

# A lost generation or a period specific selection process? Youth unemployment in the times of the Great Recession

6th European User Conference for EU-Microdata, Mannheim 7 – 8 March 2019

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#### **Motivation**

- The Great Recession and its aftermath hit most of the European countries severely. Especially young people suffered by both an increasing risk of becoming unemployed and a prolongation of individuals' duration of staying unemployed.
- Already shortly after the Lehman crisis as the starting point for the Great Recession, politicians and researcher employed the term "Lost Generation" to characterize the labor market situation of young people in the years of crisis
  - Scarpetta 2010: "this creates the spectre of a *lost generation* of young people who become permanently excluded from productive employment"
  - Bell & Blanchflower 2010: "We argue that young people aged 16-24 continue to suffer disproportionately"
  - O'Higgins 2012: "lost generation"
  - VanOurs 2015: "Young workers are the most affected by the Great Recession both in terms of unemployment rates as well as employment rates."
  - Hur 2016: "Overall, the young suffer the largest welfare losses, equivalent to a 7 percent reduction in lifetime consumption."
- Originally, the "Lost Generation" was related to the post World War I generation. The term was coined by Gertrude Stein and popularized by Ernest Hemingway (The Sun Also Rises)

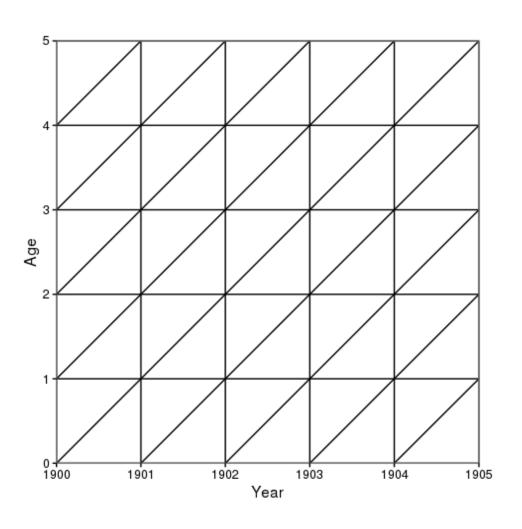
#### Research question

- The term "lost generation" is used in a manifold way:
  - experiencing a delayed entry into the working life,
  - starting an insecure or precarious level of employment, or
  - reduced opportunities in the employment career.
- However, from a empirical perspective it is still unclear, in how far the Great Recession generated a "lost generation"?

### Motivation- Mannheims' concept of generation

- Mannheim ([1923] 1952:291) introduced generation as follows
  - Contemporaneous individuals are internally stratified by their
    - ...geographical and cultural location,
    - ...actual as opposed to potential participating in the social and intellectual currents of their time and place,
    - ...differing responses to a particulate situation.
    - So there may develop opposing generational 'units'.
- Janus-faced definition of the generations: population concept or a cultural unit (Mayer & Huinick 1990:444)

# Motivation – the lexis diagram: age, period, and cohorts



# Generation vs cohort effects of the Great Depression (early 30ties)

- Elder & Caspi (1990) compare life courses of two birthcohorts (1920 vs 1928 born), affected by the Great Depression
- Both cohorts experienced the Great Depression in early life but at different age and with different outcomes (individual and family dynamics)
  - The elder cohort (Oakland cohort; Elder 1974) benefitted from the Great Depression mentally and material
  - The younger cohort (Berkeley cohort; McFarlane et al 1954) suffered from the Great Depression mentally, material and due to social relations
  - Additionally severe gender differences within cohorts (Elder & Caspi 1990)

#### **Data**

- Eurostat Labour Force Survey (LFS) data from 2005-2015 are employed
- Individuals in the age from 15 to 34 years are analyzed, observing the first years after graduation from education
- Pseudo-cohorts are designed, based on year of graduation
- Explanator vars: potential years on the labour market, highest edu degree attained and year of observation
- Controls: gender, citizenship, family status
- Weighted data due to changes in sampling strategies
- Robust standard errors due to clustered samples

### Pseudo panel design

Pseudo cohort design (Verbeek 2008; Luijkx & Wolbers 2009)

