

Joint Research Centre

the European Commission's in-house science service

*Serving society
Stimulating innovation
Supporting legislation*

The role of an EMU unemployment insurance scheme in protecting income in case of unemployment

H. Xavier Jara*, Holly Sutherland* and Alberto Tumino**

*ISER, University of Essex

**ISER, University of Essex & JRC Seville

Social Situation Monitor Research Seminar

Brussels, 12 January 2018

www.ec.europa.eu/jrc



Acknowledgement and Disclaimer

- The work hereby presented was entirely conducted at the Institute for Social and Economic Research (ISER, University of Essex), before the presenter joined the JRC
- The scientific output expressed does not imply a policy position of the European Commission. Neither the European Commission nor any person acting on behalf of the Commission is responsible for the use which might be made of it.

Outline

- Introduction
- Data and methods
- Main results
- Conclusions and next steps
 - Social protection of atypical workers

Introduction

- Increasing discussions on deepening fiscal integration and improving risk sharing among EMU member states (EC, 2012)
- An EMU unemployment insurance (EMU-UI) scheme could
 - smooth output fluctuations across member states
 - improve income protection of the unemployed (social cohesion)
- Stabilisation properties of EMU-UI analysed by backward-looking studies (e.g. Dullien 2013, Dolls et al. 2014, Lelouch and Sode 2014)
- We evaluate additional protection provided by an EMU-UI
 - Across the entire in-work population (generalisable assessment)
 - For those with the highest risk of becoming unemployed
- Focus on coverage, budgetary cost, income stabilisation, poverty

Why an EMU-UI?

- National UI are heterogeneous (Esser et al., 2013), and difficult to harmonise. Dimensions to take into account include:
 - Eligibility: contributions and other conditions (e.g. employment status)
 - Level of payment and duration of entitlement
 - Integration with the rest of the tax-benefit system (e.g. unemployment assistance)
- EMU-UI Based on paper 'On Automatic Stabilisers' by DG-EMPL
 - Genuine scheme payable from the 1st to 12th month of unemployment.
 - Eligibility: all currently employed (self-employed excluded) up to age 64, with earnings during at least 3 months in the previous 12
 - Level of payment: 50% of most recent gross monthly earnings; floor (20% AGE in each country, not for part timers) and ceiling (150% AGE in each country)
 - Same treatment as national UI in the rest of the tax benefit system

Methods and data

- Use EUROMOD version G2.74
 - EU-SILC 2012
 - 2014 policy rules (UI and other)
- Simulate transitions from work to unemployment
 - For all individuals currently in work
 - The 2% with highest risk of unemployment
 - Compare disposable hh income before and after transition, with and without EMU-UI
- Focus on additional effects of a common EMU-UI scheme at national level
- The first year of unemployment
 - Duration of unemployment is a separate issue and not modelled

The high unemployment risk sample

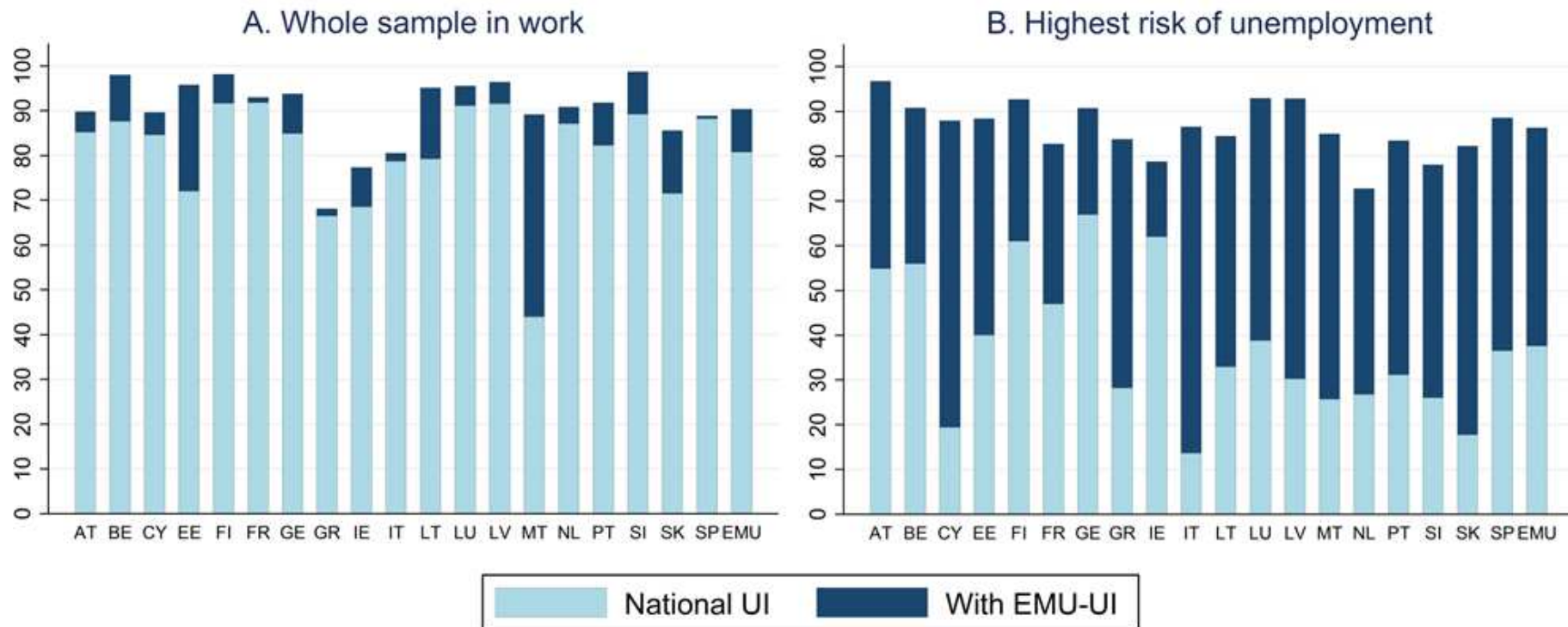
- Estimate risk of unemployment
 - Probit: 1 if at least one month in unemployment, 0 otherwise.
 - Controlling for individual and household characteristics
 - Based on those with positive earnings, aged 15-64, not in education or armed forces
- Predictions of unemployment risk based on:
 - Estimated coefficients and individual characteristics
 - A random component not to completely exclude the lowest risk groups from the selection (Li and O'Donoghue 2014)
- Select 2% of individuals with highest predicted unemployment risk
 - Impose coverage of national UI equal to shares of short-term unemployment benefit recipients in LFS 2014.

Results

- Potential coverage
- Beneficiaries
- Poverty reduction
- Automatic stabilisation
- Budgetary Consequences

Potential Coverage

Proportion of the potential new unemployed entitled to any UI in the first 12 months of unemployment

