Boosting work through welfare?

Individual-level employment outcomes of social investment across European welfare states through the Great Recession

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Abstract
Given the heterogeneity of European welfare states, governments' efforts in 'social investment' reform may reap different outcomes in different national contexts. Through multilevel modelling based on longitudinal microdata from the EU Statistics on Income and Living Conditions (EU-SILC, 2004-2013) and on country-level policy indicators, this article assesses: whether citizens of countries that put higher budgetary efforts into social investment have better employment prospects and whether increasing such efforts over time improves employment chances within a country; whether people living in social investment-oriented welfare states maintained higher employment chances in the years of the Great Recession; whether micro-level employment outcomes depend on (in-)complementarities between investment- and protection-oriented policies. The results reveal that the most social investment-oriented welfare states show higher individual-level employment chances, which were indeed able to preserve during the Great Recession. However, increasing resources on social investments does not always yield empirically discernible returns over the short-to-medium term.

SER keywords: welfare state, social policy, employment, institutional complementarity, public expenditures, Europe

JEL keywords: I000 (Health, Education, and Welfare: General); D690 (Welfare Economics: Other); H530 (National Government Expenditures and Welfare Programs)

Introduction

Especially after the Great Recession, European welfare states have had a hard time reconciling social inclusion and economic sustainability (Cantillon and Vandenbroucke, 2014). The social investment strategy proposes a blueprint for helping them overcome this predicament, through complementing established social protection programmes with public investment in welfare policies geared towards enhancing, mobilising and preserving citizens' human capital (Garritzmann at al., 2022), thereby improving their employment opportunities and, at an aggregate level, economic competitiveness (Morel et al., 2012; Hemerijck, 2017). The imperatives of social investment have inspired EU growth and cohesion strategies since the years of the Lisbon Strategy (2000-2010). In the midst of the euro crisis, they were explicitly endorsed by the European Commission with the launch of the 'Social Investment Package'. However, the social investment strategy has not found a breeding ground in all European welfare states.

Social investment reform has occurred at different degrees and along different trajectories across the EU (Hudson and Kuhner, 2009; Hemerijck, 2013; Kuitto, 2016; Ronchi, 2018). The gap between the Northern European 'champions' of social investment and laggard countries in the Southern and Eastern peripheries further increased in the aftermath of the Great Recession, both with respect to employment and social outcomes (Kvist, 2013). While comparative empirical research has mostly focused on the distributive effects of social protection and investment programmes in terms of poverty mitigation (Rovny, 2014; Van Vliet and Wang, 2015; Chzhen, 2016), we know less on the employment outcomes of welfare reform in the years of the economic crisis, especially when it comes to its micro-level implications.[1] This is surprising, given that the social investment strategy, and more specifically investment-oriented

[1] An exception is the study by (Hemerijck et al. (2016), which investigated social investment returns both at the macro and micro level. Hemerijck and Plavgo (2021), Bakker and Van Vliet (2021) also inspected the employment outcomes of various social investment-related policies, but focusing on the aggregate level.

policies like education, training, active labour market policies (ALMP) and daycare services, primarily aim at providing citizens with more and better employment opportunities.

This article systematically links the social policy developments made by European countries through the years of the Great Recession with their employment outcomes at the individual level of European citizens. The association between governments' policy efforts and citizens' employment opportunities remains largely under-investigated, especially in relation to three aspects. First, with a few exceptions (Hemerijck et al., 2016; Plavgo, 2022), empirical research on social investment outcomes has focused on the aggregate level only, thus neglecting individual-level factors (so-called 'compositional effects'), and the fact that the impact of specific social investment-oriented policies 'may yield substantial effects for specific groups that are not revealed in analyses of aggregate employment rates' (Bakker and Van Vliet, 2021: 20). Second, contributions based on micro-level outcomes have not specifically assessed whether varying individual employment chances are due to general differences across welfare states or (also) to variation in governments' effort put into social investments over time. This article tackles these issues by addressing the following questions: do the efforts put by governments into social investment-oriented policies effectively help citizens to stay (or get) into employment? More specifically, which policies can reap improvements of employment chances in the short term, and among which specific social groups? A third gap in the literature on social investment outcomes concerns the (in-)complementarities between protection- and investment-oriented policies. Although social protection 'buffers' such as unemployment and minimum income guarantees have been long recognized as a fundamental complement to social investment, and as crucial to provide economic stabilization during recessions (Esping-Andersen et al., 2002; Hemerijck 2013), we know little about how they interact with investment-oriented policies in shaping individual employment opportunities. Hence, this article also asks whether

individual employment prospects change depending on the different mix of social investment and protection policies found across European welfare states.

In order to answer these questions, the analyses rely on micro data from the longitudinal database of the EU Statistics on Income and Living Conditions (EU-SILC). Multilevel modelling is used to inspect the micro-level employment outcomes of country-level policy efforts across 27 European welfare states, in a time-dynamic fashion over the period 2004-2013, and taking into account a number of individual and household characteristics. The choice of a time span that cuts across these crisis years, also allows an assessment of whether the disruptive impact of the Great Recession on individual employment chances was attenuated in welfare states with a greater social investment orientation.

The results reveal a mixed picture, which recalls the proverbial glass half full or half empty. Countries with a long-standing inclination towards social investment indeed show better individual-level employment outcomes—the glass half full. By the same token, the social investment-orientation of welfare states proves able to mitigate the crisis-employment shock as well as potential employment disincentives from social protection schemes. However, the glass appears half empty when looking at the effects of social investment policy efforts over time, whereby the latter are not always empirically discernible, at least with the analytical strategy and the short-to-medium term perspective taken in this article (only ALMP appear to significantly improve the employment chances of the non-employed and of young people). This makes a catching-up process more difficult for countries with less social investment-oriented welfare arrangements and lower employment levels. Social investment reform is in fact a complex endeavour, and the efforts put by governments into it may not be immediately visible, but rather require a time frame that goes well beyond short-term political contingencies.