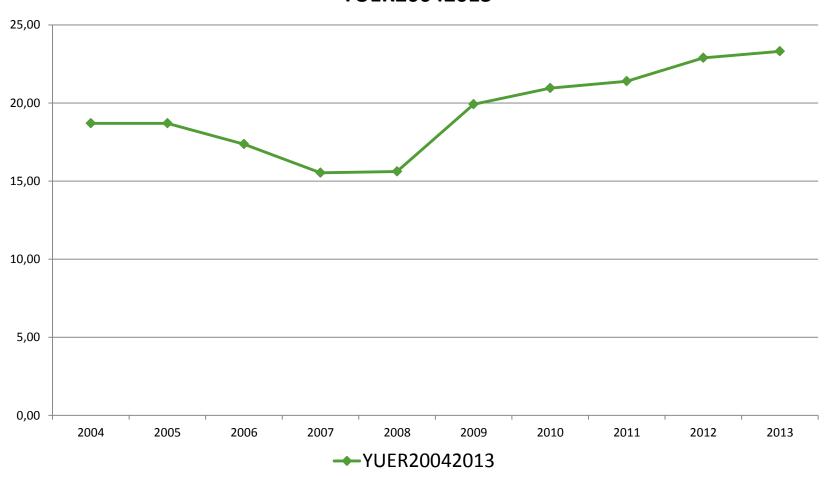
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#### **Definitions**

- Unemployed (Eurostat 2013:53):
  - 'Without work', i.e. not in paid employment or selfemployment,
  - seeking work, and
  - 'currently available for work', i.e. available for paid employment or self-employment during the reference period
- Unemployment is a composition of
  - Risk of becoming unemployed
  - Duration of staying unemployed

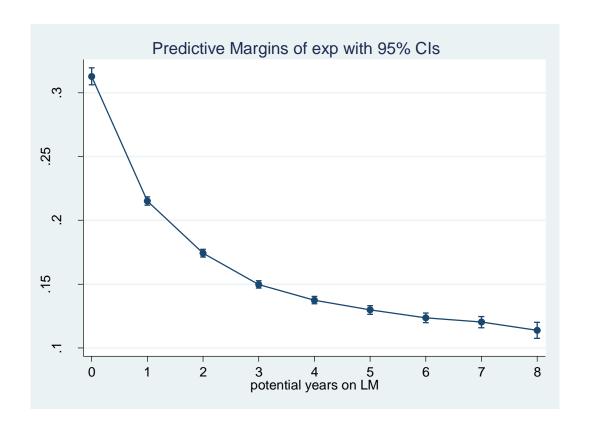
### Youth unemployment 2004-2013





#### Time-line

 Years since last graduation = potential labor market experience



### **Indicators for LM-integration**

- Unemployment share
  - (share of unemployed in workforce)
- Duration of unemployment
  - (share of long-term unemployed in population)
  - (share of long-term unemployed in all unemployed)
- Precarious job
  - (share of precarious employed in employed)
- Decent job
  - (share of decent employed in population)

Cohort	2004	2005	2006	2007	2008				
Years since last									
degree	0	1	2	3	4				
2004	29.28	20.46	14.85	11.5	10.9				

Cohort	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
	0	1	2	3	4	5	6	7	8	9	10	11
2004	29.28	20.46	14.85	11.5	10.9	12.78	12.25	11.86	12.23	12.22	12.2	11.15

Cohort	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
	0	1	2	3	4	5	6	7	8	9	10	11
2004	29.28	20.46	14.85	11.5	10.9	12.78	12.25	11.86	12.23	12.22	12.2	11.15
2005		30.72										
2006			30.72									
2007				23.8								
2008					24.2							
2009						29.78						
2010							28.77					
2011								29.52				
2012									31.43			
2013										31.46		
2014											27.8	
2015												25.84

Cohort	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
	0	1	2	3	4	5	6	7	8	9	10	11
2004	29.28	20.46	14.85	11.5	10.9	12.78	12.25	11.86	12.23	12.22	12.2	11.15
2005		30.72	19.64	13.3	11.6	13.24	13.47	12.71	12.83	12.94	12.1	10.93
2006			30.72	19.6	13.3	11.61	13.24	13.47	12.71	12.83	12.9	11.51
2007				23.8	15.2	16.93	14.89	14.06	14	14.32	13	11.05
2008					24.2	20.19	17.37	15.7	15.95	15.5	12.9	11.09
2009						29.78	21.4	17.4	16.86	15.48	13.7	12.11
2010							28.77	21.21	19.07	16.79	14.9	12.95
2011								29.52	22.66	18.83	16	13.35
2012									31.43	23.67	18.2	14.78
2013										31.46	22	16.63
2014											27.8	20.59
2015												25.84

