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The Lost Generation in Europe? - the Economic Crisis and Starting a Family

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The Lost Generation in Europe? - the Economic Crisis and Starting a Family

Sandra Schaffner*

PRELIMINARY RESULTS - PLEASE DO NOT QUOTE

Abstract

Young adults are the most hit by the current economic crisis. This can be observed in high youth unemployment rates in countries like Spain. At the same time fertility is relatively low in the most concerned countries whereas those in their fertile phase experience high unemployment rates. Based on these facts we investigate how marriage and fertility decisions in Europe respond to economic insecurity. We analyse both, the individual economic status as well as increased insecurity due to increased risk of unemployment during the financial crisis.

Our results reveal that employed workers are the most likely to marry. However, this relationship becomes smaller during the economic crisis. Men in the most struck countries are even less likely to marry when they are unemployed during recession. Although we find effects on marriage we cannot observe any effects of the economic crisis on fatherhood. Over all countries we can observe that the fertility rate of employed women becomes higher during the economic crisis. Especially unemployed and self employed women in Greece, Italy and Cyprus are less fertile.

Keywords: Economic crisis, fertility, marriage, insecurity

JEL Classification: J12, J13, J64

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1 Introduction

The financial crisis of the recent years hit the European countries by a different extent. Spain, Italy and Greece have been most seriously hit by the crisis. The unemployment rate almost exploded especially for the young generation. Therefore, also high skilled individuals are faced with less job opportunities and a high probability of unemployment. Young adults face therefore an increased economic insecurity that can influence their mobility, education decisions and especially their family decisions like marriage and fertility.

Based on the seminal paper by Becker (1960) there exists a large literature on the relationship between employment status and starting a family and especially parenthood. Based on the theory of Becker (1960) childbearing is associated with opportunity costs. These opportunity costs are due to foregone earnings as well as loss in human capital. Additionally, several papers analyse the effect of having children on labour force participation as well as wages (e.g. Browning, 1992; Angrist & Evans, 1998; Lundberg & Rose, 2000, 2002; Michaud & Tatsiramos, 2011; Bredtmann, Kluve, & Schaffner, 2013). Exogeneity of neither fertility nor employment outcomes can be assumed. Besides the classical strand of the literature that argues that there is a relationship of economic status and fertility due to opportunity costs, there is also a strand of literature that shows that the decision of starting a family is driven by insecurity. For example, Oppenheimer (2003) and Kalmijn (2011) observe an influence of the economic status on the probability of both cohabiting and marriage.

Besides the effects of economic insecurity on marriage there can also be effects on fertility. First, the opportunity costs especially of women become smaller when receiving a lower wage or being unemployed. By contrast, Bhaumik and Nugent (2005) analyse the effect of unemployment uncertainty on fertility in East Germany. The German reunification is often used as a natural experiment to analyse the effects of job security on fertility (e.g. Klemm, 2012). Most studies analysing the effect of economic insecurity on fertility focus on females. The evidence is mixed. While some studies observe a relationship (e.g. Bhaumik & Nugent, 2005; Bernardi, Klärner, & von der Lippe, 2008) others do not or only for women. Similarly to Kind and Kleibrink (2013) we want to analyse both, the macroeconomic and the individual insecurity on marriage and fertility. In contrast to Kind and Kleibrink (2013) we do not analyse the timing of birth but the probability.

The remainder of the paper is organized as follows. Section 2 gives an overview of the used data set. The empirical strategy is described in section 3. Section 4 presents the results and section 5 concludes.

2 Data

The empirical analysis is based on the longitudinal version of the European Union Statistics on Income and Living Conditions (EU-SILC). The EU-SILC panel is a rotational panel (except for Luxembourg) which is comparable in its structure to the Current Population Survey (CPS). In almost all countries the same persons are interviewed for four years and each year one quarter of all respondents are replaced by new respondents. This enables us to follow persons over two, three or four consecutive years. From the fourth wave on all respondents can be observed for four years. Therefore, each person is interviewed up to four times.

The data covers all EU Member States, Croatia, Norway and Iceland. It is a representative and internationally comparable household dataset for the years 2004 to 2011 (EUROSTAT, 2010). The data are collected yearly both, by personal interviews and through administrative registers. In 2004 the dataset started with ten countries and was extended to 26 countries in 2010. We merge different longitudinal files together following Engel and Schaffner (2012). Table 1 gives an overview of the availability of data for the different countries. It can be seen that for most of the countries seven or eight waves are available. However, there are also some countries with only very few waves (especially Germany and Croatia). Since the dataset is a rotational panel, information are available for a maximum of four years¹. All persons of a household are in the sample. Therefore, information on the household characteristics as household size, number of children etc. can be calculated. Furthermore, individual data on employment, education, family status etc. are available.

In the following we restrict our sample to men and women aged between 16 and 49. We end up with 611,410 observations and 262,452 who are not married. Table 2 presents some summary statistics for the estimation sample. We define an earnings variable which is the annual earnings divided by the mean annual earnings by country and year. The skill level is divided in three groups: low skilled (ISCED 0-2), medium skilled (ISCED 3-4) and high skilled (ISCED 5-6). We distinguish four employment states that are employed, self-employed unemployed and inactive. As further control variables we calculate the number of children aged 4 years and younger in the household. Furthermore, we calculate the number of older children and the number of elderly.

We define childbirth if the number of children aged zero to two in the household increases between two interviews. Almost four percent of indi-

¹exceptions are Luxembourg, France and Norway

Table 1: Data availability EU-SILC rotational panel

Country	2004	2005	2006	2007	2008	2009	2010	2011
AT	X	X	X	X	X	X	X	X
BE	X	X	X	X	X	X	X	X
BG			X	X	X	X	X	X
CY		X	X	X	X	X	X	X
CZ		X	X	X	X	X	X	X
DE		X	X					
DK	X	X	X	X	X	X	X	X
EE	X	X	X	X	X	X	X	X
ES	X	X	X	X	X	X	X	X
FI	X	X	X	X	X	X	X	X
FR		X	X	X	X	X	X	
GR				X	X	X	X	
HR							X	X
HU		X	X	X	X	X	X	X
IE	X	X	X	X	X			
IS		X	X	X	X	X	X	X
IT				X	X	X	X	X
LT		X	X	X	X	X	X	X
LU	X	X	X	X	X	X	X	X
LV				X	X	X	X	X
MT			X	X	X	X	X	X
NO	X	X	X	X	X	X	X	X
PL		X	X	X	X	X	X	X
PT				X	X	X	X	X
RO				X	X	X	X	X
SE	X	X	X	X	X	X	X	X
SK		X	X	X	X	X	X	X
UK			X	X	X	X	X	X

viduals become parents. Furthermore, it can be seen that two thirds of the individuals are employed.

