

Coping with Ageing: An Historical Longitudinal Study of Internal Return Migrations Later in Life in the Netherlands

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Appendix

Table A1: Selection procedure of the individual's subset

	Individuals	%
Individuals in HSN dataset, birth cohorts 1850–1922	36,680	100
Individuals who survived until age 50 or right censored after that age (intra-moves within municipalities are excluded)	20,269	55.3
Individuals from birth cohorts 1850–1890	8,773	23.9
Individuals from birth cohorts 1850–1890, ever migrated within the Netherlands (Sequence Analysis and Event History Analysis)	8,214	22.4

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Appendix A2. Sensitivity Analyses

We performed additional analyses to test whether the effects of explanatory variables would change if the dependent variable for return migrations at old age varied if we excluded persons older than 90 years from the analysis. Results do not change substantially, except for a few associations related to clusters of trajectories in the models applied to long-distance returns and returns to birth and childhood places. A step-wise model indicates very high hazard rates in the predictor ‘closeness to death’, disregarding that this effect depended on the small number of individuals who died between age 50 and 55 years old. The correlation matrix does not indicate collinearity in the models.

Most of the HRs in the variables fulfil the proportional hazard assumptions, with a few exceptions for some clusters (e.g. the “native to unregistered” cluster in models applied to adult places and long-distance returns). In this research, age, measured as a time-dependent variable, is identical to the duration of the study’s follow-up time from age 50 until death or the last observation, and the risk starts at age 50 for all the individuals. Therefore, we exclude age from the models due to collinearity. However, since age is a relevant variable in this study, we apply an alternative by maintaining age groups as a time-dependent variable when the hypothesis of nonproportionality was unfulfilled in a small range of age. Indeed, this was the case in models about the returns to places of birth and models about adulthood, where the only minor category (+80) did not fulfil the hazard assumptions. Moreover, the fit of these models improved by incorporating age, and in both models, the risk of internal return migrations later in life increased with age, as expected.

Table A3: Hazard ratios of internal short distance return migrations later in life, by demographic characteristics among persons aged 50 years or older. Interaction term between civil status and gender (Cox proportional hazard models)

	Internal short distance return migrations <10 km, later in life
Past migrant trajectories, age 0–50 (ref: Stable medium city)	1
Unspecified	1.02(0.68-1.53)
Native to unspecified	0.50(0.34-0.75)
Stepwise migration	0.66(0.45-0.97)
Lateral rural	1.05(0.72-1.54)
Lateral medium city	0.74(0.51-1.09)
Stable rural	1.02(0.68-1.54)
Unspecified to native	0.68(0.41-1.12)
Stable large city	0.68(0.44-1.03)
Gender (ref: men)	1
women	1.01(0.73-1.39)
Civil status, age 50 (ref: married)	1
Divorced	1.09(0.15-7.87)
Widowed	0.55(0.28-1.10)
Unmarried	0.95(0.68-1.34)
Unknown	0.73(0.44-1.22)
Interaction with civil status	
Women*married (ref)	1
Women*Divorced	0.73(0.06-8.28)
Women*Widowed	2.51(1.15-5.47)
Women*Unmarried	1.03(0.64-1.67)
Women*Unknown	1.84(0.98-3.44)
Dependency ratio, age 50	1.18(0.73-1.92)
Occupational status, age 50 (ref: unskilled workers)	1
Elite	0.82(0.41-1.62)
Lower middle class	0.79(0.57-1.09)
Self-employed and farmers	0.52(0.37-0.74)
Skilled workers	0.92(0.63-1.35)
Unknown	0.59(0.44-0.79)
Religious affiliation (ref: Roman Catholics)	1
Liberal Protestant	1.02(0.79-1.32)
Orthodox Protestants	0.85(0.54-1.33)
Jewish	0.30(0.04-2.15)
Other/Without/Unknown	1.42(0.99-2.03)
Closeness to death, age 50 (ref. Did not die within five years)	1
Did die within five years	3.56(2.49-5.09)
Birth cohort (ref: 1850–1859)	1
1860–1869	1.19(0.77-1.84)
1870–1879	1.63(1.07-2.48)
1880–1890	0.94(0.61-1.45)
Birth region (ref. west Netherland)	1
north Netherlands	0.59(0.43-0.79)
east Netherlands	0.60(0.43-0.84)
south Netherlands	0.75(0.54-1.04)
Unknown	0.71(0.23-2.24)
Intraprovincial migrations, age 0–50 (ref. 0 migration type)	1
1 migration	1.53(1.11-2.10)
2 migrations	1.64(1.18-2.30)
>2 migrations	2.47(1.84-3.33)
Intraregional migrations, age 0–50 (ref. 0 migration type)	1
1 migration	0.67(0.43-1.02)
2 migrations	0.87(0.54-1.39)
>2 migrations	1.36(0.91-2.01)
Interregional migrations, age 0–50 (ref. 0 migration type)	1
1 migration	1.99(1.28-3.10)
2 migrations	0.67(0.39-1.17)
>2 migrations	0.55(0.29-1.06)

