netherlands Microdata, own computations.
Notes: Results are weighted using LFS weights.
*** = 1%, ** = 5%, * = 1

APPENDIX FOR CHAPTER 5

Table A.4: Summary statistics: sample of employees

	%		%
Household type		*Unemployment duration*	
Single, no children	20.9	Not applicable	96.8
Unmarried couple, no children	14,8	<3 months	0.9
Married couple, no children	10.7	6 months-1 year	0.8
Unmarried couple with children	11.2	1-2 year	0.9
Married couple with children	34.6	⩾2 years	0.3
Single parent	7.9		
Gender: Female	49.7	*Contract type*	
Age		Permanent	56.6
25-35	41.5	Temporary	28.5
35-45	24.8	Flexible hours	5.0
45-55	20.5	DMS	2.6
⩾55	13.2		
Level of education		*Hours per week*	
Lower	13.1	<12	4.7
Medium	40.4	12-20	7.0
Bachelor	27.8	20-25	11.1
Master	18.7	25-30	8.8
Household income		30-35	14.1
(Median value of quantile, ×1000)		⩾35	54.2
0% -20% (20)	5.3		
20%-40% (35)	10.9	*Sector*	
40%-60% (56)	18.6	Agriculture	0.8
60%-80% (86)	29.0	Manufacturing	7.7
80%-100% (141)	36.1	Electricity, gas, water	0.7
Household wealth		Construction	3.8
(Median value of quantile, ×1000)		Trade	13.6
0%-20% (-15)	24.2	Transportation, storage	4.5
20%-40% (5)	16.0	Accommodation, food	3.5
40%-60% (57)	25.0	ICT	4.5
60%-80% (174)	19.9	Finance and insurance	3.5
80%-100% (463)	15.0	Business services	24.0
Housing type		Public administration	4.9

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Table A.4 – Continued from previous page

	%		%
Owner	64.4	Education	6.5
Rental, social sector	21.6	Health, social work	18.2
Rental, private sector	14.0	Education	6.5
Rental, sector unknown	0.0	Other service activities	3.9
Observations	334,070		

Source: Statistics Netherlands Microdata, own computations.
Notes: A subset of this table is presented in Table 5.3. Median household income and median household net wealth are in €1000. Household income and household wealth refer to the quantile of the gross household income and total household net wealth within a year. All regressors except gender are time-varying; this table presents the latest available information.

Table A.5: Cox proportional hazard model: main sample, and main sample plus individuals for whom level of education is unavailable

	MAIN SAMPLE		EXTENDED SAMPLE	
	HR	SE	HR	SE
Regional unemployment rate (not adjusted by level of education)	0.981	(0.013)	0.983	(0.016)
Household type (reference: single, no children)				
Unmarried couple, no children	0.758***	(0.029)	0.728***	(0.030)
Married couple, no children	0.635***	(0.034)	0.625***	(0.041)
Unmarried couple with children	0.538***	(0.051)	0.527***	(0.056)
Married couple with children	0.468***	(0.021)	0.521***	(0.026)
Single parent	0.743***	(0.025)	0.729***	(0.026)
Gender				
Male	1.055***	(0.007)	1.032***	(0.009)
Age (reference: 25-35)				
35-45	0.478***	(0.020)	0.480***	(0.023)
45-55	0.261***	(0.007)	0.269***	(0.007)
⩾55	0.192***	(0.006)	0.198***	(0.006)
Household income (reference: <20%)				
20%-40%	0.821***	(0.018)	0.835***	(0.018)
40%-60%	0.854***	(0.026)	0.882***	(0.023)
60%-80%	0.846***	(0.031)	0.880***	(0.031)
80%-100%	1.147***	(0.034)	1.184***	(0.040)
Household wealth (reference: <20%)				
20%-40%	0.850***	(0.011)	0.853***	(0.008)
40%-60%	0.849***	(0.014)	0.872***	(0.016)
60%-80%	0.943*	(0.023)	1.018	(0.021)
80%-100%	1.108***	(0.029)	1.300***	(0.028)
Housing type (reference: owner occupant)				

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Table A.5 – Continued from previous page

	MAIN SAMPLE		EXTENDED SAMPLE	
	HR	SE	HR	SE
Rental, social sector	1.282***	(0.038)	1.296***	(0.039)
Rental, private sector	2.669***	(0.123)	2.594***	(0.091)
Rental, sector unknown	1.600***	(0.043)	1.647***	(0.043)
Unemployment duration (reference: not applicable)				
<3 months	1.515***	(0.033)	1.415***	(0.033)***
3-6 months	1.204***	(0.037)	1.109***	(0.033)
6 months-1 year	1.196***	(0.033)	1.093	(0.029)
1-2 year	1.291***	(0.039)	1.164***	(0.035)
⩾2 years	1.191***	(0.060)	1.055	(0.059)
Region fixed effects	Yes		Yes	
Clustered standard errors	Yes		Yes	
N (1000 obs)	773		1,252	

Source: Statistics Netherlands Microdata, own computations.
Notes: * = 1%, ** = 5%, *** = 10% significance level. Standard errors are robust for clustering by 40 COROP regions. Extended sample includes individuals for whom level of education is unavailable. Both models include the same regressors as the baseline model on the main sample presented in Table 5.4, except for level of education, and the regional unemployment rate is not adjusted by level of education in this model.