3 Empirical Analysis

Based on the descriptives on youth unemployment rate and gdp growth we distinguish three groups of countries. First, there are the most affected states. This group consists of Croatia, Cyprus, Greece, Ireland, Italy, Portugal and Spain. Second, we group the Baltic States. These countries are also very hard hidden but we can also observe a very fast recovery. The third group consists of all remaining states that are also affected by the economic crisis but less than the countries in the other groups. For analysing the effect of the economic crisis on marriage we estimate

$$\begin{aligned}
m_{ict+1} = & \alpha_E E_{ict} + \alpha_S S_{ict} + \alpha_U U_{ict} \\
& + \beta_E E_{ict} * D08 + \beta_S S_{ict} * D08 + \beta_U U_{ict} * D08 \\
& + \gamma_E E_{ict} * D08 * C1 + \gamma_S S_{ict} * D08 * C1 + \gamma_U U_{ict} * D08 * C1 \\
& + \delta_E E_{ict} * D08 * C2 + \delta_S S_{ict} * D08 * C2 + \delta_U U_{ict} * D08 * C2 \\
& + \mathbf{X}_{ict} \eta + \mu_c + \vartheta_{t-1} + \varepsilon_{ict}
\end{aligned} \tag{1}$$

whereas m is a dummy that takes the value 1 if an individual i marries between the previous year t and year $t + 1$. E is a dummy variable for employment in $t - 1$, S for self-employment and U for unemployment. $D08$ is a dummy variable that takes the value one in the years after 2008. $C1$ and $C2$ are dummy variables for the most affected country group and the Baltic States. Additional personal characteristics are covered in \mathbf{X}_{ict} . μ_c is a country fixed effect and ϑ_{t-1} time fixed effect.

Table 2: Descriptive Statistics

	Mean	Minimum	Maximum
childbirth (t+1)	0.0396706	0	1
Employed	0.6878936	0	1
Selfemployed	0.1179519	0	1
Unemployed	0.0755189	0	1
Inactive	0.1186356	0	1
Married	0.5392192	0	1
Living with partner	0.1062838	0	1
Single	0.354497	0	1
Low skilled	0.2340884	0	1
Medium skilled	0.5251092	0	1
High skilled	0.2408024	0	1
Age	36.10715	16	49
Age at first job	19.60842	8	51
Years in employment	13.81635	0	65
Urban	1.985422	1	3
Household size	3.552166	1	26
children aged 0 to 4	0.2492452	0	6
children aged 5 to 14	0.5611259	0	10
elderly aged 65 and older	0.1473414	0	6
Earnings	0.6712724	0	146.8946
AT	0.0412684	0	1
BE	0.0307928	0	1
BG	0.0230304	0	1
CY	0.025119	0	1
CZ	0.0529219	0	1
DE	0.0122144	0	1
DK	0.0152107	0	1
EE	0.0369817	0	1
ES	0.0929834	0	1
FI	0.0217105	0	1
FR	0.0685923	0	1
GR	0.0356324	0	1
HR	0.0033464	0	1
HU	0.0218806	0	1
IE	0.0124892	0	1
IS	0.0072063	0	1
IT	0.1424576	0	1
LT	0.029849	0	1
LU	0.0383507	0	1
LV	0.0292979	0	1
MT	0.0159631	0	1
NO	0.0196644	0	1
PL	0.0938568	0	1

	Mean	Minimum	Maximum
PT	0.0313587	0	1
RO	0.0290214	0	1
SE	0.0198672	0	1
SK	0.0346985	0	1
UK	0.0142343	0	1
2004	0.0871314	0	1
2005	0.1528287	0	1
2006	0.159281	0	1
2007	0.166677	0	1
2008	0.1577779	0	1
2009	0.1495118	0	1
2010	0.1267922	0	1

