Lepper, Timo & Gangl, Markus

Hard times: The Great Recession and the effect of job loss on household incomes
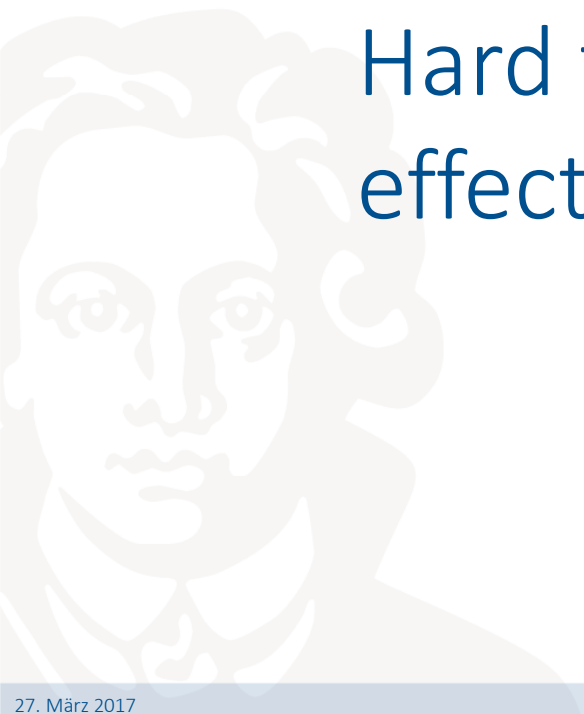
CORRODE - Corroding the social? An empirical evaluation of the relationship between unemployment and social stratification

A comprehensive evaluation of the relationship between unemployment and social stratification in Europe and North America. Estimate the impact of household unemployment experiences on…
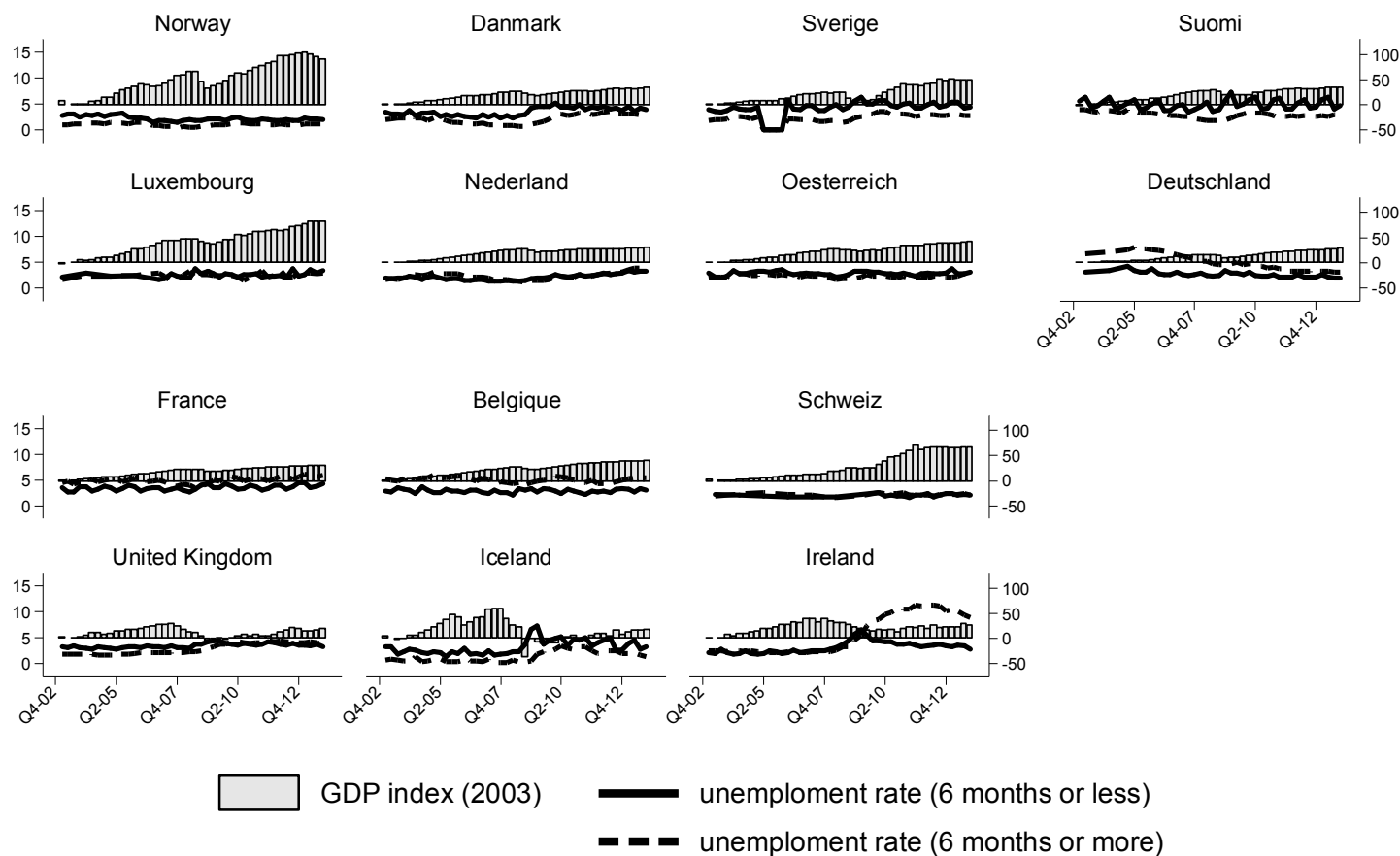
1. …**household incomes**

2. …household demographic behavior

3. …household educational participation

4. …household social integration and civic and political participation

Background

Previous research: effect of unemployment on household income trajectories and how the family and welfare state buffer income loss at national level (DiPrete and McManus 2000; Ehlert 2012; Ehlert 2013).