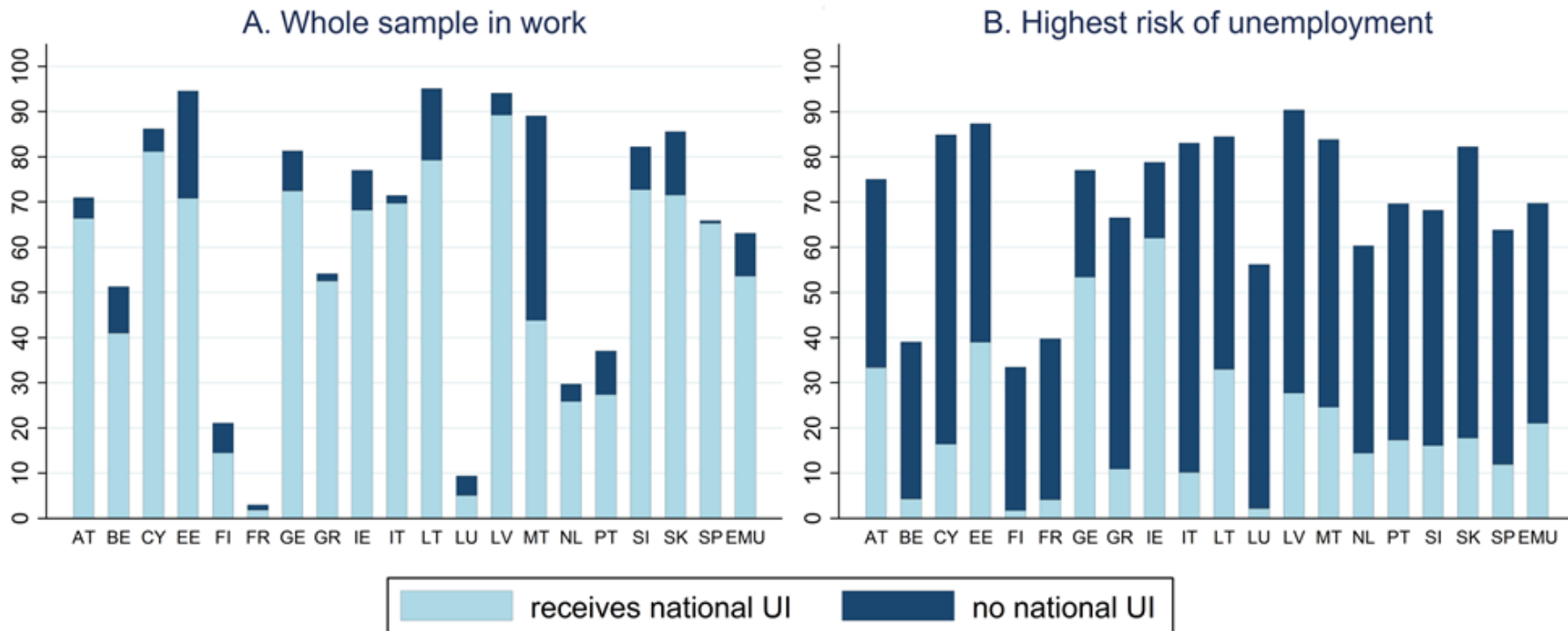


Potential coverage

- EMU-UI increases potential coverage in all countries, especially among disadvantaged population subgroups
 - +9 pp for the whole sample in work at EMU level
 - +48 pp for highest risk sample at EMU level
- Heterogeneity between countries, depending on how stringent EMU-UI eligibility is relative to national scheme (FR vs MT)
- Potential coverage over the whole population likely to exceed 'usual' coverage estimates
 - Most currently employed have full year employment
- For 2% with highest risk coverage of national UI is fixed to that observed in LFS 2014.

Beneficiaries

Proportion of potential new unemployed who would receive an additional benefit from the EMU-UI

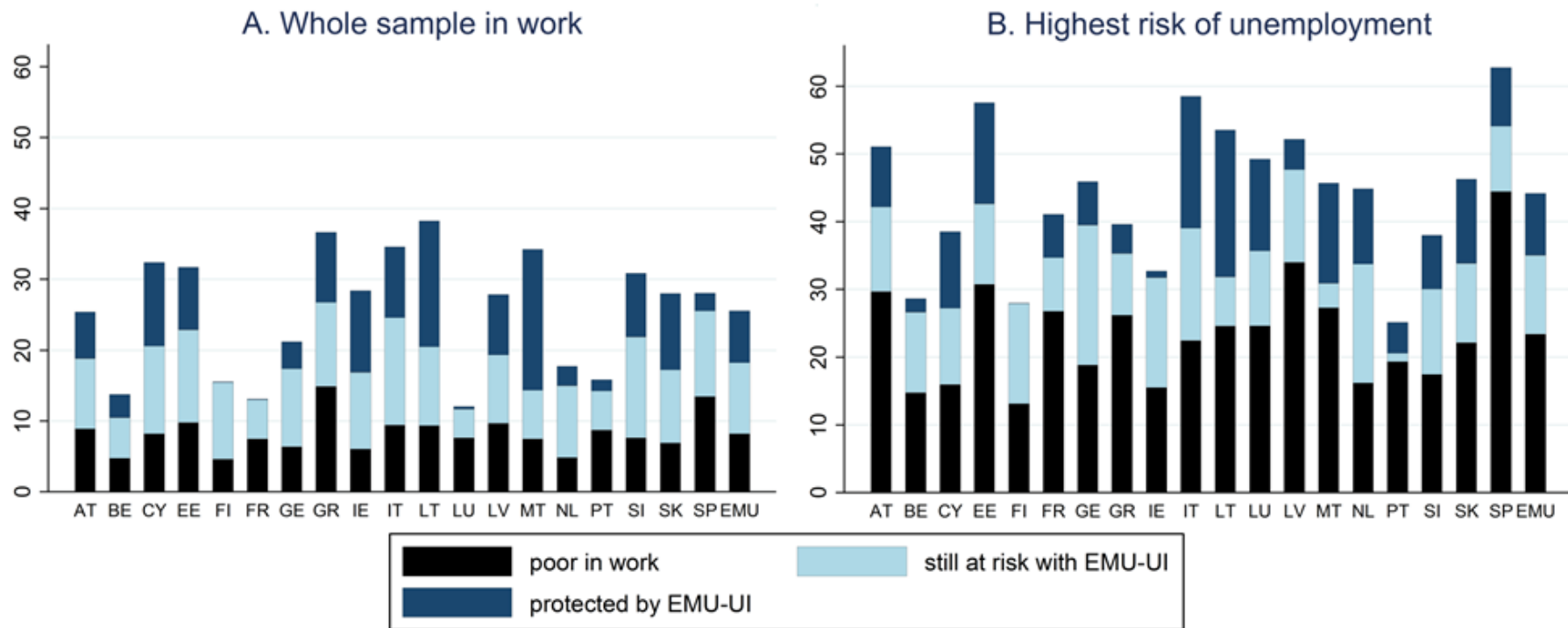


Beneficiaries

- Beneficiary if EMU-UI is higher than the national UI in at least one month over the first year of unemployment
- Distinguish between
 - Beneficiaries not entitled to national UI (captures increase in coverage)
 - Beneficiaries entitled to national UI (captures increase in benefit amount or duration)
- Whole in-work population: 63% benefit at the EMU level, mainly in terms of benefit generosity
- High unemployment risk: 70% benefit at the EMU level, mainly because of increased coverage
- Heterogeneity across country: FR vs LV

At risk of poverty

Evaluate the potential of the EMU-UI to reduce risk of poverty for the new unemployed



At risk of poverty

- Becoming unemployed increases the risk of falling into poverty
- EMU-UI has a positive effect on reduction of risk of poverty.
At EMU level
 - Whole in-work population: protect 6%.
 - High unemployment risk sample: protect 7%. High levels of in-work poverty (23%)
- Different poverty reduction properties across countries
- Look at poverty gap

Other results (see extras)

- EMU-UI and automatic income stabilisation:
 - Share earnings lost recovered due to benefits and tax reduction
 - +13 pp for whole in-work population; +20 pp for high unemployment risk sample
- Additional cost per unemployed:
 - Follows closely beneficiary pattern. High heterogeneity between countries
 - Close 20% of median hh income looking at entire in-work population
 - Close to 15% of median hh income for high unemployment risk sample
- Contribution rate to cover the high unemployment risk sample
 - 0.46% of earnings if uniform contribution across member states
 - Ranging from 0.31% to 0.68% if member state specific
 - Total cost: 0.012% of EMU GDP

Concluding remarks

- An EMU-UI could fill gaps in most national benefits:
 - Extend coverage
 - Increase generosity
 - Extend duration of payment
- Our illustrative EMU-UI would
 - Reduce risk of poverty of the potentially new unemployed
 - Provide additional income stabilisation
- The extent of the effects vary across countries for two reasons:
 - Variation in the design of national UIs (e.g. in FR, FI and LU very similar to EMU-UI so small effects; the opposite in MT and LT)
 - Variation in characteristics of people entering unemployment (e.g. women, the young, low skilled and low earners would benefit in terms of coverage).
- Additional cost of EMU-UI
 - lowest in countries where national UI similar to EMU-UI
 - Uniform contribution rate: 0.46% of employment income at the EMU level
- Caveats: only first round effects; moral hazard issues

Next steps: Social protection of atypical workers

- Simulate transitions from work to unemployment for all earners
- Atypical workers: self-employed and low individual work intensity (ESDE report 2016 definition)
- Look at coverage and net replacement rates for
 - employees with non-low work intensity
 - employees with low work intensity
 - self-employed
- A scenario where self-employed become eligible to UI will be simulated.

Thank you!