Figure 1: youth unemployment rate - less affected countries

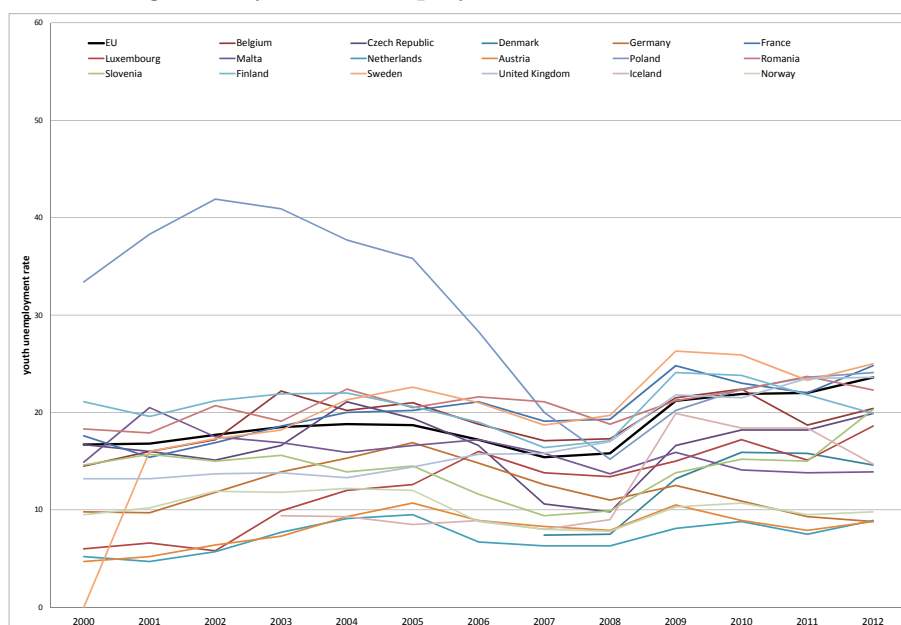


Figure 2: youth unemployment rate - most affected countries

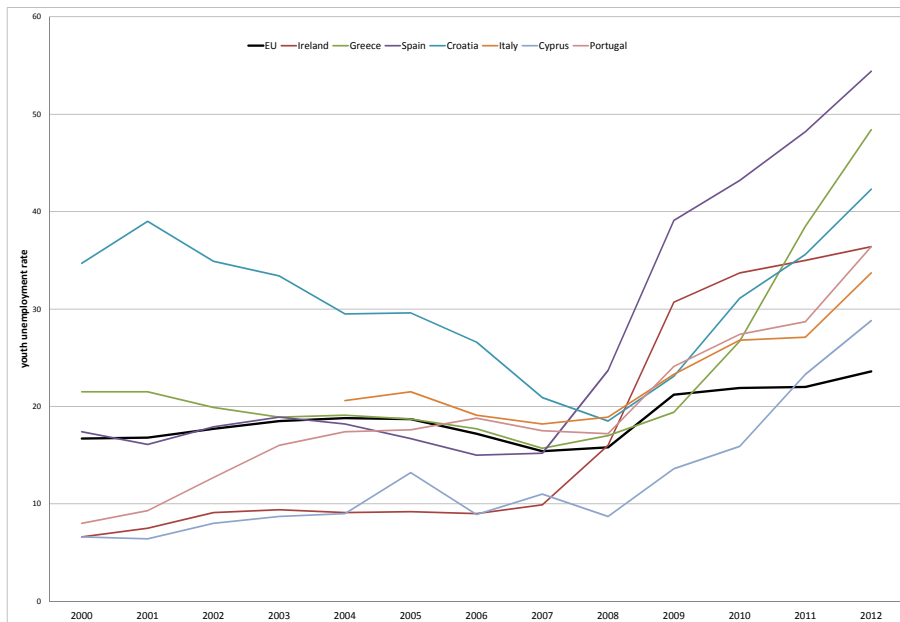


Figure 3: youth unemployment rate - Baltic States

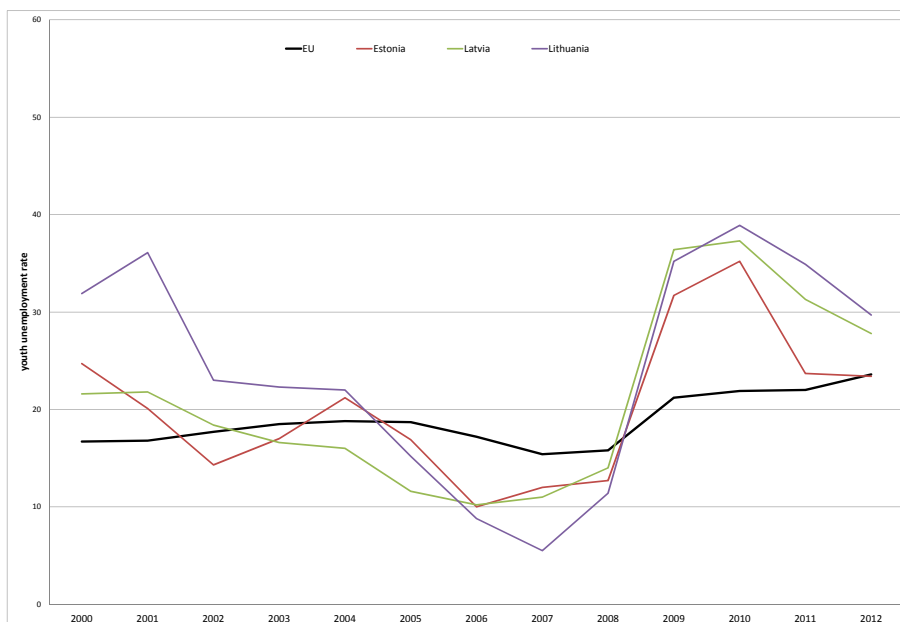


Figure 4: gdp growth - less affected countries

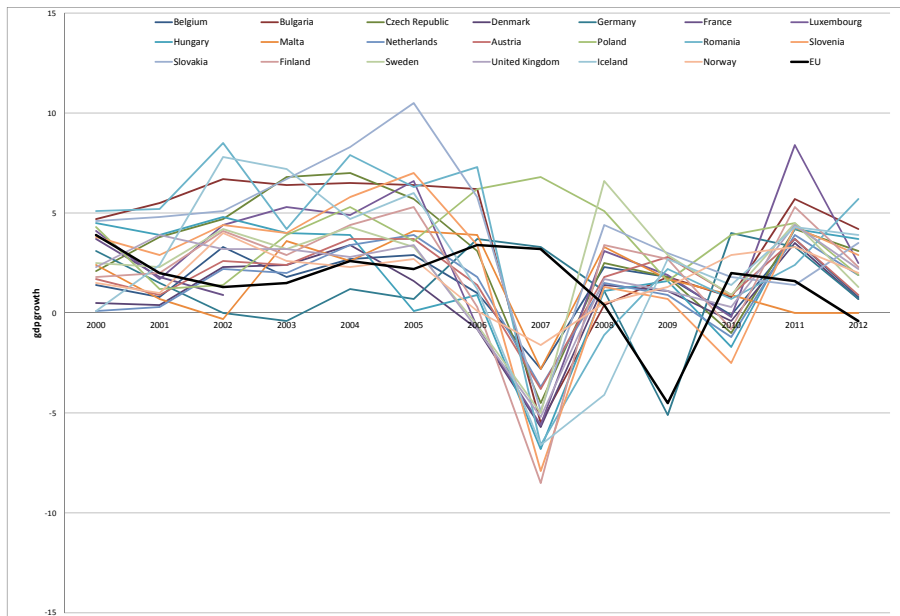


Figure 5: gdp growth - most affected countries

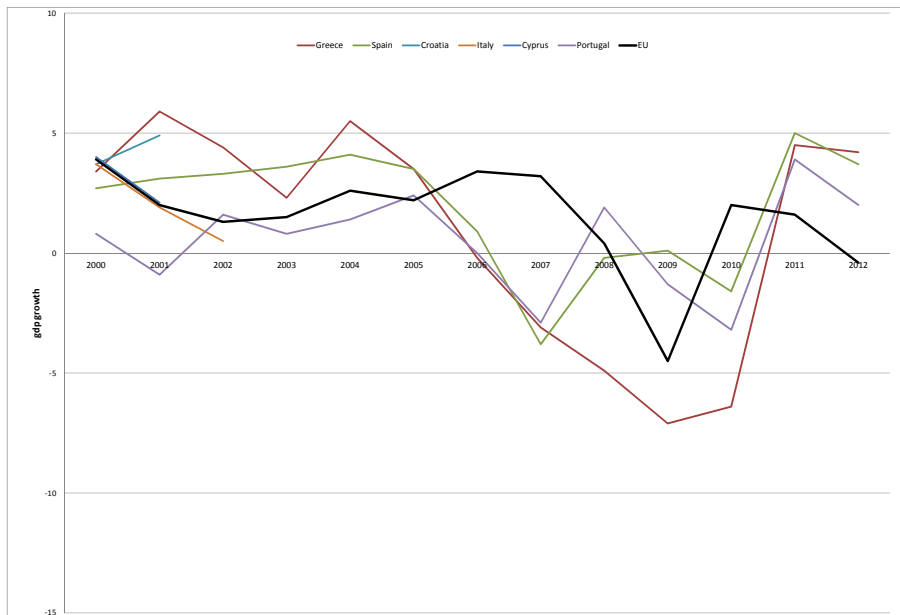
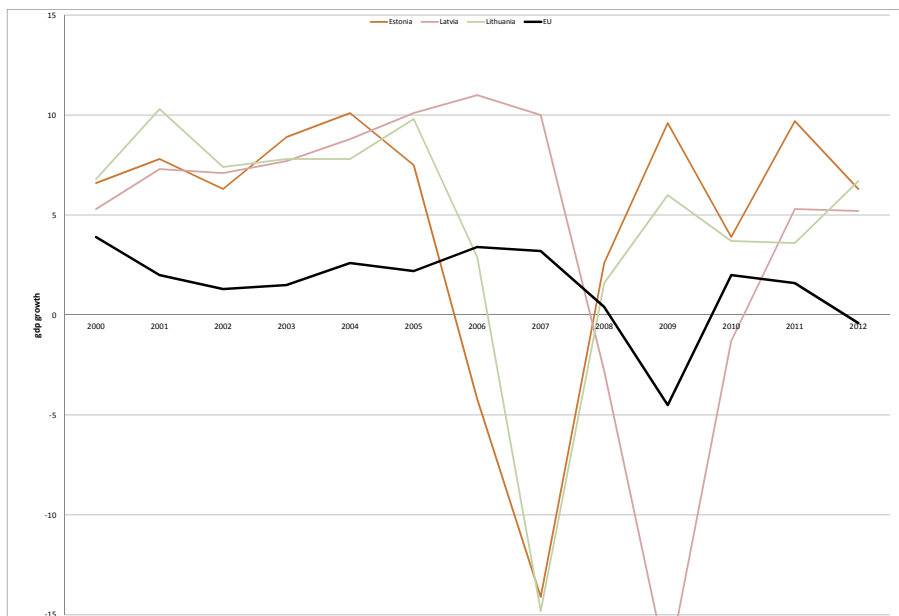


