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The income protection role of an EMU wide unemployment insurance system: The case of atypical workers

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EUROMOD WORKING PAPER SERIES

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The Income Protection Role of an EMU-Wide Unemployment Insurance System: the Case of Atypical Workers

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May 2021

The income protection role of an EMU-wide unemployment insurance system: the case of atypical workers*

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Abstract

This paper evaluates the potential of a common unemployment insurance system for the Economic and Monetary Union (EMU-UI) to improve income protection of atypical workers, namely those in part-time and temporary contracts. We use EUROMOD, the European tax-benefit microsimulation model, to simulate entitlements to national and EMU-UI and assess their effects on the household disposable income of atypical workers in the event of unemployment. Our results show that there are sizable gaps in the coverage of national UI schemes between countries, with atypical workers having particularly low coverage rates. The introduction of an EMU-UI would reduce coverage gaps and increase net replacement rates, especially for atypical workers, and would protect a large share of the workforce against the risk of poverty. Extending eligibility for the EMU-UI to the self-employed would further improve income protection, reducing their risk of falling into poverty in the event of unemployment.

JEL: C81, H55, I38

Keywords: Unemployment insurance, European Monetary Union, microsimulation, income protection, atypical work

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* The results presented here are based on EUROMOD version I1.0+. Having been originally maintained, developed and managed by the Institute for Social and Economic Research (ISER), since 2021 EUROMOD is maintained, developed and managed by the Joint Research Centre (JRC) of the European Commission, in collaboration with EUROSTAT and national teams from the EU countries. We are indebted to the many people who have contributed to the development of EUROMOD. We make use of microdata from the EU Statistics on Incomes and Living Conditions (EU-SILC) made available by Eurostat. The results and their interpretation are the authors' responsibility.

1 Introduction

Atypical workers, particularly those on temporary contracts, in part-time work and the self-employed have become more common in recent years in EU countries. According to the Economic and Social Development report (European Commission, 2018), the share of permanent full-time workers has decreased by 4 percentage points over the past 10 years.

The European Social Right Pillar which aims to support and promote fair labour markets and welfare systems proclaims under principle 12, that *'regardless of the type and duration of their employment relationship, workers, and, under comparable conditions, the self-employed, have the right to fair and equal treatment regarding working conditions, access to social protection and training.'*. However, atypical workers are less likely to access unemployment insurance benefits and are more exposed to the risk of poverty (Jara and Tumino 2020).

Existing unemployment benefit systems differ greatly between EU countries in terms of accessibility and generosity, as noted by Esser and al. (2013). The recent debate regarding the value of a common unemployment insurance system for the EMU (EMU-UI) should be considered in terms of the requirements of the European Pillar of Social Rights as it would establish common minimum protection standards for all types of workers in the event of unemployment. The idea of a supranational fiscal instrument in the EU based on risk sharing is not new, having been mentioned already by Marjolin (1975) and MacDougall (1977). The subprime and sovereign debt crises have revived the debate on the need for a common budgetary instrument for the EMU to make it more resilient to shocks. The Van Rompuy report (2012), the Five Presidents' Report (Juncker et al., 2015) and the Meseberg declaration (2018) put this project back at the heart of the debate. This fiscal tool is often described as an unemployment benefit scheme as it would have three main functions. It would provide geographical insurance between member states as the budget would be pooled and redistributed between countries, sharing risk between EMU member states (Alcidi and Thirion 2016; Dolls et al. 2018). Secondly, this scheme would allow for intertemporal insurance as most EMU-UI proposals include the possibility for the EMU fund to incur debt. The third function of this scheme, on which this paper focuses, is the improvement of

national benefit systems. The introduction of an EMU-UI would establish common minimum standards in terms of the eligibility criteria and generosity of unemployment benefit systems. This could strengthen the counter-cyclical capacity of national systems by improving the replacement and coverage rates of unemployment benefits which as things stand, leave large coverage gaps between countries (Esser et al. 2013).

This project seems even more relevant today in the midst of the COVID-19 pandemic that has affected economies throughout the Eurozone and forced countries to implement emergency policies to protect workers from the downturn, for instance by relaxing eligibility conditions for unemployment benefits to cover vulnerable workers who would not otherwise meet the requirements. Providing income protection to part-time workers and the self-employed has been crucial and most EMU countries have implemented specific schemes to protect them. This crisis has highlighted the importance of making unemployment benefit systems more accessible to all workers. Rather than modifying national systems individually, how would a common system of unemployment benefits perform?

Regarding the design of this scheme, two main proposals have been put forward. The first is a contingent system that triggers payments based mainly on deviations in the unemployment rate from long-run tendencies and which is better described as a re-insurance system (Beblavy and Maselli (2014), Beblavy et al. 2015, Carnot 2017). The other proposal is a genuine system, consisting of a common unemployment benefit system, as discussed by the European Commission (2012, 2014), Dullien (2014), Strauss et al. (2013) and Andor (2016) among others. One of the most complete and widespread proposals is Dullien et al.'s (2014, 2017). They propose a basic Eurozone-wide unemployment insurance scheme for short-term unemployment. As a common unemployment insurance, it would imply minimal standards for all member states. This EMU-UI would support the income of the unemployed at 50% of gross earnings for up to 12 months and would require contributions for at least 3 months in the last 12. We base our analysis mainly on this proposal and assess the level of income protection it would offer.

This article contributes to the debate on the introduction of an unemployment system for the EMU and on the need for more accessible social protection for atypical workers.

Based on the work of Jara et al. (2016) and Jara and Tumino (2020), we assess the income protection role of national systems and the EMU-UI with a focus on atypical workers. We make use of EUROMOD, the EU-wide tax-benefit model based on household survey data, to simulate individual transitions from work to unemployment and compute the potential coverage, net replacement rates and risk of poverty under national and EMU UI systems. We run the analysis for all workers and separate out results for part-time workers, workers with temporary contracts, the self-employed and the 3% most at risk of unemployment. To our knowledge, this is the first paper to provide insights into the income protection role of an EMU-UI for the specific case of atypical workers.

Our results confirm the disparities of access to unemployment benefits between EMU countries, especially for atypical workers. The potential coverage of national UI systems tends to be lower on average for atypical workers, being less than 60% in seven EMU countries for part-time and temporary contract workers. The net replacement rates of national systems are similar on average across the EMU for the working population as a whole but are more variable for temporary contract workers. We find that introducing an EMU-UI would increase the potential coverage and replacement rates of UI systems in all countries but to a lesser extent in countries such as France, Belgium and Austria, with relatively generous national systems. The EMU-UI would fill existing gaps between countries by increasing potential coverage rates to above 70% in all countries and increasing net replacement rates where national systems are currently less generous. This scheme would also protect a significant portion of workers from falling into poverty on becoming unemployed, especially in Italy, Estonia and Ireland.

2 Related literature

Previous research on the EMU-UI has mainly focused on the stabilizing power or the budgetary feasibility of the scheme. Dolls et al. (2018) assess the income stabilisation effect of a European unemployment insurance and budgetary issues related to its introduction. They run simulations from 2000-2013 of a genuine system with the same characteristics as proposed

by Dullien (2013) (i.e. a 50% replacement rate (RR) for 12 months max., without capping), and calculate a stabilisation coefficient based on the change of disposable income for the unemployed. Their results suggest that the scheme would have a significant intertemporal and interregional stabilizing effects without permanent transfers in the long run. Lelouch and Sode (2014) find that countries such as Belgium, Germany, Austria, Luxembourg would have benefited from EMU-UI during the 2000s and Greece, Spain and Portugal would have benefited in the aftermath of the financial crisis of 2008.

Concerning the income protection role of EMU-UI, Jara and Sutherland (2014) and Jara et al. (2016) conducted simulations of a genuine EMU-wide unemployment insurance using EUROMOD to estimate potential income protection effects for individuals. They compare the economic situation of unemployed individuals under national systems and under the considered EMU-UI (50% wage-replacement payments for 12 months, with maximum and minimum levels) and find that the introduction of such a scheme would increase coverage rates and thereby increase household income stability and reduce the risk of poverty.

At the macroeconomic level, Enderlein et al. (2013) investigate the stabilizing power of a cyclical shock absorber for the EMU and find that the budget would not lead to permanent transfers and that all countries would benefit from and contribute to the fund. Moyen et al. (2019) evaluate the optimality of a common unemployment insurance in a two-country model in terms of the level of transfers that optimally stabilise consumption in peripheral Eurozone countries and find that the optimal replacement rate would have a high counter-cyclical effect overall.

3 The architecture of an EMU-wide unemployment insurance

As mentioned above, different designs for the EMU-UI have been proposed and analyzed in the literature. They vary mainly in terms of their duration, typically from the 3rd month of unemployment to the 12th month of unemployment, as this corresponds to short-term

unemployment (the most cyclical kind). They do not cover frictional unemployment (considered here as the first three months) and long-term unemployment (from the 12th month onward). Note that passing from a national to a supranational scheme in the third month of unemployment may be administratively complex and it may be easier to have supranational coverage right from the first month of unemployment, as suggested by Beblavy et al. (2017). Regarding the level of benefits, the most common proposal is a replacement rate of 50% of previous gross wages as this has been shown to be a sufficient level of support without setting an unemployment trap (Krueger and Mueller 2010). Capping at at 150% of national average earnings has been considered by Beblavy et al. (2017) among others. Jara et al. (2016) also considered a floor at 30% of average earnings. Delpla (2012) proposed a cap of 2000 euros per months in all countries. For eligibility, the rule is commonly 3 months of contributions over the past 12 months. This would presumably have important implications for the coverage rates of the benefit scheme.

Based notably on the proposals of Beblavy et al. (2017)[1], we introduce an EMU-UI with the following characteristics: coverage from the **1st to the 12th month** of unemployment, a common replacement rate of **50% of previous earnings**, and an eligibility requirement of at least **3 months of contributions in the last 12**. Unemployment benefits are accessible for all employed individuals younger than 64 years old. We also consider an alternative scenario in which the EMU-UI also covers the self-employed. This alternative should have a strong effect on generosity levels as the self-employed are currently not covered in many countries.

The EMU-UI considered here is topped-up by national systems to avoid any decrease in benefits after implementation. The system is thereby designed to ensure workers in all countries benefit, with national systems providing any top-ups required where existing schemes are more generous. EMU benefits are otherwise treated in the same way as existing unemployment benefits in national tax-benefit systems. Here, we do not consider the potential mechanisms to finance this benefit but we provide an assessment of the budgetary cost related to it.

[1]We based our EMU-UI reform on Dullien's (2013) proposal as well as on the V7 proposal among the 18 alternative programs in *Design of European Unemployment Benefit Scheme* by Beblavy et al. (2017)

4 Data and methodology

4.1 The European tax-benefit model EUROMOD

To analyse the entitlement and income protection effects of the European unemployment benefit scheme, we run counterfactual simulations using EUROMOD [2].. EUROMOD is the European tax-benefit microsimulation model based on EU-SILC data (European Union Statistics on Income and Living Conditions) from Eurostat. This tax-benefit model allows fiscal and social policies in place in all European countries to be simulated by calculating welfare entitlements and tax liabilities for each individual in each household. Based on nationally representative micro data, EUROMOD can be used to perform distributional analysis and assess the budgetary and work incentive effects of policy reforms. The underlying micro-data used for the simulations in this study come from EU-SILC 2016. Our simulations are based on the 2018 tax-benefit rules of European countries. Market incomes and non-simulated tax-benefit instruments in the data are adjusted to 2018 levels using source-specific updating factors.

Our analysis is static, in the sense that behavioural responses are not considered, for example, individuals' supply of labour, which may be affected by the reform. We assume full compliance with national policies and the EMU-UI and do not consider tax evasion or benefit non take-up.

4.2 Definition of atypical workers

We use the European Commission's (2016) definition of atypical work, namely self-employment and employment on uncommon types of contract including part-time work, temporary work,

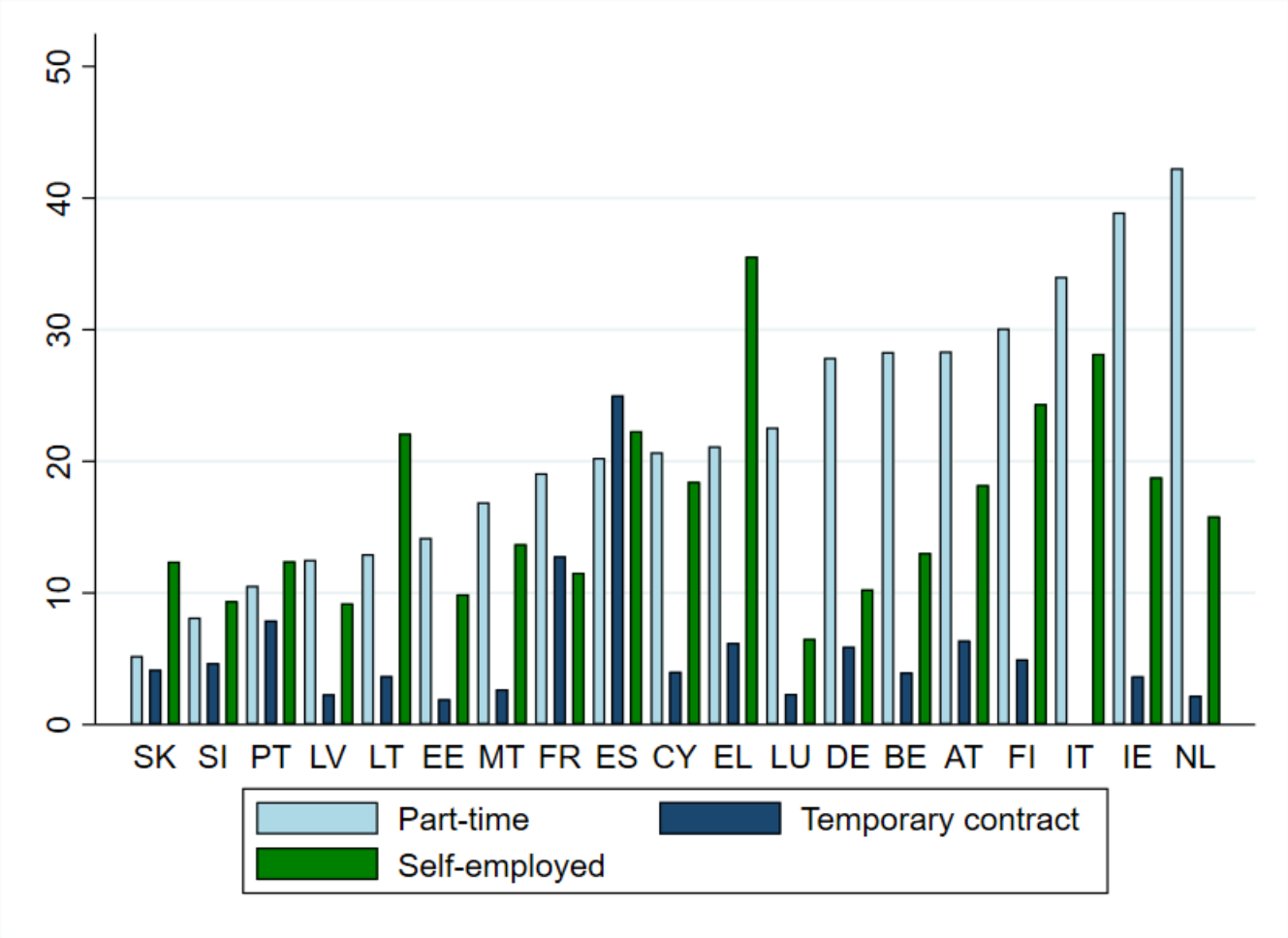
[2]The results presented here are based on EUROMOD version I1.0+. Originally maintained, developed and managed by the Institute for Social and Economic Research (ISER), since 2021 EUROMOD is maintained, developed and managed by the Joint Research Centre (JRC) of the European Commission, in collaboration with EUROSTAT and national teams from the EU countries. We are indebted to the many people who have contributed to the development of EUROMOD. The results and their interpretation are the authors' responsibility.

fixed-term work, and seasonal work. The definition of what constitutes atypical work is a matter of debate as the share of non-standard employment in total employment has significantly increased, and new forms of work have been observed over the past years. In previous studies, notably by Jara and Tumino (2018), atypical workers are defined in terms of work intensity as (i) employees with low work intensity or (ii) the self-employed. Work intensity is computed based on the number of months and hours worked during a reference year. However, this definition is potentially restrictive as the type of contract is not taken into account. We extent this analysis in ours by using a more precise definition of atypical workers.