The next section develops three theoretical expectations on the outcomes of social

investment on citizens' employment. The third section introduces the data and the variables, and describes the multilevel regression modelling method applied. The fourth section presents the results, while the final section discusses them and their implications for future reform of European welfare states.

Three analytical facets of social investment outcomes

The social investment strategy tips the balance of welfare provision from social protection programmes (i.e. passive cash transfers to those out of work) to employment-centred, service-oriented social investment policies geared towards boosting human capital and supporting labour market participation (Morel et al. 2012). The aim of this article is to assess how well social investment has fared with respect to its most immediate economic objective of employment enhancement. That is to say, whether, despite the crisis shock, social investment reform yielded empirically observable 'returns' in terms of improved citizens' employment prospects.

Analytically, such returns may manifest themselves in two different ways, which have substantively different implications. First, higher individual employment likelihood can be due to enduring institutional differences across countries, whereby more social investment-oriented welfare states show better employment performance (Huo et al., 2008; Hemerijck, 2013; Ahn and Kim, 2015; Van Vliet and Wang, 2015; Plavgo and Hemerijck, 2021). In addition, since the returns on social investment-oriented policies need time to materialize (Heckman, 2006; Kvist, 2013), expanding such policies within a given country may match with improved individual employment chances over time. Although it is less studied in the literature, the latter case would entail especially good news for the EU social investment strategy. If the expansion of social investment policies reaps the desired outcomes, the prospect of a catching-up process would appear more realistic for member states with less social investment-oriented welfare

arrangements and lower employment levels. The efforts put by their governments into social investment reform would in fact increase employment, which in turn ensures more revenues to shore up and improve existing social protection programmes (Hemerijck, 2017).

This brings us to a third analytical aspect to be considered when analysing social investment outcomes, which has to do with the diversity of European welfare states. Social investment policies do not arrive in an institutional void; they are bound to the policy mix in which they are introduced. And so are their outcomes, which are likely to be conditional on the mix of social policies found in different welfare states (Dräbing and Nelson, 2017; Bakker and Van Vliet, 2021). Most notably, social protection 'buffers' are considered crucial to ensure a level-playing field for investments in human capital and work-enhancing policies (Hemerijck, 2017). According to prominent advocates of social investment, 'the minimization of poverty and income security is a precondition for an effective social investment strategy' (Esping-Andersen et al., 2002: 5). In other words, it is *policy complementarity* (or the lack thereof) that may (or may not) ultimately improve citizens' employment opportunities. While previous research has mostly theorized and tested complementarities between various types of social investment-oriented policies such as ALMP and childcare (Bakker and Van Vliet 2021; Nieuwenhuis, 2022; Plavgo, 2022), this article turn the attention to the fundamental interplay between social protection and social investment.

Drawing on these considerations, the following subsections put forward a set of theoretical expectations related to both the direct and conditional effects of social investment on individual-level employment outcomes.

The nature of social investment outcomes: cross-country heterogeneity or over-time improvements?

Aggregate evidence based on country-level employment performance indicates that social

investment policies are associated with higher employment levels (Huo et al., 2008; Hemerijck, 2013; Ahn and Kim, 2015; Hemerijck et al., 2016; Bakker and Van Vliet, 2021), especially in the high-skill end of the labour market (Nelson and Stephens, 2012). The programmes that form the core of social investment are in fact supply-side social policies, typically services, geared at fostering individuals' opportunities to (re-)enter employment. Education and training, as well as public investments in research and development (R&D), enhance human capital, and provide citizens with the skills needed in the today's knowledge-based labour markets.[2] Leave and care policies aim to reconcile work and family life, providing people with the opportunity to stay employed even when they have children or frail relatives at home (Morgan, 2012). ALMP serve to help the unemployed to get (back) into work, either through upskilling training programmes and job-matching services, or through employment incentives of various types and direct job creation (Bonoli, 2013). This leads to the following expectation:

H1a: Individuals living in countries that devote more budgetary resources to social investment have a higher likelihood of being employed.

As mentioned above, the outcomes of social investment-oriented policies on individuals' employment chances can empirically materialize in two different ways. On the one hand, it can be a matter of enduring differences across countries with diverse welfare state arrangements (*between-country effect*, BE). People living in countries that, in general, devote more resources to social investment policies should have a higher probability of being employed, being able to count on more and better-financed welfare services of that kind. On the other hand, the effect of social investment could also be discernible over time (*within-country effect*, WE). To wit, annual increases in the budgetary effort put into social investment programmes within a country should match with improved employment outcomes over time. Only a few studies have

[2] Public investments in R&D can also boost high-skilled employment through direct job creation.

addressed the within-country dimension of employment returns on social investment (Ahn and Kim, 2015; Hemerijck et al., 2016; Bakker and Van Vliet, 2021; Nieuwenhuis 2022). All these studies focused on the country-level association between changes in social investment policy efforts and changes in employment rates. By taking individual employment likelihood as dependent variable this article turns to the microfoundations of these macro-level trends. To the extent that the fundamental aim of the social investment strategy is to boost employment levels so as to contribute to future welfare sustainability, this surely begins by improving individual citizens' human capital and employment opportunities (Hemerijck, 2017). Therefore, the general expectation H1a can be extended with the following prediction:

H1b: An increase in the budgetary resources devoted to social investment within a given country improves the likelihood of being employed for people who live there.