Figure 6: gdp growth - Baltic States

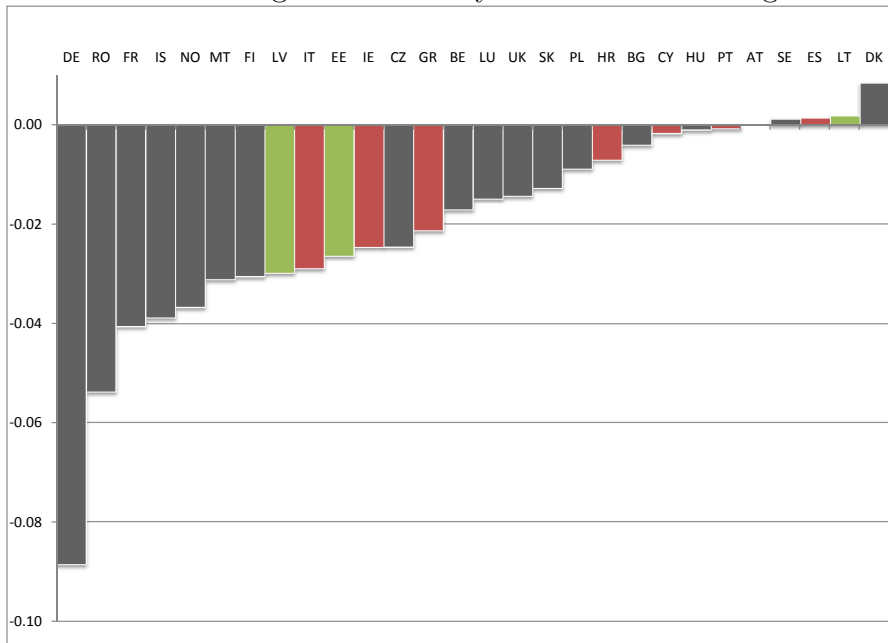


4 Results

Table 3 presents the results for all unmarried workers. It can be seen that there is a correlation between employment status and marriage (row I). Employed workers are the most likely to marry, while the probability is the lowest for selfemployed and unemployed. The positive effect of employment on marriage is mainly driven by the crisis. Additionally, inactive workers have an increased probability to marry within the crisis compared to the previous time period. However, the negative relationship between unemployment and marriage is observable for the whole time period. In the third row of the table it become obvious that these findings do not differ between country groups.

Figure 7 presents the estimated country fixed effects in comparison to the reference group Austria.

Figure 7: Country fixed effects marriage



A separate analysis of marriage for men (Table4) does show quite similar findings for the whole period. Compared to inactive individuals employed workers have the highest probability of marriage while it is significantly lower or unemployed and selfemployed workers. However,

there are not any effects of the economic crisis on this relationship. Furthermore, there are not any differences between the country groups that emerge within the economic crisis. For women (Table5) we cannot observe

Table 3: Probability of marriage

Employment status	I		II		III	
Employed	0.0093 ***	(4.34)	0.0043	(1.87)	0.0043	(1.86)
Selfemployed	-0.0075 ***	(-4.26)	0.0021	(0.99)	0.0021	(1.01)
Unemployed	-0.0054 **	(-3.15)	-0.0051 *	(-2.32)	-0.0051 *	(-2.30)
Crisis states			-0.0020	(-0.89)		
Baltic states			0.0017	(0.48)		
Employment status after 2008						
Employed			0.0062 *	(2.53)	0.0058 *	(2.31)
Selfemployed			0.0015	(0.40)	0.0008	(0.20)
Unemployed			0.0018	(0.46)	0.0040	(0.85)
Inactive			0.0094 *	(2.40)	0.0108 *	(2.41)
After 2008 crisis states						
Employed					-0.0004	(-0.16)
Selfemployed					-0.0009	(-0.19)
Unemployed					-0.0095	(-1.96)
Inactive					-0.0085	(-1.57)
After 2008 Baltic states						
Employed					-0.0018	(-0.48)
Selfemployed					0.0231	(1.67)
Unemployed					0.0008	(0.10)
Inactive					0.0115	(1.06)
Male	-0.0027 *	(-2.43)	-0.0053 ***	(-4.80)	-0.0053 ***	(-4.82)
Medium skilled	0.0017	(1.28)	-0.0047 ***	(-3.60)	-0.0047 ***	(-3.59)
High skilled	0.0097 ***	(5.09)	-0.0054 **	(-3.04)	-0.0053 **	(-3.01)
Age	0.0003 *	(2.55)	-0.0012 ***	(-9.86)	-0.0012 ***	(-9.90)
Age at first job	0.0002	(1.24)	0.0003	(1.84)	0.0003	(1.86)
Years in employment	0.0003 *	(2.06)	-0.0003 *	(-2.39)	-0.0003 *	(-2.29)
Urban	0.0009	(1.41)	0.0022 ***	(3.31)	0.0022 ***	(3.32)
Household size	-0.0005	(-1.22)	-0.0037 ***	(-9.09)	-0.0037 ***	(-9.05)
children aged 0 to 4	0.0325 ***	(18.31)	0.0118 ***	(7.10)	0.0118 ***	(7.07)
children aged 5 to 14	0.0070 ***	(7.20)	-0.0040 ***	(-4.45)	-0.0040 ***	(-4.46)
elderly aged 65 and older	-0.0143 ***	(-14.97)	0.0006	(0.81)	0.0006	(0.81)
Earnings	0.0107 ***	(6.61)	0.0021	(1.83)	0.0021	(1.85)
Living with partner			0.0606 ***	(30.15)	0.0606 ***	(30.15)
BE	-0.0171 ***	(-4.36)	0.0151 ***	(5.30)	0.0152 ***	(5.31)
BG	-0.0041	(-0.85)	0.0141 ***	(4.14)	0.0141 ***	(4.13)
CY	-0.0018	(-0.37)	-0.0020	(-0.76)	-0.0022	(-0.82)
CZ	-0.0246 ***	(-7.11)	0.0050 *	(2.10)	0.0050 *	(2.10)
DE	-0.0885 ***	(-26.19)	0.0251 ***	(6.22)	0.0251 ***	(6.22)
DK	0.0083	(1.46)	0.0112 **	(3.02)	0.0112 **	(3.02)
EE	-0.0264 ***	(-6.15)	0.0049	(1.50)	0.0049	(1.52)
ES	0.0013	(0.36)	0.0002	(0.07)	-0.0001	(-0.06)
FI	-0.0305 ***	(-7.12)	-0.0004	(-0.12)	-0.0004	(-0.12)
FR	-0.0407 ***	(-12.77)	0.0107 ***	(4.67)	0.0107 ***	(4.66)
GR	-0.0213 ***	(-5.65)	-0.0059 *	(-2.56)	-0.0059 *	(-2.55)
HR	-0.0070	(-0.78)	0.0302 ***	(3.78)	0.0309 ***	(3.87)