- Focus on comparative perspective: welfare states, changing macro-economic conditions

- The consequences of individual unemployment for household incomes in different contexts:

  - Short- and medium-term effects of recent job loss

  - 2003-2013

  - Focus on the Great Recession

What happened? - Impact of the Great Recession

GDP index (2003) unemployment rate (6 months or less) unemployment rate (6 months or more)

Source: Eurostat EU Labour Force Survey

What happened? - Impact of the Great Recession

GDP index (2003)

unemployment rate (6 months or less)

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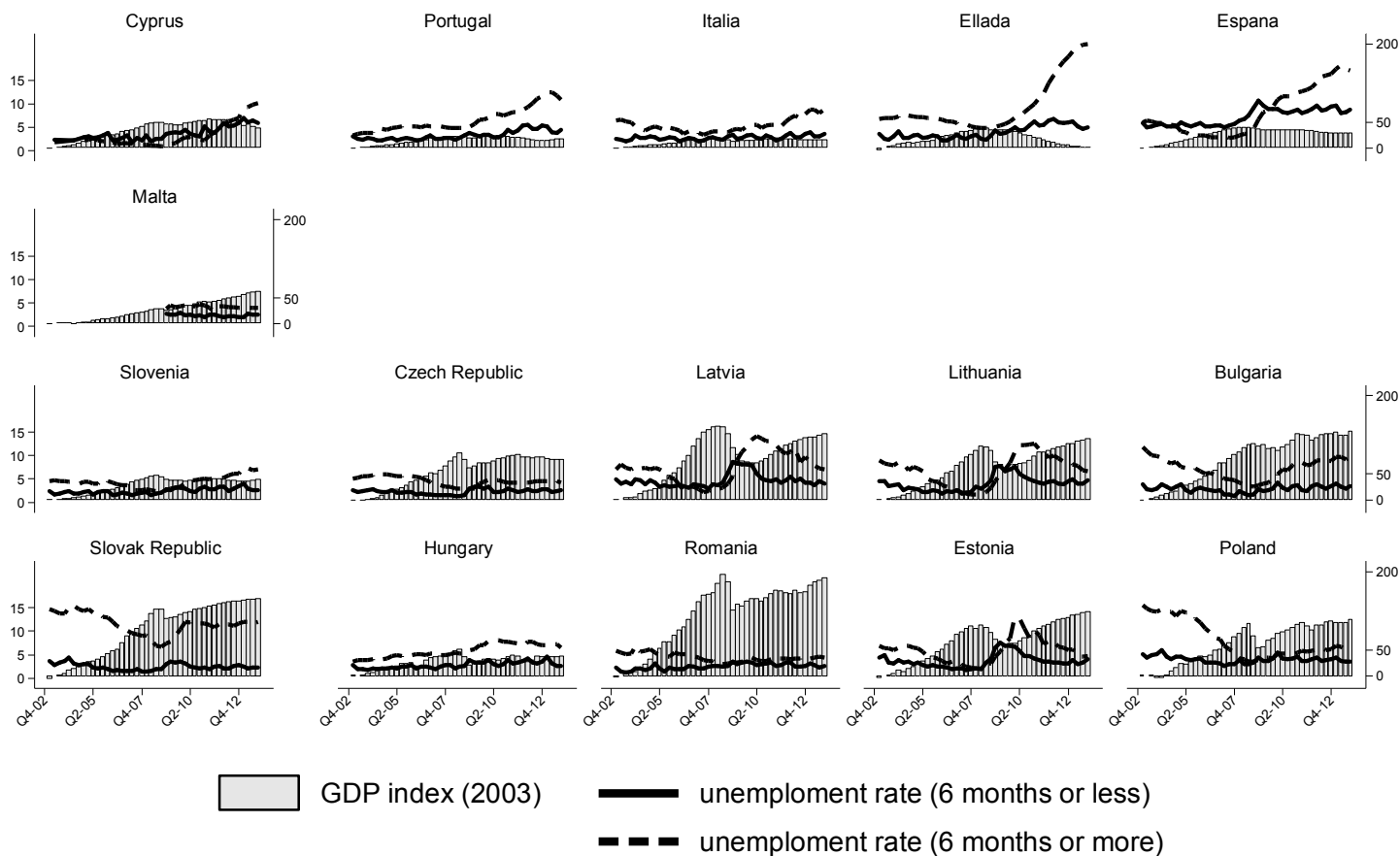
Source: Eurostat EU Labour Force Survey

Research questions

- How much does individual job loss affect household disposable income?

- To which extend do **welfare states/regimes** moderate the effect of unemployment on household disposable incomes?

- How does this effect vary with changes in **macro-economic conditions**?
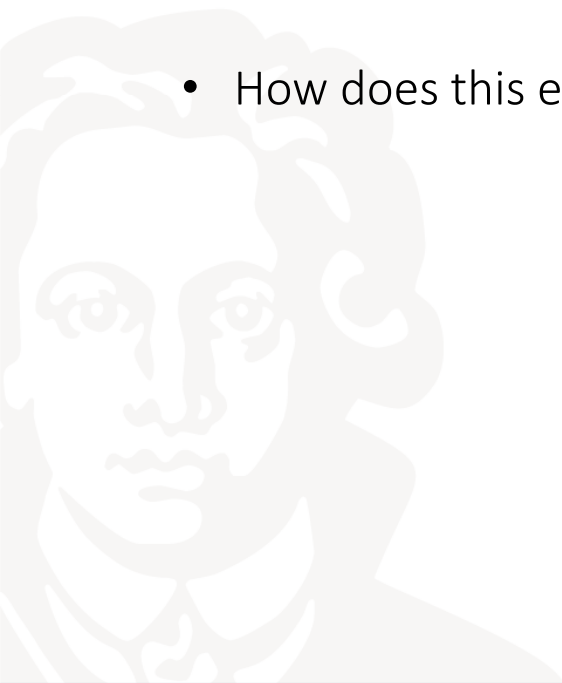
Sensitivity of unemployment penalty to macro-economic conditions