Note: 95% confidence intervals in parentheses, 1 reference category.
Source: Own elaboration based on HSN data.

Table A4: Hazard ratios of urban return migrations later in life, by demographic characteristics among women aged 50 years or older (Cox proportional hazard models)

	Urban return migrations, later in life
Past migrant trajectories, age 0–50 (ref: Stable medium city)	1
Unspecified	0.68(0.46-0.99)
Native to unspecified	0.83(0.63-1.09)
Stepwise migration	1.04(0.80-1.34)
Lateral rural	0.54(0.36-0.79)
Lateral medium city	1.06(0.81-1.37)
Stable rural	0.34(0.19-0.60)
Unspecified to native	1.27(0.93-1.75)
Stable large city	1.42(1.08-1.87)
Civil status, age 50 (ref: married)	1
Divorced	2.14(1.39-3.28)
Widowed	1.37(1.11-1.69)
Unmarried	1.01(0.84-1.23)
Unknown	1.30(1.06-1.59)
Dependency ratio, age 50	0.69(0.47-1.01)
Occupational status, age 50 (ref: unskilled workers)	1
Elite	2.22(1.29-3.82)
Lower middle class	1.39(1.12-1.72)
Self-employed and farmers	0.66(0.47-0.92)
Skilled workers	0.70(0.36-1.39)
Unknown	0.79(0.66-0.94)
Religious affiliation (ref: Roman Catholics)	1
Liberal Protestant	1.05(0.87-1.27)
Orthodox Protestants	1.11(0.81-1.51)
Jewish	1.75(1.04-2.96)
Other/Without/Unknown	1.76(1.38-2.24)
Closeness to death, age 50 (ref. Did not die within five years)	1
Did die within five years	2.82(2.18-3.64)
Birth cohort (ref: 1850–1859)	1
1860–1869	0.95(0.73-1.24)
1870–1879	0.95(0.73-1.24)
1880–1890	0.84(0.65-1.09)
Birth region (ref. west Netherland)	1
north Netherlands	1.07(0.88-1.31)
east Netherlands	0.81(0.63-1.05)
south Netherlands	0.97(0.75-1.25)
Unknown	1.19(0.59-2.42)
Intraprovincial migrations, age 0–50 (ref. 0 migration type)	1
1 migration	1.19(0.96-1.48)
2 migrations	1.32(1.05-1.65)
>2 migrations	1.74(1.42-2.13)
Intraregional migrations, age 0–50 (ref. 0 migration type)	1
1 migration	1.34(1.03-1.74)
2 migrations	1.70(1.30-2.24)
>2 migrations	2.15(1.66-2.79)
Interregional migrations, age 0–50 (ref. 0 migration type)	1
1 migration	1.15(0.87-1.52)
2 migrations	0.91(0.68-1.21)
>2 migrations	0.88(0.64-1.22)

Note: 95% confidence intervals in parentheses, 1 reference category.
Source: Own elaboration based on HSN data.