	I		II		III	
HU	-0.0010	(-0.22)	0.0047	(1.47)	0.0043	(1.35)
IE	-0.0247 ***	(-4.23)	-0.0015	(-0.34)	-0.0015	(-0.34)
IS	-0.0388 ***	(-7.81)	0.0411 ***	(7.08)	0.0411 ***	(7.06)
IT	-0.0289 ***	(-9.39)	0.0038	(1.82)	0.0040	(1.92)
LT	0.0018	(0.34)	0.0084 *	(2.39)	0.0083 *	(2.35)
LU	-0.0148 **	(-3.02)	-0.0032	(-1.06)	-0.0032	(-1.04)
LV	-0.0299 ***	(-7.87)	0.0136 ***	(3.94)	0.0136 ***	(3.97)
MT	-0.0311 ***	(-7.65)	0.0107 **	(2.96)	0.0107 **	(2.96)
NO	-0.0367 ***	(-9.80)	0.0062	(1.96)	0.0061	(1.94)
PL	-0.0088 *	(-2.51)	0.0159 ***	(6.77)	0.0159 ***	(6.77)
PT	-0.0008	(-0.18)	0.0159 ***	(5.03)	0.0159 ***	(5.02)
RO	-0.0539 ***	(-16.80)	-0.0033	(-1.48)	-0.0030	(-1.38)
SE	0.0012	(0.29)	0.0029	(0.90)	0.0029	(0.90)
SK	-0.0126 **	(-3.19)	0.0059 *	(2.39)	0.0059 *	(2.38)
UK	-0.0142 **	(-2.82)	0.0036	(1.06)	0.0036	(1.04)
2005	0.0071 **	(2.93)	0.0044 *	(2.09)	0.0045 *	(2.10)
2006	-0.0058 *	(-2.43)	0.0022	(1.12)	0.0023	(1.13)
2007	-0.0076 **	(-3.19)	0.0033	(1.59)	0.0033	(1.60)
2008	-0.0122 ***	(-5.11)	-0.0002	(-0.12)	-0.0002	(-0.11)
2009	-0.0170 ***	(-7.28)	-0.0033	(-1.92)	-0.0033	(-1.93)
2010	-0.0112 ***	(-4.17)				
constant	0.0449 ***	(8.43)	0.0540 ***	(11.57)	0.0541 ***	(11.58)
N	262,452		281,726		281,726	
R2	0.0218		0.0283		0.0283	

any differences between unemployment and inactivity regarding marriage. By contrast to men, selfemployed women are more likely to marry. Finally, the positive relationship between employment and marriage increased during the economic crisis.

In a second step we do not group the countries into groups but analyse the effects of the crisis separately. Table 6 presents the results of the respective regressions. It can be seen that people are more likely to marry but only in Greece and Spain. In all other countries we do not observe any change in behaviour. We furthermore distinguish the different economic states in the different countries. The results are presented in Table 7. The results indicate that both, unemployed and employed workers are more likely to marry during the crisis in Greece. We furthermore observe a decreased probability of marriage for unemployed women in Lithuania and Estonia.

Table 4: Probability of marriage - men

	I		II		III	
Employment status						
Employed	0.0097 ***	(3.65)	0.0097 **	(3.14)	0.0097 **	(3.12)
Selfemployed	-0.0101 ***	(-4.65)	-0.0075 **	(-3.09)	-0.0074 **	(-3.05)
Unemployed	-0.0111 ***	(-5.33)	-0.0072 ***	(-3.29)	-0.0071 **	(-3.25)
Crisis states			0.0068	(1.72)		
Baltic states			-0.0063	(-1.05)		
Employment status after 2008						
Employed			-0.0120 **	(-3.01)	-0.0121 **	(-3.01)
Selfemployed			-0.0221 ***	(-4.03)	-0.0272 ***	(-5.16)
Unemployed			-0.0089	(-1.68)	-0.0079	(-1.26)
Inactive			-0.0012	(-0.21)	0.0066	(0.99)
After 2008 crisis states						
Employed					0.0074	(1.52)
Selfemployed					0.0187 *	(2.28)
Unemployed					0.0026	(0.39)
Inactive					-0.0178 *	(-2.55)
After 2008 Baltic states						
Employed					-0.0126	(-1.86)
Selfemployed					0.0306	(1.27)
Unemployed					-0.0042	(-0.47)
Inactive					-0.0054	(-0.32)
N	139,472		139,472		139,472	
R2	0.0265		0.0563		0.0564	

Table 8 presents the regression results for fertility. It becomes obvious that unemployed workers are the least likely to become parents. The results in row II suggest that fertility increased during the economic crisis. However, this effect cannot be observed for the most hidden countries and is even the other