Effect of Aggregate Unemployment on Unemployment Penalty
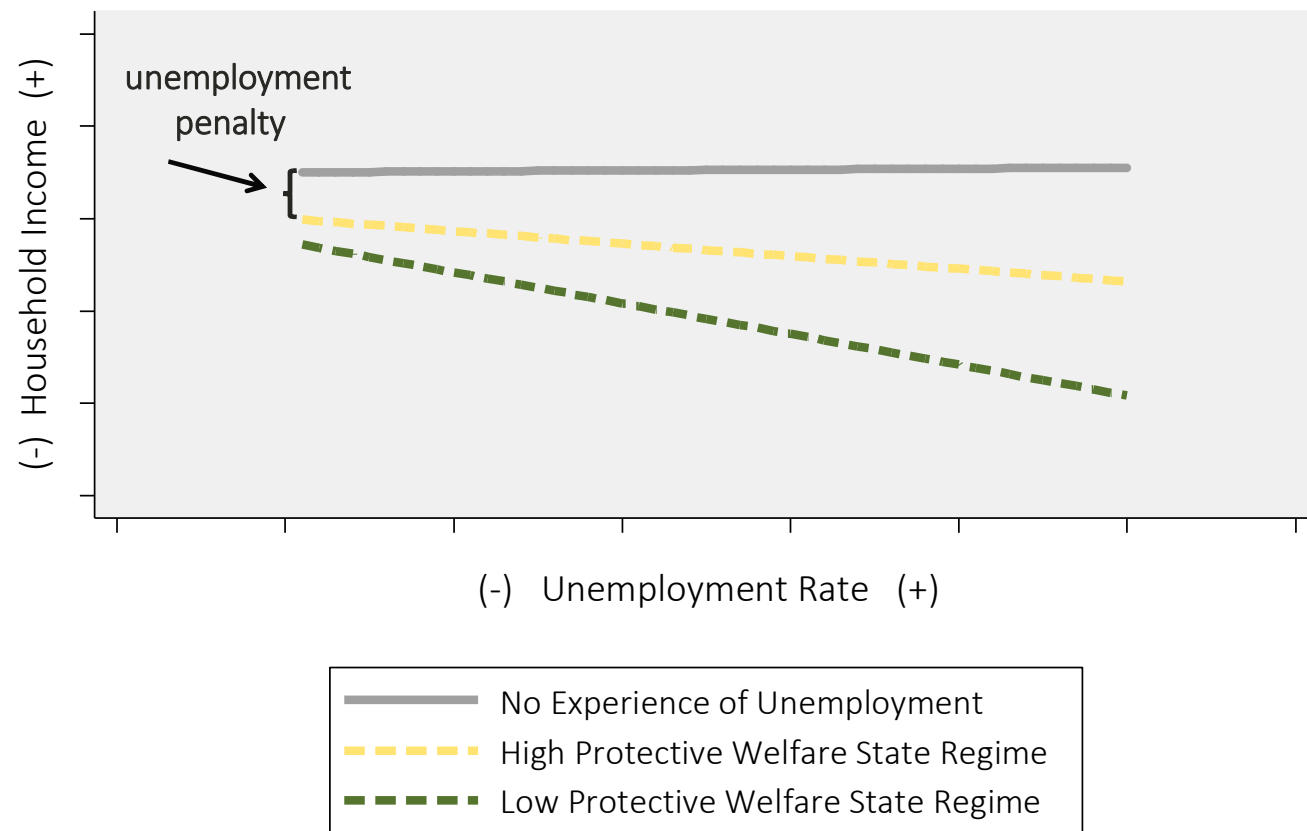
Harmonized Datasets (29 European Countries + USA):

- **European Union Statistics on Income and Living Conditions (EU-SILC)**
- British Household Panel Survey (BHPS)
- Socio-Economic Panel (GSOEP)
- Panel Study of Income Dynamics (PSID)
- Swiss Household Panel (SHP)
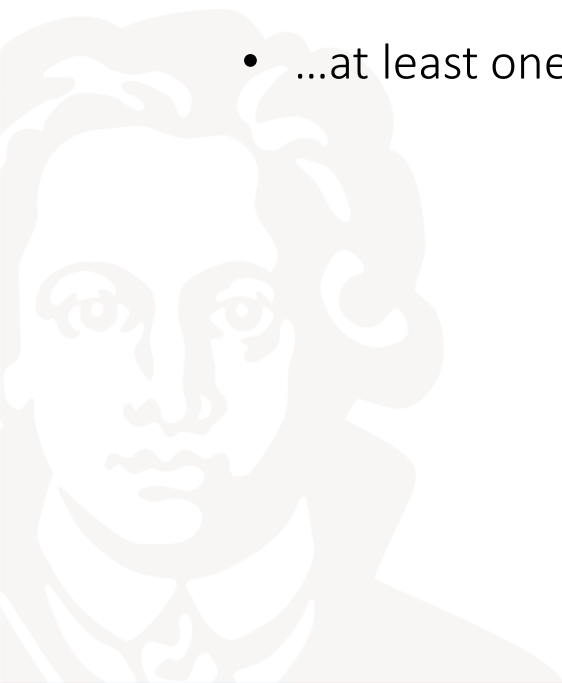
Period: 2003 - 2013

Structure:

- Person, household, country, welfare state
- Yearly observation
- Maximum of four periods per person (rotational panel)

Sample

We include all households at risk of experiencing unemployment, therefore these households must report…

- …at least one person in the age between 16 – 65 years

- …at least one period of employment by any household member

Sample

	(1) Person	(2) Person-Years	(3) Household	(4) Household-Years	(5) Country-Years	(6) Countries	(7) job losses	(8) mean unemp. duration	(9) coupled unemployment	(10) mean household disposable income	(11) mean household size
Sample	596,664	2,649,221	237,028	998,712	290	30	75,995	6,4	18,147	14,102	2,7
Welfare State Regime											
Country											
southern											
Cyprus	13,722	54,888	4,448	17,116	10		2,547	5,3	765	15,288	3,2
Portugal	16,825	67,300	6,050	23,460	11		2,407	7,2	628	7,968	2,9
Italia	55,339	221,356	20,839	80,948	11		6,344	7,4	1,674	15,304	2,7
Ellada	17,758	71,032	6,288	24,659	11		3,176	7,0	1,008	9,338	2,9
Espana	42,916	171,664	15,650	60,262	11		10,233	7,3	3,392	11,905	2,8
Malta	10,197	40,788	3,340	12,968	9		441	6,1	75	9,517	3,1
eastern											
Slovenia	28,459	113,836	8,761	35,044	10		3,010	6,0	742	12,098	3,2
Czech Republic	29,673	118,692	11,367	44,865	10		2,794	5,8	525	5,913	2,6
Latvia	14,661	58,644	5,777	22,686	10		3,078	7,2	824	3,627	2,6
Lithuania	14,006	56,024	5,364	21,278	10		2,067	6,7	488	3,660	2,6
Bulgaria	13,629	54,516	4,626	18,287	9		2,682	7,6	1,306	2,131	3,0
Slovak Republic	13,925	55,700	4,193	16,750	9		1,343	6,7	389	4,505	3,3
nordic											
Norway	8,228	40,394	3,264	16,304	6		286	5,2	5	29,989	2,5
Danmark	12,129	48,516	4,774	19,096	10		390	6,0		26,135	2,5
Sverige	15,421	61,684	6,356	25,424	11		976	5,0		21,126	2,4
Suomi	23,892	95,568	9,903	39,612	11		2,426	4,8		21,469	2,4
liberal eastern											
Hungary	26,774	107,096	9,689	38,083	10		4,900	6,7	1,495	3,373	2,8
Romania	9,634	38,580	3,348	13,406	8		263	7,6	66	1,526	2,9
Estonia	18,483	73,932	6,622	25,617	11		2,463	5,9	605	4,173	2,9
Poland	45,201	180,804	14,479	56,939	10		5,153	6,9	1,513	3,828	3,2
continental											
Luxembourg	16,334	82,618	6,333	31,423	11		1,864	5,7	313	27,975	2,6
Nederland	24,408	97,632	9,425	37,700	10		914	4,6		19,860	2,6
Oesterreich	16,849	67,396	7,003	27,064	11		2,411	4,9	377	18,947	2,5
Deutschland	16,350	134,007	9,718	74,145	10		4,771	5,6	733	23,747	2,5
France	27,905	158,299	11,637	63,265	11		4,855	6,2	720	18,559	2,5
Belgique	14,710	58,840	5,905	22,713	11		1,318	6,3	177	18,075	2,6
Schweiz	8,213	65,288	4,290	31,323	9		915	4,0	62	35,394	2,7
liberal western											
United Kingdom	6,026	29,279	3,131	15,188	5		454	4,2	38	24,064	2,8
United States of America	25,663	183,822	8,890	67,041	4		694	5,7	99	18,150	2,8
Iceland	8,314	33,256	3,004	12,016	10		820	4,8	128	19,039	2,8