Cohort	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
	0	1	2	3	4	5	6	7	8	9	10	11
2004	29.28	20.46	14.85	11.5	10.9	12.78	12.25	11.86	12.23	12.22	12.2	11.15
2005		30.72	19.64	13.3	11.6	13.24	13.47	12.71	12.83	12.94	12.1	10.93
2006			30.72	19.6	13.3	11.61	13.24	13.47	12.71	12.83	12.9	11.51
2007				23.8	15.2	16.93	14.89	14.06	14	14.32	13	11.05
2008					24.2	20.19	17.37	15.7	15.95	15.5	12.9	11.09
2009						29.78	21.4	17.4	16.86	15.48	13.7	12.11
2010							28.77	21.21	19.07	16.79	14.9	12.95
2011								29.52	22.66	18.83	16	13.35
2012									31.43	23.67	18.2	14.78
2013										31.46	22	16.63
2014											27.8	20.59
2015												25.84

#### **Determinants of unemployment – logit (or)**

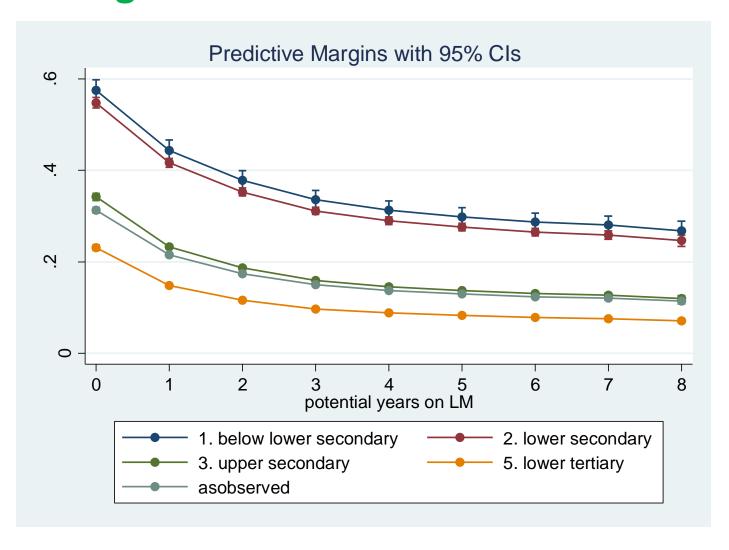
	Swiss	Germany	Greece	Italy	Spain	UK
Unemployed	alo	alo	alo	alo	alo	alo
years on LM ref.=0	1	1	1	1	1	1
1	$0.589^{***}$	$0.654^{***}$	$0.727^{***}$	$0.465^{***}$	$0.520^{***}$	$0.586^{**}$
2	$0.409^{***}$	$0.557^{***}$	$0.490^{***}$	$0.297^{***}$	$0.379^{***}$	$0.514^{**}$
3	0.314***	0.411***	$0.357^{***}$	$0.232^{***}$	0.304***	$0.436^{**}$
4	$0.297^{***}$	0.403***	$0.298^{***}$	$0.195^{***}$	0.271***	$0.408^{**}$
5	$0.399^{***}$	0.434***	$0.272^{***}$	$0.168^{***}$	0.243***	$0.377^{**}$
6	0.334***	0.401***	$0.223^{***}$	$0.153^{***}$	$0.245^{***}$	$0.335^{**}$
7	$0.264^{***}$	0.361***	$0.212^{***}$	$0.144^{***}$	0.196***	$0.384^{**}$
8	0.351***	0.334***	$0.186^{***}$	$0.118^{***}$	$0.209^{***}$	$0.275^{**}$
YEAR=2005	0.682	1.845***	0.835	0.872	$0.324^{***}$	$0.440^{*}$
YEAR=2006	1.412	1.277	$0.648^{***}$	$0.694^{***}$	$0.374^{***}$	$0.667^{**}$
YEAR=2007	0.911	1.013	$0.654^{***}$	$0.630^{***}$	0.268***	0.633**
YEAR=2008	0.935	1.092	$0.628^{***}$	$0.670^{***}$	$0.425^{***}$	$0.669^{**}$
YEAR=2009	1.325	$1.243^{*}$	0.733***	$0.903^{**}$	$0.808^{**}$	0.957
YEAR=2010	1	1	1	1	1	1
YEAR=2011	0.948	$0.767^{*}$	1.626***	0.997	1.276***	1.088
YEAR=2012	1.131	0.731***	$2.299^{***}$	1.294***	1.636***	1.116
YEAR=2013	1.215	0.721***	$2.802^{***}$	1.652***	$1.814^{***}$	1.013
below low sec	0.926	1.149	1.767***	$1.614^{*}$	1.638***	
lower secondary	1	1	1	1	1	1
upper secondary	0.356***	$0.137^{***}$	$0.822^{***}$	0.395***	0.626***	$0.375^{**}$
tertiary	0.265***	0.0461***	0.525***	0.225***	0.382***	0.242**
Observations	22279	74570	65062	114950	29254	29463
Pseudo R <sup>2</sup>	0.061	0.134	0.064	0.078	0.104	0.093