Table 5: Probability of marriage - women

Employment status						
Employed	0.0071 *	(2.10)	0.0038	(0.93)	0.0038	(0.93)
Selfemployed	-0.0052	(-1.87)	-0.0017	(-0.55)	-0.0017	(-0.55)
Unemployed	-0.0024	(-0.99)	0.0009	(0.36)	0.0009	(0.37)
Crisis states			0.0068	(1.70)		
Baltic states			-0.0080	(-1.25)		
Employment status after 2008						
Employed			-0.0115 **	(-2.76)	-0.0112 **	(-2.67)
Selfemployed			-0.0058	(-0.78)	-0.0115	(-1.46)
Unemployed			-0.0114	(-1.82)	-0.0120	(-1.70)
Inactive			-0.0032	(-0.50)	-0.0013	(-0.18)
After 2008 crisis states						
Employed					0.0054	(1.19)
Selfemployed					0.0246 *	(1.98)
Unemployed					0.0115	(1.25)
Inactive					0.0000	(0.00)
After 2008 Baltic states						
Employed					-0.0041	(-0.56)
Selfemployed					0.0182	(0.73)
Unemployed					-0.0243 *	(-2.38)
Inactive					-0.0230	(-1.65)
N	122,980		122,980		122,980	
R2	0.0201		0.0525		0.0525	

Table 6: Probability of marriage

	all		men		women	
Employment status						
Selfemployed	0.0064 **	(3.06)	0.0069 **	(2.59)	0.0054	(1.62)
Unemployed	-0.0040 *	(-2.30)	-0.0064 **	(-2.92)	-0.0015	(-0.55)
Inactive	0.0007	(0.40)	-0.0045 *	(-2.12)	0.0029	(1.24)
After 2008 crisis states						
Spain	0.0111 *	(2.03)	0.0115	(1.61)	0.0115	(1.49)
Greece	0.0183 **	(2.98)	0.0252 **	(3.12)	0.0073	(0.78)
Italy	0.0017	(0.58)	0.0001	(0.03)	0.0046	(1.07)
Cyprus	-0.0099	(-1.27)	-0.0182	(-1.80)	0.0006	(0.05)
Croatia	0.0058	(0.68)	0.0063	(0.59)	0.0071	(0.50)
Lithuania	-0.0073	(-0.85)	-0.0082	(-0.72)	-0.0050	(-0.39)
Latvia	-0.0050	(-1.00)	-0.0027	(-0.38)	-0.0059	(-0.85)
Estonia	-0.0115	(-1.71)	-0.0059	(-0.63)	-0.0170	(-1.77)
N	262,452		139,472		122,980	
r2	0.0536		0.0562		0.0524	

Table 7: Probability of marriage

		all		men		women
Employment status						
Selfemployed	0.0058 **	(2.65)	0.0067 *	(2.46)	0.0035	(1.00)
Unemployed	-0.0043 *	(-2.32)	-0.0067 **	(-2.89)	-0.0018	(-0.62)
Inactive	0.0007	(0.43)	-0.0043	(-1.95)	0.0027	(1.11)
After 2008 crisis states						
Spain						
Employed	0.0095	(1.68)	0.0092	(1.23)	0.0105	(1.34)
Selfemployed	0.0239	(1.46)	0.0262	(1.39)	0.0249	(0.90)
Greece						
Employed	0.0143 *	(1.97)	0.0194 *	(1.99)	0.0061	(0.55)
Selfemployed	0.0230	(1.79)	0.0271	(1.82)	0.0169	(0.66)
Unemployed	0.0254	(1.77)	0.0434 *	(2.01)	0.0013	(0.07)
Inactive	0.0321	(1.08)	0.0445	(1.01)	0.0191	(0.56)
Italy						
Employed	0.0018	(0.49)	0.0037	(0.71)	-0.0002	(-0.04)
Selfemployed	0.0018	(0.30)	-0.0086	(-1.31)	0.0237	(1.82)
Unemployed	0.0042	(0.90)	0.0018	(0.34)	0.0082	(0.98)
Inactive	-0.0012	(-0.24)	-0.0053	(-1.12)	0.0059	(0.71)
Cyprus						
Employed	-0.0110	(-1.34)	-0.0209	(-1.94)	0.0001	(0.01)
Selfemployed	-0.0243	(-1.13)	-0.0277	(-1.00)	-0.0194	(-0.61)
Unemployed	0.0069	(0.27)	0.0064	(0.22)	0.0086	(0.18)
Inactive	0.0065	(0.26)	0.0010	(0.03)	0.0183	(0.43)
Croatia						
Employed	0.0019	(0.18)	0.0042	(0.31)	-0.0006	(-0.04)
Selfemployed	0.0393	(1.03)	0.0676	(1.34)	-0.0416 ***	(-5.45)
Unemployed	0.0126	(0.72)	-0.0002	(-0.01)	0.0484	(1.13)
Inactive	-0.0074	(-0.34)	-0.0138	(-0.88)	0.0088	(0.18)
Lithuania						
Employed	-0.0105	(-1.10)	-0.0202	(-1.63)	-0.0016	(-0.11)
Selfemployed	0.0235	(0.91)	0.0219	(0.64)	0.0260	(0.69)
Unemployed	-0.0171	(-1.29)	0.0043	(0.24)	-0.0550 **	(-3.17)
Inactive	0.0052	(0.24)	0.0052	(0.17)	0.0084	(0.27)
Latvia						
Employed	-0.0064	(-1.13)	-0.0070	(-0.83)	-0.0046	(-0.61)
Selfemployed	0.0248	(0.93)	0.0205	(0.58)	0.0331	(0.88)
Unemployed	-0.0050	(-0.80)	-0.0054	(-0.73)	-0.0012	(-0.11)
Inactive	-0.0100	(-0.89)	0.0311	(1.70)	-0.0321 *	(-2.27)
Estonia						
Employed	-0.0106	(-1.37)	-0.0092	(-0.85)	-0.0119	(-1.07)
Selfemployed	-0.0071	(-0.15)	0.0056	(0.09)	-0.0510 ***	(-4.33)
Unemployed	-0.0142 *	(-2.04)	0.0004	(0.04)	-0.0370 ***	(-3.76)
Inactive	-0.0150	(-1.23)	-0.0034	(-0.48)	-0.0233	(-1.28)
N	262,452		139,472		122,980	
r ²	0.0537		0.0563		0.0526	

way round for unemployed workers in the crisis countries. The development in the Baltic States is similar to whole Europe.