We use information on contract types from the EU-SILC database on which EUROMOD data are based. We separately analyze three groups of workers (i) All workers (ii) temporary contract workers, (iii) individuals on part-time contracts (based on hours worked per week) in line with the EU Commission's definition of atypical workers, rather than using a proxy for work intensity as in Jara and Tumino (2018).

In this paper, we investigate effects that introducing an EMU-UI would have on income protection for all workers, including atypical workers, by grouping them precisely in terms of the characteristics that make them vulnerable (i.e. part-time and temporary contract work). The prevalence of atypical workers according to this definition is fairly heterogeneous across the EMU, in line with Jara and Tumino (2018). As shown in Figure 1, the share of part-time workers ranges from less than 10% of the working population in Slovenia and Slovakia to more than 30% in Ireland, Italy and the Netherlands. On average, 21% of the working population in the EMU works less than 35 hours per week. The prevalence of temporary contract workers is less variable as they represent less than 10% of the working population in most countries. The share of temporary contract workers is nevertheless more than 10% of the working population in France and Spain.. The share of the self-employed in the working population is more heterogeneous across the EMU,ranging from around 6% in Luxembourg to more than 30% in Greece.

Figure 1: Prevalence of atypical workers in percentage of working population



Note: Countries ranked by the share of part-time workers. Official country acronyms used.
Source: Authors' elaboration using EUROMOD I1.0+ data.

4.3 Simulating transitions from work to unemployment

In order to assess the potential income protection provided by the EMU-UI, we move people from work to unemployment in the data (Figari et al. 2011, Fernandez Salgado et al. 2013, Jara and Sutherland 2014, Jara and Tumino 2018) and analyse UI effects for these "newly unemployed" individuals. This allows us to compare disposable incomes in work and unemployment both with and without the EMU-UI. Simulating unemployment benefits for currently employed workers is extremely useful to understand how the UI system protects workers from income loss in case of unemployment. Information such as previous contributions or earnings are needed to simulate entitlements to UI and levels of benefits. This information is usually not available for the unemployed in survey data, as information on their work history is typically lacking. However, this information can be proxied by month in employment for individuals in work, when they are moved to unemployment.

Transitions from work to unemployment in our analysis are simulated as follows (see Jara and Tumino (2018) and Jara et al. (2020) for more details). Disposable income is first calculated before the transition. Then, for each earner in the household, individual earnings are set to zero and all benefits they would be eligible for (including EMU-UI) are simulated using EUROMOD, along with the corresponding household disposable income. This is done separately for each earner in the household, under the assumption that other household members' behaviour is not affected by the individual's entry to unemployment and loss of income. Unemployment transitions are simulated for each earner in the household separately and the corresponding household disposable income in unemployment is calculated.

An important piece of information needed to calculate unemployment benefits is the length of unemployment periods. Previous studies (Jara and Sutherland 2014, Jara and Tumino 2018) simply assumed that the number of months in unemployment was equal to the number of months worked during the reference year preceding the simulated transition. This assumption seems restrictive and questionable. It seems unlikely indeed that individuals who have worked for longer in the preceding year should remain unemployed for longer than those who have worked less. In terms of capturing the effects of EMU-UI on very short-term

unemployment (1-2 months of unemployment) furthermore, these individuals would never be covered under this assumption because of eligibility requirements (at least 3 months of work).

We improve on this approach in our simulation of transitions to unemployment by explicitly estimating the length of unemployment spells. More precisely, we regress the number of months of unemployment for the currently unemployed as a function of their socio-demographic characteristics using zero-truncated binomial regression. The number of months in unemployment can be considered count data, so can be estimated using Poisson or Negative binomial regression. Poisson regression is appropriate when the mean of the data is equal to its variance; however, there is evidence of over-dispersion in ours. Negative binomial regression was therefore chosen as this condition need not be satisfied. Both Poisson and negative binomial regression are used for data with zero values, whereas we want to compute the number of months of unemployment for the currently unemployed, i.e. without zero values. The most appropriate approach in this case is the zero truncated negative binomial (ZTNB) regression. We estimated the number of months of unemployment based on demographic characteristics: gender, age, number of years of education, previous work history, previous earnings, and type of occupation.

The conditional probability of being unemployed in the ZTNB model is:

$$Pr(y_i|y_i < 0, x_i) = \frac{Pr(y_i|x_i)}{1 - (1 + \alpha\mu_i)^{-1/\alpha}} \tag{1}$$

The expectation of the zero-truncated negative binomial distribution is:

$$E(y_i|y_i > 0) = \frac{\mu_i}{1 - (1 + +\alpha\mu_i)^{-1/\alpha}} \tag{2}$$

with μ_i being the expected count (i.e. the estimated number of months of unemployment), y_i, the length of the ith observed unemployment period, and α the dispersion parameter.

The linear regression equation is then:

$$log(\mu_i) = \beta_0 + \beta_1 X_{1i} + ... + \beta_k X_{ki} \tag{3}$$

with β_k the coefficient associated with the kth predictor variable (see below) for the ith observation. The estimated coefficients are listed in Table 11. The model shows a weak but highly significant association between age and unemployment time. The duration of unemployment is also associated with the industrial sector. The reference industry is agriculture and forestry and unemployment duration is significantly shorter in nearly all other industries, notably in retail, transport and real estate. Education level seems to have a limiting effect on unemployment spells in most countries, but this association is relatively weak. The association with work history is also negative, meaning that the more an individual has worked, the shorter their unemployment spell is expected to be should they loose their job. This confirms the value of estimating the length of unemployment periods rather than using worked months in the preceding year as in Jara et al. (2014) and Jara and Tumino (2018). This approach allows us to predict a duration of unemployment for all currently employed individuals after their transition from work to unemployment. This improvement also allows us to analyze effect of the EMU-UI on the short-term unemployed.

Table 6 in the appendix shows the estimated unemployment duration as a function of demographic and labour market characteristics in each country. In most countries, workers with more months worked have on average shorter predicted unemployment periods than low intensity workers do. Unemployment duration is typically longer in most countries for younger individuals (<30) and those with lower levels of education (primary and lower secondary). Work duration is similar across the EMU (11.66 months per year on average) , whereas unemployment duration are more variable.

4.4 Workers with the highest risk of unemployment

As mentioned in the previous section, we focus on all atypical workers, make them unemployed and assign them an estimated unemployment duration. These workers may have different characteristics from the currently unemployed. In order to also understand the effect of EMU-UI on a population similar to the currently short-term unemployed we select individuals with the highest risk of losing their jobs, as done previously by Jara et al. (2016). Contrary to Jara and al. (2016), who use a 2% threshold, we select 3% of individuals, corresponding roughly to the average share of short-term unemployed under a large economic shock in the EU, to increase sample size (selecting just 2% of workers yielded too small samples in some countries) and obtain more robust results. A shock of this size is not unrealistic in the Eurozone, considering that the employment rate in Europe decreased by 2.5% from the first quarter of 2008 to the end of 2010 as a result of the subprime and sovereign debt crises. The decrease in employment from 2007 to 2011 was greater than 3% in eight Eurozone countries and up to 15% in Estonia. For more details, see Anderton et al. (2012).

We estimate the probability of becoming unemployed for current workers in each country. We use a logit model with a dummy dependent variable equal to 1 if an individual was unemployed for at least 1 month in the year and 0 otherwise, and individual characteristics as predictors, namely gender, age, work history, years of education, and occupation.

In the logistic regression model, the probability of being unemployed is:

$$Pr(y = 1) = F(x_i\beta) \tag{4}$$

Which can be rewritten in the common form:

$$Pr(y = 1) = \frac{e^{\beta x_i}}{1 + e^{\beta x_i}} \tag{5}$$

The estimated coefficients are listed in Table 12. Men are more likely to be unemployed than women, but the association with gender is relatively weak. Education level, measured here by the number of years of education, seems to be the most consistent predictor, and

is negatively associated with the probability of facing unemployment. There is a strong negative relationship between work history (i.e. the total number of months in the reference year) and the probability of becoming unemployed (except for Greece, Luxembourg and the Netherlands). The association with the sector of employment is also significant, with unemployment more likely for construction, health and social work workers. The association between age and the risk of being unemployed is very weak.

We predict the probability of being unemployed for all individuals before sorting individuals in each country in terms of their predicted unemployment risk and selecting the 3% with the highest risk, as we did before for all atypical workers. The characteristics of these high-risk workers are listed in Table 4. The share of part-time and low-skilled workers is higher than in the overall working population.

5 The effects of EMU-UI

For our results, we focus on three main variables: (i) Potential coverage, (ii) Net replacement rates (NRR), (iii) Risk of poverty. The analysis is conducted for the working population as a whole, individuals working less than 35 hours per week (part-time work), temporary contract workers, and the 3% of workers with the highest risk of becoming unemployed. This allows us to investigate the potential impact of the EMU-UI scheme for different segments of the working population.

5.1 Potential coverage

One important indicator of UI systems is their coverage rate. Potential coverage measures the percentage of workers who would be covered by unemployment insurance schemes in the event of unemployment. This typically depends on work history-related eligibility conditions (number of months of work in the preceding year). We consider the potential coverage of the entire workforce, as opposed to actual coverage, which is based on unemployed individuals currently receiving benefits. Note that the potential coverage rates calculated here differ from

UI coverage statistics. Standard statistics often include the long-term unemployed whereas in our case we focus only on the short-term unemployed (less than 1 year of unemployment). The non take-up of benefits is also not taken into account in our analysis and the current workers considered may not be representative of actual unemployed individuals.

Our analysis shows that that the coverage rates of national UI systems vary considerably between countries, which is consistent with national coverage rate statistics and with previous findings (Jara et al., 2016). Part-time workers and temporary contract workers have lower than average coverage rates in general, and there is more variability between countries (as found by Jara and Tumino 2018). This is consistent with the fact that these workers tend to have shorter contribution histories and do not always meet the eligibility criteria of national systems.

Figure 2 shows the potential coverage rates of national UI systems by worker type as well as the additional coverage that would result from the introduction of an EMU-UI. The underlying data can be found in the Appendix (see Table 7).

Averaging over all workers, the potential coverage rates of national UI range from 43.29% for Malta to 93.42% for Luxembourg, with rates in most countries around 65-80%. According to these results, introducing EMU-UI would increase potential coverage in all countries (i.e. it would allow a larger proportion of workers to access unemployment benefits as the eligibility conditions are less restrictive than in all countries). The additional coverage is limited however, except in Malta where coverage would increase by 40.24 percentage points, and to a lesser extent in Lithuania, Estonia and Slovakia, countries that all have stringent eligibility conditions for national UI. In Estonia for example, the necessary contribution period is 1 year in the last 3, and in Slovakia, 24 months' contribution in the last 48 are required. The modest increase in coverage under EMU-UI in countries such as Greece, Italy, Luxembourg and France is explained by the less stringent eligibility conditions of their national UI schemes. In these countries, workers only need to have worked between 4 and 6 months in the preceding year to be eligible to UI.

Part-time workers, who typically have lower work intensity, have lower potential coverage

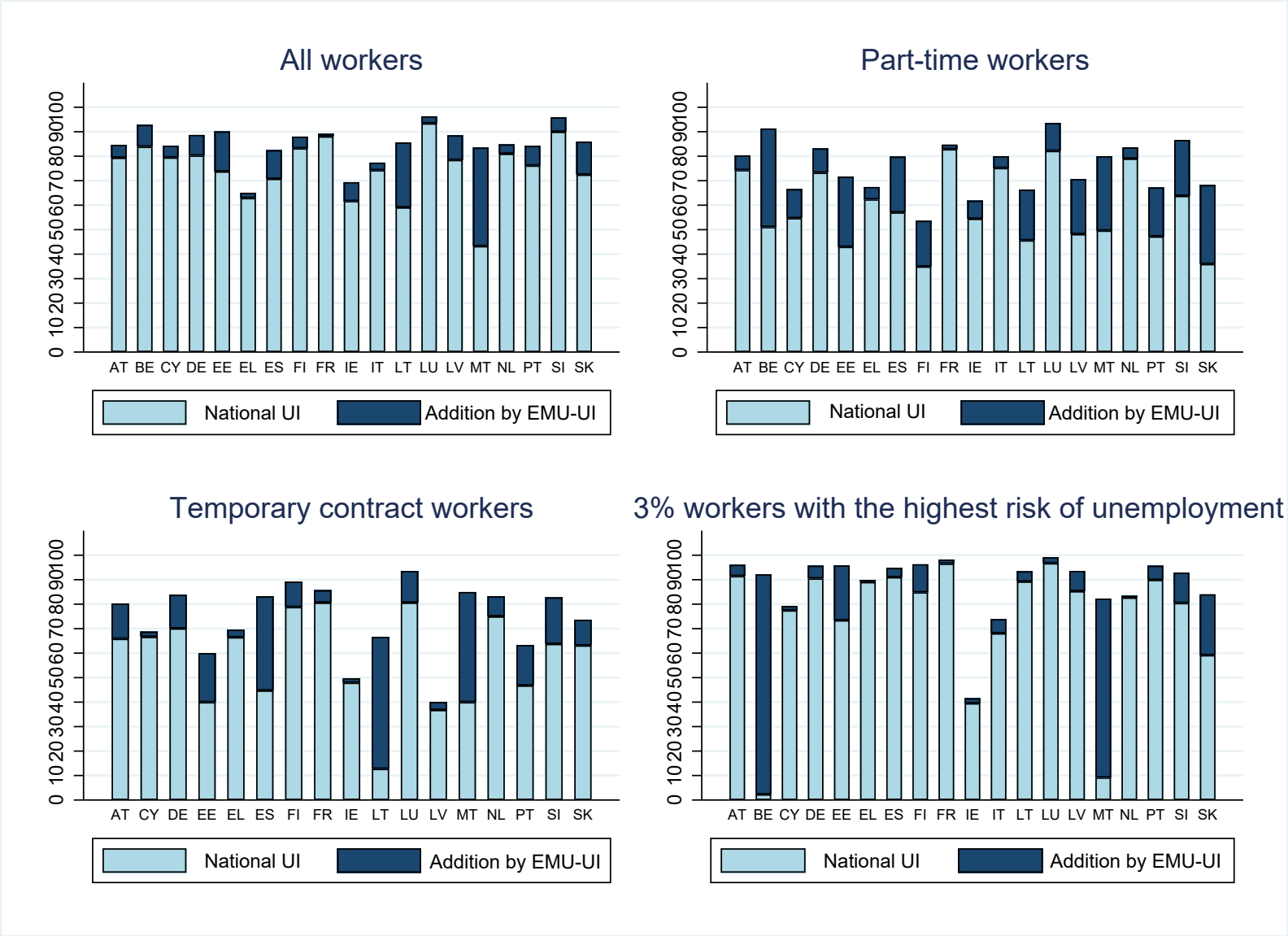
rates as a result, as shown already by Jara and Tumino (2018). The potential coverage of part-time workers is lower than average under the current systems in most countries. In Slovakia, Portugal, Malta, Latvia, Lithuania and Estonia, less than 50% of part-time workers would have access to unemployment benefits were they to lose their jobs. The introduction of an EMU-UI would increase the potential coverage rate for these workers more than it would overall, with increases ranging from 1.91 percentage points in France (which already has high potential coverage as the national system is relatively generous) to 32.25 percentage points for Slovakia. Under the the considered EMU-UI, the potential coverage of part-time workers would be above 65% in all EMU countries.