To be sure, the timeframe over which different investment-oriented programmes are expected to deliver positive outcomes varies depending on the specific policy domain, and so do the target populations that different policies address. For example, ALMP, and in particular job-search assistance, are aimed at bringing today's jobseekers into work in the short-to-medium term (Martin, 2015). On the other hand, it takes much longer time for investments in education and training to translate into better employment opportunities. This is especially true for early childhood education and care (ECEC), which bolsters children's future cognitive development and skill acquisition in a cumulative fashion over the whole schooling process (Heckman, 2006), thus boosting the human capital of tomorrow's labour market participants in the long run (Kvist, 2013). From a social investment perspective, however, ECEC policies pursue a double aim. They are not only future-oriented investments in children; in the shorter term, they aim to reconcile work and family life, with a view to fostering parents' (mothers', in particular) labour market participation (Gornick and Meyers, 2003; Brilli et al., 2016). This article specifically

focuses on the short-to-medium term employment outcomes of social investment. Therefore, on top of inspecting the impact of social investment as a whole, the analyses shown below also look at whether ALMP and ECEC actually lead to empirically observable short-term improvements of employment chances among target groups that have been shown relevant in previous empirical research (e.g. Hemerijck et al., 2016; Brilli et al., 2016; Plavgo, 2022)—namely, the unemployed, low-educated and young people for ALMP, and respondents with children and women for ECEC.

Social investment and the Great Recession: buffering the employment shock?

Social insurance programmes such as unemployment benefits and short-time work schemes are often referred to as 'automatic stabilizers' of the business cycle, which act as a shock absorber during economic downturns. When the economy worsens and unemployment rises, out-of-work benefits react counter-cyclically to dampen the downturn, cushioning the consequences of unemployment by providing those who have lost their jobs with income support (at the micro level), which in turn prevents the aggregate demand from plummeting (at the macro level). The importance of social protection programmes in cushioning the social backlashes of the global financial crisis is broadly acknowledged (e.g. European Commission, 2013a; Chzhen, 2016). But what can be said in this regard about social investment policies?

The employment-enhancing function of social investment could in fact work to prevent, or at least reduce, the employment loss *ex ante*, before traditional shock absorbers enter into action to limit the damage from increased unemployment *ex post*. Social investment fosters human capital and job creation in the skill-intensive and more resilient sectors of knowledge-based labour markets (Nelson and Stephens, 2012; Iversen and Soskice, 2015). At the micro level, it helps individuals create, mobilise and preserve their human capital (Garritzmann et al., 2022), thereby stimulating their employability and keeping their skills marketable, which should in turn boost

workers' opportunities for 'second chance' employment in case of job loss, which becomes more concrete in times of economic downturns. Following this, over and above economic and labour market conditions, employment prospects during the Great Recession could have been maintained at comparatively higher levels in those countries that arrived at the crisis with more developed social investment arrangements. Hence, I expect that:

H2: The negative impact of the Great Recession on individuals' likelihood of being employed was cushioned by social investment policies.

The capacity to sustain employment opportunities also in adverse times is deeply connected with the aim of the social investment blueprint to make welfare states both inclusive and financially sustainable. To the extent that citizens' employability remains high, a country would have to spend less in ex-post automatic stabilizers such as unemployment compensation. In turn, this would make budgetary resources available for both reinforcing existing social programmes and investing in new ones (Hemerijck, 2017).

Social investment and policy complementarity: investment plus protection?

The concept of (institutional) complementarities is borrowed from the Varieties of Capitalism (VoC) perspective (Hall and Soskice, 2001). In the VoC literature, a 'set of institutions is said to be complementary to another when its presence raises the returns available from the other' (Hall and Gingerich, 2009: 450). On the other hand, complementarity also refers to situations whereby different components of large policy portfolios 'compensate for each other's deficiencies' (Crouch et al., 2005). The two definitions strongly resonate with the ideas elaborated by OECD economists, who recognized that the 'marginal efficiency gains' of given policies depend on interactions with other policies, as well as with the socioeconomic context within which such interactions develop (Bassanini and Duval, 2009; Thévenon, 2016). This idea has increasingly penetrated the social investment perspective, which has recognised the importance of

complementarities (or lack thereof) between social policies pursuing different functions (see for example Hemerijck et al. 2016; Dräbing and Nelson, 2017). Recent empirical research has focused on interactions between different types of investment-oriented policies, such as education, ALMP and ECEC (Bakker and Van Vliet, 2021; Nieuwenhuis, 2022; Plavgo, 2022), while less attention has been paid to the interplay between social investment and social protection. Notably, the success of social investment in boosting human capital without fuelling inequalities is expected to be conditional on the existence of adequate and inclusive income buffers, deemed necessary to ensure a level playing field for employment-centred policies (Esping-Andersen et al., 2002; Hemerijck 2017).

