Social Mobility and Mortality in southern Sweden (1813-1910)

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INTRODUCTION

Aim of this research project is to seek the influence of intergenerational social mobility on mortality in Sweden, covering the transition from preindustrial to a breakthrough industrial society. According to previous studies (see e.g., Bengtsson: 2010; Bengtsson and Van Poppel: 2011; Bengtsson and Dribe: 2011; Dribe, Helgertz, Van de Putte: 2013) Social Economical Status (SES) does not affect substantially life expectancy of Swedish population in the XIXth century. Instead of this, other variables, such as public health measures or education, could be key factors. Thus, a new question emerges for us: Could it be possible that other socio-economic factors, such as the intergenerational social mobility, may affect positively life expectancy?

DATA AND METHODS

In order to achieve this goal, a dataset from the Scanian Economic-Demographic Database (SEDD) comprised by 80.966 observations of 3.385 individuals registered between 1813 and 1910 is selected. The database is based on local population registers for five rural Scanian coast parishes (Hög, Kävlinge, Halmstad, Sireköpinge, and Kågeröd). The analysis is based on three periods according to historical criterion (preindustrial period: 1813-1869; early industrial period: 1870-1894 and the first part of the breakthrough of industrialization: 1895-1910).

In our study, social mobility is defined as the chances of an individual, at age 35, have or not the same SES of his father, according to SOCPO codification. Our main reason for using it is that while it focuses on social power. It is also highly correlated with education and income, as well as this classification can be used both for rural and industrial societies.

Therefore, a Cox Proportional Hazard model is going to be applied in order to estimate the influence of social mobility and other possible mortality determinants:

$$\ln h_i(a) = \ln h_0(a) + \beta x_i$$

where hi(a) is the hazard of death for an individual i at duration (age) a, h0(a) is the baseline hazard, i.e. the hazard function for an individual having the value zero on all covariates, and β is the vector of parameters for the individual covariates (xi).

Concretely, we start by estimating a full model which, in addition to social mobility status, includes all the others above mentioned variables (MODEL 1):

$$\ln h_i(a) = \ln h_0(a) + \beta mobility_i + \beta gender_i + \beta marital\ status_i + \beta period_i + \beta inmigrant_i + \beta SOCPO\ at\ birth_i + \beta household\ size_i$$

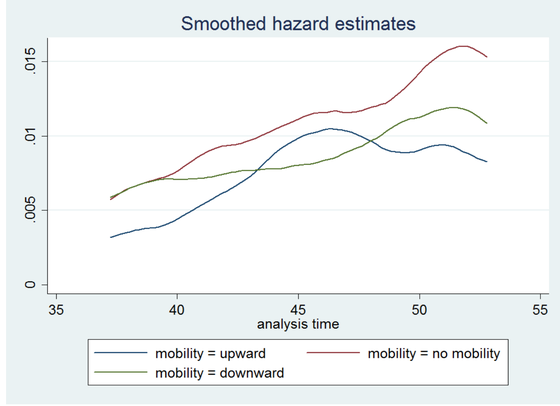
- Tests of the proportional hazards assumption, based onscaled Schoenfeld residuals reveal no serious violations for the model.
- In order to complement these results, several interactions have been explored in different models without significant results.

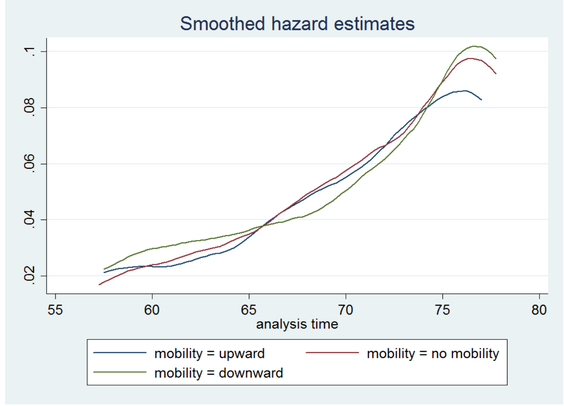
FINDINGS

Results confirm previous studies showing that SES has not a significant effect on mortality during the studied period (see e.g., Bengtsson: 2010; Bengtsson and Van Poppel: 2011). Other variables, as marital status, are more explanatory. Moreover, the model results could indicate that intergenerational upward mobility have a positive impact in terms of mortality reduction. The limitations of space and time in this study prevent us from realizing deeper assertions.

Future studies should consider the importance of social mobility on mortality. Thus, our initial hypothesis should be confirmed in further analysis, controlling by other socio economic variables (e.g. HISCLASS, HISCO) as well as redefining the idea of social mobility in a more fitted concept.

MOBILITY AND MORTALITY





Despite scale graphs are not equal, it could be observed that after age 55 social mobility does not respect the hazard proportionality assumption. Thus, the study must be focused on prior ages (from age 35 to 55), taking as a reference category *no mobility* (0).

COX PROPORTIONAL HAZARD MODEL

LR chi2 (14) = 23.26
Prob > chi2 =0.0562

_t	Haz. Ratio	St. Err.	z	P>|z|	[95%	Conf.
Upward mobility	.6634897	.1066946	-2.55	0.011	.484121	.9093151
Downward mobility	.8684816	.1211006	-1.01	0.312	.6607993	1.141436
Gender	.9606922	.111195	-0.35	0.729	.7657063	1.205331
Marital Status	.7800335	.0936278	-2.07	0.038	.6165141	.9869234
1870-1894	.8289981	.1096794	-1.42	0.156	.6396413	1.074411
1895-1910	.752649	.1197829	-1.79	0.074	.5509664	1.028158
Inmigrant	1.493084	1.501368	0.40	0.690	.2080462	10.71541
Semiskilled workers	.8563077	.1489238	-0.89	0.372	.6089675	1.204108
Skilled workers	.4929653	.1551466	-2.25	0.025	.2660267	.9134978
Middle class	.7637281	.142553	-1.44	0.149	.5297347	1.10108
Elite	.506682	.2452375	-1.40	0.160	.1962222	1.308347
Household from 6 to 10	1.135788	.1502069	0.96	0.336	.8764495	1.471865
Household from 11 to 30	1.124264	.2150675	0.61	0.540	.7727455	1.635686
Household > 31	1.406807	.3384099	1.42	0.156	.8779631	2.2542

References

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