Very few individuals were reported as temporary contract workers in our database so the sample sizes for this category of workers are small (or for Italy, zero). Potential coverage under national systems for these workers is much lower than it is for workers in general. The proportion of individuals on temporary contracts potentially covered by national systems in case of unemployment is only greater than 60% in eight countries. The introduction of EMU-UI would lead to a larger increase in potential coverage rates for these workers than in general, up to around 75-85% in most countries. Once again, the gain in coverage under EMU-UI would be relatively less substantial in countries with looser UI eligibility criteria such as France, Luxembourg and Cyprus.

For the 3% of workers at greatest risk of becoming unemployed, the coverage rate of national UI systems is lower than the average for all workers in some countries (Belgium Ireland, Malta and to a lesser extent, Italy and Slovakia), but close to average in others, which suggests that this part of the population seems to be representative of all workers. The increase in potential coverage under the considered EMU-UI would be particularly high for Belgium, Estonia, Malta and Slovakia, and coverage rates would be above 80% in most countries after the reform. In other countries such as Austria, Germany, Greece and Portugal, where coverage rates for these workers are already high, the EMU-UI would increase coverage less than for other groups of workers. Note that since sample sizes were small for this worker

category in some countries (Cyprus, Latvia, Ireland, and Belgium) these results should be interpreted with caution.

Figure 2: Potential coverage rate by worker type



Source: Authors' elaboration using EUROMOD I1.0+ data.
Note: Countries ranked by the share of part-time workers. Official country acronyms used.

5.2 Net replacement rates

The net replacement rate (NRR) is an indicator of income protection that measures the proportion of income maintained by social benefits in the event of unemployment. NRR is also a measure of the incentives for unemployed individuals to re-enter the labour market. It is defined as household disposable income in unemployment, Y^{U_i}, divided by the disposable income in employment, Y^{W_i}:

$$NRR_i = \frac{Y^{U_i}}{Y^{W_i}}$$

NRRs are calculated for each earner in the household separately, assuming that household members do not change behaviour when another member of the household becomes unemployed.

Intuitively, NRRs should range from 0 and 100% but specific tax and benefit instruments can push NRRs above 100% as unemployment benefits can exceed disposable income in work, especially for low earners and atypical workers. In our paper, if NRR is negative, we exclude the first percentile of the sample and if NRR is higher than 150%, we exclude the top percentile of the sample, in order to avoid that 'outliers' bias the results, especially for small sample groups.

Figure 3 shows the NRRs for all worker types under national UI systems along with the increases the considered EMU-UI would induce (see Table 8 for more details).
Averaged over all workers, national NRRs range from 58.95% in Malta to 77.43% in Luxembourg, and are about 60–70% in most countries. Introducing the EMU-UI would increase NRRs by a small amount in all countries. The increases would be larger in Spain, Italy and Slovakia, possibly because replacement rates are currently quite low in Slovakia and the unemployed are only covered for 6 months with tapered benefits in Spain and Italy.

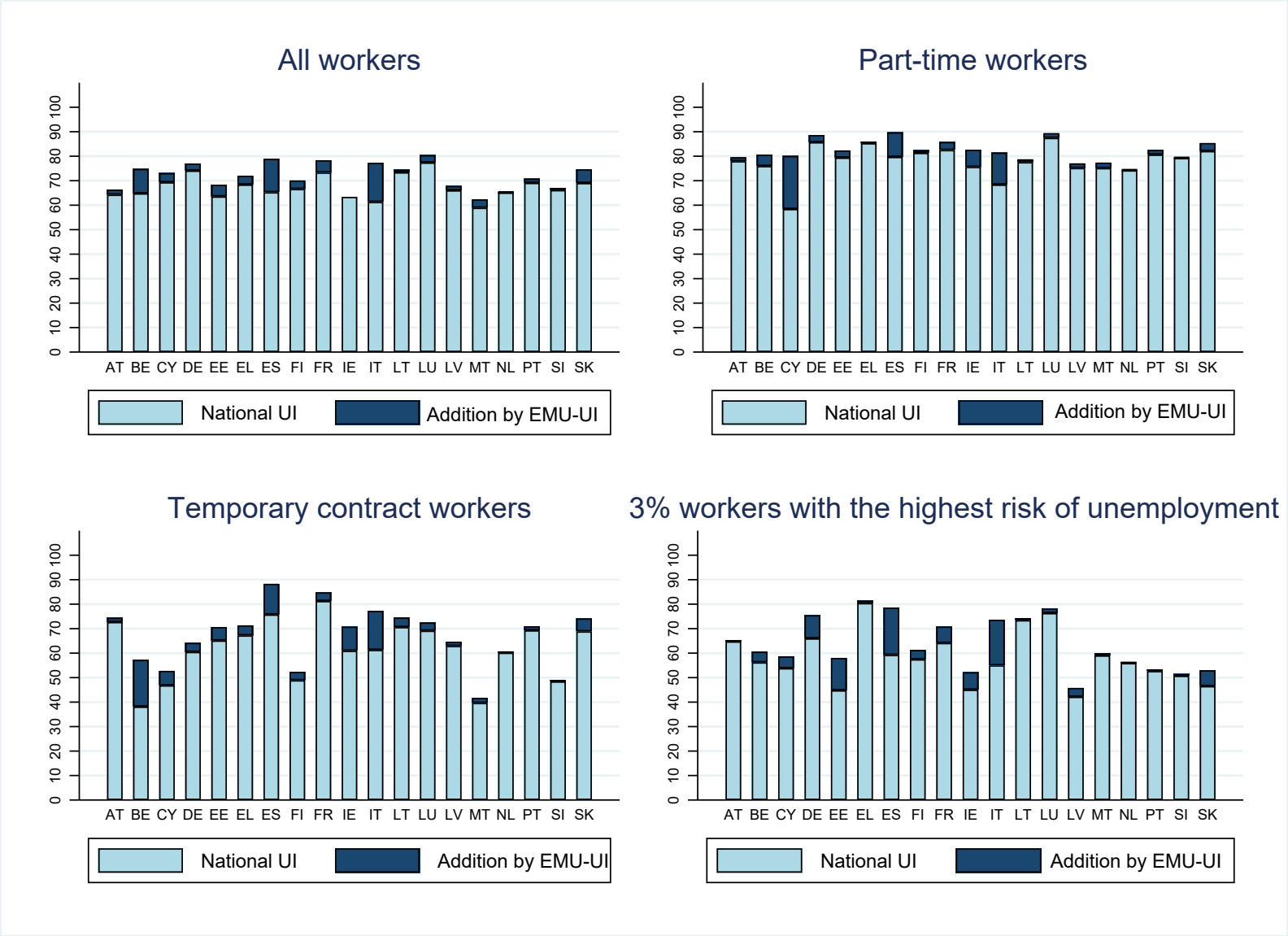
NRRs for part-time workers are much higher than for other types and EMU-UI would only

lead to marginal increases. Although counterintuitive, this may be explained by the fact that the income lost when part-time workers are made redundant represents just a small fraction of household disposable income. This is in line with Jara and Tumino (2018) who show that household members' income is a determining factor in the NRRs of these low-intensity workers.

For workers on temporary contracts, Figure 3 shows that NRRs are lower than average, with values ranging from 36.81% in Latvia to 69.18% in Luxembourg. Introducing the EMU-UI would increase NRRs for these workers in all countries, and lead to large increases in Spain, Ireland and Italy. The considered EMU-UI would therefore have a significant effect on this segment of the population, who are less likely to be eligible for UI and have more limited access to other forms of benefits than other groups of workers.

For the 3% of workers at greatest risk of becoming unemployed, we find that NRRs vary across the EMU but are in general lower than for other types of workers, with values under 60% in many countries. At baseline, under national systems, NRRs are only above 70% in Greece, Lithuania and Luxembourg. Under the considered EMU-UI scheme, NRRs for these workers would be increased by more than 10 percentage points in Italy, Spain and Estonia, but would remain below 60% in many countries and change little at all in Malta, the Netherlands, Portugal, Slovenia and Austria.

Figure 3: Net replacement rates by type of workers



Source: Authors' elaboration using EUROMOD I1.0+ data.
Note: Countries ranked by the share of part-time workers. Official country acronyms used.

5.3 Risk of poverty

In this section, we evaluate the role of the EMU-UI in protecting individuals from unemployment-related poverty. As becoming unemployed increases the risk of poverty, we analyze the risk of poverty for atypical workers before and after becoming unemployed. Poverty is defined here as disposable income less than 60% of the median equivalized disposable income in the baseline scenario (before entering unemployment). We calculate the share of all workers, part-time workers and temporary contract workers who would fall into poverty on becoming unemployed under national and EMU-UI systems.

Figure 4 shows, for both types of workers, the proportion of individuals in poverty while still in work, the proportion of individuals who would fall into poverty on loosing their jobs even with EMU-UI, and the share of individuals protected from poverty by the EMU-UI system.

The proportion of workers in poverty is around 8-10% in most countries, lower than 6% in France, Luxembourg, Ireland and Slovakia, and closer to 20% in Spain, Italy and Germany. Values range from 3.91% in Ireland to 16.35% in Spain. The introduction of EMU-UI would on average protect around 3% of workers from poverty in the event of unemployment. In Italy, where under national UI, the proportion of workers at risk of poverty on becoming unemployed is particularly high (around 35), the EMU-UI would reduce the unemployment-related poverty rate by 22 percentage points.

Part-time workers are more likely to experience in-work poverty, particularly in Spain, Germany, Portugal and Slovenia, so the share at risk of entering poverty on becoming unemployed is lower than for workers in general. Their contribution to the household's disposable income is relatively small, so the job loss has little impact on household income. The average rate of in-work poverty for part-time workers across the EMU is about 18% and around 13% are at risk of poverty on becoming unemployed. The considered EMU-UI scheme would protect significant proportions of part-time workers from unemployment-induced poverty, particularly in Austria and Italy. In Austria, this is probably because replacement rates are less generous than in other EMU countries (55% of net previous income) and eligibility

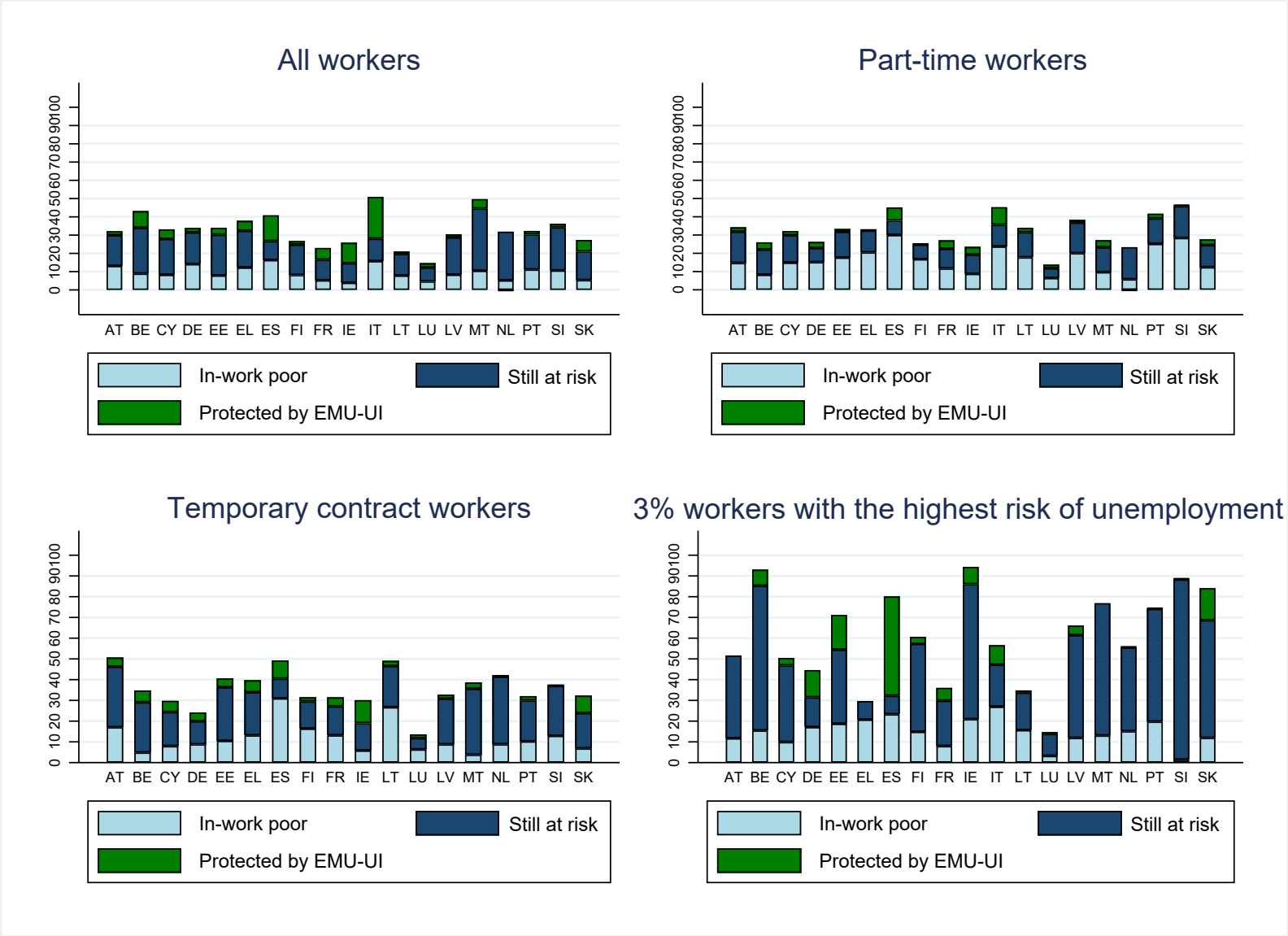
conditions stricter.

The share of temporary contract workers at risk of poverty on becoming unemployed is high, in part because it is difficult for these workers to access UI systems, and the additional protection offered by the EMU-UI scheme is generally low. In Spain, Ireland and Slovakia however, countries with strict UI eligibility conditions, we find that EMU-UI would protect a considerable share of temporary workers.

For the last subgroup, the 3% of workers at greatest risk of unemployment, the proportion of individuals at risk of poverty is particularly high in comparison with other categories of workers, especially in Belgium, Ireland, Slovenia, Malta and Portugal. The rate of in-work poverty is 10-20% for most countries, except for Italy (above 20%) and Cyprus, France, Luxembourg and Slovenia (below 10%). While the EMU-UI would reduce the share of these workers at risk of unemployment-related poverty in some countries, notably Spain, Estonia and Italy, it would have no such effect in many others, even in those such as Malta, Slovenia, Portugal and the Netherlands where the proportion of at-risk individuals is high.