Table A.6: Cox proportional hazard model: sample of employees, model with and without job characteristics

	BASELINE		NO JOB VARS	
	HR	SE	HR	SE
Regional unemployment rate (by level of education)	1.115***	(0.028)	1.130***	(0.029)
Household type (reference: single, no children)				
Unmarried couple, no children	0.703***	(0.031)	0.681***	(0.031)
Married couple, no children	0.684***	(0.045)	0.651***	(0.048)
Unmarried couple with children	0.619***	(0.075)	0.550***	(0.070)
Married couple with children	0.675***	(0.033)	0.596***	(0.032)
Single parent	0.911*	(0.034)	0.842***	(0.031)
Gender				
Male	0.939***	(0.013)	1.070***	(0.015)
Age (reference: 25-35)				
35-45	0.524***	(0.028)	0.523***	(0.032)
45-55	0.313***	(0.011)	0.315***	(0.012)
⩾55	0.264***	(0.010)	0.257***	(0.010)
Level of education (reference: lower)				
Medium	1.548***	(0.141)	1.618***	(0.153)
Bachelor	2.269***	(0.281)	2.267**	(0.281)
Master	2.766***	(0.364)	2.806***	(0.367)
Household income (reference: <20%)				
20%-40%	0.670***	(0.029)	0.800***	(0.037)
40%-60%	0.633***	(0.029)	0.793***	(0.039)
60%-80%	0.624***	(0.036)	0.799***	(0.046)
80%-100%	0.781***	(0.041)	1.045	(0.060)
Household net wealth (reference: <20%)				
20%-40%	0.830***	(0.014)	0.816***	(0.014)
40%-60%	0.792***	(0.021)	0.764***	(0.024)
60%-80%	0.979	(0.028)	0.930*	(0.031)

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Table A.6 – Continued from previous page

	BASELINE		NO JOB VARS	
	HR	SE	HR	SE
80%-100%	1.312***	(0.039)	1.211***	(0.033)
Housing type				
(reference: owner occupant)				
Rental, social sector	1.351***	(0.053)	1.364***	(0.051)
Rental, private sector	2.106***	(0.040)	2.110***	(0.046)
Rental, sector unknown	3.211***	(0.765)	3.267***	(0.790)
Unemployment duration				
(reference: not applicable)				
<3 months	1.240***	(0.070)	1.476***	(0.080)
3-6 months	0.827**	(0.059)	0.969*	(0.071)
6 months-1 year	0.907	(0.046)	1.021	(0.053)
1-2 year	0.957	(0.066)	1.026	(0.074)
⩾2 years	0.602***	(0.084)	0.618***	(0.088)
Commuting distance				
(reference: 0, same district)				
0-5km	1.073	(0.135)		
5-10km	1.226	(0.190)		
10-20km	1.528***	(0.085)		
20-50km	1.981***	(0.160)		
⩾50km	2.452***	(0.196)		
Contract type				
(reference: permanent)				
Temporary	1.330***	(0.055)		
Agency work	1.052	(0.040)		
Flexible hours	1.136**	(0.056)		
DMS	1.214***	(0.052)		
Hours per week				
(reference: <12)				
12-20	0.991	(0.048)		
20-25	1.040	(0.037)		
25-30	1.234***	(0.046)		
30-35	1.386***	(0.053)		
⩾35	1.659**	(0.096)		

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Table A.6 – Continued from previous page

	BASELINE		NO JOB VARS	
	HR	SE	HR	SE
Sector				
(reference: Finance and insurance)				
Agriculture	0.957	(0.112)		
Manufacturing	0.930	(0.046)		
Electricity, gas, water	1.047	(0.061)		
Construction	0.814***	(0.037)		
Wholesale and retail trade	1.016	(0.043)		
Trade	1.087	(0.058)		
Accommodation, food	1.150***	(0.035)		
ICT	1.143***	(0.035)		
Business services	1.066**	(0.025)		
Public administration	1.086	(0.048)		
Education	1.115*	(0.060)		
Health, social work	1.125**	(0.048)		
Other service activities	1.160***	(0.043)		
Region fixed effects	Yes		Yes	
Clustered standard errors	Yes		Yes	
N (1000 obs)	344		344	

Source: Statistics Netherlands Microdata, own computations.
Notes: * = 1%, ** = 5%, *** = 10% significance level. Standard errors are robust for clustering by 40 COROP regions. A subset of this table is presented in Table 5.5. The sample of employees does not include self-employed, interns and workers in sheltered jobs. The model $\geqslant$25 hours includes only jobs for 25 weekly working hours or more.