Exponentiated coefficients; cluster robust standard errors; controls: gender, citizenship, family status

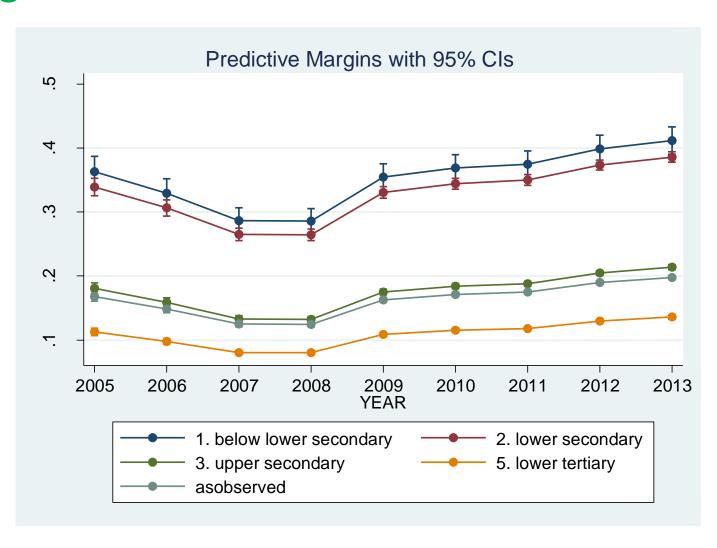
Source: EC-LFS scientific use file 2013, weighted data

<sup>\*</sup> p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001

# Unemployment risk by experience and edulevel -margins



# Unemployment risk by years and edu-level - margins



# Unemployment duration > 1 year (population share)

	Year of observation												
Cohort	2005	2006	2007	2008	2009	2010	2011	2012	2013				
2005	1.54	4.44	4.5	3.51	4.07	4.63	5.03	5.58	5.93				
2006		1.55	3.18	3.97	4.29	5.42	5.09	6.15	6.58				
2007			1.27	2.43	4.87	5.39	5.23	5.9	6.27				
2008				1.06	4.01	5.93	5.77	6.34	6.77				
2009					1.37	4.64	6.55	6.74	6.7				
2010						1.74	4.97	7.63	6.99				
2011							1.58	5.66	7.97				
2012								2.02	6.01				