The complementarity between social investment and protection policies can unfold in two directions. In the first place, social investment policies may alter the impact of social protection on employment. Although there is mixed evidence in this respect (Bradley and Stephens, 2007; Lehwess-Litzmann and Nicaise, 2020), following the neo-classical job search theory, social protection policies such as unemployment benefits are generally expected to act as a disincentive for people to take up a job (for a review: Faggian, 2014). More specifically, cash benefits provide citizens with a 'reservation wage', i.e. an out-of-work income alternative to job earnings. When it is set at a high level relative to the wage that one could potentially earn through work, the reservation wage from social protection can contribute to keep people away from the labour market. However, if complemented with social investment policies, such schemes could actually become less detrimental to employment. Social investment measures could counteract the potential work-disincentive effect: well-designed training, job-search programmes and work-family reconciliation policies are in fact aimed at fostering and maintaining people's skills and opportunities to find (or retain) quality jobs, which should ensure an income and living conditions above those provided by social protection benefits. On

the other hand, policy complementarity could also go the other way round: social protection may improve job matching and make the employment gains of social investment more 'worth it' in terms of employment stability and quality (Tatsiramos, 2009). Insofar as job-seekers (including the beneficiaries of employment-oriented social investment services) can count on generous out-of-work income support, they do not need to take up badly paid jobs; encompassing social protection systems may grant them more time and the material means to look for better(-matching) jobs (Gangl, 2006).

Leaving the detailed discussion of these mechanisms to further research on labour market policies, this article focuses on the former type of policy complementarity, which has directly to do with the employment-enhancing objectives of social investment. Namely, it tries to grasp whether the investment-orientation of a welfare state does 'compensate for the deficiencies' of social protection, mitigating potential work-disincentives and leading to positive employment outcomes.[3] Thus:

H3: Social investment mitigates the potentially negative effect of social protection (and, at the individual level, of income-support benefits received by persons) on the individual likelihood of being employed.

Data and method

The empirical analysis presented in this article is based on individual and household-level data from the longitudinal database of the EU-SILC—a cross-national survey conducted by Eurostat on an annual basis since 2003, which provides comparable information on the employment status, income, poverty, social exclusion and living conditions of citizens and households in

[3] Notice that this is different from the substitution-compensation mechanism discussed in Plavgo (2022), which concerns situations whereby higher investments in one policy lead to diminishing marginal benefits from investing in the other (see also Bakker and Van Vliet, 2021; Nieuwenhuis, 2022) or where inadequacy of either one social investment policy serving a similar purpose can be compensated by the presence of the other.

Europe. It is based on a rotational panel design that ensures annual representative cross-sectional and longitudinal samples. The latter includes panel observations of the same individuals for a period of up to 4 years.

For this study I selected non-overlapping country-subsamples of individuals interviewed for two years in a row from the EU-SILC rotational panel. Because of the employment focus of this article, only persons of working age (those aged 20 to 64) are taken into account. As a result, after excluding observations with missing values, the sample includes 592,132 individuals. For each individual, information on the employment status in both year *t* and *t-1* is available. This makes it possible to follow up people's employment transitions from one year to the next (stays in/out, as well as transitions in and out of employment).

Individuals included in the sample are nested into 27 countries: all EU member states (including the UK, which was a member of the EU in the period considered) plus Norway, excluding Croatia and Germany—for which the longitudinal files of EU-SILC do not cover a sufficient number of years for applying the chosen modelling technique. The main focus of the analyses is on country-level variables that were merged from other databases (see below). A time span of 10 years is covered (2004-2013). Table A1 in the Appendix reports the frequency distribution by country and years.

Individual-level variables

Table A.2 in the Appendix summarizes the micro-level variables used in the analyses. The dependent variable is a dummy variable that equals 1 if the respondent declared to be employed at the time of the interview (in the current year *t*), and 0 otherwise. Aside from this self-declared employment status, which refers to the week of the interview, I use a more objective assessment of the employment status as a robustness check: a measure of the amount of work that an individual supplied to the market over the last 12 months—following Eurostat terminology,

'work intensity' (see Appendix Table A.2 for the details).

Micro-level control variables refer either directly to the individual or to the household in which (s)he lives. These include the respondent's age (and its square); gender (a dummy equalling 1 if the respondent is a male); a dummy indicating whether the respondent lives with small children (less than 5 years old) and the number of minor children in the household (continuous variable). The models also include an interaction between gender and 'Children<5' to take into account that having small children may discourage women in particular from working (see for example De Henau et al., 2010). Further micro-level variables are: a dummy equalling 1 for married or cohabiting respondents (those who have a partner who works could be less incentivized to stay in or get into employment); a dummy for those who are in bad health (thus, less fit to work); the equivalised household size (living in a larger household could provide less incentive to work); a categorical variable reflecting the respondent's 'household employment situation', differentiating between respondents living alone, those living in multi-member households where at least another person works, and those living in multi-member households where the others do not work. Lastly, I account for the receipt of social protection benefits at the individual level, through a proxy variable computed as the sum of all kinds of cash benefits received by the respondent (including the respondent's share of benefits paid to the households) and expressed as a share of GDP per capita (details in Appendix Table A.2).

Country-level variables

The country-level independent variables of main interest are two policy indices taken from the Social Investment Welfare Expenditure (SIWE) dataset (Ronchi, 2016), which is in turn based on Eurostat data series. The indices are proxies of the 'Budgetary Welfare Effort (BWE)' that governments put on given social policies net of oscillations of counter-cyclical spending on, for example, unemployment benefits. BWE indices are standardized scores computed by taking into

account indicators of social spending (expressed as share of GDP) per potential beneficiary in the relevant social policy areas. In this article I use one BWE index for social investment and one for social protection (hereafter, SI and SP respectively): the BWE index for SI includes spending on ALMP, services for families with children, elderly care and in-kind benefits for old age, education and R&D; the one for SP includes passive labour market policies (PLMP), social assistance and housing, family allowances, pensions and survivor benefits.[4] Both policy indices are lagged 1 year, to acknowledge the fact that any change in social spending takes time before leading to any plausible outcome.