In summary, the overall effect of the considered EMU-UI scheme with respect to poverty would be to slightly increase protection for all workers, including part time workers, but to a lesser extent in countries such as France, Luxembourg, and the Netherlands, where poverty rates are low and existing unemployment benefit systems generous. See Table 9 for more details.

Figure 4: Poverty rates by type of workers



Source: Authors' elaboration using EUROMOD I1.0+ data.
Note: Countries ranked by the share of part-time workers. Official country acronyms used.

6 An alternative scenario: EMU-UI accessible to the self-employed

6.1 Income protection for the self-employed

Results for the self-employed have so far not been presented because the considered EMU-UI would have no effect on this group, as they are not entitled to the benefitm (for more details on existing proposals, see Beblavy et al. (2017) who present 18 alternative EMU-UI schemes, none of which consider coverage for the self-employed). However, self-employment rates are increasing and are already high in some countries (see part 4.2). This group of atypical workers also has poor access to social protection, notably to unemployment insurance systems. In some EMU countries (Finland, Luxembourg, Slovenia and Slovakia) the self-employed are eligible to unemployment insurance under similar conditions as employees and this is also possible for certain categories of the self-employed in Ireland, Lithuania and Portugal. In Spain, Austria and Germany (under certain conditions), they can choose to participate in the UI system [3]. Jara and Tumino (2020) show that NRRs for the self-employed vary widely, and that they have higher rates of in-work poverty and less protection against poverty in the event of unemployment than other types of workers.

Given the low income protection of the self-employed, it seems relevant to consider alternative EMU-UI schemes better adapted to this form of work.

Here, we consider an EMU-UI system with the exact same characteristics as above but now with coverage for the self-employed. The eligibility conditions are the same, i.e. 3 months of (self-employed) work in the past 12, with a replacement rate of 50% of previous average monthly (self-employment) income. Figure 5 shows what effects opening the EMU-UI to the self-employed would have on potential coverage rates, NRRs, and the risk of poverty.

Regarding potential coverage rates, the self-employed are currently not covered at all in

[3]Information on the accessibility of national UI systems for the self-employed was collected from Jara and Tumino (2020), the Mutual Information System on Social Protection database (MISSOC: https://www.missoc.org/) and the Euromod country reports (https://www.euromod.ac.uk/using-euromod/country-reports).

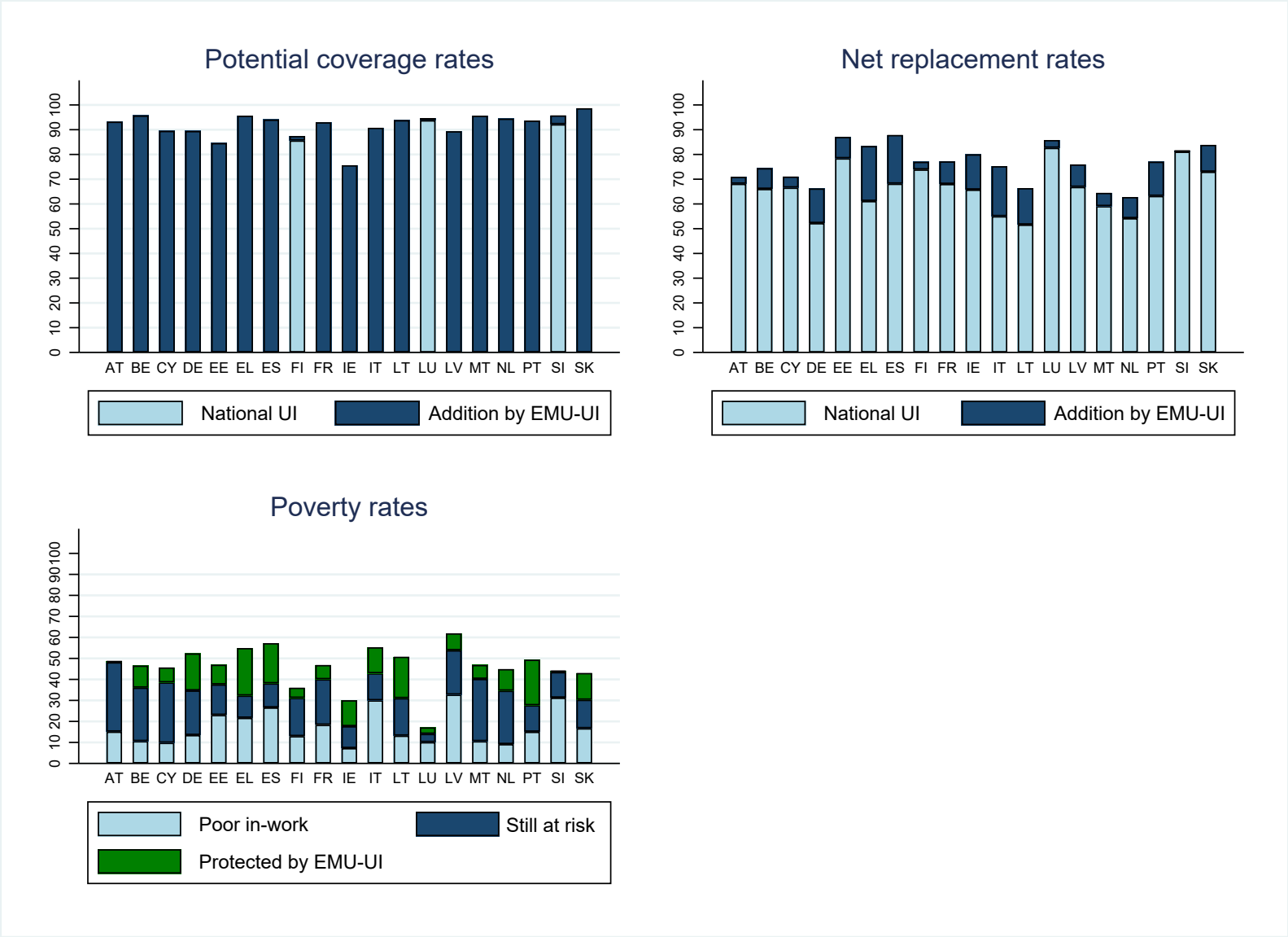
most countries, and introducing the proposed EMU-UI scheme would increase coverage rates to around 90%, except in Ireland where it would be under 80%. In Finland, Luxembourg and Slovenia, where the self-employed are already eligible to unemployment benefits under similar conditions as employees, coverage rates are already high and would not change[4].

NRRs for the self-employed vary from 51.65% in Lithuania to 82.69% for Luxembourg, in line with the variability found by Jara and Tumino (2020). In Estonia, Finland, Luxembourg, Slovenia and Slovakia, NRRs are already high (above 70%) without EMU-UI. In Greece, Spain and Italy however, introducing the EMU-UI for the self-employed, would substantially increase their NRRs. In the case of Greece indeed, even though the self-employed are covered in principle by UI, the strict eligibility conditions deny access in practice for most self-employed workers. In other countries, introducing this EMU-UI would also increase NRRs but to a lesser extent.

In-work poverty rates for the self-employed are relatively high, especially in Latvia, Slovenia, Italy and Spain, where more than 20% of the self-employed are poor. EMU-UI coverage would substantially reduce unemployment-related risk for the self-employed, especially in Germany, Greece, Spain, Lithuania and Portugal. The increases in the proportion of the self-employed protected from poverty would range from 0.57 percentage points in Austria to 22.63 percentage points in Greece. Note however that even with this type of EMU-UI, the share of the self-employed at risk of poverty in the event of unemployment would remain quite high, at 18.33% on average.

[4]In our analysis, national UI schemes are simulated for the self-employed only in those countries where this category is compulsorily covered by the general national UI scheme. The only exception is Greece, where the self-employed are compulsorily covered, but the stringent eligibility criteria cannot be simulated with the data. In countries where the self-employed can join national UI schemes voluntarily, we are unable to simulate their eligibility.

Figure 5: Effects of EMU-UI on income protection indicators: Self-employed

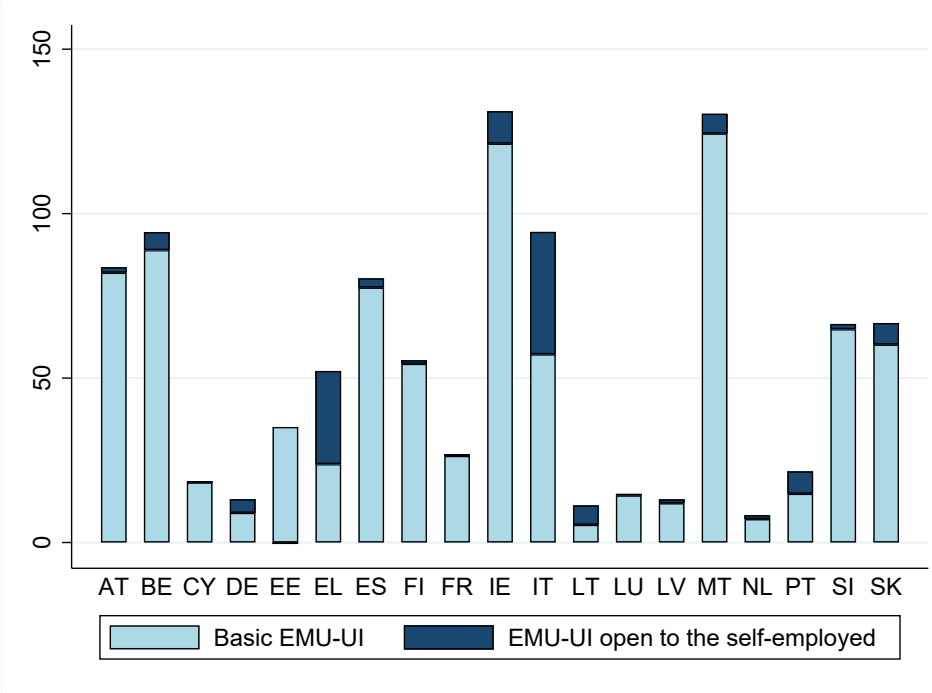


Source: Authors' elaboration using EUROMOD I1.0+ data.
Note: Countries ranked by the share of part-time workers. Official country acronyms used.

7 Budgetary costs

We now consider the budgetary implications of the EMU-UI schemes. Based on Jara and Tumino (2020), we calculate the associated percentage increase in average net transfers (all benefits including unemployment benefits minus taxes) paid to workers (both employed and self-employed) in the event of unemployment. Figure 6 shows that the basic EMU-UI scheme would lead to an increase in average transfers of more than 60% in Austria, Belgium, Spain and Slovenia, and more than 100% in Ireland and Malta. In contrast, net transfers would change very little under EMU-UI in Cyprus, Germany, Greece, Lithuania, Luxembourg, Latvia, Netherlands and Portugal.

Figure 6: Change in average cost per unemployed worker in % between national UI and a basic EMU-UI and additional cost of EMU-UI open to the self-employed



Source: Authors' elaboration using EUROMOD I1.0+ data.
Note: Countries ranked by the share of part-time workers. Official country acronyms used.

Regarding the additional cost of opening EMU-UI to the self-employed (the dark blue bars in Figure 6), the increase in transfers would be low (under 5%) in a majority of countries (11/19). The increase would be much higher however in Italy (37%) and Greece (28%),

probably because of the high rate of self-employment in these countries (28.85% in Greece and 20.11% in Italy).

Concluding discussion

This paper investigates the effects introducing an EMU-UI scheme would have on coverage rates, income replacement and poverty reduction in the EMU, with a focus on atypical workers. The EMU-UI scheme simulated in this paper is based on several proposals currently under discussion. The common standards and minimum requirement this implies for all countries reveals the gaps in current national UI systems and the need for more income support in some countries. The effects of this EMU-UI scheme are simulated for all individuals currently in work, as well as for individuals in part time work, on temporary contracts and for the 3% most at risk of unemployment. We also consider an alternative more inclusive scenario in which EMU-UI is also accessible for the self-employed.

Our analysis indicates that the prevalence of atypical workers and their access to benefits vary considerably between EMU countries. Our work also highlights the current heterogeneity of access to unemployment benefits in the EMU and in terms of the share of income preserved in case of unemployment. Our results show that the EMU-UI would increase coverage rates, especially for atypical workers, the most vulnerable in the labour market. The basic EMU-UI scheme considered would also provide a higher level of income protection in the case of unemployment. The increase in potential coverage and NRR varies between countries depending on how generous current national UI systems are. In Luxembourg, France and the Netherlands, the EMU-UI would only have a very small effect on levels of income protection while in Malta, Lithuania and Slovakia, the effects would be much larger, as national systems in the latter offer less protection. We found that the EMU-UI scheme would protect more workers from poverty in the event of unemployment, especially part-time workers. We find that the situation for the self-employed vary widely between countries but they are generally poor, with low access to UI systems and a greater risk of poverty than other types of workers. Opening EMU-UI to the self-employed would substantially increase NRRs, especially in Greece, Spain and Lithuania and would significantly reduce poverty rates among these workers.

The main goal of our work is to empirically assess current national unemployment benefit

systems and current income protection specifically for atypical workers. Our analysis then outlines what effects a supranational EMU-wide benefit system would have. Since our results indicate that income protection would increase, EMU-UI, which is usually considered as a potential stabilisation tool, can be expected to perform well in this regard.

We have to keep in mind that this analysis was made for current workers, who may not be representative of the currently unemployed, and that the non-take up of benefits was not considered, possibly leading to the potential effects of the EMU-UI being overestimated. Nevertheless, our approach of selecting different types of workers and moving them to unemployment allows the performance of the EMU-UI in case of hypothetical shocks to be analysed. Our analysis is static, but the dynamics of the system would be worth considering, notably the behavioural response of individuals. Economic issues are not consider either, and these would also be worth considering in future research.

This analysis could also be viewed in the context of the ongoing COVID-19 pandemic and ECB-forecasted unemployment rates for the Eurozone of 9.8% in 2020 and 10.1% in 2021. The economic crisis is expected to hit the most vulnerable share of the working population the hardest, in particular low-wage workers and those on short-term contracts. Women and younger workers are also expected to be disproportionately affected. Businesses that have been forced to close represent about 10% of employment, a share that varies between sectors and countries, with an overrepresentation of self-employed and temporary contract workers (22%, compared with about 11–15% in activities amenable to remote work) and an underrepresentation of workers on permanent contracts (just 56%)[5].

Countries have taken unprecedented measures during the COVID-19 pandemic to better protect non-standard workers. One of the main measures has been the short-time work (STW) scheme, which allows firms to reduce working hours with income support for employees from the State for the hours not worked. Similar alternatives include furlough schemes to support temporary reductions in working hours or temporary layoffs. Schemes such as these

[5]For more details, see Fana, M., Tolan, S., Torrejón, S., Urzi Brancati, C., Fernández-Macías, E, The COVID confinement measures and EU labour markets, EUR 30190 EN, Publications Office of the European Union, Luxembourg, 2020, ISBN 978-92-79-18812-4

already existed in many Eurozone countries (12/19) and were extensively used, or where newly implemented in the context of the pandemic (e.g. in Slovenia).

Countries have also had to modify existing unemployment insurance systems to strengthen worker protection. The crisis has highlighted the necessity of access to income support in case of shocks for non-standard workers, who are both more likely to be affected by crises and less likely to have access to social protection. Countries have thus had to urgently modify the eligibility conditions for unemployment insurance to better cover non-standard workers. This has been the case in Germany, Spain, Italy and Finland for instance. Ten Eurozone countries have taken emergency measures to protect self-employed workers, either by opening access to UI systems to the self-employed, by relaxing eligibility conditions for self-employed UI schemes, or by creating an emergency support fund for the self-employed. Unemployment insurance payments have also been extended in eight countries or increased to ensure a minimal sustainable replacement rate. The fact that most Eurozone countries have had to modify the rules of existing UI systems to guarantee a certain level of income protection for atypical workers highlights the need to strengthen social protection measures for these more vulnerable workers.