Acknowledgements and further information

- The process of extending and updating EUROMOD is financially supported by the Directorate General for Employment, Social Affairs and Inclusion (DG-EMPL) of the European Commission.
- EUROMOD is made generally available for academic and not-for-profit use. Contact euromod@essex.ac.uk
- For more information see www.iser.essex.ac.uk/euromod

Extras

Within-Country Income Stabilisation

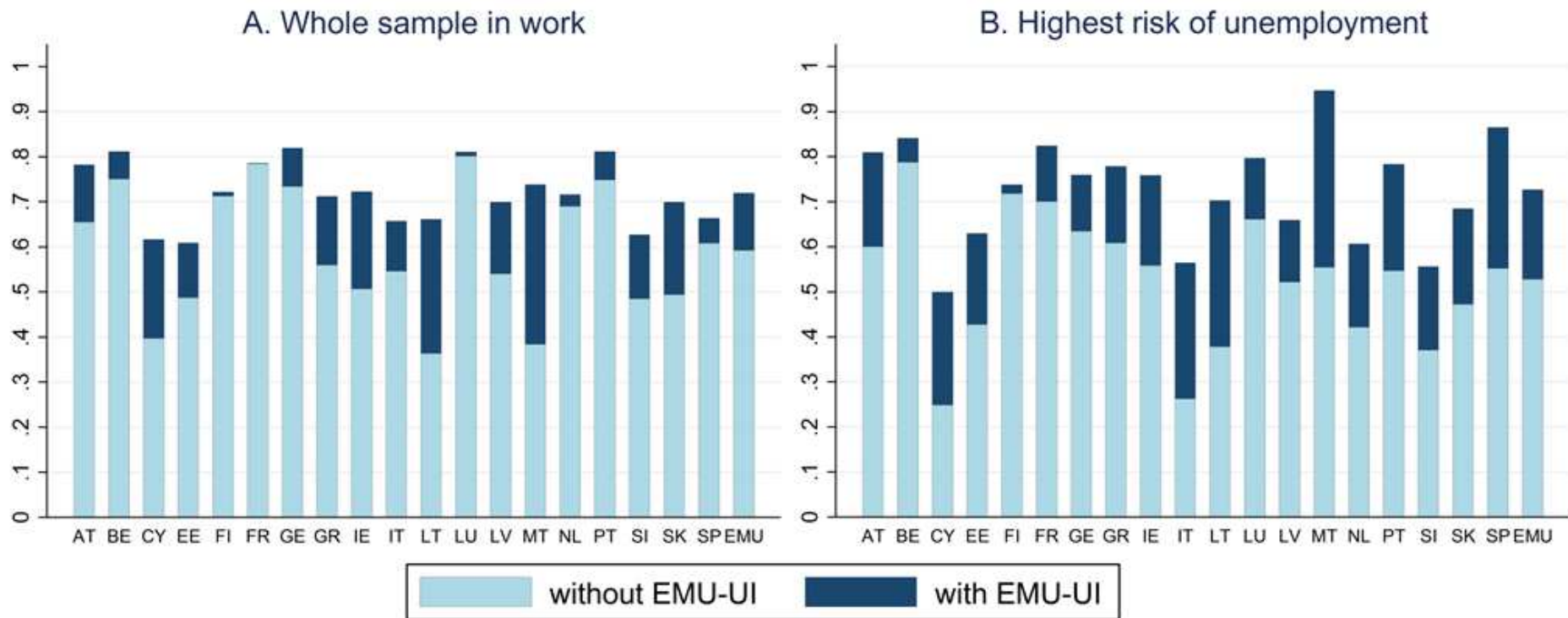
- Assess the contribution of the EMU-UI to national automatic stabilisation resulting of national tax-benefit systems
- Income stabilisation coefficient (Bargain et al., 2013):

$$\tau = 1 - \frac{\sum_i (Y_i^{post} - Y_i^{pre})}{\sum_i (X_i^{post} - X_i^{pre})}$$

where Y is household disposable income and X is market income

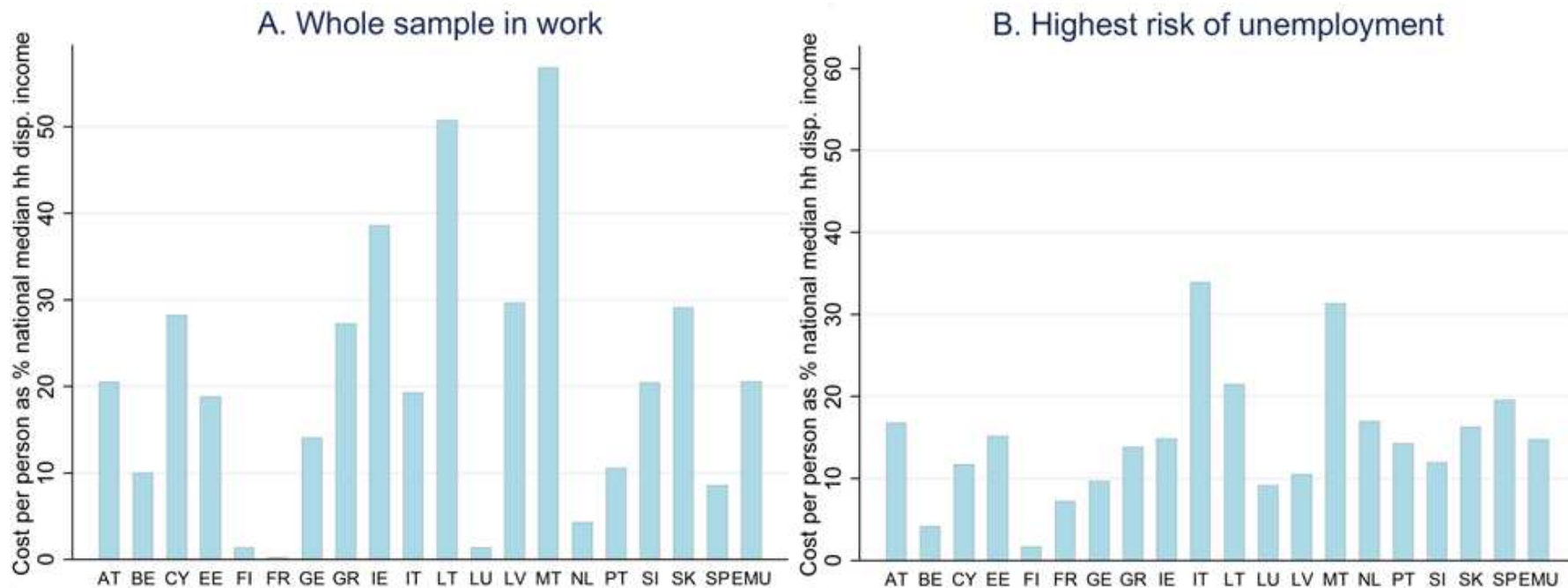
- Represents the percentage of the gross income from work, lost on becoming unemployed, that is retained in the form of reduced taxes and increased benefits, particularly UI.

Income stabilisation



Additional cost per unemployed

Measured as proportion of median hh disposable income in each country



Contribution rates and cost of an EMU-UI: 2 percent with highest risk of unemployment

	Contribution rates (%)	Total cost (% of GDP)	
		Specific	Uniform
AT	0.56	0.016	0.013
BE	0.41	0.012	0.013
CY	0.31	0.011	0.016
EE	0.41	0.011	0.013
FI	0.47	0.014	0.014
FR	0.35	0.009	0.012
GE	0.46	0.015	0.015
GR	0.49	0.009	0.008
IE	0.37	0.008	0.009
IT	0.68	0.015	0.010
LT	0.38	0.008	0.009
LU	0.45	0.008	0.008
LV	0.31	0.008	0.012
MT	0.50	0.014	0.013
NL	0.49	0.015	0.014
PT	0.31	0.008	0.012
SI	0.33	0.010	0.014
SK	0.48	0.010	0.010
SP	0.35	0.008	0.011
EMU	0.46	0.012	0.012

Population subgroup data

Additional coverage of EMU-UI by characteristics of the potentially unemployed (% points)

Country	AT	BE	CY	EE	FI	FR	GE	GR	IE	IT	LT	LU	LV	MT	NL	PT	SI	SK	SP
All	4.6	10.4	5.0	23.8	6.6	1.2	8.9	1.7	8.8	1.8	15.8	4.4	4.8	45.2	3.8	9.6	9.5	14.0	0.6
Male	4.2	9.2	4.1	24.9	4.9	1.1	7.6	1.2	9.8	1.6	17.3	4.1	4.7	50.5	3.4	9.5	9.3	11.8	0.3
Female	5.2	11.7	6.0	22.6	8.3	1.2	10.3	2.3	7.9	2.1	14.4	4.8	4.9	35.9	4.1	9.7	9.6	16.6	1.0
Age 18-29	7.1	19.6	11.2	33.2	15.3	3.2	21.0	4.6	13.1	10.8	29.4	13.7	9.1	64.7	9.8	17.1	31.9	34.7	3.4
Age 30-50	3.8	9.2	2.3	18.5	4.8	0.5	7.2	1.3	8.5	0.5	10.9	2.2	0.2	35.6	2.6	8.5	4.7	8.0	0.1
Age 50+	4.4	5.7	5.2	26.5	4.1	0.9	4.8	0.7	6.3	0.3	16.8	1.4	10.9	41.7	2.2	6.2	7.2	11.4	0.0
Low-skilled	6.5	14.0	7.4	34.9	9.2	1.2	16.4	2.1	8.5	0.9	29.3	6.0	6.2	49.3	5.1	9.8	12.1	16.4	0.2
Medium-skilled	4.3	11.8	4.5	23.6	7.5	1.3	8.8	1.7	9.2	2.3	18.0	3.7	4.9	44.7	4.2	10.7	9.9	12.8	0.5
High-skilled	4.8	7.8	4.3	21.1	5.0	0.9	7.8	1.3	8.8	2.1	10.8	3.6	4.4	38.1	2.6	7.7	7.3	17.2	1.1
Earnings Q1	21.5	37.9	21.7	53.6	43.5	6.6	28.3	7.5	17.1	5.7	50.8	17.6	8.3	42.6	20.3	35.2	19.8	43.1	1.3
Earnings Q3	2.0	3.8	2.8	16.7	1.0	0.1	5.3	0.0	7.6	0.9	11.0	1.7	4.9	47.7	2.1	5.8	8.0	9.0	0.6
Earnings Q5	2.3	2.0	1.0	14.0	0.1	0.2	1.7	0.0	6.1	0.2	5.2	0.6	3.3	38.4	0.3	1.8	1.1	7.8	0.1