A set of macro-level control variables accounts for cross-country heterogeneity attributable to factors other than social policy effort (Table A.3 in the Appendix). As in the case of BWE indices, all macro-level control variables are lagged one year, and standardized to facilitate the comparison of coefficients in multivariate analyses. GDP per capita is used as a proxy for the levels of wealth. I also control for the annual real GDP growth, as individuals' employment prospects from one year to the next may well be affected by the general trend of the economy. The same applies to the unemployment rate, used as an alternative proxy for the state of the business cycle and of the labour market. Moreover, I control for total welfare expenditure in such a way as to disentangle the specific effect of the budgetary effort put on SI and/or SP from that of the overall 'size' of the welfare state, as social investments could have diminishing marginal returns in bigger and more generous welfare systems (Bakker and Van Vliet, 2021). Lastly, in order to account for institutional differences across Europe, I add a control variable that groups the countries into welfare regimes (for a review, see Ferragina and Seeleib-Kaiser,

[4] The target populations of 'potential beneficiaries' used for obtaining BWE scores are: the unemployed population active and passive labour market programmes; and the respective population sub-groups for the other welfare functions (0–4 years for family/children programmes, 5–19 years for education, over 64 years for old-age programmes, and the total population for R&D, since the latter is expected to produce positive externalities benefiting the whole community). The two BWE indices for SI and SP are based on the standardized mean scores of the spending-per-beneficiary indicators for the functions included in each of the two welfare dimensions. The mean and standard deviation used for the standardisation are obtained from the full country-years sample.

2011).

Method: modelling individual outcomes across countries and over time

The multilevel structure of the data used in this article is the following: level 1—the micro level—is constituted by pooled cross-sections of individuals. Although these are non-repeated measurements of (different) individuals for each year, I make explicit use of the panel nature of EU-SILC longitudinal data by retaining, for each individual observation, information on the employment status in *t-1* (the lagged dependent variable). This allows estimation of the impact of policies while controlling for selection-into-treatment effect (those persons already employed in year *t-1* are more likely to be employed in year *t* too, this not being due to policies). At the country-level, the data used are in fact a panel of countries whose policy- and macroeconomic-characteristics are observed over time (repeated measurements for the same countries observed for a maximum of 10 years). Given our interest in capturing both the between-country and within-country (over-time) effect of policies, I decompose country-level data along two levels: country-years (level 2), and countries (level 3).

Logistic multilevel 'hybrid' models are used to estimate both the within- and between-effect of country-level variables, while at the same time controlling for individual-level compositional effects (Fairbrother, 2014). Formally, the models are so specified:

$$\text{logit}\left(p_{jti}/1 - p_{jti}\right) = \beta_0 + \beta_1 X_{jti} + \beta_{WE}\left(Z_{jt} - \bar{Z}_j\right) + \beta_{BE}\bar{Z}_j + \beta_2(t) + v_j + u_{jt}$$

Where the three levels are so indexed: countries (j), country-years (t), and individuals (i). B_0 is the model intercept. The individual-level variables are captured by the vector X_{jti}, β_1 being the corresponding coefficient. Variables Z_{jt} vary both between country-years and between countries. Thus, their estimated effect includes both between- and within-country effects. This is the reason for the application of a fixed-effects transformation in the formula above. Time-varying

country-level variables Z_{jt} have been time-demeaned and the country-specific over-time means so obtained have been modelled as country-level variables at level 3 ($\overline{z}_j$). The corresponding coefficient β_{BE} gives the estimate for the between-country effect (BE). The time-demeaned term ($Z_{jt} - \overline{z}_j$)—by construction orthogonal to Z_j—varies at the country-year level: its coefficient β_{WE} gives the estimate of the within-country effect (WE). A non-parametric time trend is also accounted for in the model (t), so to make sure that WEs are not spurious to possible simultaneous but unrelated over-time trends common to both country(-years) variables and the dependent variable (Fairbrother, 2014: 124–125). The terms v_j and u_{jt}, form the random part of the multilevel model. They stand, respectively, for the random intercept at the country- and country-years levels; they are assumed to be normally distributed with mean 0. In order to test H3, moreover, I interact the time dummies with one of the country-mean variables Z_j—the BWE index for SI. This so-called 'societal growth curve'-model allows me to check whether the average level of SI alters the over-time trend of individual employment likelihood (Fairbrother, 2014).

Hybrid multilevel models provide all the strength points of the fixed-effect approach, while allowing for more flexibility in model specification (Bell and Jones, 2015). Being time-demeaned, WEs are in fact exempt from unobserved heterogeneity, that is, they come by construction net of all cross-country differences that interfere in the correlations examined, thus providing a more rigorous test of the effect of policy variables. The same does not hold for BEs at level 3, for which unobserved cross-country heterogeneity could still make the estimates spurious. To tackle this, I add a number of country-level controls (see section 'Country-level variables'). However, the rather limited number of countries (N=27) limits the degrees of freedom and, thus, the likelihood of getting unbiased estimates at level 3 (Bryan and Jenkins, 2016). Therefore, in order to be as cautious as possible in checking the consistency of the

coefficient of the crucial SI-policy variable, I add level-3 control variables step-wise.

Another methodological caveat arises from the fact that the key independent variables—the BWE indices—are not measured at the individual level, as the EU-SILC does not provide longitudinal information on SI policy receipt. In the models below, therefore, the coefficients of macro level policy indices capture treatment effects on both the treated and untreated. This notwithstanding, following Burgoon's (2017: 172) call for 'pragmatic empiricism', I take the association between macro-policy indices and individual employment likelihood as a second best strategy to provide new substantive insights in cross-country research on social investment outcomes. When testing H1, moreover, I also restrict the models to the target populations of the specific policies at stakes, which concentrates the treatment effects more closely toward the potentially treated population rather than the full population.