The European Commission has also created a new instrument, temporary Support to mitigate Unemployment Risks in an Emergency (SURE), with up to 100 billion euros available in the form of loans. This fund is designed to help the most affected countries strengthen worker protection, notably via STW schemes, but also any other policy aiming to preserve employment and limit income loss. The European Commission's statement that 'this temporary instrument should be seen as an emergency operationalisation of a European Unemployment Re-insurance Scheme in the specific context of the COVID-19 crisis, without prejudice to the possible subsequent establishment of a permanent instrument under a different legal basis in the TFEU.', has rekindled the debate on a common unemployment benefit system for the Eurozone as a permanent tool to face future crises.

Possible avenues for future work include understanding how the EMU-UI would have operated during the current crisis to protect workers' income in comparison with the emergency policies that have actually been implemented.

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Appendix

Table 1: Sample characteristics: All workers

	BE	DE	EE	IE	EL	ES	FR	IT	CY	LV	LT	LU	MT	NL	AT	PT	SI	SK	FI
N	5301	11408	6779	4557	13514	13964	10513	17458	4401	5640	4426	4408	4289	13178	5703	10003	10712	7055	11644
Male	53.9	50.2	50.7	53.4	57.6	54.0	51.1	57.9	51.1	49.5	50.6	55.2	59.3	53.1	55.0	50.0	54.9	53.8	50.7
Female	46.1	49.8	49.3	46.6	42.4	46.0	48.9	42.1	48.9	50.5	49.4	44.8	40.7	46.9	45.0	50.0	45.1	46.2	49.4
Age <30	17.2	16.8	19.9	16.4	11.6	11.9	18.7	11.2	21.9	18.9	19.7	18.6	26.2	17.3	20.3	16.1	13.4	18.8	17.4
Age 30-50	58.6	51.9	51.8	58.4	65.2	63.8	57.2	59.8	56.2	52.3	50.5	63.8	52.4	53.5	54.6	60.0	65.0	57.9	52.3
Age >50	24.2	31.4	28.3	25.2	23.3	24.3	24.1	29.0	21.9	28.8	29.8	17.5	21.4	29.2	25.1	24.0	21.7	23.3	30.3
Low skilled	15.7	7.0	10.8	14.9	20.2	33.3	14.7	30.0	15.3	9.0	4.5	29.8	41.7	19.0	10.7	47.5	8.9	3.3	9.2
Medium skilled	36.2	54.1	47.1	29.7	42.8	24.1	44.8	46.3	43.1	54.9	54.3	39.6	29.7	40.0	54.6	26.9	57.5	72.0	45.6
High skilled	48.1	38.9	42.1	55.4	37.0	42.6	40.5	23.7	41.7	36.1	41.2	30.6	28.6	41.0	34.7	25.6	33.6	24.7	45.2
Employee	91.2	94.4	98.9	88.1	71.2	89.0	94.9	79.8	90.7	96.7	94.1	94.9	90.3	89.8	91.0	92.2	90.6	86.9	94.7
Self employed	8.8	5.6	1.1	11.9	28.8	11.0	5.1	20.1	9.3	3.3	5.9	5.1	9.7	10.2	9.0	7.8	9.4	13.1	5.3
Main earning	63.1	65.7	61.9	59.9	68.6	64.2	64.8	68.5	60.6	60.2	62.3	62.2	59.2	62.9	62.1	61.7	60.3	54.2	65.9
Second earning	36.9	34.3	38.1	40.1	31.4	35.8	35.2	31.5	39.4	39.8	37.7	37.8	40.8	37.1	37.9	38.3	39.7	45.8	34.1
Earning quintile 1	19.5	18.7	19.1	19.0	19.3	15.0	16.8	17.1	16.6	16.1	16.3	20.0	19.7	16.7	16.9	18.9	17.2	19.4	16.3
Earning quintile 2	20.0	20.3	20.1	20.3	20.7	20.1	20.4	19.4	20.6	20.8	20.9	19.9	20.0	20.7	20.7	20.4	20.6	19.2	20.9
Earning quintile 3	20.2	20.4	20.3	20.2	20.1	21.3	20.9	20.7	20.9	20.8	21.0	20.0	20.3	20.9	20.8	20.2	20.7	21.6	20.9
Earning quintile 4	20.2	20.4	20.3	20.2	20.2	21.7	20.9	21.4	20.9	21.3	21.0	20.0	19.9	20.9	20.8	20.3	20.7	19.3	21.0
Earning quintile 5	20.1	20.3	20.3	20.2	19.7	21.9	21.1	21.5	20.9	21.0	20.8	20.0	20.0	20.9	20.8	20.2	20.7	20.5	20.9
Part time	17.5	18.7	9.2	27.6	14.8	18.2	13.4	11.3	14.4	9.1	8.7	16.0	9.5	29.1	19.4	6.4	7.9	3.5	11.3

Table 2: Sample characteristics: Part-time workers

	BE	DE	EE	IE	EL	ES	FR	IT	CY	LV	LU	LT	MT	NL	AT	PT	SI	SK	FI
N	1 491	3 175	819	1 609	2 842	3 175	2 147	74	921	674	1000	559	708	6 146	1 569	1 000	1 013	340	2 028
Men	23.6	16.4	33.0	30.3	39.7	34.6	26.0	76.8	38.2	37.4	17.68	36.4	26.4	22.9	20.8	31.6	40.9	30.9	37.6
Women	76.4	83.6	67.0	69.7	60.3	65.4	74.0	23.2	61.8	62.6	82.33	63.6	73.6	77.1	79.2	68.4	59.1	69.1	62.4
Age <30	16.0	10.5	27.8	20.4	16.8	18.4	21.9	49.6	30.8	20.4	14.1	23.6	27.8	16.1	17.5	24.4	19.6	19.0	32.4
Age 30-50	55.1	54.5	41.4	51.3	61.5	60.4	50.4	50.4	46.0	44.8	63.1	38.7	49.9	52.5	58.6	51.0	55.5	55.4	39.0
Age >30	28.9	35.0	30.8	28.2	21.7	21.3	27.7	0.0	23.1	34.8	22.8	37.8	22.3	31.4	23.9	24.6	24.9	25.6	28.6
Low skilled	18.5	9.8	13.0	17.0	21.1	43.0	20.7	25.5	17.6	14.1	38.9	8.7	39.9	20.6	13.5	55.4	11.2	7.2	10.5
Medium skilled	38.6	62.0	49.5	35.9	40.4	23.9	48.3	74.5	38.6	59.4	41.1	55.2	33.3	42.6	59.3	23.2	65.9	71.6	54.0
High skilled	42.9	28.3	37.6	47.1	38.5	33.1	31.0	85.5	43.8	26.5	20.0	36.2	26.9	36.8	27.1	21.3	23.0	21.2	35.4
Employees	97.6	94.2	97.4	92.1	77.1	92.0	95.9	14.5	79.9	93.8	96.1	87.8	89.5	90.8	94.2	87.2	89.5	89.4	93.6
Self employed	2.4	5.8	2.6	7.9	22.9	8.0	4.1	99.1	20.1	6.2	3.9	12.2	10.5	9.2	5.8	12.8	10.5	10.6	6.4
Main earner	42.6	37.1	41.7	43.4	52.0	46.4	45.6	0.9	44.3	41.1	35.5	52.5	31.6	39.6	36.0	41.6	42.1	26.0	49.7
Second earner	57.4	62.9	58.3	56.6	48.0	53.6	54.4	23.0	55.7	58.9	64.5	47.5	68.4	60.4	64.0	58.4	57.9	74.0	50.3
Earning quintile 1	44.1	46.5	62.7	43.1	51.8	39.9	43.7	23.2	39.5	62.0	53.0	55.2	56.8	29.8	39.9	72.6	58.8	78.6	55.0
Earning quintile 2	24.9	33.0	18.8	28.6	23.2	36.2	30.8	37.4	30.9	21.7	17.2	14.4	18.0	31.0	34.7	13.1	30.4	11.9	28.3
Earning quintile 3	15.0	13.4	10.8	14.4	9.0	15.8	11.0	13.1	11.2	10.3	16.0	13.0	8.2	20.9	15.4	3.8	7.4	3.9	6.7
Earning quintile 4	11.7	5.1	3.8	8.1	9.9	4.2	9.3	3.3	5.9	3.9	10.2	12.1	14.2	11.9	6.2	5.7	2.4	3.7	5.4
Earning quintile 5	4.3	2.1	4.0	5.9	6.1	4.0	5.2	63.3	12.5	2.2	3.6	5.3	2.8	6.3	3.7	4.9	1.0	1.9	4.5

Table 3: Sample characteristics: Temporary contract workers

	BE	DE	EE	IE	EL	ES	FR	CY	LV	LT	LU	MT	NL	AT	PT	SI	SK	FI
N	215	687	126	169	856	3 264	1 323	180	140	136	106	118	310	346	785	507	304	587
Men	59.3	51.5	49.1	53.4	56.0	49.5	44.4	50.4	54.6	69.9	62.7	53.4	60.6	51.9	47.4	54.4	48.2	51.7
Women	40.7	48.5	50.9	46.6	44.0	50.5	55.6	49.6	45.4	30.1	37.3	46.6	39.4	48.1	52.6	45.6	51.8	48.3
Age <30	16.1	12.8	15.1	13.6	6.7	25.3	46.3	18.5	21.7	42.1	7.9	20.1	14.5	36.2	11.6	13.8	10.7	21.1
Age 30-50	57.8	54.0	58.5	63.2	68.1	62.0	42.0	62.4	51.7	39.0	61.1	55.6	55.5	44.2	63.6	70.2	62.5	50.6
Age >50	26.1	33.2	26.4	23.2	25.2	12.7	11.7	19.1	26.6	18.9	31.0	24.3	30.1	19.7	24.8	16.0	26.8	28.3
Low skilled	19.6	4.6	9.7	16.7	21.2	42.9	16.7	12.6	8.5	9.2	31.6	54.0	16.5	15.9	53.5	7.9	1.4	9.3
Medium skilled	35.2	55.9	51.3	27.0	40.1	22.6	52.5	40.9	63.9	68.4	51.8	22.3	40.0	43.2	22.6	58.7	68.8	47.2
High skilled	45.3	39.5	39.0	56.3	38.7	34.5	30.9	46.5	27.6	22.5	16.6	23.6	43.4	40.9	23.9	33.4	29.8	43.6
Employee	88.6	94.9	99.7	87.7	71.9	99.1	99.9	91.1	97.3	96.8	98.5	89.4	85.6	99.0	93.3	93.1	85.3	93.9
Self employed	11.4	5.1	0.3	12.3	28.1	0.9	0.1	8.9	2.7	3.2	1.5	10.6	14.4	1.0	6.7	6.9	14.7	6.1
Main earner	66.8	69.9	49.3	72.8	71.7	52.2	51.1	60.2	63.0	61.7	71.6	57.7	73.1	60.0	57.2	63.2	57.8	72.2
Second earner	33.2	30.1	50.7	27.2	28.3	47.8	48.9	39.8	37.0	38.3	28.4	42.3	26.9	40.0	42.8	36.8	42.2	27.8
Earning quintile 1	19.2	17.4	18.8	15.8	18.9	35.6	43.7	17.8	14.0	37.9	22.8	23.3	19.5	34.9	16.1	15.3	18.7	19.2
Earning quintile 2	17.1	20.6	22.7	18.8	21.3	30.9	32.9	20.4	24.9	21.8	20.9	21.3	16.3	25.6	22.2	20.1	18.0	19.0
Earning quintile 3	22.4	17.7	24.1	23.7	19.8	18.9	14.2	19.9	16.7	11.7	17.5	20.4	20.4	17.8	23.2	22.9	19.4	20.8
Earning quintile 4	22.4	23.6	15.1	25.4	18.0	10.8	6.3	21.2	22.4	14.4	19.2	16.2	23.2	10.1	21.9	22.8	22.9	20.0
Earning quintile 5	18.8	20.7	19.3	16.4	22.0	3.9	2.9	20.7	22.1	14.2	19.6	18.9	20.6	11.6	16.6	18.9	21.1	21.1
Part time	26.4	26.8	6.3	37.4	20.1	43.4	32.5	23.9	7.6	22.5	23.6	14.2	43.1	41.2	9.2	8.6	4.9	21.1

Table 4: Sample characteristics: 3% of workers at greatest risk of unemployment

	BE	DE	EE	IE	EL	ES	FR	IT	CY	LV	LT	LU	MT	NL	AT	PT	SI	SK	FI
N	126	323	187	122	323	356	283	470	104	103	119	123	122	338	139	272	280	198	304
Male	70.91	51.38	62.05	58.93	45.36	59.36	48.11	58.35	57.77	63.36	57.43	80.97	74.86	67.66	54.11	58.01	37.89	65.59	37.00
Female	29.09	48.62	37.95	41.07	54.64	40.64	51.89	41.65	42.23	36.64	42.57	19.03	25.14	32.34	45.89	41.99	62.11	34.41	63.00
Age <30	53.55	27.26	59.00	30.29	46.04	28.43	59.13	58.06	60.65	35.02	41.80	28.76	52.45	23.11	34.76	58.19	58.11	56.30	46.79
Age 30-50	43.26	52.96	31.23	47.89	48.78	59.90	32.37	40.75	33.81	51.42	47.34	53.93	33.32	39.32	50.16	38.49	38.35	37.25	35.23
Age >50	3.19	19.77	9.77	21.82	5.18	11.68	8.50	1.18	5.54	13.56	10.85	17.31	14.23	37.57	15.08	3.32	3.54	6.45	17.98
Low skilled	37.79	15.21	31.20	16.00	31.97	81.27	22.06	61.77	10.97	34.57	6.95	62.01	59.41	34.57	26.43	50.63	15.63	13.69	12.02
Medium skilled	42.46	62.31	50.80	32.70	59.01	14.47	54.85	35.48	64.75	58.06	70.95	34.10	29.96	49.24	55.30	34.40	56.18	82.29	63.22
High skilled	19.76	22.49	18.00	51.30	9.02	4.26	23.09	2.75	24.28	7.37	22.10	3.89	10.63	16.19	18.26	14.97	28.19	4.02	24.76
Employee	94.67	95.37	99.42	84.62	93.46	98.61	99.77	71.84	92.85	99.16	99.32	95.05	90.06	86.53	98.17	97.87	89.58	78.70	98.97
Self-employed	5.33	4.63	0.58	15.38	6.54	1.39	0.23	14.59	7.15	0.84	0.68	4.95	9.94	13.47	1.83	2.13	10.42	21.30	1.03
Main earner	100.00	98.00	90.87	98.67	97.56	94.45	95.50	96.86	96.45	95.48	92.03	97.76	95.53	98.22	94.08	94.78	97.39	93.37	93.73
Second earner	0.00	2.00	9.13	1.33	2.44	5.55	4.50	3.14	3.55	4.52	7.97	2.24	4.47	1.78	5.92	5.22	2.61	6.63	6.27
Earning quintile 1	36.21	32.22	27.23	45.14	40.63	22.43	34.65	39.05	29.91	25.24	35.00	24.87	52.64	37.11	27.88	29.21	46.77	34.36	25.84
Earning quintile 2	34.9	28.56	26.13	24.94	40.23	35.62	38.89	30.22	42.61	32.92	30.63	34.00	24.68	31.19	34.04	31.93	35.08	22.19	35.18
Earning quintile 3	19.32	19.81	20.28	14.91	11.32	30.84	18.45	13.4	19.16	19.32	16.25	30.13	13.31	20.36	24.14	22.45	13.31	14.89	22.28
Earning quintile 4	8.81	11.71	18.65	8.67	6.44	9.24	4.27	11.86	8.33	10.49	8.75	7.16	7.4	9.28	5.69	12.3	4.03	17.7	8.11
Earning quintile 5	0.77	7.7	7.71	6.34	1.39	1.87	3.74	5.4	0	12.02	9.38	3.84	1.96	2.06	8.25	4.12	0.81	10.85	8.60
Part-time	18.32	28.39	22.55	53.02	39.26	30.74	26.35	16.28	40.32	27.38	9.82	9.68	24.36	43.99	19.76	24.85	15.02	7.58	22.16