Beneficiaries of EMU-UI by characteristics of the potentially unemployed (% points)

Country	AT		BE		CY		EE		FI		FR		GE		GR		IE		IT		LT		LU		LV		MT		NL		PT		SI		SK		SP	
	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)		
All	66.3	4.6	41.0	10.4	81.2	5.0	70.9	23.8	14.5	6.6	1.8	1.2	72.4	8.9	52.5	1.7	68.2	8.8	69.7	1.8	79.3	15.8	5.0	4.4	89.2	4.8	43.8	45.2	25.9	3.8	27.4	9.6	72.8	9.5	71.6	14.0	65.3	0.6
Male	74.8	4.2	50.3	9.2	79.3	4.1	70.0	24.9	19.8	4.9	1.2	1.1	77.3	7.6	53.2	1.2	61.5	9.8	68.1	1.6	77.5	17.3	6.8	4.1	88.7	4.7	35.6	50.4	23.9	3.4	28.5	9.5	69.7	9.3	69.1	11.8	66.4	0.3
Female	55.7	5.2	30.1	11.7	83.2	6.0	71.6	22.6	9.0	8.3	2.4	1.2	67.4	10.3	51.5	2.3	75.2	7.9	71.9	2.1	81.0	14.4	2.8	4.8	89.7	4.9	58.5	35.9	28.3	4.1	26.2	9.7	76.5	9.6	74.4	16.6	63.9	1.0
Age 18-29	63.1	7.1	20.6	19.6	75.7	11.2	61.5	33.2	3.7	15.3	2.5	3.2	66.7	21.0	46.9	4.6	57.8	13.1	63.9	10.8	66.1	29.4	3.2	13.7	84.5	9.1	28.2	64.7	82.5	9.8	77.6	17.1	60.7	31.9	54.6	34.7	55.5	3.4
Age 30-50	66.4	3.8	44.4	9.2	85.4	2.3	76.2	18.5	16.5	4.8	1.6	0.5	72.2	7.2	57.3	1.3	72.3	8.5	74.9	0.5	84.5	10.9	4.3	2.2	94.4	0.2	52.9	35.5	18.8	2.6	13.8	8.5	79.4	4.7	76.2	8.0	66.7	0.1
Age 50+	69.3	4.4	49.0	5.7	76.2	5.2	67.9	26.5	17.8	4.1	1.6	0.9	76.6	4.8	41.6	0.7	66.3	6.3	58.5	0.3	77.2	16.8	9.6	1.4	82.4	10.9	43.0	41.7	2.0	2.2	22.1	6.2	59.1	7.2	74.4	11.4	68.2	0.0
Low-skilled	49.8	6.5	25.2	14.0	69.8	7.4	58.4	34.9	5.7	9.2	1.9	1.2	62.3	16.4	30.4	2.1	65.5	8.5	63.3	0.9	61.4	29.3	2.1	6.0	85.1	6.2	34.3	49.2	22.3	5.1	14.6	9.8	61.9	12.1	64.6	16.4	54.0	0.2
Medium-skilled	67.9	4.3	30.2	11.8	83.0	4.5	70.3	23.6	5.8	7.5	2.0	1.3	72.4	8.8	54.8	1.7	65.8	9.2	72.7	2.3	75.7	18.0	2.5	3.7	88.4	4.9	47.2	44.7	24.6	4.2	34.7	10.7	69.6	9.9	71.9	12.8	64.6	0.5
High-skilled	70.8	4.8	55.8	7.8	85.5	4.3	74.8	21.1	25.9	5.0	1.5	0.9	74.2	7.8	65.0	1.3	70.6	8.8	73.1	2.1	86.9	10.8	11.3	3.6	92.0	4.4	57.1	38.1	29.2	2.6	57.0	7.7	84.0	7.3	71.6	17.2	76.4	1.1
Earnings Q1	16.9	21.5	0.0	37.9	44.7	21.7	12.9	53.6	0.0	43.5	12.8	6.6	21.5	28.3	2.3	7.5	34.0	17.1	35.7	5.7	30.1	50.8	5.5	17.6	63.6	8.3	36.4	42.4	18.6	20.3	13.1	35.2	16.8	19.8	25.1	43.1	14.3	1.3
Earnings Q3	78.9	2.0	14.2	3.8	85.6	2.8	82.7	16.7	0.0	1.0	0.2	0.1	78.1	5.3	73.4	0.0	75.6	7.6	80.6	0.9	85.1	11.0	0.1	1.7	92.0	4.9	40.3	47.7	34.4	2.1	18.8	5.8	75.9	8.0	81.7	9.0	85.1	0.6
Earnings Q5	88.2	2.3	92.4	2.0	93.4	1.0	85.3	14.0	57.3	0.1	0.5	0.2	88.1	1.7	69.7	0.0	80.0	6.1	80.3	0.2	92.9	5.2	19.3	0.6	95.1	3.3	54.4	38.4	11.2	0.3	66.7	1.8	95.4	1.1	79.5	7.8	87.6	0.1

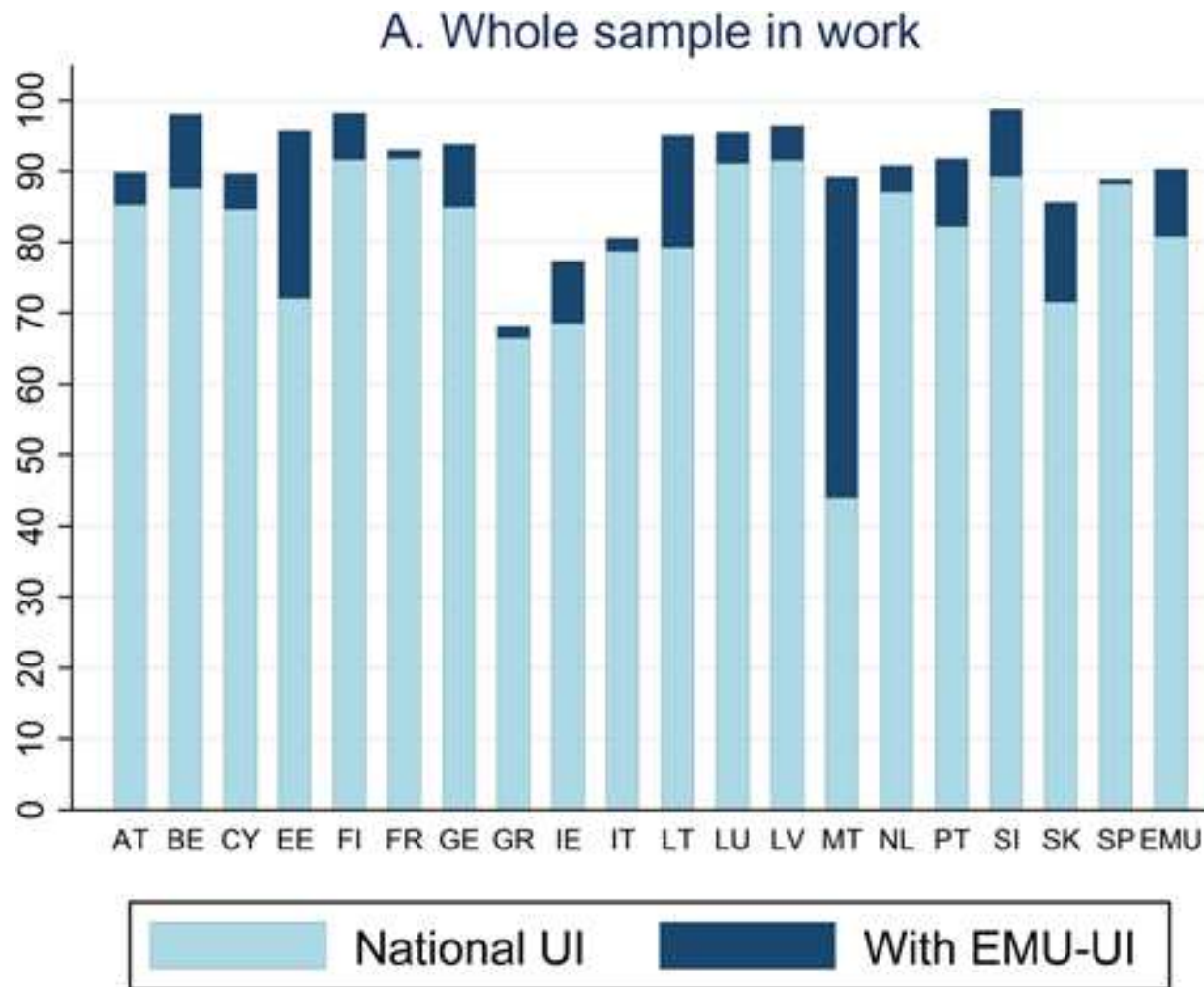
Notes: (a) – Receiving national UI; (b) Not receiving national UI