Table A.7: Cox proportional hazard model: full sample of employees and restricted sample of employees working 25 hours per week or more

	BASELINE		⩾25 HOURS	
	HR	SE	HR	SE
Regional unemployment rate (by level of education)	1.115***	(0.028)	1.124***	(0.030)
Household type (reference: single, no children)				
Unmarried couple, no children	0.703***	(0.031)	0.692***	(0.032)
Married couple, no children	0.684***	(0.045)	0.688***	(0.048)
Unmarried couple with children	0.619***	(0.075)	0.625***	(0.079)
Married couple with children	0.675***	(0.033)	0.685***	(0.033)
Single parent	0.911*	(0.034)	0.932	(0.041)
Gender				
Male	0.939***	(0.013)	0.915***	(0.014)
Age (reference: 25-35)				
35-45	0.524***	(0.028)	0.562***	(0.029)
45-55	0.313***	(0.011)	0.329***	(0.011)
⩾55	0.264***	(0.010)	0.274***	(0.013)
Level of education (reference: lower)				
Medium	1.548***	(0.141)	1.513***	(0.144)
Bachelor	2.269***	(0.281)	2.267**	(0.281)
Master	2.766***	(0.364)	2.806***	(0.367)
Household income (reference: <20%)				
20%-40%	0.670***	(0.029)	0.671***	(0.036)
40%-60%	0.633***	(0.029)	0.632***	(0.034)
60%-80%	0.624***	(0.036)	0.634***	(0.040)
80%-100%	0.781***	(0.041)	0.790***	(0.048)
Household wealth (reference: <20%)				
20%-40%	0.830***	(0.014)	0.835***	(0.017)
40%-60%	0.792***	(0.021)	0.782***	(0.024)
60%-80%	0.979	(0.028)	0.966	(0.033)

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Table A.7 – Continued from previous page

	BASELINE		⩾25 HOURS	
	HR	SE	HR	SE
80%-100%	1.312***	(0.039)	1.294***	(0.034)
Housing type				
(reference: owner occupant)				
Rental, social sector	1.351***	(0.053)	1.398***	(0.056)
Rental, private sector	2.106***	(0.040)	2.086***	(0.045)
Rental, sector unknown	3.211***	(0.765)	3.077***	(0.746)
Unemployment duration				
(reference: not applicable)				
<3 months	1.240***	(0.070)	1.318***	(0.079)***
3-6 months	0.827**	(0.059)	0.839*	(0.071)
6 months-1 year	0.907	(0.046)	0.933	(0.050)
1-2 year	0.957	(0.066)	1.010	(0.090)
⩾2 years	0.602***	(0.084)	0.602*	(0.124)
Commuting distance				
(reference: 0, same district)				
0-5km	1.073	(0.135)	1.068	(0.138)
5-10km	1.226	(0.190)	1.186	(0.197)
10-20km	1.528***	(0.085)	1.484***	(0.087)
20-50km	1.981***	(0.160)	1.896***	(0.161)
⩾50km	2.452***	(0.196)	2.318***	(0.182)
Contract type				
(reference: permanent)				
Temporary	1.330***	(0.055)	1.300***	(0.057)
Agency work	1.052	(0.040)	0.972	(0.040)
Flexible hours	1.136**	(0.056)	1.029	(0.054)
DMS	1.214***	(0.052)	1.156**	(0.052)
Hours per week				
(reference: <12)				
12-20	0.991	(0.048)		
20-25	1.040	(0.037)		
25-30	1.234***	(0.046)	(reference)	
30-35	1.386***	(0.053)	1.129***	(0.024)
⩾35	1.659**	(0.096)	1.373***	(0.054)

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Table A.7 – Continued from previous page

	BASELINE		⩾25 HOURS	
	HR	SE	HR	SE
Sector				
(reference: financial services)				
Agriculture	0.957	(0.112)	0.940	(0.111)
Manufacturing	0.930	(0.046)	0.924	(0.046)
Electricity, gas, water	1.047	(0.061)	1.050	(0.063)
Construction	0.814***	(0.037)	0.812***	(0.038)
Trade	1.016	(0.043)	1.005	(0.042)
Transportation, storage	1.087	(0.058)	1.091	(0.057)
Accommodation, food	1.150***	(0.035)	1.127**	(0.042)
ICT	1.143***	(0.035)	1.143***	(0.039)
Business services	1.066**	(0.025)	1.075**	(0.026)
Public administration	1.086	(0.048)	1.084	(0.048)
Education	1.115*	(0.060)	1.077	(0.056)
Health, social work	1.125**	(0.048)	1.126**	(0.052)
Other service activities	1.160***	(0.043)	1.160**	(0.054)
Region fixed effects	Yes		Yes	
Clustered standard errors	Yes		Yes	
N (1000 obs)	344		288	

Source: Statistics Netherlands Microdata, own computations. * = 1%, ** = 5%, *** = 10% significance level. Standard errors are robust for clustering by 40 COROP regions. A subset of this table is presented in Table 5.5. The sample of employees does not include self-employed, interns and workers in sheltered jobs. The model ⩾25 hours includes only jobs for 25 weekly working hours or more.