Table 5: Predicted months in unemployment by months of work

	BE	DE	EE	IE	ES	FR	CY
Employment	Prediction	Prediction	Prediction	Prediction	Prediction	Prediction	Prediction
0	10.50	6.37	4.96	5.37	7.76	6.99	6.67
1	10.54	5.58	4.71	4.88	7.77	6.80	5.64
2	11.10	5.40	4.88	4.66	7.69	6.46	5.76
3	9.44	5.56	4.87	5.13	7.74	6.62	5.81
4	10.00	5.29	4.57	5.07	7.72	6.35	5.53
5	10.20	5.16	4.93	5.04	7.74	6.55	5.67
6	9.85	5.61	4.98	4.80	7.62	6.47	5.68
7	9.40	5.59	4.73	5.05	7.72	6.42	5.49
8	8.96	5.28	4.84	5.01	7.62	6.66	5.29
9	9.45	5.17	4.69	4.74	7.62	6.52	5.06
10	8.77	4.88	4.66	4.93	7.56	6.47	4.92
11	9.12	4.97	4.68	4.99	7.69	6.26	5.29
12	9.05	4.59	4.59	5.23	7.77	6.31	5.16

	AT	LT	LU	MT	PT	SI	SK
Emp_duration	Prediction	Prediction	Prediction	Prediction	Prediction	Prediction	Prediction
0	6.99	8.32	7.46	3.84	7.51		6.26
1	6.35	7.45	6.85	5.33	6.51	4.57	6.70
2	6.78	7.70	6.14	4.68	6.43	4.68	6.74
3	5.14	7.49	6.29	4.40	6.39	4.40	6.52
4	5.62	7.31	5.65	4.12	6.19	4.18	6.15
5	5.32	7.27	6.13	4.69	6.25	4.69	6.32
6	5.96	7.15	6.30	4.49	6.66	4.60	6.56
7	5.91	7.18	5.65	4.51	6.13	4.54	6.60
8	5.05	7.39	5.84	4.83	6.26	4.91	6.66
9	5.13	7.00	5.84	4.00	6.19	4.00	6.57
10	4.62	7.28	5.52	4.21	6.26	4.14	6.51
11	4.57	7.69	5.92	4.23	6.34	4.27	6.48
12	4.45	6.55	4.89	4.21	5.84	4.24	6.32

Table 6: Work duration and predicted unemployment duration

Country	BE		DE		EE		IE	
	Work_dur	Unemp_dur	Work_dur	Unemp_dur	Work_dur	Unemp_dur	Work_dur	Unemp_dur
All	11.6	9.1	11.6	4.77	11.37	4.6	11.51	5.25
Male	11.67	9.02	11.7	4.7	11.22	4.62	11.65	5.33
Female	11.54	9.18	11.5	4.85	11.52	4.59	11.34	5.15
Age <30	10.99	11.09	10.83	4.8	10.34	4.18	11.38	4.8
Age >30	11.72	8.69	11.71	4.77	11.57	4.7	11.69	5.32
Educ_1	11.53	9.33	11.38	5.32	10.91	4.62	11.64	5.79
Educ_2	11.62	9.12	11.62	4.73	11.44	4.6	11.48	5.12
Perm_contract	11.6	9.09	11.6	4.78	11.37	4.6	11.52	5.25
Temp_contract	11.73	9.2	11.57	4.73	11.52	4.67	11.29	5.09
Full_time	11.72	9.14	11.71	4.7	11.57	4.6	11.81	5.25
Part_time	11.31	8.89	11.33	4.97	10.11	4.65	11.97	5.25
N	5515		12136		7313		5040	

Country	EL		ES		FR		IT	
	Work_dur	Unemp_dur	Work_dur	Unemp_dur	Work_dur	Unemp_dur	Work_dur	Unemp_dur
All	11.85	7.27	11.78	7.78	11.69	6.38	11.91	9.04
Male	11.9	7.36	11	7.84	11.76	6.2	11.93	9.08
Female	11.77	7.12	11.83	7.71	11.63	6.55	11.88	8.97
Age <30	11.39	7.11	10.93	7.68	11.08	5.83	11.84	9.13
Age >30	11.9	7.29	11.28	7.79	11.79	6.46	11.92	9.03
Educ_1	11.85	7.61	11.8	7.74	11.58	6.52	11.9	8.99
Educ_2	11.85	7.17	11.77	7.79	11.71	6.35	11.92	9.06
Prem_contract	11.84	7.27	11.9	7.79	11.77	6.41		
Temp_contract	11.9	7.22	11.2	7.72	10.99	6.08		
Full_time	11.89	7.42	11.85	7.79	11.76	6.37	11.75	8.91
Part_time	11.66	6.62	11.51	7.74	11.4	6.43	11.96	9.08
N	14155		14603		11067		18871	

Country	CY		LV		LT		LU	
	Work_dur	Unemp_dur	Work_dur	Unemp_dur	Work_dur	Unemp_dur	Work_dur	Unemp_dur
All	11.75	5.21	11.63	6.39	11.73	6.59	11.55	4.98
Male	11.74	5.36	11.72	6.52	11.74	6.45	11.61	4.77
Female	11.76	5.07	11.55	6.26	11.72	6.73	11.61	5.22
Age <30	11.19	5.04	10.97	6.4	10.71	6.47	11.61	5.1
Age >30	11.83	5.24	11.74	6.39	11.85	6.61	11.61	4.95
Educ_1	11.57	5.67	11.16	6.47	11.18	6.53	11.61	5.08
Educ_2	11.79	5.12	11.67	6.38	11.75	6.6	11.61	4.94
Prem_contract	11.74	5.22	11.63	6.38	11.76	6.59	11.61	4.98
Temp_contract	11.93	5.12	11.63	6.58	10.14	6.65	11.61	4.94
Full_time	11.89	5.19	10.66	6.58	11.84	6.56	11.61	4.87
Part_time	11.1	5.36	11.76	6.36	11.01	6.83	11.61	5.37
N	4614		6069		4820		4804	

Country	MT		NL		AT		PT	
	Work_dur	Unemp_dur	Work_dur	Unemp_dur	Work_dur	Unemp_dur	Work_dur	Unemp_dur
All	11.51	4.27	11.55	5.59	11.48	2.07	11.87	6.14
Male	11.62	4.53	11.57	5.44	11.65	1.98	11.87	6.27
Female	11.34	3.89	11.52	5.73	11.29	2.18	11.87	6.01
Age <30	11.08	4.49	9.67	5.39	10.56	2.29	11.45	5.9
Age >30	11.65	4.2	11.86	5.62	11.7	2.02	11.93	6.17
Educ_1	11.55	4.49	11.56	5.69	11.18	2.08	11.87	6.18
Educ_2	11.48	4.11	11.55	5.56	11.51	2.07	11.87	6.09
Prem_contract	11.51	4.27	11.55	5.59	11.52	2.06	11.86	6.13
Temp_contract	11.54	4.22	11.66	5.54	10.77	2.4	11.9	6.14
Full_time	11.71	4.33	11.4	5.72	11.71	1.95	11.49	6.91
Part_time	10.55	4.01	11.69	5.46	10.87	2.41	11.91	6.05
N	4552		14029		6193		10808	

Country	SI		SK		FI	
	Work_dur	Unemp_dur	Work_dur	Unemp_dur	Work_dur	Unemp_dur
All	11.8	6.09	11.76	6.37	10.48	4.91
Male	11.79	5.84	11.84	6.49	10.65	4.91
Female	11.8	6.39	11.67	6.24	10.3	5.04
Age <30	10.8	5.18	11.39	6.24	7.04	4.41
Age >30	11.94	6.22	11.83	6.4	11.2	5.02
Educ_1	11.87	6.28	11.79	6.46	8.01	4.99
Educ_2	11.79	6.07	11.76	6.38	10.86	4.9
Prem_contract	11.8	6.09	11.75	6.37	10.47	4.93
Temp_contract	11.79	6.13	11.82	6.33	10.67	4.62
Full_time	11.83	6	10.49	6.9	11.39	4.77
Part_time	11.32	7.23	11.82	6.34	7.56	5.37

Table 7: Potential coverage rates by worker types

	All workers			Part-time workers		
	Baseline	EMU	Increase	Baseline	EMU	Increase
BE	83.91	92.78	8.87	51.08	91.35	40.27
DE	80.28	88.73	8.45	73.3	83.18	9.88
EE	73.8	90.1	16.3	43	71.69	28.69
IE	61.7	69.43	7.73	54.47	61.8	7.33
EL	62.94	65.1	2.16	62.38	67.45	5.07
ES	70.77	82.45	11.68	57.05	79.84	22.79
FR	88.11	89.13	1.02	82.88	84.79	1.91
IT	74.29	77.42	3.13	75.21	80.01	4.8
CY	79.5	84.26	4.76	54.71	66.54	11.83
LV	78.49	88.54	10.05	48.19	70.68	22.49
LT	59.11	85.62	26.51	45.66	66.39	20.73
LU	93.42	96.32	2.9	82.2	93.55	11.35
MT	43.29	83.53	40.24	49.63	80	30.37
NL	81.03	84.81	3.78	79.02	83.63	4.61
AT	79.4	84.68	5.28	74.35	80.36	6.01
PT	76.21	84.22	8.01	47.24	67.24	20
SI	90	95.89	5.89	63.8	86.67	22.87
SK	72.48	86	13.52	35.96	68.21	32.25
FI	83.25	88.05	4.8	34.96	53.64	18.68
	Temporary contract workers			3% highest risk workers		
	Baseline	EMU	Increase	Baseline	EMU	Increase
BE	1.9	86.3	84.4	2.32	92.25	89.93
DE	70.1	83.82	13.72	90.52	95.72	5.2
EE	40	60	20	73.44	95.83	22.39
IE	47.94	49.77	1.83	39.53	41.54	2.01
EL	66.5	69.57	3.07	89.05	89.91	0.86
ES	44.73	83.23	38.5	91.05	94.85	3.8
FR	80.64	85.68	5.04	96.53	98.26	1.73
IT				68.11	73.92	5.81
CY	66.67	68.75	2.08	77.48	79.28	1.8
LV	61.54	76.92	15.38	85.32	93.58	8.26
LT	12.76	66.67	53.91	89.26	93.44	4.18
LU	80.64	93.54	12.9	96.75	99.19	2.44
MT	40	85	45	9.2	82.31	73.11
NL	75	83.22	8.22	85.86	99.19	13.33
AT	65.87	80.24	14.37	91.5	96.08	4.58
PT	46.79	63.3	16.51	89.93	95.68	5.75
SI	63.79	82.76	18.97	80.5	92.91	12.41
SK	63.16	73.68	10.52	59.2	84.08	24.88
FI	78.86	89.26	10.4	84.85	96.36	11.51

Table 8: Net replacement rates by worker types

	All workers			Part-time workers		
	Baseline	EMU	Increase	Baseline	EMU	Increase
BE	64.84	74.81	9.97	76.01	80.63	4.62
DE	74.13	61.18	2.87	85.74	88.68	2.94
EE	63.58	68.32	4.74	79.45	82.39	2.94
IE	63.40	63.40	0.00	75.64	82.63	6.99
EL	68.43	72.05	3.62	85.33	85.77	0.44
ES	65.29	78.91	13.62	79.74	89.76	10.02
FR	73.34	78.36	5.02	82.55	85.83	3.28
IT	61.33	77.27	15.94	68.42	81.46	13.04
CY	69.38	73.09	3.71	58.45	80.11	21.65
LV	66.08	67.84	1.76	75.22	77.11	1.89
LT	73.44	74.54	1.10	77.58	78.78	1.20
LU	77.44	80.44	3.01	87.51	89.46	1.95
MT	58.96	62.38	3.42	75.18	77.42	2.24
NL	65.17	65.27	0.10	74.27	74.29	0.02
AT	64.29	66.36	2.08	77.98	79.57	1.59
PT	69.14	70.81	1.67	80.66	82.58	1.92
SI	66.18	67.05	0.87	79.27	79.38	0.11
SK	69.07	74.63	5.56	82.12	85.41	3.29
FI	66.64	70.14	3.50	81.39	82.49	1.10
	Temporary contract workers			3% highest risk workers		
	Baseline	EMU	Increase	Baseline	EMU	Increase
BE	65	57.25	19.11	56.25	60.61	4.35
DE	75.3	64.220	3.716	66.04	75.49	9.45
EE	65.2	70.68	5.51	44.84	58.06	13.22
IE	60.95	70.83	9.87	45.06	52.22	7.16
EL	67.26	71.37	4.11	80.47	81.47	1.00
ES	75.80	88.35	12.55	59.30	78.63	19.33
FR	81.30	84.83	3.53	64.19	70.86	6.67
IT	61.33	77.27	15.94	55.03	73.64	18.61
CY	46.86	52.77	5.91	53.87	58.68	4.82
LV	62.94	64.69	1.75	42.18	45.82	3.64
LT	70.67	74.54	3.88	73.47	74.34	0.87
LU	69.18	72.52	3.34	76.38	78.21	1.83
MT	39.69	41.73	2.04	59.08	59.97	0.90
NL	60.18	60.54	0.35	55.95	56.26	0.31
AT	72.73	74.47	1.74	64.80	65.28	0.48
PT	69.34	70.98	1.65	52.71	53.32	0.61
SI	48.45	49.00	0.55	50.78	51.46	0.68
SK	68.90	74.18	5.27	46.55	53.05	6.50
FI	48.93	52.38	3.45	57.50	61.29	3.79