Sources: EU-SILC, BHPS, GSOEP, PSID, SHP

Two-Step Approach

1. Fixed-Effects Model:

- Controlling for household-specific time-constant unobserved heterogeneity
- Time fixed-effects (year)
- Panel-robuts standard errors

Dep. var.:   log of total household disposable income (HY020),

                Incomes are adujsted to be comparable

Job loss indicator: emplyoment calender information (PL210A-L/PL211A-L),

   moving from employment to unemployment

Controls: household employment capacity, coupled unemployment

Two-Step Approach

2. Estimated dependent variable (EDV) models:

Dep. variable: unemployment penalty

Macro variables: unemployment rate, long term unemployment rate,
                            unemployment insurance generosity, employment protection
                            legislation
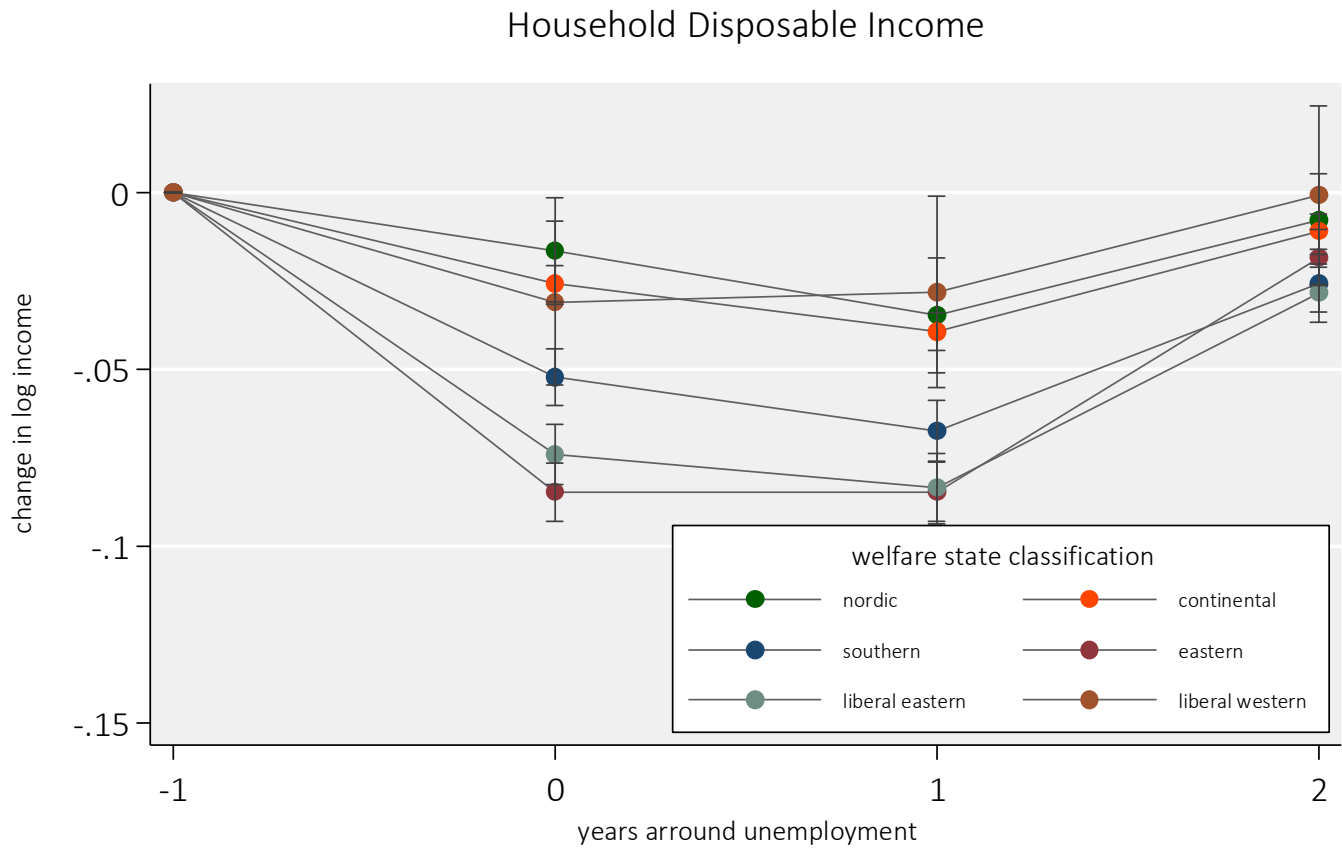
Unemployment penalty on household disposbale income
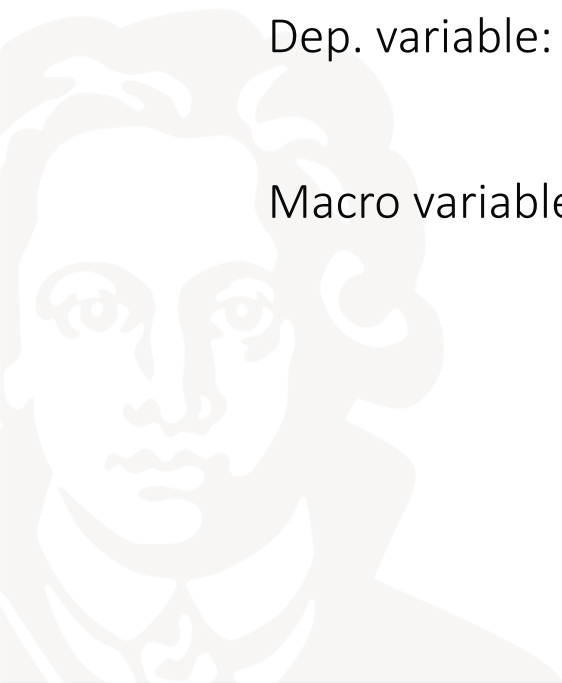
welfare state regime	(1) nordic	(2) continental	(3) southern	(4) eastern	(5) lib. eastern
unemployment duration					
< 3 months	0.0141**	0.00654**	0.0290***	0.000478	-0.00503
	(0.00717)	(0.00301)	(0.00371)	(0.00415)	(0.00436)
> 3 months - < 6 months	-0.0295***	-0.0159***	0.0114***	-0.0394***	-0.0397***
	(0.00888)	(0.00354)	(0.00403)	(0.00423)	(0.00431)
> 6 months	-0.0607***	-0.0665***	-0.0976***	-0.165***	-0.129***
	(0.00828)	(0.00365)	(0.00392)	(0.00453)	(0.00430)
coupled unemployment					
		-0.0323***	-0.0323***	-0.0370***	-0.0760***
		(0.00540)	(0.00520)	(0.00594)	(0.00626)
lag unemployment					
	-0.0347***	-0.0394***	-0.0593***	-0.0864***	-0.0862***
	(0.00517)	(0.00209)	(0.00262)	(0.00274)	(0.00288)
lag employed persons					
2	0.00371	0.0403***	0.0479***	0.0603***	0.0461***
	(0.00496)	(0.00211)	(0.00260)	(0.00286)	(0.00280)
3	0.0170	0.0728***	0.0801***	0.127***	0.0973***
	(0.0193)	(0.00353)	(0.00398)	(0.00417)	(0.00433)
year					
Constant	9.867***	9.777***	9.162***	8.161***	7.600***
	(0.00338)	(0.00197)	(0.00392)	(0.00377)	(0.00796)
Observations	177,097	533,490	467,027	342,482	299,695
R-squared	0.021	0.042	0.020	0.086	0.081
Number of PI_pid	59,650	125,473	156,733	114,352	100,088
Household FE	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES

Dependent variable: log Household Disposable Income
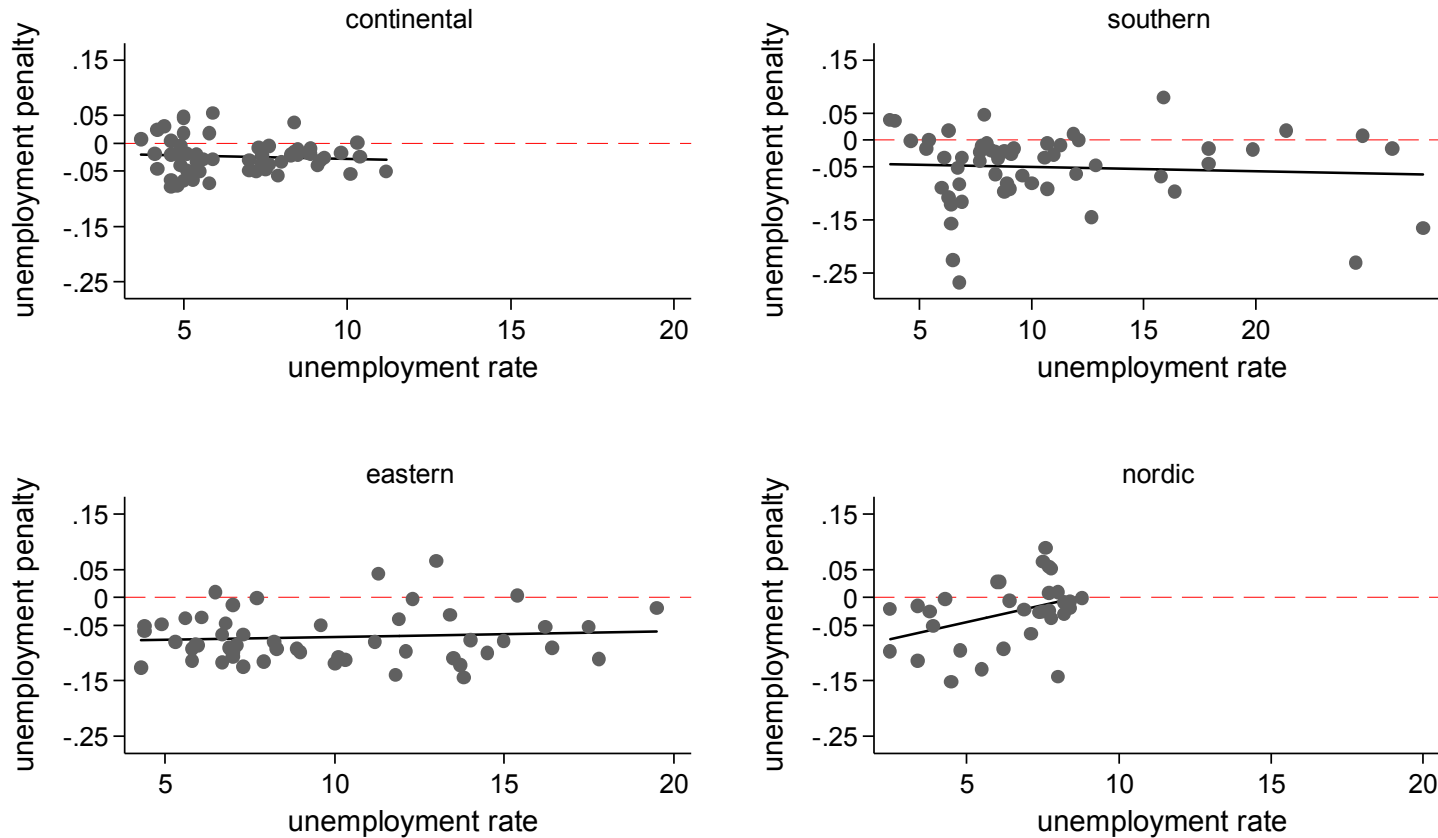Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Unemployment penalty on household disposbale income