Table 8: Regression results - Fertility

	I		II		III	
Employment status						
Employed	0.0018	(1.45)	0.0028 *	(1.96)	0.0028	(1.96)
Selfemployed	0.0013	(0.87)	0.0034	(1.94)	0.0034 *	(1.97)
Unemployed	-0.0042 **	(-2.96)	-0.0042 **	(-2.66)	-0.0041 **	(-2.64)
Crisis states			-0.0076 ***	(-4.05)		
Baltic states			0.0008	(0.23)		
Employment status after 2008						
Employed			0.0143 ***	(7.17)	0.0135 ***	(6.64)
Selfemployed			0.0104 ***	(3.74)	0.0110 ***	(3.53)
Unemployed			0.0049	(1.54)	0.0074 *	(1.98)
Inactive			0.0141 ***	(4.44)	0.0164 ***	(4.45)
After 2008 crisis states						
Employed					-0.0051 *	(-2.28)
Selfemployed					-0.0092 *	(-2.46)
Unemployed					-0.0167 ***	(-3.82)
Inactive					-0.0173 ***	(-3.76)
After 2008 Baltic states						
Employed					-0.0024	(-0.60)
Selfemployed					0.0066	(0.79)
Unemployed					0.0003	(0.05)
Inactive					0.0214 *	(2.07)
Male	0.0026 **	(3.12)	0.0027 **	(3.19)	0.0026 **	(3.13)
Married	0.0788 ***					
	(59.54)					
	0.0789 ***					
	(59.51)					
	0.0789 ***					
	(59.51)					
Living with partner	0.0709 ***	(37.57)	0.0710 ***	(37.61)	0.0710 ***	(37.61)
Medium skilled	-0.0014	(-1.40)	-0.0013	(-1.35)	-0.0013	(-1.36)
High skilled	0.0079 ***	(5.85)	0.0080 ***	(5.86)	0.0080 ***	(5.89)
Age	-0.0034 ***	(-39.93)	-0.0034 ***	(-39.97)	-0.0034 ***	(-40.00)
Age at first job	0.0005 ***	(4.30)	0.0005 ***	(4.26)	0.0005 ***	(4.27)
Years in employment	-0.0004 ***	(-4.69)	-0.0004 ***	(-4.67)	-0.0004 ***	(-4.58)
Urban	0.0016 **	(3.28)	0.0016 **	(3.27)	0.0016 **	(3.27)
Household size	-0.0102 ***	(-29.23)	-0.0102 ***	(-29.25)	-0.0101 ***	(-29.19)
children aged 0 to 4	-0.0002	(-0.24)	-0.0002	(-0.27)	-0.0003	(-0.35)
children aged 5 to 14	-0.0106 ***	(-20.91)	-0.0106 ***	(-20.93)	-0.0106 ***	(-20.96)
elderly aged 65 and older	0.0066 ***	(10.35)	0.0066 ***	(10.33)	0.0066 ***	(10.33)
Earnings	0.0009	(1.50)	0.0009	(1.49)	0.0010	(1.53)
constant	0.1341 ***	(36.35)	0.1329 ***	(35.89)	0.1330 ***	(35.92)
N	611,410		611,410		611,410	
R2	0.0388		0.0388		0.0389	

The results by country are shown in Table 11. It can be seen that fertility decreases in Greece and Italy. For Greece it can be observed that this is mainly driven by unemployed women. (Table 12) By contrast, in Italy all men are less likely to become fathers while fertility decreases for unemployed and selfemployed women. Fertility of unemployed and selfemployed women also decreases in Cyprus although we do not see any overall effect. to be completed...

Table 9: Regression results - Fertility of men

Employment status						
Employed	0.0018	(0.78)	0.0028	(1.03)	0.0028	(1.02)
Selfemployed	-0.0067 **	(-3.10)	-0.0068 **	(-2.68)	-0.0068 **	(-2.68)
Unemployed	-0.0132 ***	(-5.95)	-0.0140 ***	(-5.64)	-0.0140 ***	(-5.64)
Crisis states			-0.0020	(-0.68)		
Baltic states			0.0038	(0.80)		
Employment status after 2008						
Employed			0.0033	(1.02)	0.0033	(0.99)
Selfemployed			-0.0001	(-0.01)	-0.0007	(-0.15)
Unemployed			0.0032	(0.70)	0.0051	(0.95)
Inactive			0.0067	(1.58)	0.0052	(1.11)
After 2008 crisis states						
Employed					-0.0017	(-0.47)
Selfemployed					-0.0011	(-0.19)
Unemployed					-0.0090	(-1.71)
Inactive					0.0015	(0.25)
After 2008 Baltic states						
Employed					-0.0020	(-0.39)
Selfemployed					0.0255	(1.44)
Unemployed					0.0051	(0.60)
Inactive					0.0181	(1.12)
N	149,615		149,615		149,615	
R2	0.0298		0.0298		0.0299	

Table 10: Regression results - Fertility of women

Employment status						
Employed	0.0033	(0.94)	0.0052	(1.14)	0.0052	(1.13)
Selfemployed	0.0100 ***	(3.29)	0.0119 ***	(3.36)	0.0120 ***	(3.39)
Unemployed	0.0021	(0.72)	0.0017	(0.50)	0.0017	(0.52)
Crisis states			-0.0022	(-0.64)		
Baltic states			-0.0004	(-0.08)		
Employment status after 2008						
Employed			0.0100 **	(2.71)	0.0092 *	(2.46)
Selfemployed			0.0035	(0.53)	0.0032	(0.44)
Unemployed			0.0016	(0.24)	0.0042	(0.52)
Inactive			0.0118 *	(1.98)	0.0141 *	(2.11)
After 2008 crisis states						
Employed					0.0009	(0.22)
Selfemployed					-0.0019	(-0.24)
Unemployed					-0.0108	(-1.21)
Inactive					-0.0132	(-1.61)
After 2008 Baltic states						
Employed					-0.0023	(-0.42)
Selfemployed					0.0191	(0.88)
Unemployed					-0.0029	(-0.20)
Inactive					0.0070	(0.50)
N	132,111		132,111		132,111	
R2	0.0276		0.0276		0.0277	