Results

Between- and within-country effects of social investment on individual employment

A preliminary inspection of the bivariate between- and within-country correlations between social investment and individual employment highlights two aspects (see Figure A1 in the Appendix). First, on average, there is a strong positive correlation between country-average SI scores and the proportion of employed individuals for each country (the Pearson correlation index amounts to 0.73; $p<0.001$). This comes as no surprise: as we know from previous research (Hemerijck, 2013; Ahn and Kim, 2015), the countries that invest more in SI show the best employment performance. Within-country correlations—based on over-time variation within each country—suggest a more variegated picture. The bulk of them is actually negative; however, less than the half of within-correlations reaches statistical significance, and the average country-years correlation is 0.61 ($p<0.001$).

The multilevel regression models go beyond spurious bivariate correlations and take a closer

look at the association between the budgetary effort put by each country into SI and the likelihood of individual employment, while controlling for individual-compositional effects and the employment-time trend. Table 1 reports the results from various models that test H1(a), that is, whether SI has a positive effect on individual employment. Only the coefficients for country-level variables are shown here: the full models are found in Table A4 in the Appendix.

Table 1. Logistic multilevel models for individual employment likelihood. Log-odds coefficients of country-level variables (standardized; micro-level variables omitted)

DV: employed	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Level 1: individual (N=592,132; micro-level variables omitted)							
Year dummies (omitted; jointly significant with p<0.001)							
Level 2: country-years (N=208; all variables refer to t-1; standardized coefficients)							
Social investment	0.16***	0.16***	0.16***	0.19***	0.17***	0.16***	0.21***
GDP per capita		-0.03					0.01
GDP growth			0.02				0.02
Welfare size				-0.04			-0.07
Unemployment					0.02		0.04
Social protection						-0.00	0.04
Level 3: country (N=27; no variables explicitly modelled)							
Variance components							
Var. (Country)	0.0209**	0.0212**	0.0202**	0.0194**	0.0218**	0.0209**	0.0192**
Var. (Country-years)	0.0289***	0.0286***	0.0289***	0.0289***	0.0284***	0.0288***	0.0283***
N	592,132	592,132	592,132	592,132	592,132	592,132	592,132

Note: * p<0.05, ** p<0.01, *** p<0.001

The coefficient of SI is found to be positive and significant, meaning that the overall effect (i.e., that mixing WE and BE) of SI on the individual likelihood of being employed is indeed positive, over and above all individual-level characteristics. The result holds when controlling for each of the country-level factors separately (Models 2-6), and jointly (Model 7).

This *prima facie* evidence is further tested by disentangling the between- and the within-

country effect of SI. Results are shown in Table 2 (micro-level variables' coefficients are again omitted: see Table A.4). While the BE is found to be positive in all models, H1(b) does not seem to pass the more rigorous test provided by the WE. The within-country effect of SI is not significant in any of the models. This means that, on average, over time improvements in the SI budgetary score did not match with improvements in the individual likelihood of being employed, once controlling for all compositional factors and for the time-trend. The 'glass half-full' picture that emerged from the results relative to the overall effect of SI (Table 1) turns into that of a half-empty glass when considering that no within-effect is actually discernible.[5]

A couple of cautionary notes are due nevertheless. The reminder of this subsection tackles the first one, which is merely methodological; the second, more substantive point is addressed in the next subsection. The non significant WE of the SI index can at least partially be attributed to the fact that the variation to be explained in the likelihood of being employed is much wider between countries (level 3) than within countries over time (level 2, country-years).[6] Hence, it comes as no surprise that, at least in the sample studied, the actual impact of SI on employment chances is for the most empirically located between-country. As such, it can be led back to enduring differences across welfare states that have not only pursued social investment reform to different extents, but are also characterized by different institutional and socio-economic fabric.

In fact, the BE is unavoidably spurious to unobserved cross-country heterogeneity: it may well be that the variance in individual-level employment likelihood is precisely due to this general institutional diversity that exists across welfare states and not specifically to the policy

[5] The same result on the WE of SI holds when refitting the models by specifying two levels (individuals nested into country-years) and adding country-fixed effects to account for cross-country heterogeneity (robustness check shown in Model 1, Appendix Table A.5.

[6] The Intraclass Correlation Coefficient computed with the latent variable approach from the null model (not shown) is low for the country-years level: 0.0047, against 0.037 at the country-level. This can be interpreted in the following way: about 4% (0.0047+0.0347) of the total variation is due to factors that vary *both* between countries and across years. About 13.5% of this is in turn located at the country-years level (within-country variation), which is the rather modest target of the WE estimates.

effort that governments put into SI. In order to test for this, Model 8 in Table 2 adds welfare regimes as a categorical control at level 3.

Table 2. Logistic multilevel model for individual employment. Log-odds coefficients for the between- and within-country effects of country-level variables, standardized (micro-level variables omitted)

DV: employed	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Level 1: individual (N=592,132; omitted)								
Year dummies (omitted; jointly significant p<0.001)								
*Level 2: country-years, N=208 (**Within Effects**)*								
Social investment	-0.14	-0.14	-0.14	-0.12	-0.12	-0.13	-0.09	-0.14
GDP per capita		-0.35***					-0.38***	
GDP growth			0.01				-0.01	
Welfare size				-0.12			-0.29**	
Unemployment					0.03		0.05	
Social protection						-0.06	0.00	
*Level 3: country, N=27 (**Between Effects**)*								
Social investment	0.19***	0.20***	0.23***	0.24***	0.19***	0.20***	0.22***	0.12†
GDP per capita		-0.00					-0.00	
GDP growth			0.26*				0.30*	
Welfare size				-0.06			0.01	
Unemployment					-0.02		-0.04	
Social protection						-0.00	0.00	
Welfare regimes (ref.: Nordic)								
Liberal								-0.14
Conservative								-0.22
Southern								-0.37*
Eastern								-0.24
Variance components								
Var. (Country)	0.0191**	0.0186**	0.0147**	0.0173**	0.0192**	0.0191**	0.0128**	0.0129**
Var. (Country-years)	0.0288***	0.0286***	0.0289***	0.0289***	0.0284***	0.0288***	0.0283***	0.0272***
N	592,132	592,132	592,132	592,132	592,132	592,132	592,132	592,132