Household Disposable Income

source: EU-SILC, GSOEP, PSID, SHP, BHPS

- Household Disposable Income -

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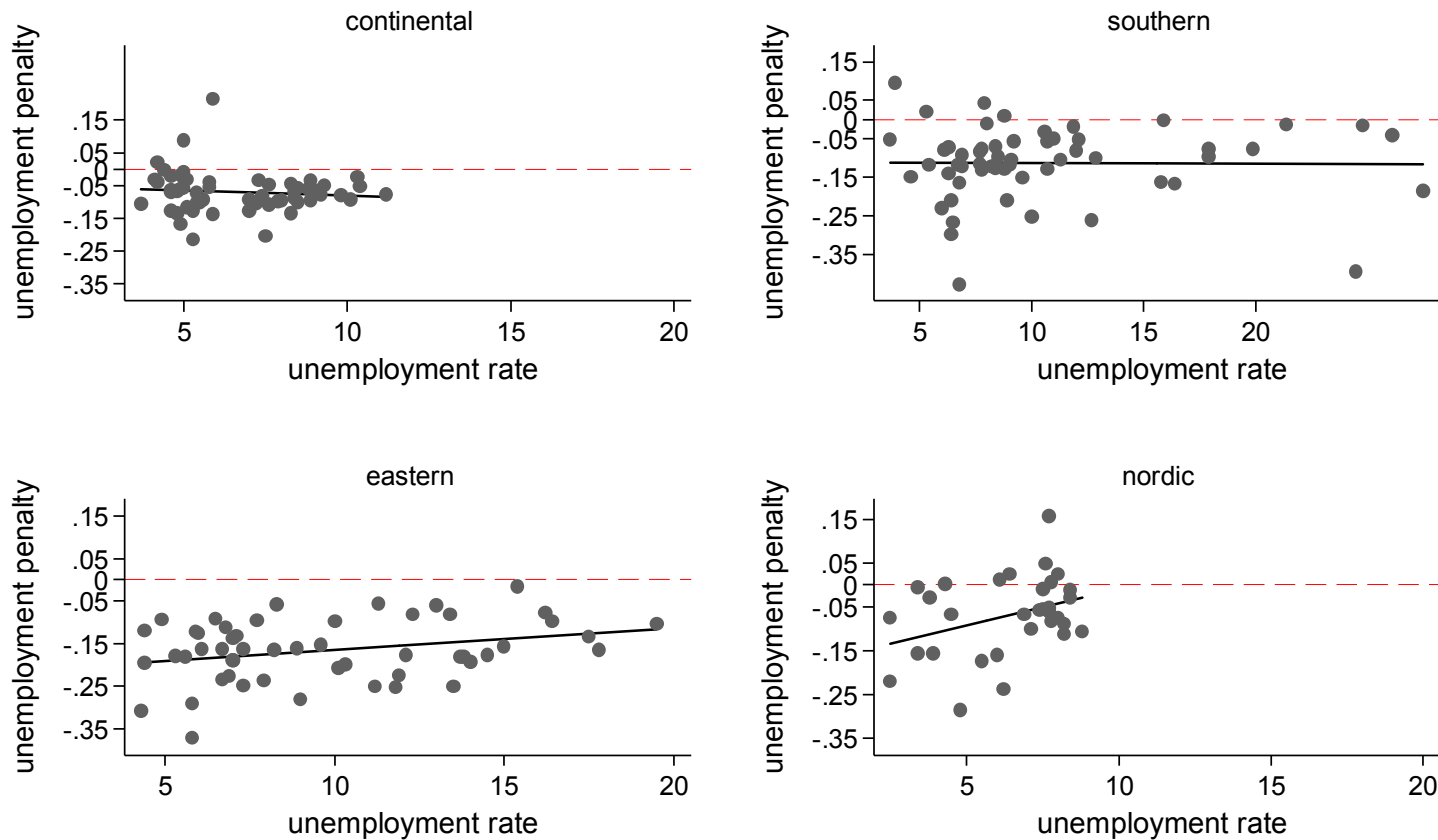
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Sensitivity of unemployment penalty to macroeconomic conditions - long-term unemployed

- Household Disposable Income -

Conclusion

Welfare State Regimes:

- **Unemployment duration** is crucial for the effect of unemployment on household disposable income

- Unemployment penalty for household disposable incomes differs substantially between **welfare state regimes**

Macro-economic conditions:

- **For now** no indication of relationship between unemployment penalty and national unemployment rate

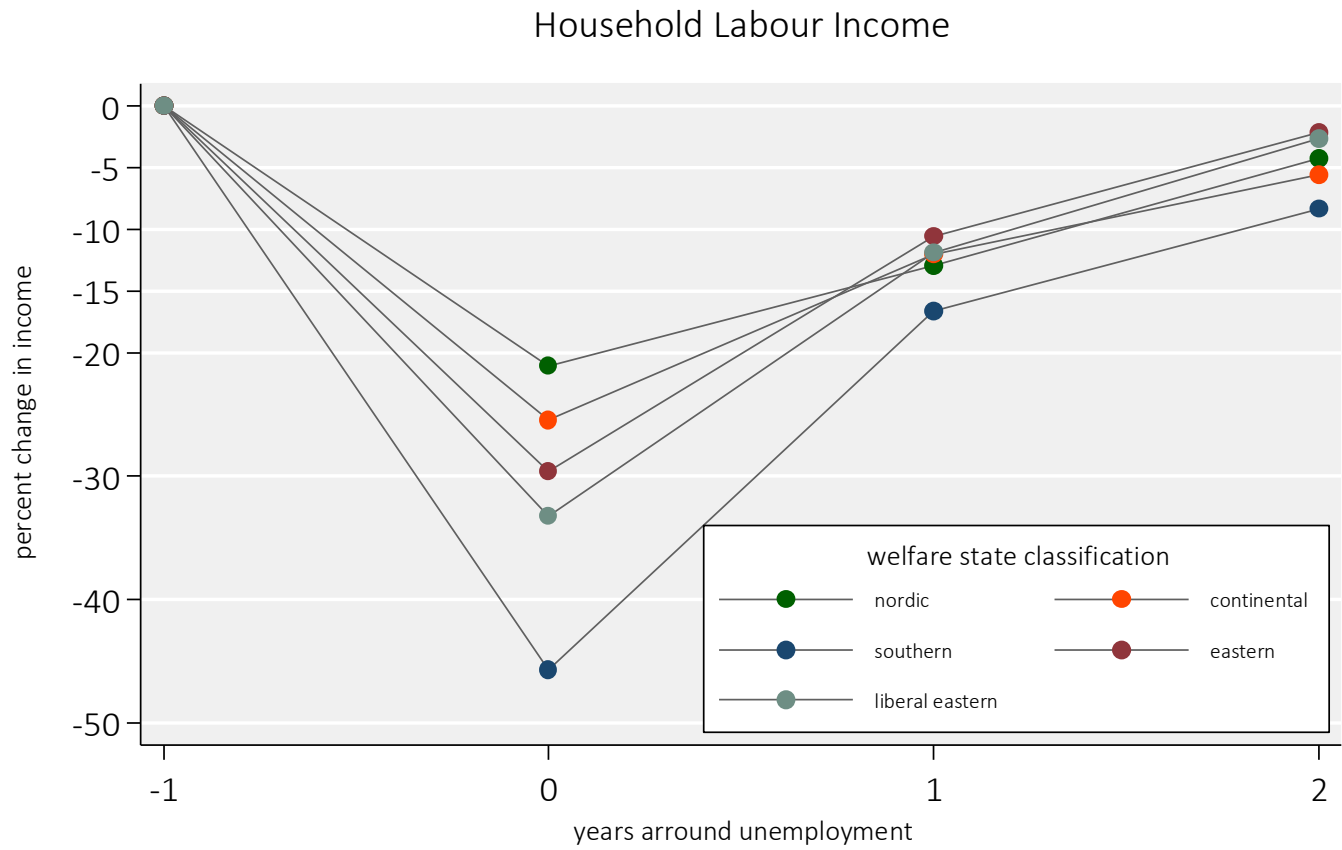- Further macro-level analysis. Any suggestions for indicators?

Thanks for your attention!