Figure 8: Country fixed effects fertility

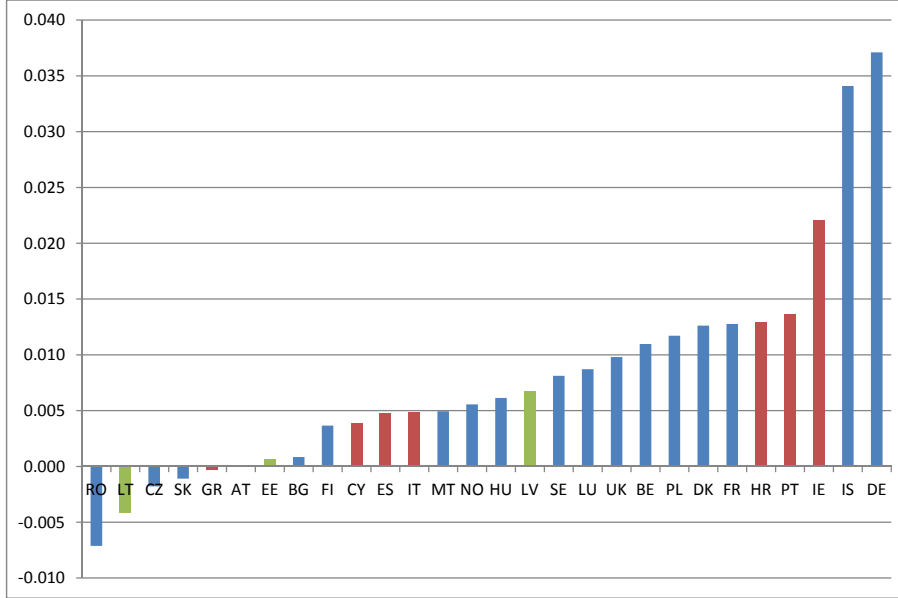


Table 11: Regression Results - Fertility

	all		men		women	
Employment status						
Selfemployed	0.0018	(1.48)	0.0001	(0.08)	0.0026	(1.28)
Unemployed	0.0014	(0.92)	-0.0066 ***	(-3.30)	0.0087 ***	(3.91)
Inactive	-0.0041 **	(-2.92)	-0.0198 ***	(-9.62)	0.0054 **	(2.86)
After 2008 crisis states						
Spain	-0.0049	(-1.56)	-0.0078	(-1.84)	-0.0029	(-0.68)
Greece	-0.0082 *	(-2.21)	-0.0094	(-1.88)	-0.0064	(-1.17)
Italy	-0.0096 ***	(-4.75)	-0.0122 ***	(-4.38)	-0.0071 *	(-2.43)
Cyprus	-0.0064	(-1.62)	-0.0041	(-0.70)	-0.0087	(-1.64)
Croatia	0.0108 *	(2.06)	0.0056	(0.80)	0.0138	(1.74)
Lithuania	-0.0010	(-0.19)	-0.0017	(-0.22)	-0.0001	(-0.02)
Latvia	0.0039	(0.93)	0.0053	(0.92)	0.0030	(0.51)
Estonia	-0.0018	(-0.43)	-0.0005	(-0.09)	-0.0028	(-0.49)
N	611,410		307,045		304,365	
r2	0.0388		0.0404		0.0400	

Table 12: Regression Results - Fertility

	all		men		women	
Employment status						
Selfemployed	0.0023	(1.79)	0.0007	(0.43)	0.0030	(1.42)
Unemployed	0.0025	(1.55)	-0.0058 **	(-2.75)	0.0100 ***	(4.28)
Inactive	-0.0037 *	(-2.49)	-0.0200 ***	(-9.24)	0.0060 **	(3.07)
After 2008 crisis states						
Spain						
Employed	-0.0022	(-0.64)	-0.0052	(-1.13)	-0.0001	(-0.02)
Selfemployed	-0.0197 ***	(-3.57)	-0.0199 **	(-2.95)	-0.0264 ***	(-3.72)
Greece						
Employed	-0.0037	(-0.77)	-0.0093	(-1.49)	0.0026	(0.35)
Selfemployed	-0.0118 *	(-2.09)	-0.0106	(-1.39)	-0.0164 *	(-2.18)
Unemployed	-0.0230 ***	(-3.61)	-0.0165	(-1.81)	-0.0282 **	(-3.16)
Inactive	-0.0136	(-1.13)	0.0166	(0.53)	-0.0148	(-1.14)
Italy						
Employed	-0.0074 **	(-3.03)	-0.0116 ***	(-3.46)	-0.0030	(-0.85)
Selfemployed	-0.0057	(-1.46)	-0.0109 *	(-2.22)	-0.0003	(-0.05)
Unemployed	-0.0222 ***	(-5.81)	-0.0216 ***	(-4.85)	-0.0228 ***	(-3.61)
Inactive	-0.0147 ***	(-3.74)	-0.0091	(-1.74)	-0.0138 **	(-2.67)
Cyprus						
Employed	-0.0044	(-0.99)	-0.0040	(-0.62)	-0.0054	(-0.89)
Selfemployed	-0.0175 *	(-2.05)	-0.0107	(-0.95)	-0.0319 *	(-2.49)
Unemployed	-0.0098	(-0.69)	0.0112	(0.50)	-0.0347 *	(-2.39)
Inactive	-0.0120	(-1.43)	-0.0085	(-1.44)	-0.0095	(-0.93)
Croatia						
Employed	0.0125 *	(1.97)	0.0063	(0.73)	0.0160	(1.70)
Selfemployed	0.0136	(0.71)	0.0255	(0.98)	-0.0303 ***	(-4.64)
Unemployed	0.0082	(0.67)	-0.0050	(-0.36)	0.0200	(1.00)
Inactive	-0.0014	(-0.10)	-0.0041	(-0.35)	0.0022	(0.09)
Lithuania						
Employed	-0.0026	(-0.38)	-0.0032	(-0.31)	-0.0023	(-0.25)
Selfemployed	0.0043	(0.37)	0.0045	(0.27)	0.0033	(0.23)
Unemployed	-0.0116	(-1.38)	-0.0111	(-1.11)	-0.0091	(-0.61)
Inactive	0.0279	(1.42)	0.0296	(1.38)	0.0280	(0.93)
Latvia						
Employed	0.0007	(0.15)	-0.0029	(-0.45)	0.0040	(0.61)
Selfemployed	0.0007	(0.06)	0.0016	(0.11)	0.0012	(0.06)
Unemployed	0.0088	(1.15)	0.0256 *	(2.40)	-0.0127	(-1.23)
Inactive	0.0175	(1.41)	0.0122	(1.00)	0.0176	(1.05)
Estonia						
Employed	-0.0050	(-1.14)	-0.0016	(-0.24)	-0.0085	(-1.42)
Selfemployed	0.0154	(0.79)	0.0240	(0.92)	0.0016	(0.07)
Unemployed	-0.0175 *	(-2.26)	-0.0115	(-1.11)	-0.0206	(-1.84)
Inactive	0.0259 *	(2.07)	0.0109	(1.09)	0.0270	(1.66)
N	611,410		307,045		304,365	
r2	0.0389		0.0404		0.0401	

5 Conclusion

Some countries like Spain, Greece, Italy and Portugal are very hard hit by the economic crisis. Especially young adults are those that suffer most due to high youth unemployment rates. Furthermore, these countries are characterised by relatively low fertility rates. There exist some literature that observe a relationship between economic insecurity and fertility. Therefore, it can be expected that fertility declines even more due to the economic crisis. We analyse this relationship by using the EU-SILC data. In a first step we analyse the probability of marriage which can be both a start of family planning and reducing economic insecurity. Our results reveal that employed workers are the most likely to marry. However, this relationship becomes smaller during the economic crisis. Men in the most struck countries are even less likely to marry when they are unemployed during recession. Although we find effects on marriage we observe mixed effects on fertility. Only some of the countries are influenced by the economic crisis. Especially unemployed and self employed women in Greece, Italy and Cyprus are less fertile. to be completed.

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