Increased stabilisation with EMU-UI by characteristics of the potentially unemployed (% points)

Country	AT	BE	CY	EE	FI	FR	GE	GR	IE	IT	LT	LU	LV	MT	NL	PT	SI	SK	SP
All	12.8	6.1	22.0	12.1	0.9	0.2	8.5	15.2	21.6	11.1	29.8	0.9	15.9	35.5	2.6	6.3	14.2	20.5	5.6
Male	13.8	6.9	20.8	12.5	1.2	0.1	8.3	15.2	20.7	11.2	29.7	1.0	15.3	34.0	2.2	6.2	14.0	19.8	5.8
Female	10.7	4.9	23.9	11.5	0.5	0.2	8.9	15.4	23.0	10.9	30.0	0.9	16.7	39.1	3.4	6.4	14.4	21.7	5.2
Age 18-29	10.0	3.6	20.6	18.2	0.0	0.3	11.0	10.3	22.0	12.8	30.0	2.8	18.5	37.1	13.9	8.4	23.3	23.6	5.1
Age 30-50	12.8	6.5	22.1	10.0	1.0	0.1	7.8	16.0	22.9	12.8	30.4	0.6	14.6	36.1	1.5	5.3	14.5	19.3	5.2
Age 50+	14.3	6.6	22.5	12.0	1.2	0.3	9.1	14.9	18.0	6.4	28.5	0.9	17.3	32.1	0.3	7.8	8.2	21.4	6.8
Low-skilled	7.4	4.0	15.3	15.2	0.1	0.3	8.6	9.0	17.0	9.7	22.2	0.8	17.1	31.1	2.4	3.6	11.1	16.2	3.0
Medium-skilled	12.1	4.4	20.8	11.5	0.2	0.2	8.0	14.8	19.9	11.5	26.3	0.6	17.0	37.7	2.6	6.3	13.2	19.6	4.1
High-skilled	15.4	7.5	24.9	12.1	1.5	0.1	8.9	17.5	23.1	11.6	33.2	1.3	14.7	37.8	2.7	9.5	16.0	22.8	7.6
Earnings Q1	10.8	6.7	9.6	16.9	-10.8	5.3	15.9	-0.1	12.0	7.8	23.1	4.3	11.4	17.9	10.4	12.3	7.7	12.7	2.2
Earnings Q3	6.4	1.1	18.2	11.9	0.0	0.0	6.9	11.3	18.0	9.7	22.0	0.7	18.1	34.3	4.6	3.0	13.6	20.1	3.3
Earnings Q5	17.7	10.4	26.4	11.7	2.3	0.1	9.3	18.6	24.2	12.8	34.5	1.1	14.1	36.8	0.9	9.3	15.1	22.1	9.1