#### **Determinants of long-term unemployment - logit**

Longterm	Swiss	Germany	Greece	Italy	Spain	UK
unemployed	longalo	longalo	longalo	longalo	longalo	longalo
years on LM ref.=0	1	1	1	1	1	1
1	1.123	4.176***	3.359***	3.662***	1.220	2.386**
2	$2.402^{*}$	$7.067^{***}$	6.647***	3.883***	1.518**	3.111***
3	2.010	$6.408^{***}$	6.655***	3.059***	1.244	$2.741^{***}$
4	1.005	5.359***	5.460***	2.736***	1.045	$2.233^{**}$
5	1.424	5.262***	4.750***	2.604***	0.954	$2.125^{**}$
6	1.265	7.335***	$4.220^{***}$	2.387***	0.970	$2.088^*$
7	0.587	4.606***	4.503***	$2.276^{***}$	0.886	$2.234^{*}$
8	1.049	5.381***	3.670***	$1.729^{***}$	0.952	1.293
YEAR=2005	3.392	1.379	0.907	0.775	$0.180^{***}$	3.611
YEAR=2006	1.077	2.977***	1.216	$0.831^{*}$	0.245***	$0.496^{*}$
YEAR=2007	1.042	1.460	$0.817^{**}$	$0.750^{***}$	$0.189^{***}$	$0.358^{***}$
YEAR=2008	0.579	1.084	$0.629^{***}$	$0.726^{***}$	0.243***	$0.512^{***}$
YEAR=2009	0.768	1.270	0.653***	0.912	$0.555^{***}$	0.818
YEAR=2010	1	1	1	1	1	1
YEAR=2011	0.955	$0.619^{*}$	1.705***	$1.087^{*}$	1.316**	1.125
YEAR=2012	1.383	$0.701^{*}$	2.512***	1.390***	1.801***	1.203
YEAR=2013	1.006	$0.680^{**}$	3.052***	1.756***	$2.094^{***}$	1.219
below low sec	0.423	0.400	1.506***	0.779	1.322**	
lower secondary	1	1	1	1	1	1
upper secondary	0.253***	$0.142^{***}$	$0.837^{***}$	0.691***	$0.607^{***}$	$0.310^{***}$
tertiary	0.0962***	0.0305***	$0.576^{***}$	0.345***	$0.356^{***}$	0.104***
Observations	23842	81464	77311	160309	35009	32816
Pseudo $R^2$	0.066	0.146	0.084	0.038	0.087	0.104

Exponentiated coefficients; cluster robust standard errors; controls: gender, citizenship, family status

Source: EC-LFS scientific use file 2013

<sup>\*</sup> p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001

# Unemployment duration > 1 year - share in all unemployed

	Year of observation												
Cohort	2005	2006	2007	2008	2009	2010	2011	2012	2013				
2005	6.58	25.95	38.05	34.06	34.61	38.83	45.15	49.76	52.5				
2006		7.31	22.2	33.42	31.32	40.7	41.27	49.55	52.98				
2007			6.71	18.18	32.27	40.95	42.37	48.16	50.13				
2008				5.41	22.59	39	41.87	45.43	50				
2009					5.56	24.83	42.94	45.16	49.58				
2010						7.46	26.83	45.31	47.6				
2011							6.71	28.83	48.19				
2012								7.93	29.59				

# Determinants of long-term unemployment within unemployed - logit

Long-term	Swiss	Germany	Greece	Italy	Spain	UK
unemployed	1-tu	l-tu	l-tu	l-tu	l-tu	l-tu
Years on LM ref.=0	1	1	1	1	1	1
1	1.745	6.018***	3.352***	$6.278^{***}$	1.679***	3.596***
2	6.301***	13.65***	9.944***	12.24***	$2.730^{***}$	5.436***
3	6.999***	16.42***	14.53***	10.45***	2.526***	5.645***
4	$2.914^{*}$	12.47***	12.78***	9.516***	2.105***	4.386***
5	$2.715^{*}$	11.07***	11.32***	9.517***	$2.049^{***}$	4.580***
6	$3.459^{*}$	21.95***	12.42***	$9.008^{***}$	$2.058^{***}$	5.723***
7	1.495	12.30***	15.74***	$9.203^{***}$	2.294***	5.352***
8	2.334	17.17***	12.69***	6.407***	$2.342^{***}$	$3.778^{*}$
YEAR=2005	$11.79^{*}$	1.003	1.407	0.798	$0.320^{***}$	6.695**
YEAR=2006	0.988	$2.685^{**}$	1.462***	0.993	$0.409^{***}$	0.630
YEAR=2007	1.212	1.473	1.089	0.984	0.393***	$0.447^{***}$
YEAR=2008	0.643	0.994	$0.841^{*}$	0.875	$0.320^{***}$	$0.612^{**}$
YEAR=2009	0.713	0.992	$0.742^{***}$	0.911	0.547***	0.803
YEAR=2010	1	1	1	1	1	1
YEAR=2011	1.205	0.656	1.358***	$1.280^{***}$	1.179	1.064
YEAR=2012	1.683	0.858	$1.724^{***}$	1.291***	1.439***	1.132
YEAR=2013	1.013	0.851	1.918***	1.575***	$1.790^{***}$	1.256
Below low sec	0.833	0.568	$1.416^{*}$	1.550	1.209	
Lower secondary	1	1	1	1	1	1
Upper secondary	0.524	$0.478^{***}$	0.959	$0.785^{***}$	0.753***	$0.498^{***}$
Tertiary	$0.219^{***}$	$0.310^{***}$	$0.820^{**}$	0.436***	0.585***	0.233***
Observations	1362	5711	25360	30999	9442	3904
Pseudo R <sup>2</sup>	0.136	0.126	0.117	0.105	0.079	0.094