Table 9: Poverty rates by worker types

	All workers			Part-time workers		
	In-work poor	Still at risk	Protected	In-work poor	Still at risk	Protected
BE	8.92	25.11	9.02	8.26	13.83	3.98
DE	14.13	17.41	2.31	15.17	7.74	3.25
EE	7.92	22.32	3.72	17.66	14.11	1.42
IE	3.91	10.72	11.14	8.77	10.52	4.14
EL	12.27	20.1	5.37	20.5	11.96	0.64
ES	16.35	10.37	14.21	30.01	7.97	7.15
FR	5.28	11.24	6.49	11.68	10.78	4.54
IT	15.77	12.27	22.9	23.73	11.9	9.69
CY	8.28	19.63	5.29	14.88	15.07	2.18
LV	8.35	20.38	1.71	20.07	16.71	1.49
LT	7.87	11.81	1.3	17.79	13.79	2.32
LU	4.66	7.57	2.33	6.47	5.37	1.89
MT	10.5	34.06	5.21	9.67	13.62	3.82
NL	5.22	26.71	-0.07	5.76	17.64	-0.13
AT	13.14	16.81	2.18	14.72	17.16	2.28
PT	11.17	19.21	1.94	25.18	13.95	2.63
SI	10.63	23.66	1.9	28.43	17.39	0.9
SK	5.38	15.69	6.28	12.39	12.11	3.1
FI	8.18	16.58	3.66	16.78	7.97	0.82
	Temporary contract workers			3% highest risk workers		
	In-work poor	Still at risk	Protected	In-work poor	Still at risk	Protected
BE	4.85	24.23	5.73	15.5	69.77	7.75
DE	8.82	11.15	4.15	17.12	14.37	13.15
EE	10.49	25.87	4.2	18.75	35.75	16.67
IE	5.82	13.23	11.11	20.93	65.11	8.36
EL	13.15	20.77	5.75	20.75	8.93	0
ES	30.99	9.5	8.74	23.31	8.94	47.88
FR	13.16	13.93	4.34	7.99	21.87	6.25
IT				26.95	20.28	9.35
CY	7.96	16.42	5.47	9.91	36.94	3.6
LV	8.8	22.01	1.89	11.93	49.54	4.59
LT	26.73	19.8	2.48	15.7	18.03	1.11
LU	6.36	5.45	1.82	3.25	10.57	0.81
MT	3.79	31.82	3.03	13.08	63.85	0
NL	8.84	32.6	0.55	15.01	40.68	-0.63
AT	17.03	29.2	4.38	11.76	39.87	0
PT	10.23	19.74	2.14	19.78	54.32	0.36
SI	12.93	24.06	0.6	1.42	86.88	0.71
SK	6.83	17.08	8.38	11.94	56.72	15.42
FI	16.4	13.09	1.99	14.85	42.42	3.34

Table 10: Income protection indicators: The self-employed

	Coverage rates			NRR		
	Baseline	EMU-UI	Increase	Baseline	EMU-UI	Increase
BE	0	95.75	95.75	66.06	74.46	8.40
DE	0	89.47	89.47	52.25	66.24	13.99
EE	0	84.61	84.61	78.44	87.07	8.63
IE	0	75.65	75.65	65.79	80.04	14.26
EL	0	95.67	95.67	61.18	83.39	22.21
ES	0	94.09	94.09	68.18	87.88	19.70
FR	0	93.01	93.01	68.07	77.21	9.14
IT	0	90.78	90.78	55.04	75.27	20.23
CY	0	89.52	89.52	66.61	71.07	4.46
LV	0	89.38	89.38	66.88	75.97	9.10
LT	0	93.85	93.85	51.65	66.40	14.75
LU	93.83	94.71	0.88	82.69	85.83	3.14
MT	0	95.67	95.67	59.12	64.48	5.36
NL	0	94.46	94.46	54.24	62.80	8.56
AT	0	93.25	93.25	68.16	70.96	2.80
PT	0	93.7	93.7	63.23	77.09	13.85
SI	92.2	95.78	3.58	81.14	81.47	0.33
SK	0	98.68	98.68	73.02	83.87	10.85
FI	85.65	87.44	1.79	73.92	77.03	3.11

Poverty rates		
Baseline	EMU-UI	Increase
10.61	25.48	10.49
13.52	21.2	17.66
23.08	14.53	9.39
7.29	10.42	12.38
21.7	10.6	22.63
26.65	11.47	19.15
18.38	21.69	6.8
30.04	12.86	12.42
9.85	28.72	7.13
32.74	21.14	8.07
13.23	17.85	19.73
10.13	3.96	3.08
10.6	29.65	6.64
9.2	25.43	10.3
15.15	33.03	0.57
15.08	12.59	21.74
31.3	12.2	0.72
16.73	13.57	12.78
13	18.19	4.87

Table 11: ZTNB estimation of unemployment duration

	(AT)	(BE)	(CY)	(DE)	(EE)	(EL)	(ES)	(FR)	(IE)	(IT)	(LU)	(LT)	(LV)	(MT)	(NL)	(PT)	(SI)	(SK)	(FI)
	Unemp.spell	Unemp.spell	Unemp.spell	Unemp.spell	Unemp.spell	Unemp.spell	Unemp.spell	Unemp.spell	Unemp.spell	Unemp.spell	Unemp.spell	Unemp.spell	Unemp.spell	Unemp.spell	Unemp.spell	Unemp.spell	Unemp.spell	Unemp.spell	
Male	0.0400	0.0310	0.0702***	0.00514	0.0590	-0.002	0.0278**	0.0653**	0.00754	0.0179	-0.088	-0.00904	0.0731**	0.107*	-0.00911	0.0208	-0.0477**	0.0488*	0.061**
	(0.82)	(1.25)	(3.70)	(0.25)	(1.40)	(0.01)	(2.89)	(2.93)	(0.32)	(1.79)	(0.08)	(-0.32)	(2.62)	(2.05)	(-0.38)	(1.69)	(-2.90)	(2.46)	(0.02)
Age	0.0210***	0.00612***	0.00675***	0.00677***	0.0151***	0.0023**	0.00403***	0.00719***	0.00306**	-0.000221	-0.004	0.00634***	0.00998***	0.000162	0.00814***	0.00674***	-0.00401***	0.0107***	0.011***
	(6.33)	(4.28)	(4.52)	(5.30)	(4.89)	(0.00)	(6.76)	(6.28)	(3.19)	(-0.38)	(0.00)	(3.74)	(4.97)	(0.06)	(6.70)	(7.26)	(-4.10)	(7.93)	(0.00)
Years of education	-0.00565	-0.00594	-0.0362**	-0.0349**	-0.0917***	-0.002	-0.0158**	-0.0195	-0.0187*	-0.0215***	0.002	-0.0141	-0.0295	-0.0876***	0.00335	-0.00619	-0.0126**	-0.0524**	-0.055***
	(-0.26)	(-0.56)	(-3.18)	(-2.93)	(-5.04)	(0.00)	(-3.24)	(-1.50)	(-2.29)	(-3.34)	(0.01)	(-0.64)	(-1.50)	(-4.54)	(0.26)	(-0.83)	(-2.66)	(-2.67)	(0.01)
Work history	-0.00144***	-0.000307*	-0.000321*	-0.000486***	-0.00122***	-0.000***	-0.000405***	-0.000361***	-0.000175	-0.000	-0.000	-0.000378*	-0.000981***	-0.000176	-0.000316***	-0.000364***	0.000867***	-0.000757***	-0.000***
	(-5.24)	(-2.42)	(-2.51)	(-4.73)	(-4.21)	(0.00)	(-8.15)	(-3.54)	(-0.84)	(0.00)	(0.00)	(-2.56)	(-5.53)	(-0.64)	(-3.50)	(-5.12)	(13.51)	(-6.31)	(.)
1.Agriculture	-0.739	-0.366	-0.956**	-1.474***	-0.895***	-0.416***	-0.453***	-0.581***	-0.238	-0.359***	-0.898	-0.543***	-0.444***		-0.974**	-0.684***	-0.502***	-0.485***	-0.762***
	(-1.72)	(-1.03)	(-2.79)	(-3.64)	(-5.89)	(0.04)	(-17.79)	(-5.28)	(-1.00)	(-11.47)	(0.64)	(-4.60)	(-5.46)		(-3.08)	(-7.54)	(-3.82)	(-4.18)	(0.13)
2.Industry	-0.698***	-0.582***	-0.755***	-0.856***	-0.489***	-0.433***	-0.386***	-0.718***	-0.932***	-0.228***	-1.448***	-0.600***	-0.503***	-0.777***	-0.804***	-0.741***	-0.659***	-0.573***	-0.946***
	(-7.62)	(-9.76)	(-8.62)	(-11.29)	(-10.78)	(0.03)	(-20.98)	(-12.17)	(-10.41)	(-13.53)	(0.42)	(-7.19)	(-8.14)	(-5.70)	(-6.85)	(-13.84)	(-16.06)	(-13.07)	(0.07)
3.Construction	-1.039***	-0.573***	-0.611***	-1.437***	-0.950***	-0.575***	-0.364***	-0.640***	-0.748***	-0.247***	-0.348*	-0.721***	-0.765***	-1.484***	-1.049***	-0.608***	-0.653***	-0.791**	-0.936***
	(-7.99)	(-7.02)	(-9.96)	(-9.62)	(-8.49)	(0.04)	(-15.66)	(-9.00)	(-7.95)	(-9.23)	(0.15)	(-7.07)	(-9.33)	(-5.43)	(-8.97)	(-10.38)	(-10.33)	(-3.25)	(0.08)
4.Retail	-0.505***	-0.716***	-0.499***	-0.516***	-0.817***	-0.472***	-0.379***	-0.418***	-0.791***	-0.221***	-0.255	-0.252***	-0.394***	-0.575***	-0.538***	-0.428***	-0.381***	-0.376***	-0.842***
	(-5.22)	(-9.59)	(-22.09)	(-17.86)	(-7.81)	(0.02)	(-19.07)	(-17.22)	(-20.62)	(-11.25)	(0.16)	(-8.27)	(-12.62)	(-8.11)	(-19.22)	(-25.51)	(-21.18)	(-15.64)	(0.08)
5.Hotels, Rest.	-0.702***	-0.336**	-0.972***	-1.321***	-0.742***	-0.552***	-0.582***	-0.945***	-0.235***	-0.493***	-0.179	-0.776***	-0.310	-0.568***	-0.782***	-0.639***	-1.126***	-0.724***	
	(-6.12)	(-3.28)	(-22.07)	(-9.75)	(-5.99)	(0.02)	(-22.35)	(-6.75)	(-8.02)	(-9.35)	(0.31)	(-3.52)	(-6.88)	(-1.49)	(-3.35)	(-17.08)	(-8.80)	(-5.14)	(0.12)
6.Transport, communication	-0.676***	-0.640***	-0.769***	-0.772***	-0.790***	-0.544***	-0.411***	-0.636***	-0.759***	-0.249***	-0.429	-0.533***	-0.652***	-0.511***	-0.892***	-0.594***	-0.514***	-0.512***	-0.820***
	(-4.89)	(-7.77)	(-9.3 9)	(-8.72)	(-6.20)	(0.04)	(-14.82)	(-8.27)	(-6.42)	(-8.36)	(0.23)	(-4.31)	(-6.97)	(-3.74)	(-8.66)	(-8.61)	(-6.80)	(-4.20)	(0.09)
7.Financial intermediation	-0.390	-1.065***	-0.663***	-1.171***		-0.288*	-0.302***	-0.779***	-1.138***	-0.202***	-0.470*	-0.880***	-0.444**	-1.630***	-1.291***	-0.424	-0.668***	-0.943	-0.583*
	(-0.63)	(-5.12)	(-4.62)	(-4.11)		(0.14)	(-6.80)	(-5.68)	(-6.62)	(-4.44)	(0.22)	(-3.80)	(-2.64)	(-4.22)	(-5.50)	(-1.12)	(-3.43)	(-1.81)	(0.29)
8.Real estate	-0.629***	-0.607***	-0.966***	-0.961***	-0.482***	-0.583***	-0.369***	-0.693***	-0.700***	-0.222***	-0.625***	-0.444***	-0.274***	-0.746***	-0.479***	-0.722***	-0.573***	-1.267**	-0.667***
	(-4.33)	(-9.68)	(-12.50)	(-10.86)	(-3.48)	(0.03)	(-14.92)	(-8.45)	(-7.61)	(-10.19)	(0.16)	(-4.26)	(-3.67)	(-5.87)	(-7.43)	(-11.05)	(-12.77)	(-2.81)	(0.07)
9.Public admin.	-0.423	-0.748***	-0.998***	-0.857***	-0.579*	-0.316***	-0.309***	-0.407***	-1.053***	-0.165***	-0.453	-0.279*	-0.278*	-0.494**	-0.543**	-0.673***	-0.468***		-0.769***
	(-1.44)	(-7.02)	(-11.83)	(-7.99)	(-2.43)	(0.05)	(-13.11)	(-4.26)	(-5.53)	(-5.15)	(0.28)	(-2.21)	(-2.28)	(-3.03)	(-2.84)	(-9.23)	(-3.78)		(0.18)
10.Education	-0.413*	-0.836***	-1.071***	-0.902***	-0.817***	-1.051***	-0.519***	-0.483***	-1.021***	-0.363***	-0.886	-0.639***	-0.615***	-0.908***	-0.799***	-0.650***	-0.502***	0.0842	-1.059***
	(-2.27)	(-10.91)	(-16.79)	(-8.16)	(-3.64)	(0.05)	(-18.30)	(-6.26)	(-9.46)	(-12.35)	(0.48)	(-3.75)	(-4.90)	(-4.40)	(-6.10)	(-9.16)	(-7.51)	(0.29)	(0.08)
11.Health, social	-0.301*	-0.738***	-0.790***	-0.902***	-0.634**	-0.537***	-0.401***	-0.646***	-0.483***	-0.154***	-0.470**	-0.438**	-0.482***	-0.948*	-0.531***	-0.731***	-0.586***	-0.926***	-0.394***
	(-2.45)	(-9.60)	(-7.88)	(-11.22)	(-3.27)	(0.07)	(-14.92)	(-10.91)	(-5.28)	(-4.99)	(0.15)	(-2.61)	(-4.14)	(-2.21)	(-5.94)	(-10.05)	(-7.86)	(-4.79)	(0.02)
12.Other	-0.523***	-0.757***	-0.707***	-0.646***	-0.482**	-0.481***	-0.376***	-0.667***	-0.773***	-0.210***	-0.172	-0.522**	-0.703***	-1.742	-0.599***	-0.844***	-0.513***	-0.489***	-0.705***
	(-4.02)	(-6.53)	(-11.33)	(-5.90)	(-2.62)	(0.06)	(-14.79)	(-6.98)	(-7.08)	(-7.04)	(0.17)	(-3.20)	(-6.06)	(-1.84)	(-5.63)	(-11.55)	(-6.62)	(-3.79)	(0.08)
Number of children	-0.0129	0.00595		0.00734	-0.0269	0.002	0.000295	0.000491	0.0209*	0.000492	-0.081	-0.00235	-0.0230	-0.0140	0.0126	0.0193**	-0.00371	-0.000884	
	(-0.46)	(0.50)		(0.50)	(-1.34)	(0.01)	(0.06)	(0.05)	(2.10)	(0.07)	(0.05)	(-0.15)	(-1.66)	(-0.53)	(0.86)	(2.98)	(-0.42)	(-0.13)	
Married	-0.0522	-0.00529				0.016			-0.0104	-0.0340**	-0.172	-0.0366	0.00763	-0.105	-0.114***	0.00369	0.00202	0.00684	-0.055*
	(-0.94)	(-0.19)				(0.01)			(-0.38)	(-2.67)	(0.11)	(-1.19)	(0.26)	(-1.61)	(-4.33)	(0.27)	(0.10)	(0.31)	(0.02)
_cons	1.555***	2.188***	2.160***	2.219***	1.823***	2.443***	2.359***	2.147***	2.313***	2.463***	2.315***	2.201***	2.147***	2.239***	2.077***	2.208***	2.400***	2.047***	1.825***
	(14.46)	(38.85)	(47.54)	(42.83)	(18.24)	(104.11)	(48.47)	(50.33)	(121.79)	(30.47)	(0.22)	(29.02)	(23.07)	(35.65)	(74.04)	(69.02)	(44.66)	(0.04)	
/																			
lnalpha	-1.605***	-17.97	-17.38	-19.44	-1.812***	-20.724	-21.60	-2.567***	-17.88	-17.97	-2.246***	-3.960***	-3.047***	-3.539***	-2.247***	-17.54	-2.848***	-14.61	-2.041***
	(-13.55)	(-0.13)	(-0.09)	(-0.11)	(-15.32)	(.)	(.)	(-23.24)	(-0.12)	(-0.17)	(0.27)	(-8.54)	(-14.93)	(-6.81)	(-23.19)	(-0.24)	(-27.57)	(-0.06)	(0.08)
N	734	811	1608	1186	887	4664	5154	1822	919	4154	234	722	1005	331	1798	3021	2954	1180	2481