Appendix

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Unemployment penalty on labour income (household level)

Household Labour Income

source: EU-SILC, GSOEP, PSID, SHP, BHPS

Contemporaneous Effect of Unemployment

- Household Disposable Income -

Single Household

nordic	.24
continental	-5.1
southern	-11
eastern	-11
liberal eastern	-14
liberal western	-22

Multi-Person Household

nordic	-2.8
continental	-3.8
southern	-7
eastern	-8.5
liberal eastern	-9.4
liberal western	-11

-80 -70 -60 -50 -40 -30 -20 -10 -5 0
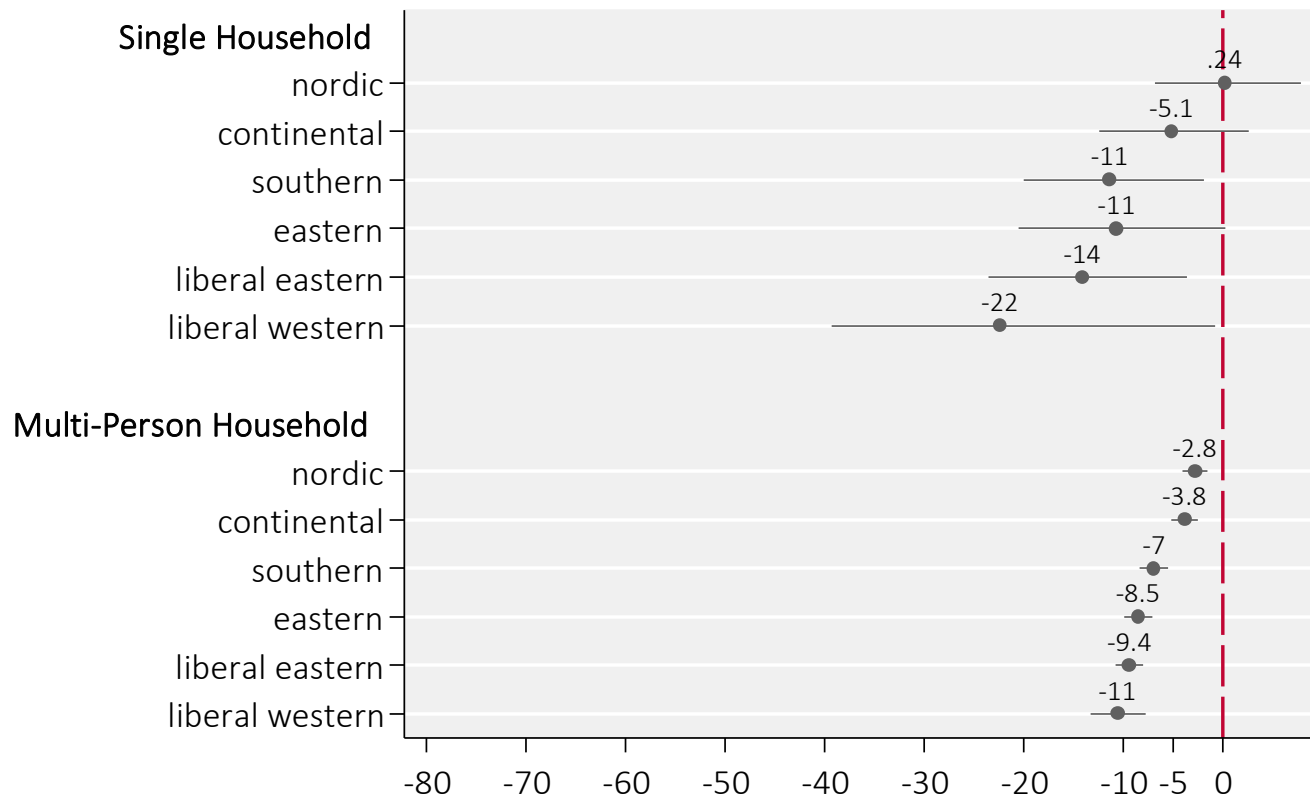
Sources: EU-SILC, GSOEP, PSID, SHP, BHPS

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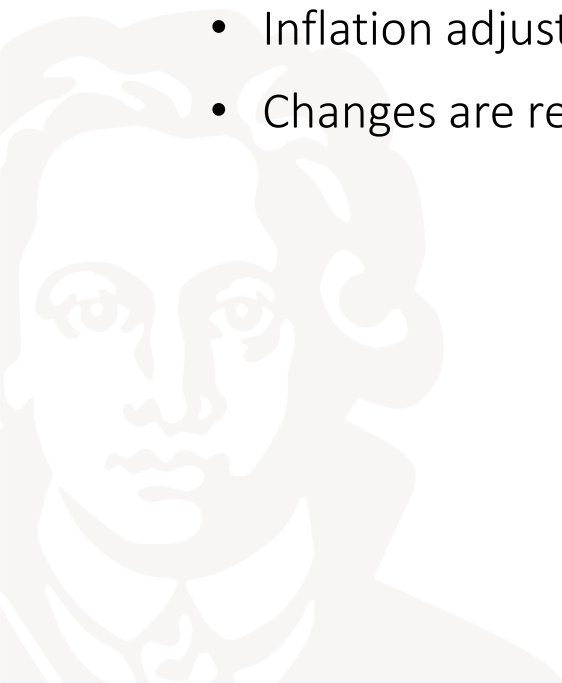
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Income Adjustment

Adjustment of income variables:

- All currencies are converted to Euro values by yearly exchange rate

- Household incomes equivailzed using the oxford equivalence scale

- Inflation adjusted by the harmonized index of consumer prizes (b. 2005)