Note: † p<0.10, * p<0.05, ** p<0.01, *** p<0.001

The BE of SI remains (marginally) significant also when controlling for welfare regimes.

This suggests that the average effort put by governments into SI, and not generic regime-specific institutional characteristics, indeed better explains individual-level employment prospects. The BE of SI is robust also to the use of the alternative dependent variable 'work intensity', an objective measure of the labour supplied during the year (Table A.6 in Appendix). Overall, from the perspective of the between-country effect, the social investment 'glass' consistently remains half full.

Within-country effects of social investment policies among relevant population sub-groups

Another, more substantial aspect must be considered with regards to the within-effects of SI policies. As explained above, the measures of SI and SP that I use are composite indices: they conflate different kinds of policies, which address different groups of potential beneficiaries and whose impacts imply different timeframes. Moreover, being measured at the macro level, policy indices do not grasp the 'treatment' effect at the individual level. Hence, the over-time effect of the budgetary effort put into the single policies composing SI and SP may actually become manifest when looking at specific programmes that are expected to reap employment outcomes over a relatively short timeframe while narrowing the focus to more specific population sub-groups. Notably, restricting the models to sub-populations of potential beneficiaries of the policies at stake could bring the analyses closer to the actual treated population.

In order to inspect this I run additional models to test the between- and within-effects of ALMP and PLMP (reflecting social investment- and protection-oriented labour market policies, respectively) as well as of ECEC and child benefits (again, SI and SP respectively). I looked at the effect of these more specific policy indicators both in the full sample and by restricting the sample to population sub-groups for which these policies have been shown to be relevant in previous studies (Hemerijck et al., 2016; Plavgo, 2022): respondents who were not employed in

year *t-1*, lower-educated and young people for labour market policies; respondents living in households with children and women for child policies. Results are shown in Table A.7 in Appendix. Both the BE and the WE of ALMP become (marginally) significant when restricting the sample to people who were not employed in *t-1*. The WE of ALMP is positive and significant also among young people, for whom, instead, PLMP appear to reduce the employment likelihood. Only the BE of ALMP is significant among lower-educated respondents. Therefore, in the short-to-medium term time span considered in this article (i.e. employment transitions from one year to the next), the over-time effect of social investment is empirically discernible when one narrows the analytical lens to the policy sub-field most directly related to here-and-now work activation and only for two specific subsamples of persons who were potentially targeted by ALMP—the unemployed and young people.

As for SI-oriented childcare services, while the WE remains non significant in all model specifications (including models restricted to women and households with children), the BE becomes significant in the sub-sample of households with children. This seems to indicate that, although parents living in countries that invest more in ECEC have better employment chances, the potential for childcare to enhance the employment opportunities of parents does not unfold in the short-to-medium term, but possibly requires longer time to reap its fruits (see also Plavgo and Hemerijck, 2021). On the other hand, the WE of passive child benefits turns out negative and significant. Child allowances such as the German *Kindergeld* or the Italian *Assegno unico* may perhaps act as a disincentive to parental employment in the short term. However, this does not mean that such policies cannot bring benefits other than improving employment likelihood for parents. Childcare policies could reap positive outcomes that fall out of the scope of this article, such as, for example, reduced poverty for child benefits, or less stress and improved job/life satisfaction in case of childcare facilities for parents. Furthermore, the long-term effects

of childcare on the future human capital and employment opportunities of today's children can only be grasped in other kinds of analysis (see, e.g., Heckman, 2006).

Social investment as ex-ante employment shock absorber

A positive note on the employment-enhancing potential of SI comes when we turn to testing H2. A societal growth curve model adds to Model 1 in Table 2 an interaction between the country-average SI scores (BE) and the time dummies used to account for the time trend (see Models 2 and 3 in Table A6 in the Appendix). The results are summarized by Figure 1, which shows how the time trends of predicted individual employment probability vary depending on the country-specific SI score. For simplicity of data visualization, three examples are plotted for high-, medium- and low-SI countries (computed for the respective average SI scores). The three groups are based on the SI scores from the country-sample used in this article, cross-checked with the analyses shown in Ronchi (2018).

Figure 1 supports H2: while the dampening impact of the crisis on individual employment likelihood is visible in low- and medium-SI countries, it is virtually nil in countries with comparatively high SI scores. The SI-orientation of the welfare state seems indeed capable of acting as an 'ex-ante employment shock absorber', cushioning the negative impact of the economic downturns by maintaining comparatively good (re-)employment opportunities for individuals living in high-SI countries (the result holds when controlling for macroeconomic factors: model 2 in Appendix Table A8; The same pattern emerges when plotting average SI-scores of the higher and lower halves of the SI-indicator distribution: Figure A2).