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 12: Logit estimation of unemployment status

	(BE)	(DE)	(EE)	(IE)	(EL)	(ES)	(FR)	(IT)	(CY)	(LV)	(LU)	(LT)	(MT)	(NL)	(AT)	(PT)	(SI)	(SK)	(FI)
	u_status	u_status	u_status	u_status	u_status	u_status	u_status	u_status	u_status	u_status	u_status	u_status	u_status	u_status	u_status	u_status	u_status	u_status	u_status
Age	0.004	0.029***	0.023**	0.033***	-0.006	0.030***	0.010	-0.020***	-0.018*	0.007	0.022*	0.062***	0.041**	0.002	0.011	0.074***	0.086***	0.070***	-0.026***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.00)	(0.00)	(0.01)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)	(0.00)
1.Male	0.255	0.220*	0.264*	0.168	-0.172**	-0.040	-0.071	-0.268***	0.186*	0.146	0.302	0.130	0.801***	0.277***	0.023	0.173*	-0.133	-0.115	0.885***
	(0.14)	(0.10)	(0.11)	(0.14)	(0.06)	(0.06)	(0.08)	(0.06)	(0.09)	(0.10)	(0.21)	(0.14)	(0.23)	(0.08)	(0.14)	(0.07)	(0.09)	(0.11)	(0.08)
Married	-0.076	0.104*	0.035	-0.130	0.026	0.058	0.093*	-0.123***	0.045	-0.040	0.031	0.038	-0.238	0.080	0.009	0.023	0.087	0.035	-0.002
	(0.07)	(0.04)	(0.05)	(0.10)	(0.04)	(0.03)	(0.04)	(0.04)	(0.06)	(0.04)	(0.10)	(0.07)	(0.18)	(0.04)	(0.06)	(0.04)	(0.06)	(0.06)	(0.04)
Years of educ	-0.023	0.016	-0.026	0.026	-0.049***	-0.043***	0.005	-0.082***	-0.010	-0.083***	-0.026	0.070***	-0.056	0.001	-0.039	-0.049***	0.014	-0.097***	-0.080***
	(0.01)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.04)	(0.01)	(0.02)	(0.01)	(0.02)	(0.02)	(0.02)
0.Detailed indus	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)
1.Agriculture	-6.074***	-4.370***	-2.931***	-8.250***	-7.633***	-3.940***	-3.197***	-5.907***	-6.420***	-5.515***	-4.079***	-6.818***		-2.716***	-5.277***	-3.629***	-4.449***	-4.099***	-3.019***
	(1.10)	(0.68)	(0.28)	(0.85)	(0.33)	(0.16)	(0.31)	(0.29)	(0.97)	(0.34)	(1.13)	(0.54)		(0.56)	(1.03)	(0.24)	(0.53)	(0.37)	(0.41)
2.Industry	-4.707***	-4.198***	-1.441***	-6.104***	-7.235***	-4.441***	-3.156***	-6.180***	-5.455***	-5.082***	-3.763***	-6.890***	-5.385***	-3.357***	-3.889***	-4.311***	-4.078***	-4.709***	-1.047***
	(0.31)	(0.21)	(0.15)	(0.49)	(0.26)	(0.13)	(0.18)	(0.27)	(0.29)	(0.29)	(0.49)	(0.48)	(0.43)	(0.24)	(0.20)	(0.15)	(0.14)	(0.19)	(0.20)
3.Construction	-4.891***	-3.466***	-2.452***	-5.444***	-6.970***	-4.096***	-3.283***	-6.156***	-4.825***	-4.680***	-3.103***	-6.244***	-4.865***	-2.373***	-3.200***	-3.685***	-3.450***	-5.125***	-1.119***
	(0.35)	(0.27)	(0.22)	(0.51)	(0.27)	(0.15)	(0.20)	(0.28)	(0.27)	(0.31)	(0.35)	(0.50)	(0.49)	(0.24)	(0.24)	(0.18)	(0.19)	(0.55)	(0.21)
4.Retail	-5.176***	-2.218***	-2.898***	-4.947***	-6.389***	-4.528***	-1.904***	-6.195***	-3.398***	-3.319***	-3.412***	-4.291***	-3.981***	-2.376***	-3.574***	-2.093***	-3.642***	-3.490***	-0.675***
	(0.32)	(0.14)	(0.21)	(0.45)	(0.25)	(0.13)	(0.13)	(0.28)	(0.20)	(0.26)	(0.34)	(0.44)	(0.36)	(0.14)	(0.21)	(0.09)	(0.14)	(0.16)	(0.20)
5.Hotels, restaurant	-5.237***	-2.502***	-2.280***	-6.767***	-5.784***	-4.414***	-3.445***	-5.949***	-3.169***	-4.384***	-4.304***	-6.106***	-5.497***	-2.754***	-2.976***	-3.177***	-3.524***	-3.862***	-0.225
	(0.40)	(0.26)	(0.25)	(0.54)	(0.25)	(0.14)	(0.23)	(0.28)	(0.23)	(0.35)	(0.61)	(0.60)	(0.60)	(0.36)	(0.24)	(0.14)	(0.22)	(0.45)	(0.26)
6.Transports	-5.145***	-3.813***	-2.710***	-6.399***	-7.292***	-4.571***	-3.605***	-6.143***	-4.990***	-5.434***	-3.727***	-6.861***	-4.877***	-2.676***	-3.678***	-3.998***	-3.845***	-4.084***	-1.553***
	(0.33)	(0.23)	(0.24)	(0.52)	(0.27)	(0.15)	(0.20)	(0.28)	(0.28)	(0.32)	(0.43)	(0.54)	(0.47)	(0.22)	(0.27)	(0.20)	(0.20)	(0.36)	(0.22)
7.Financial intermediation	-5.744***	-4.899***	0.000	-5.843***	-8.852***	-4.258***	-3.432***	-6.105***	-5.611***	-4.347***	-3.628***	-5.383***	-4.774***	-2.980***	-5.803***	-6.318***	-4.931***	-4.805***	-1.748**
	(0.50)	(0.52)	(.)	(0.56)	(0.48)	(0.20)	(0.30)	(0.31)	(0.40)	(0.47)	(0.43)	(0.67)	(0.58)	(0.35)	(1.02)	(1.01)	(0.53)	(1.03)	(0.54)
8.Real estate	-4.853***	-3.632***	-2.926***	-5.907***	-6.724***	-4.503***	-3.924***	-6.031***	-4.726***	-4.940***	-3.012***	-6.449***	-4.323***	-2.491***	-3.670***	-3.806***	-3.532***	-4.974***	-0.595**
	(0.31)	(0.22)	(0.27)	(0.50)	(0.26)	(0.14)	(0.21)	(0.28)	(0.26)	(0.31)	(0.30)	(0.53)	(0.41)	(0.18)	(0.26)	(0.18)	(0.16)	(0.74)	(0.20)
9.Public admin.	-5.542***	-4.077***	-3.610***	-6.919***	-7.943***	-4.312***	-4.698***	-5.804***	-4.941***	-5.458***	-4.277***	-6.534***	-5.264***	-4.104***	-5.385***	-4.397***	-4.064***	0.000	-0.812*
	(0.35)	(0.26)	(0.39)	(0.60)	(0.28)	(0.14)	(0.25)	(0.29)	(0.26)	(0.39)	(0.48)	(0.59)	(0.50)	(0.38)	(0.53)	(0.20)	(0.24)	(.)	(0.34)
10.Eduction	-4.658***	-3.588***	-3.800***	-5.432***	-7.265***	-4.227***	-4.104***	-5.787***	-3.791***	-5.745***	-4.602***	-7.317***	-4.636***	-3.183***	-4.238***	-4.263***	-3.749***	-4.718***	0.557**
	(0.32)	(0.27)	(0.35)	(0.52)	(0.28)	(0.15)	(0.22)	(0.29)	(0.25)	(0.37)	(0.74)	(0.59)	(0.49)	(0.27)	(0.34)	(0.20)	(0.20)	(1.04)	(0.20)
11.Health, social	-5.495***	-3.557***	-3.354***	-6.402***	-7.944***	-4.611***	-4.271***	-6.028***	-4.683***	-4.997***	-3.247***	-6.820***	-6.073***	-3.470***	-4.129***	-4.389***	-3.516***	-5.038***	1.942***
	(0.33)	(0.21)	(0.34)	(0.52)	(0.31)	(0.15)	(0.18)	(0.29)	(0.31)	(0.36)	(0.30)	(0.61)	(0.79)	(0.21)	(0.26)	(0.19)	(0.19)	(0.42)	(0.16)
12.Other	-5.077***	-3.618***	-3.152***	-6.238***	-7.625***	-4.701***	-3.660***	-6.368***	-4.984***	-4.732***	-3.128***	-6.214***	-6.592***	-2.099***	-3.636***	-3.965***	-3.500***	-4.468***	0.000
	(0.37)	(0.29)	(0.34)	(0.53)	(0.29)	(0.15)	(0.24)	(0.29)	(0.25)	(0.35)	(0.35)	(0.59)	(1.06)	(0.25)	(0.25)	(0.19)	(0.23)	(0.36)	(.)
Work history	-0.005***	-0.004***	-0.004***	-0.007***	-0.003***	-0.004***	-0.004***	-0.005***	-0.002**	-0.002**	-0.002**	-0.008***	-0.007***	0.000	-0.002*	-0.008***	-0.014***	-0.011***	-0.001**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Temporary contract	-0.141	0.317	-0.241	0.066	-0.055	2.225***	1.926***		0.375	-0.177	-0.077	2.228***	0.813	0.359	1.605***	-0.102	0.273	-0.408	0.151
	(0.30)	(0.17)	(0.35)	(0.30)	(0.12)	(0.05)	(0.08)		(0.19)	(0.31)	(0.50)	(0.21)	(0.45)	(0.21)	(0.16)	(0.11)	(0.17)	(0.28)	(0.14)
Part-time	0.171	-0.478***	0.363*	0.993***	0.382***	-0.387***	0.116	-0.324***	0.758***	0.188	-0.057	-0.072	0.312	0.651***	0.049	-0.304*	0.382**	-0.115	0.799***
	(0.16)	(0.12)	(0.14)	(0.14)	(0.07)	(0.07)	(0.09)	(0.07)	(0.11)	(0.17)	(0.25)	(0.22)	(0.30)	(0.08)	(0.15)	(0.13)	(0.14)	(0.26)	(0.08)
Number of children	-0.156*	-0.173**	-0.121**	-0.094	-0.042	-0.065*	-0.164***	-0.123***	-0.158***	-0.001	0.003	-0.101	-0.036	-0.145***	-0.154*	-0.039	-0.322***	-0.085	-0.148***
	(0.06)	(0.06)	(0.05)	(0.06)	(0.03)	(0.03)	(0.03)	(0.03)	(0.04)	(0.05)	(0.08)	(0.07)	(0.12)	(0.04)	(0.06)	(0.04)	(0.05)	(0.05)	(0.03)
Number of earners	-0.730***	-0.590***	-0.080	-0.249***	-0.163***	-0.008	-0.193***	-0.446***	0.007	-0.175***	-0.383***	0.004	-0.120	-0.502***	-0.295***	-0.018	-0.017	0.043	-0.207***
	(0.09)	(0.07)	(0.05)	(0.07)	(0.04)	(0.03)	(0.05)	(0.03)	(0.04)	(0.05)	(0.11)	(0.07)	(0.09)	(0.05)	(0.06)	(0.04)	(0.04)	(0.04)	(0.04)
Occupation	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
_cons	2.619	1.327**	-0.852*	2.779***	3.726***	0.757	-0.120	5.552***	2.098	2.902***	-0.787	0.050	1.065	-0.651	3.144*	0.558	-0.901	0.800	-1.068*
	(2.18)	(0.42)	(0.40)	(0.67)	(1.13)	(0.69)	(0.85)	(0.70)	(1.09)	(0.52)	(0.86)	(0.70)	(1.06)	(0.54)	(1.25)	(0.61)	(0.48)	(1.14)	(0.46)
N	5814	12155	6882	5082	16947	17029	11504	20679	5011	6257	4588	4966	4365	13783	5912	12183	11048	7658	11541
pseudo R^2	0.464	0.438	0.208	0.532	0.524	0.423	0.342	0.342	0.329	0.308	0.254	0.466	0.409	0.166	0.366	0.418	0.430	0.379	0.239

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 19: UI system characteristics in EMU countries

Country	Eligibilty conditions	Amount	Duration	UI assistance	Benefits for the self-employed
BE	12/21 (age<36) 18/33 (age>36 & age <50) 24/42 (age >50)	65% of previous salary Decreasing amount falling to 40% Min and max.	Unlimited	N/A	No UI - Assistance scheme
DE	12/24months	With children: 67% of net earnings Without children: 60% of net earnings Max.	6-24 months	Mean tested	Voluntarly under certain conditions
EE	12/36 months	50% of previous earning decreasing to 40% Min and Max.	6-12 months	Mean tested	No UI - Allowance scheme
IE	9/12 months	Flat-rate benefits with amount depending on previous earnings Min and Max	6-9 months	Mean tested	UI avalaible for certain categories
EL	6/14months Additionnal requirement of 3/24months first time claimants	Flat benefit with an increase for dependents	5-12 months	Mean tested	Specific scheme
ES	12/72months	70% of previous earning falling to 50% Min and Max.	4-24 months	Mean tested	Voluntarily
FR	4/28months >53y/o: 4/36months	40,4% of daily wage + a fixed allocation or 57% of daily wage Min and Max.	24 (36 if age>53)	Mean tested	No UI - Private schemes
IT	3/12 months	75% of monthly earning decreasing by 3% every months from the 4th month Min and Max.	10 - 12 months	N/A	Specific scheme since 2017
CY	6 months	60% of weekly earning Increase for dependants Max.	6 months	N/A	No scheme
LV	12/16months	Rate depending on previous contributions From 50% to 65% Decreasingwith unemployment duration	9 months	N/A	No scheme
LT	12/30months	Flat rate + 38,79% of average earning falling to 23,27% Min and Max.	3 months for spec	N/A	UI avalaible for certain categories
LU	6/12 months	80% of previous earning 85% with dependent children Max.	12 months	N/A	Covered by UI scheme
MT	5/24 months	Flat ate depending on marital status	6 months	Mean tested	No scheme
NL	6/8months	75% of daily wage falling to 70% Max.	3-24 months	N/A	No UI - Family benefit scheme
AT	12/24months <25 y/o: 26/12	55% of the daily net income Min and Max.	4,6-36 months	Mean-tested	Voluntarily
PT	12/24 months	65% of previous earning falling to 55% after 6months Min and Max.	5-18 months	Mean tested	UI avalaible for certain categories
SI	9/24months	1-3months: 80% 4-12 months: 60% >12months: 50% Min and Max.	2-25 months	N/A	Covered by UI scheme
SK	24/48 months	50% of previous earnings Max.	6 months	N/A	Covered by UI scheme
FI	6/28months self-employed:15/48months of entrepreneurship	Basic allowance + 45% of the diff between daily wage and the allowance + 20% of the difference between monthly wage and the basic allowance if monthly wage is at least 95times the allowance	13 months	Mean tested	Basic UI + voluntarily join earning-related UI scheme

Authors' elaboration using information from Euromod country reports (https://www.euromod.ac.uk/using-euromod/country-reports), MISSOC database (https://www.missoc.org) for 2019 systems