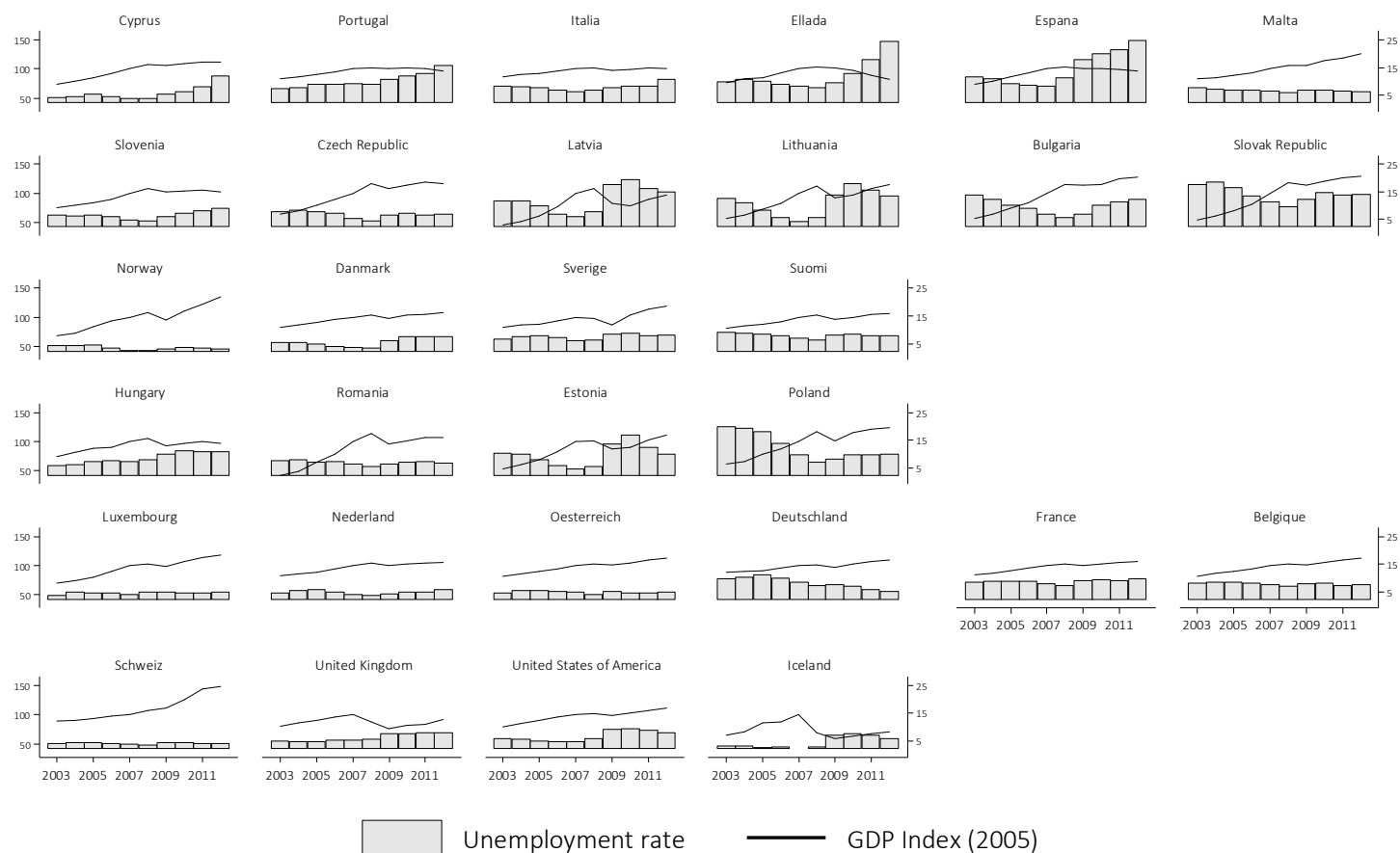- Changes are restricted to max. 1000% of respective income

Welfare state buffering of unemployment penalty (household level)
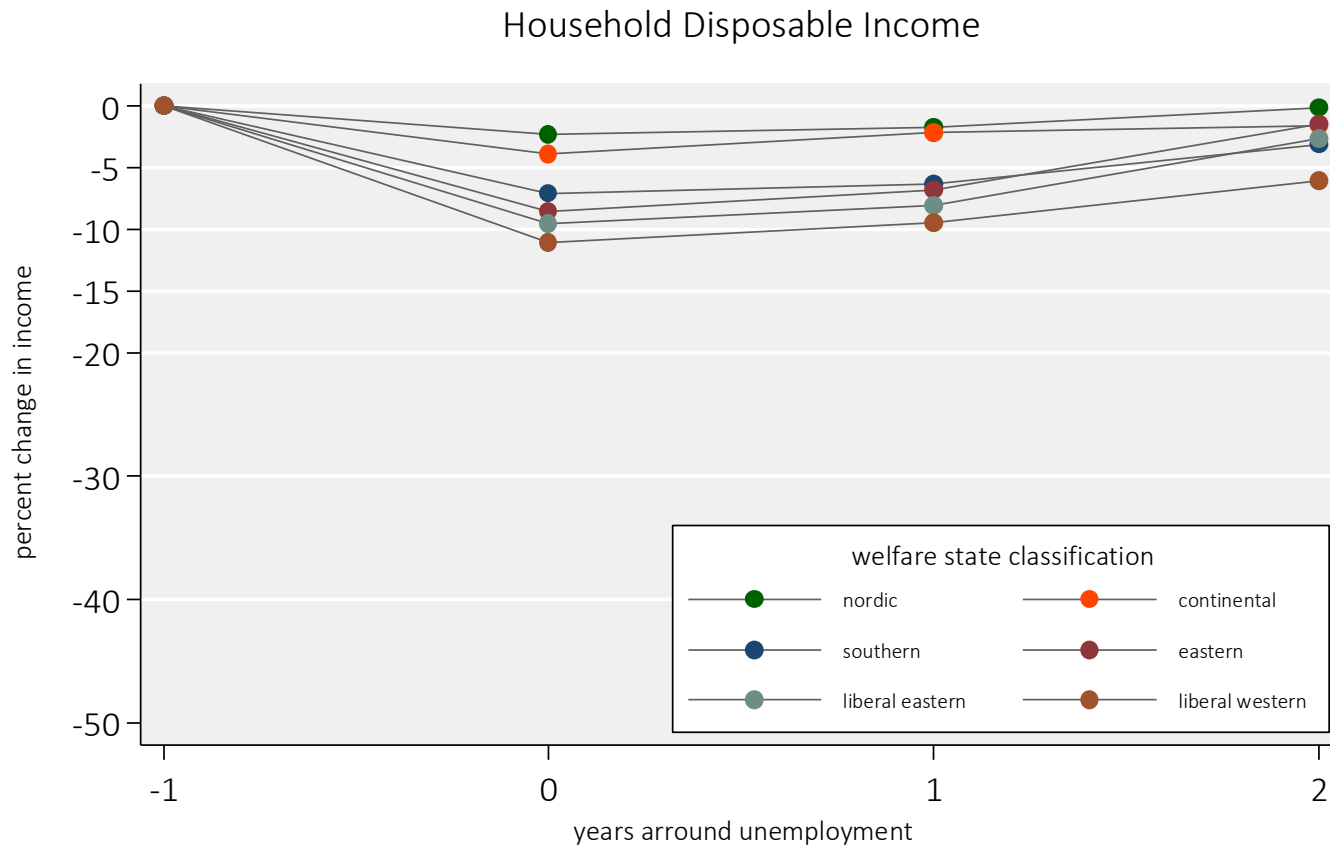
Household Disposable Income

source: EU-SILC, GSOEP, PSID, SHP, BHPS

Sources: Eurostat, OECD

Welfare state classificication

Welfare State Regime	Countries
Nordic	Danmark, Finland, Norway, Sweden
Continental	Austria, Belgium, France, Germany, Luxemburg, Netherlands Switzerland
Southern	Portugal, Spain, Greece, Italy, Cyprus, Malta
Eastern	Bulgaria, Latvia, Lithuania, Slovakia, Slovenia, Czech Republik,
Liberal Eastern	Estonia, Hungary, Poland, Romania,
Liberal Western	United Kingdom, United States of America