Exponentiated coefficients; cluster robust standard errors; controls: gender, citizenship, family status

Source: EC-LFS scientific use file 2013

<sup>\*</sup> p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001

# Share of precarious jobs in all employed

					Year				
Cohort	2005	2006	2007	2008	2009	2010	2011	2012	2013
2005	55	50.42	42.51	38.6	34.4	35.37	34.15	33.71	34.03
2006		53.7	49.09	41.38	37.8	35.84	35.84	35.71	34.62
2007			53.3	47.73	40.69	39.29	37.57	36.51	34.51
2008				48.86	49.6	42.15	40.49	38.29	36.06
2009					51.88	51.98	44.37	41.5	37.65
2010						53.15	49.34	43.41	39.67
2011							52.26	51.4	44.29
2012								53.96	51.47

Determinants of a precarious job - logit

-						
Precarious job	Swiss	Germany	Greece	Italy	Spain	UK
	precjob	precjob	precjob	precjob	precjob	precjob
Years on LM ref =0	1	1	1	1	1	1
1	$0.780^{**}$	0.964	$0.741^{***}$	$0.833^{**}$	$0.713^{*}$	0.971
2	$0.590^{***}$	$0.646^{***}$	$0.540^{***}$	$0.585^{***}$	$0.472^{***}$	0.753***
3	$0.606^{***}$	$0.566^{***}$	$0.514^{***}$	$0.448^{***}$	0.343***	$0.661^{***}$
4	0.593***	$0.508^{***}$	$0.453^{***}$	$0.366^{***}$	$0.271^{***}$	$0.608^{***}$
5	$0.487^{***}$	$0.554^{***}$	$0.380^{***}$	$0.290^{***}$	$0.252^{***}$	$0.563^{***}$
6	0.535***	$0.507^{***}$	$0.358^{***}$	$0.272^{***}$	0.204***	$0.566^{***}$
7	$0.608^{***}$	0.515***	$0.374^{***}$	$0.258^{***}$	$0.194^{***}$	$0.498^{***}$
8	$0.601^{**}$	$0.509^{***}$	$0.306^{***}$	$0.238^{***}$	$0.208^{***}$	$0.464^{***}$
YEAR=2005	0.635	1.174	1.110	$0.718^{*}$	1.041	0.711
YEAR=2006	1.027	1.102	$0.832^{*}$	$0.801^{***}$	1.110	$0.811^{**}$
YEAR=2007	0.838	0.998	0.935	$0.807^{***}$	0.844	0.883
YEAR=2008	0.932	1.044	$0.910^{*}$	$0.814^{***}$	0.995	$0.805^{***}$
YEAR=2009	1.028	0.981	$0.877^{**}$	$0.851^{***}$	0.881	0.922
YEAR=2010	1	1	1	1	1	1
YEAR=2011	0.991	0.945	1.077	1.128***	1.327***	1.071
YEAR=2012	0.976	$0.888^*$	$1.112^{*}$	$1.400^{***}$	1.443***	1.240***
YEAR=2013	0.963	$0.836^{***}$	1.362***	$1.489^{***}$	$1.414^{***}$	1.161**
below low sec	0.636	0.437	$2.587^{***}$	0.815	1.595**	
lower secondary	1	1	1	1	1	1
upper secondary	$0.495^{***}$	$0.216^{***}$	$0.823^{***}$	$0.700^{***}$	$0.812^{**}$	$0.877^*$
tertiary	0.524***	$0.220^{***}$	0.591***	$0.720^{***}$	$0.728^{***}$	0.636***
Observations	20917	68859	39702	83951	19812	25559
Pseudo R <sup>2</sup>	0.042	0.045	0.025	0.039	0.069	0.026

Exponentiated coefficients; cluster robust standard errors; controls: gender, citizenship, family status