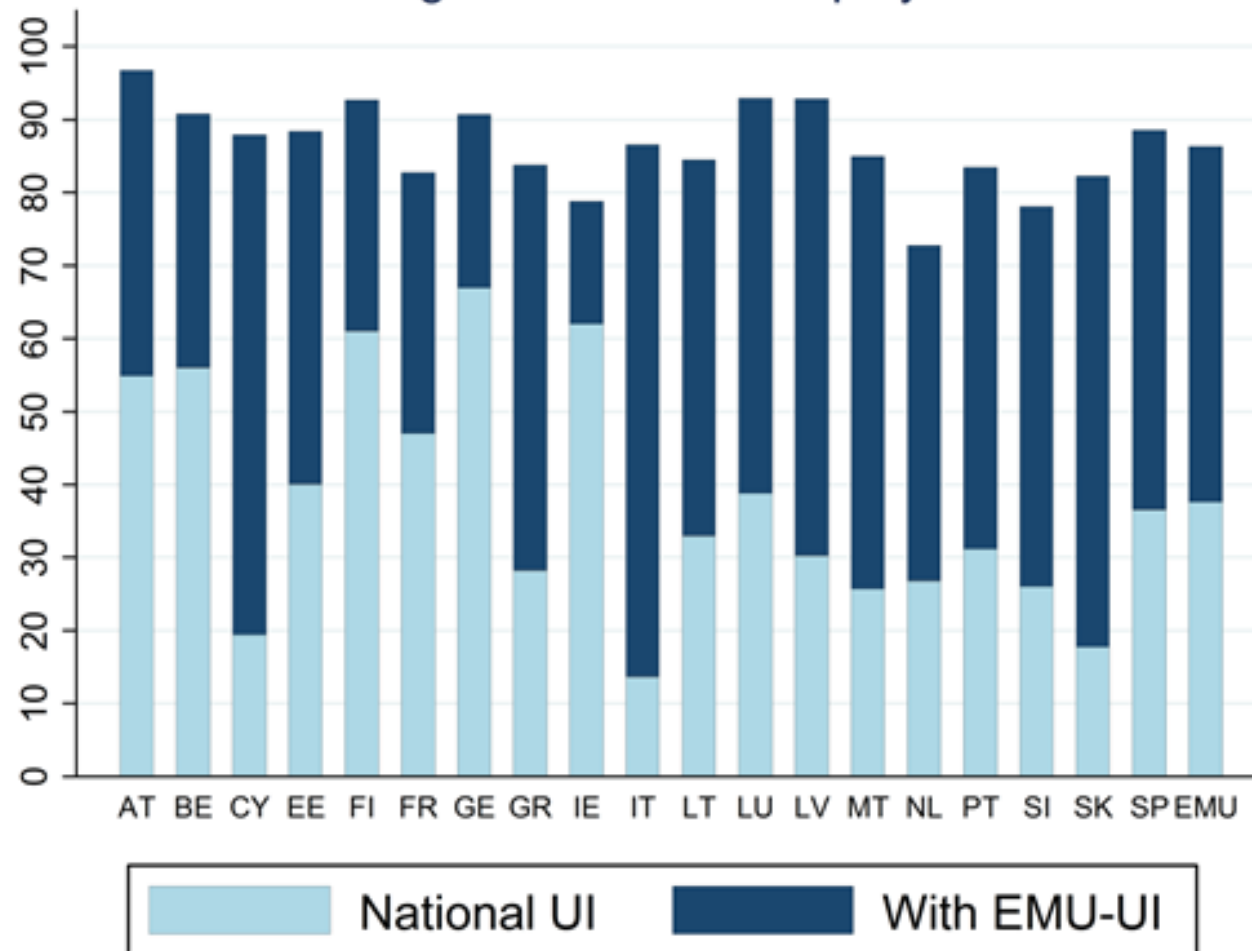
Charts

Potential Coverage



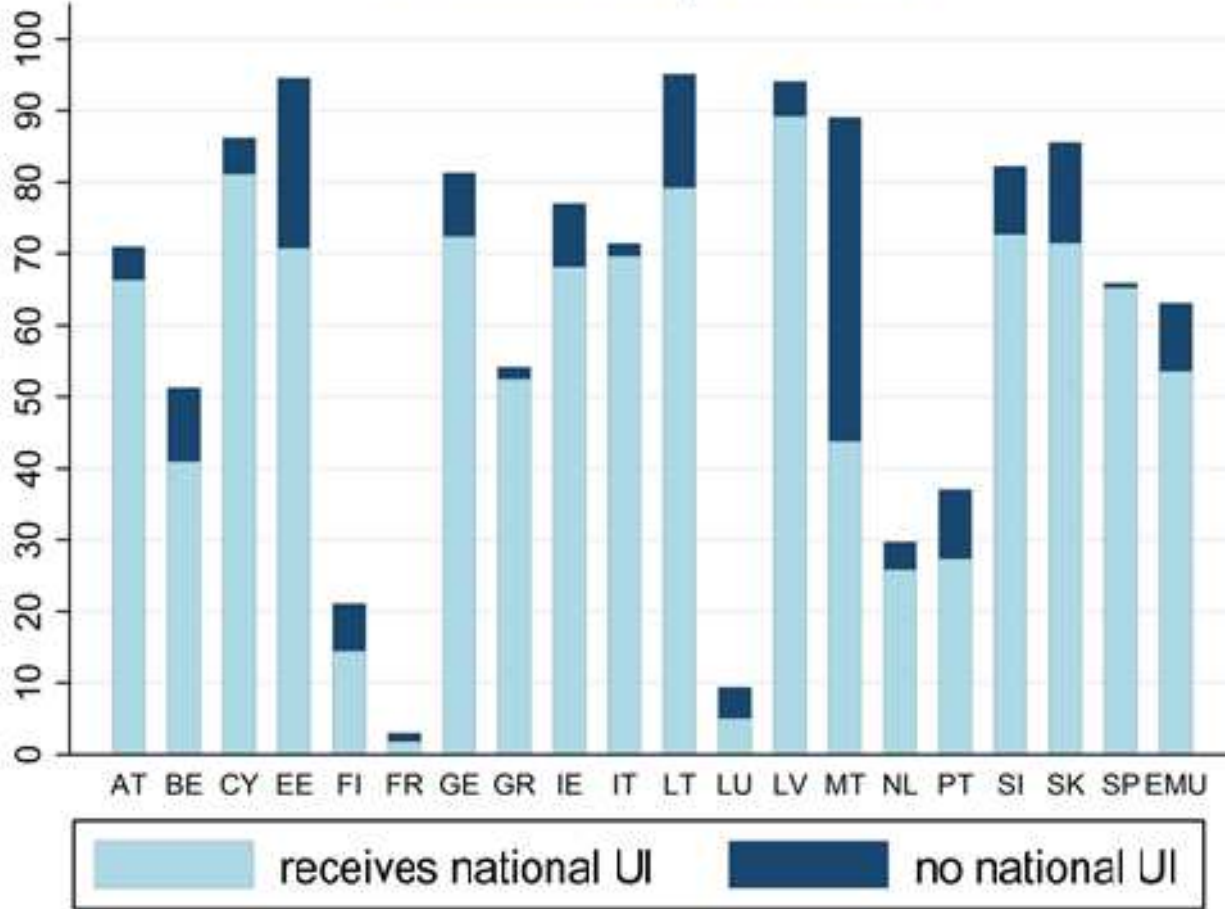
Potential Coverage

B. Highest risk of unemployment



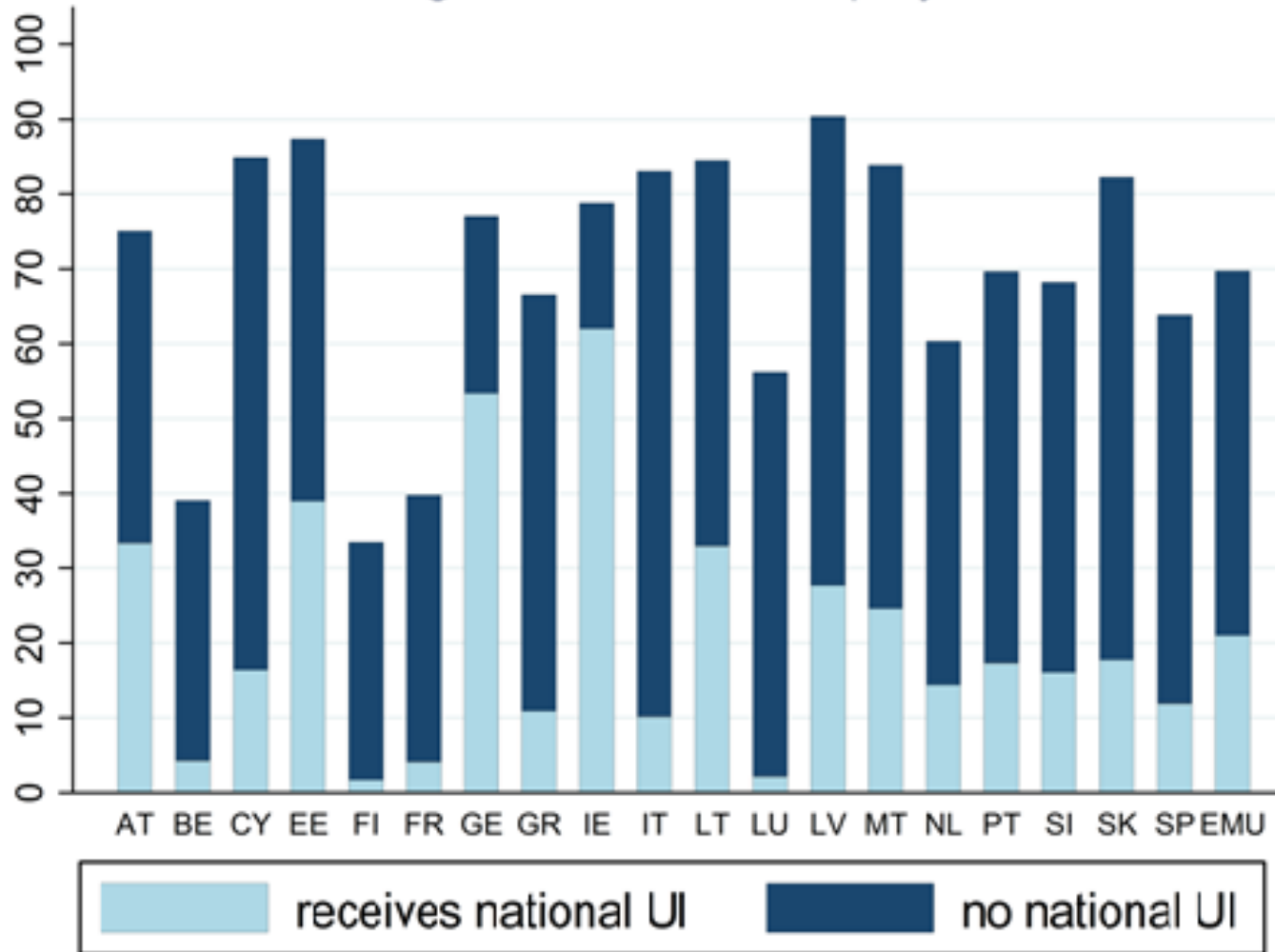
Beneficiaries

A. Whole sample in work

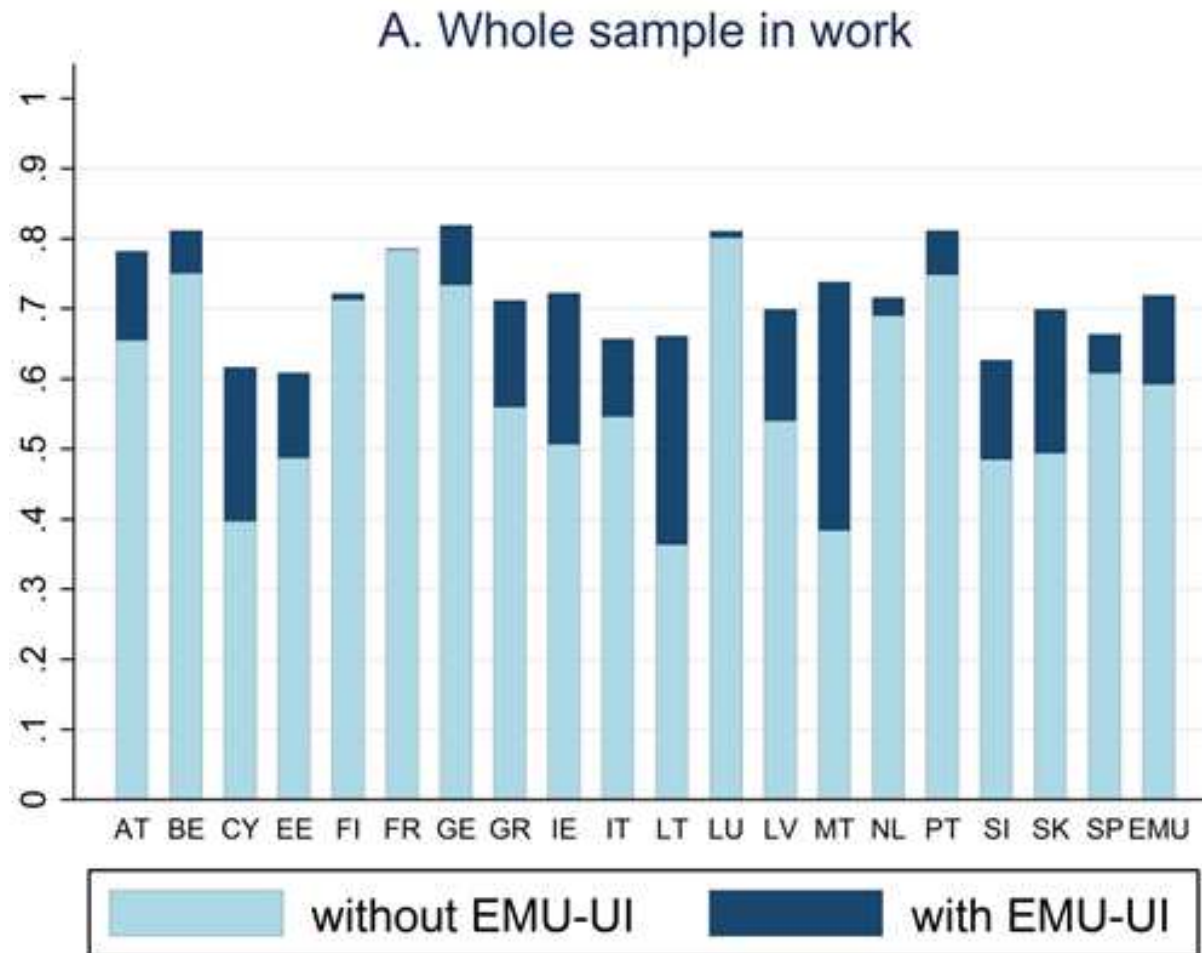


Beneficiaries

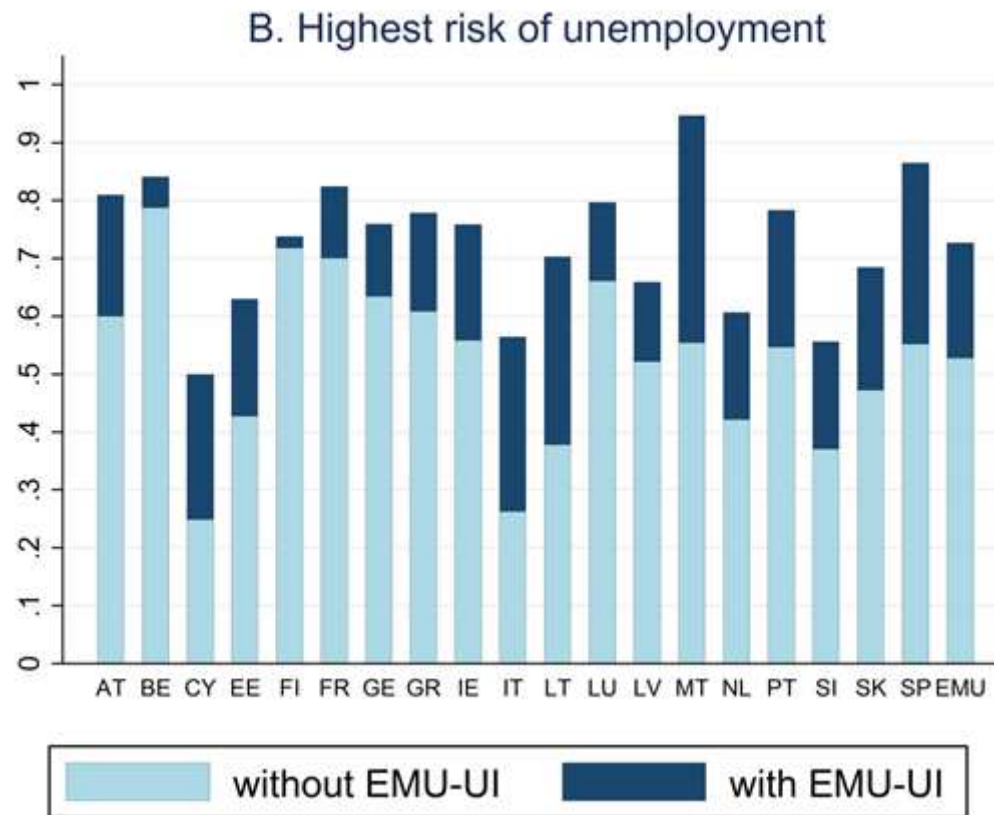
B. Highest risk of unemployment



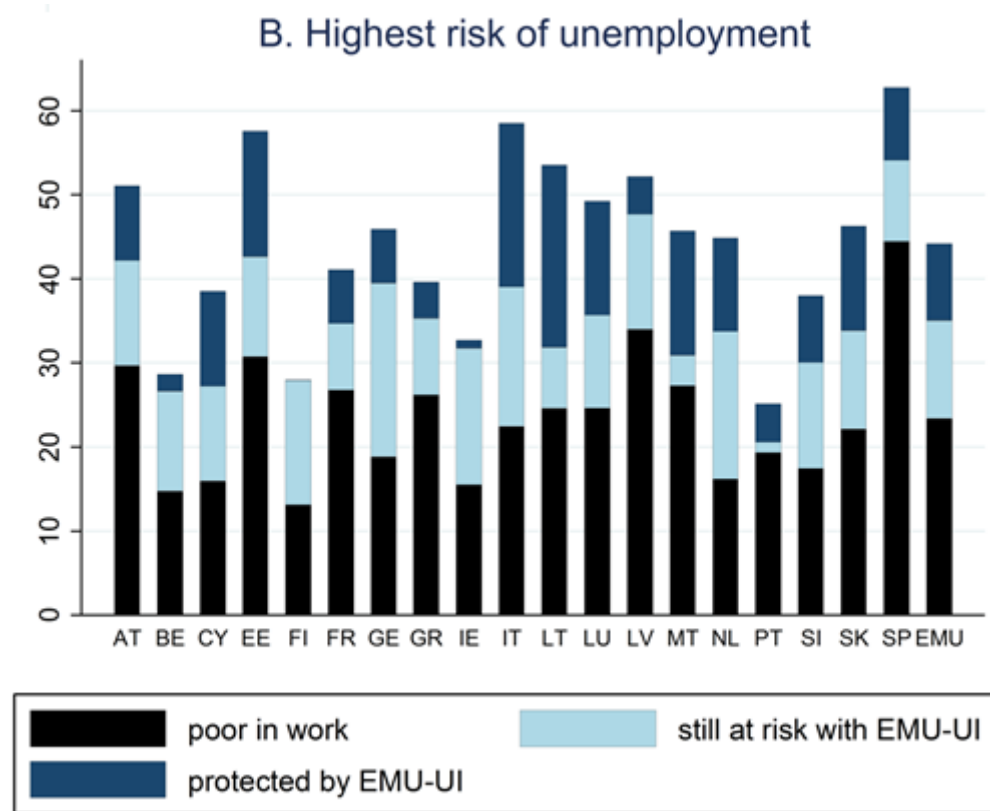
Income stabilisation



Income stabilisation

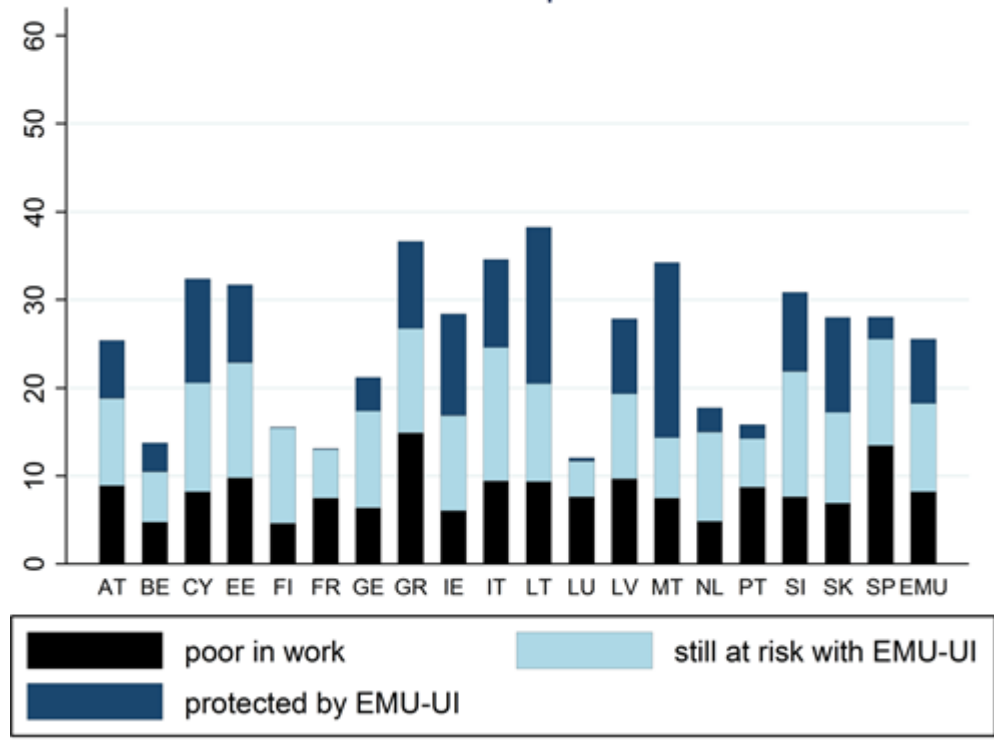