Source: EC-LFS scientific use file 2013

<sup>\*</sup> p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001

# **Population -share of decent jobs**

					Year				
Cohort	2005	2006	2007	2008	2009	2010	2011	2012	2013
2005	23.69	34.56	43.97	47.97	50.36	49.28	50.55	50.77	50.3
2006		26.47	36.84	45.36	46.56	48.18	48.99	48.46	49.14
2007			28.02	38.93	43.67	45.54	47.46	48.28	49.42
2008				31.32	35.27	41.99	44.21	45.81	47.91
2009					27.82	32.72	40.45	43.03	46.69
2010						27	34.97	40.66	44.39
2011							26.96	32.7	40.14
2012								25.79	32.1

# **Determinants of a decent job - logits**

Decent job	Swiss	Germany	Greece	Italy	Spain	UK
Decem jou		Germany		Italy	Spain decich	
Vacua an I M nof O	decjob	decjob	decjob	decjob	decjob	decjob
Years on LM ref.=0	1 407***	1	1 020***	1 0 6 4 ***	1 02 4 ***	1 21 5***
1	1.437***	1.157**	1.938***	1.964***	1.924***	1.315***
2	2.093***	1.710***	3.368***	3.215***	3.196***	$1.647^{***}$
3	$2.130^{***}$	$2.001^{***}$	4.191***	4.452***	$4.622^{***}$	1.893***
4	2.163***	2.193***	5.153***	5.829***	$6.010^{***}$	2.044***
5	$2.462^{***}$	$2.018^{***}$	5.988***	$7.650^{***}$	6.712***	2.223***
6	2.301***	$2.086^{***}$	6.976***	8.503***	7.991***	2.176***
7	$2.142^{***}$	2.093***	7.211***	9.053***	$9.002^{***}$	$2.272^{***}$
8	$2.078^{***}$	2.103***	$8.817^{***}$	10.53***	8.502***	$2.652^{***}$
YEAR=2005	1.671	$0.761^{***}$	0.826	1.443**	1.357	$1.624^{*}$
YEAR=2006	0.973	0.901	1.486***	1.432***	1.171	1.294***
YEAR=2007	$1.205^{*}$	1.017	$1.270^{***}$	1.439***	1.679***	1.264***
YEAR=2008	1.044	0.983	1.300***	1.401***	1.306**	1.336***
YEAR=2009	0.921	1.026	1.255***	1.215***	$1.199^{*}$	1.073
YEAR=2010	1	1	1	1	1	1
YEAR=2011	0.973	1.115	$0.737^{***}$	$0.887^{***}$	$0.714^{***}$	0.943
YEAR=2012	0.974	$1.190^{***}$	0.581***	$0.705^{***}$	$0.619^{***}$	$0.858^{***}$
YEAR=2013	0.961	1.262***	$0.455^{***}$	0.597***	$0.589^{***}$	$0.904^{*}$
Below low sec	1.469	1.531	$0.354^{***}$	$0.470^{**}$	0.451***	
Lower secondary	1	1	1	1	1	1
Upper secondary	2.287***	$7.784^{***}$	1.233***	2.716***	1.478***	1.994***
Tertiary	2.408***	9.737***	2.130***	3.496***	1.989***	3.243***
Observations	23842	81464	77311	160309	35009	32816
Pseudo R <sup>2</sup>	0.048	0.083	0.083	0.089	0.120	0.056

Exponentiated coefficients; cluster robust standard errors; controls: gender, citizenship, family status

Source: EC-LFS scientific use file 2013

<sup>\*</sup> p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001

### **Summary and Conclusions I**

- Coming back to the "Lost Generation" narrative, a good part of the Post World-War I generation in the US became quite successful (Hemingway, Eliot, Faulkner, Truman, or Eisenhower), whilst others failed
- In core, Hemingway's reference-book "the sun also raises" already indicates more a period effect, than a generational perspective
- Elder 1974 ("Children of the *Great Depression*" ) identified quite complex and life course sensitive cohort effects of the Great Depression instead of a simple generation effect
- In case of the Great Recession and its aftermaths similar pattern seem to develop

### **Summary and Conclusions II**

- The recession years affected young people in manifold ways: both unemployment and employment risks changed period-specific (recession argument)
- Labor market experience typically prevents from labor market risks. The crisis devaluate experience temporarily but not long-lasting (experience argument)
- We observe a severe sorting process into and within unemployment by years after graduation
- Education protects, even in the year of crisis
- The Great Recession affected especially the low qualified, which seem to recover slowly
- It's more "The sons also rise" (Krugman 2002) or "The son also rises" (Clark 2014) than the "sun also rises"

#### Thanks for your attention