At risk of poverty

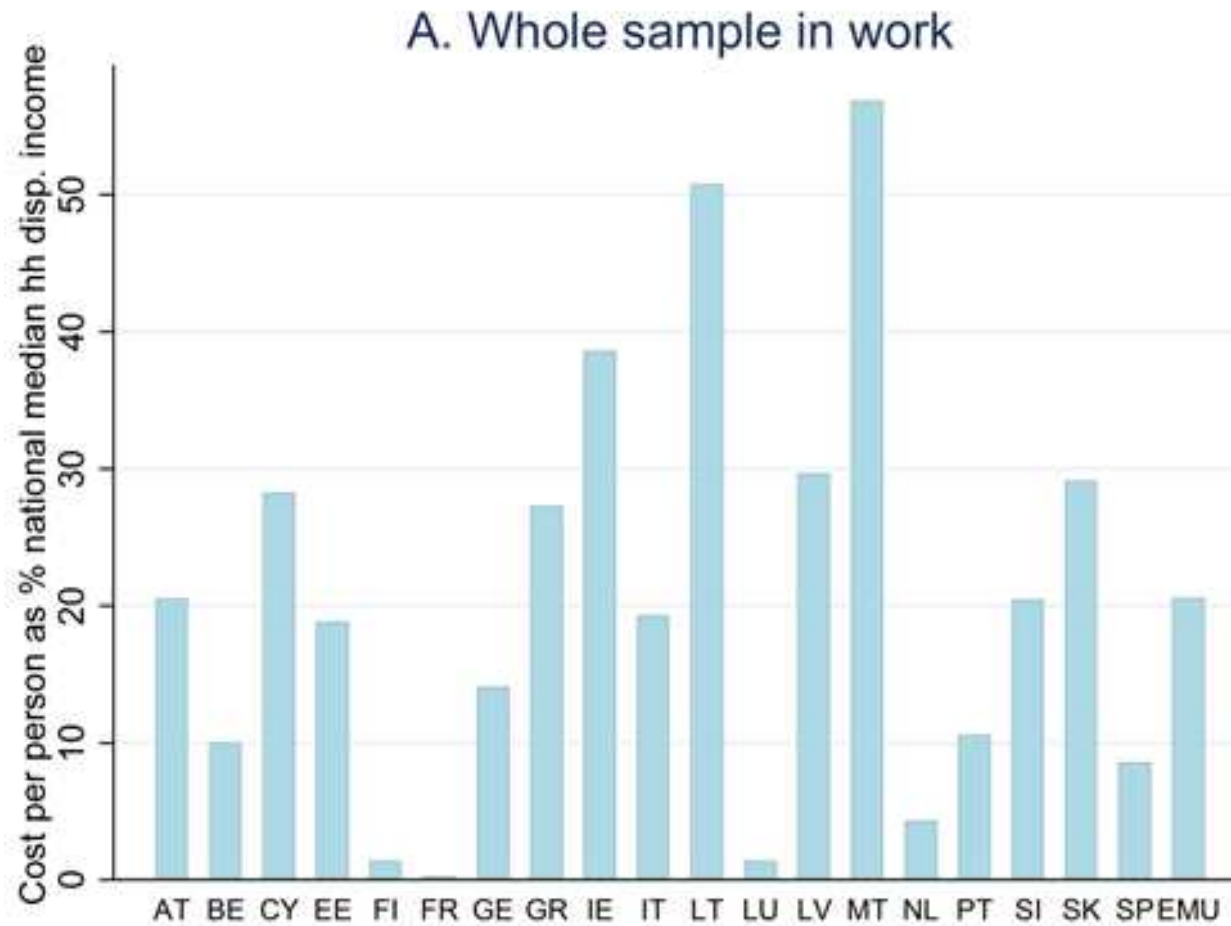


At risk of poverty

A. Whole sample in work

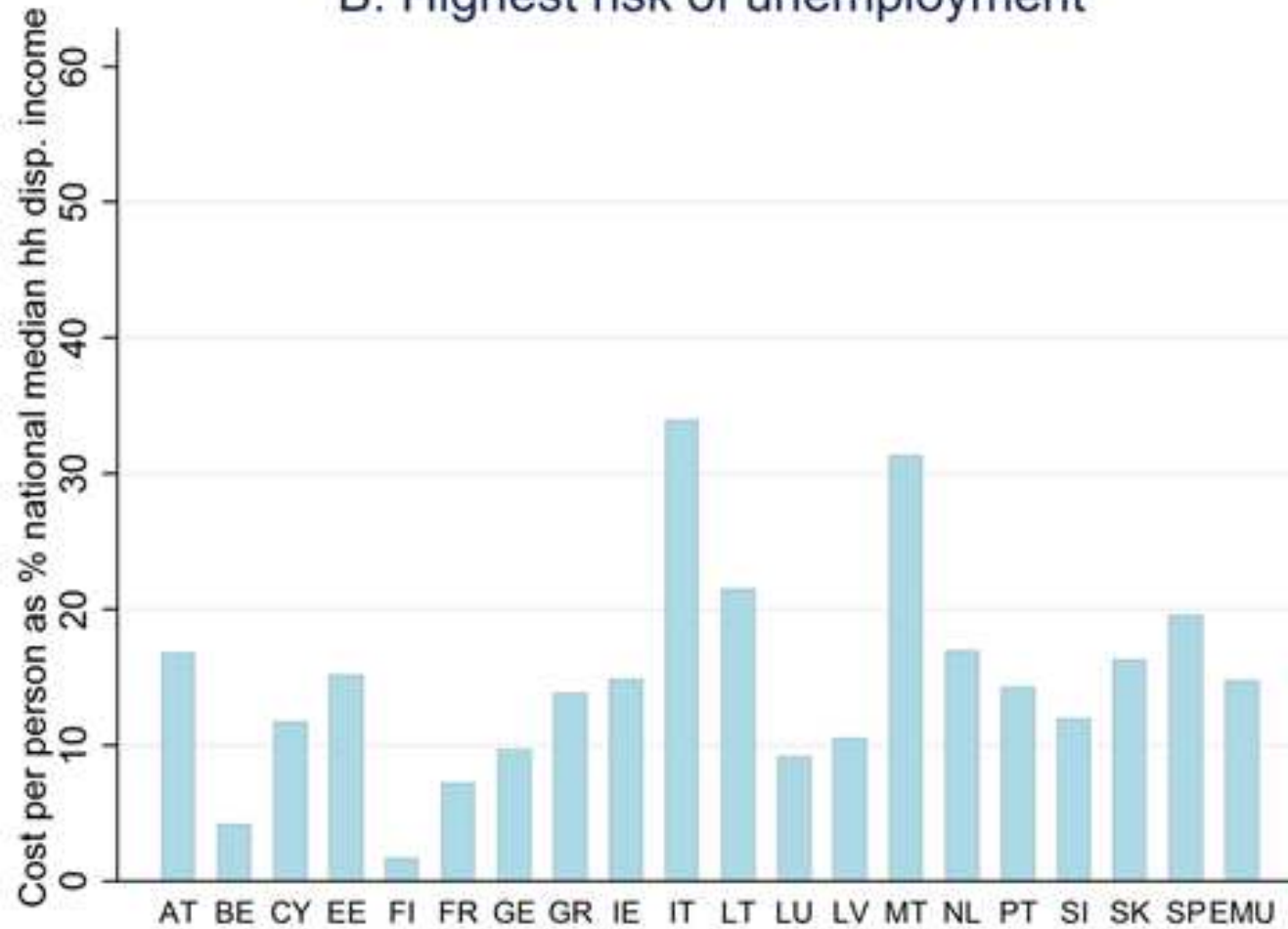


Budgetary Cost



Budgetary Cost

B. Highest risk of unemployment



European
Commission