Figure 1 about here

The SI-orientation of welfare states is not the only institutional factor that contributed to

keep citizens' employment chances afloat during the Great Recession. Labour market structures, diversity in production and education systems and, in general, differences across welfare regimes certainly also played a role. To account for unobserved institutional heterogeneity, broadly intended, I also rerun the societal growth curve model by including welfare regimes (Appendix Table A8, model 3). Results are only partly robust to this specification: over-time trends of individual employment likelihood for high-SI countries are significantly higher than those for low-SI countries only in the years 2008 and 2009, while confidence intervals overlaps in the other time-points (Appendix Figure A3).

Policy complementarities: mitigating the employment disincentive of social protection

Social investment and protection policies are not isolated from each other, but can interact to produce policy complementarities. More specifically, H3 hypothesized that the employment disincentive possibly attached to social protection (or, at the individual-level, cash benefit receipt) can be mitigated by the social investment-orientation of a welfare state. The employment-disincentive effect of receiving cash benefits is empirically observable in the corresponding beta coefficient, which stays negative and significant throughout the models shown in Table A.9 (Appendix). The more cash transfers a person has received (including her share of benefits paid to the household), the less likely she is to be employed at the time of the interview. Instead, at the macro level, there is no significant effect of SP—the budgetary effort put by government into the social protection dimension of the welfare state.

However, along with the expectation of H3, this depends upon the social investment-orientation of the country in which the person lives. The cross-level interaction between cash benefit receipt and country-average SI score is tested in Model 1 in Table A.9 (Appendix). The receipt of cash benefits gives people more time to look for a job, making it less likely for

individuals to be into employment at time *t*. Nevertheless, this varies across different country-level SI scores: the interaction term is significant, also when controlling for all macroeconomic factors (Model 2 Table A.9). Figure 2(a) visualizes the interaction. It shows that although the employment-disincentive effect of cash benefits receipt is not completely neutralized, it becomes significantly less negative when the budgetary effort devoted to SI increases.

I also test a macro-level interaction between the two welfare state dimensions—SI and SP. On first inspection, there does not seem to be any significant interplay (Models 3, 4 Table A.9). However, the interaction turns out significant when one restricts the sample to persons who were not employed in *t-1*, also when controlling for all macroeconomic factors (Models 5, 6 Table A.9). This makes sense in that, at the aggregate level, the effort put by a government into SP in year *t-1* regards for the greater part social programmes that are not in the interest of persons who were employed in that same year (think, for example, of unemployment benefits). As a litmus test for this line of reasoning I run the same analysis on the subsample of respondents who were instead employed in *t-1* (Models 7, 8 Table A.9). Indeed, the macro-level interaction between SP and SI is not significant in the latter subsample. By contrast, the micro-level measure of actual 'cash benefit receipt' directly grasped cash transfers flowing to households/individuals in year *t*: a closer link to the dependent variable that produced a significant interaction even in the full sample (Models 1, 2 Table A.9).

Figure 2 about here

The negative employment effect of SP does not hold in all welfare states. Figure 2(b) depicts the macro-level interaction between SP and SI for the restricted sample of persons who were not employed in year *t-1* (from Model 5, Table A.9). The employment-disincentive of SP

materializes only in countries with the comparatively lowest SI scores (in our sample, this is the case of Slovakia, Romania, Lithuania, Bulgaria, Greece, Latvia, Poland, Estonia and Czech Republic). By contrast, in countries with about-average SI levels (the bulk of member states), the effect of SP on individual employment likelihood is not empirically visible, and it even becomes positive for SI scores in the top decile (Denmark and Sweden). The interactions patterns shown in Figure 2 hold when adding country-fixed effects to partial out unobserved heterogeneity across countries (Appendix: Models 2, 3 Table A.5 and Figures A.4 and A.5).

This finding suggests 'good news' for social investment, insofar it shows that receiving cash transfers from SP (for example, unemployment benefits, family allowances, and the like) may discourage employment only in a welfare context where social investment services are poor. Where social investment policies are well developed, instead, job seekers can count on a range of employment- and family-friendly programmes to foster their employment opportunities.

Conclusions

This article has shed light on the employment-enhancing potential of social investment by linking country-level policy efforts with their employment outcomes at the individual level. It did so while empirically disentangling the different analytical dimensions of the expected micro-level outcomes of social investment policies: that due to cross-country differences in the social investment-orientation of the welfare state, and that which unfolds over time, after a country's government increases or decreases the budgetary effort put into social investment. Moreover, the article have ascertained whether social investment has an indirect effect in moderating the employment shock brought by the crisis as well as the negative effects of social protection transfers on individual employment—an example of policy complementarity.

The figure that emerges from the empirical findings resembles that of a glass either half-full or half-empty, depending on the perspective one takes. The glass is half full when considering,

in the first place, that higher average SI scores indeed match with better employment prospects for individuals. The more a country's welfare state is oriented to social investment, the higher the chances of its citizens being employed (the between-effect is positive). Good news also comes from the empirical observation of a relevant employment shock-absorption capacity of social investment. Even when controlling for compositional factors, macroeconomic conditions and institutional heterogeneity across welfare regimes one sees that with the outbreak of the crisis the individual likelihood of being employed dropped only in countries with comparatively low SI scores, but not in those that put a higher budgetary effort into SI. Furthermore, I could empirically detect a positive example of policy complementarity by showing that SI mitigates the employment-disincentive effect of cash benefit receipt and, at the macro level, of generous governmental social protection efforts (although the latter policy interaction only materializes when restricting the sample to non-employed people).

The glass instead seems half-empty if one focuses on the within-country effect of social investment: the over-time effect of the total SI effort within a country is not statistically significant. It becomes empirically discernible only if one narrows the analytical lens to the policy sub-field most directly related to here-and-now work activation—ALMP—and only for the subsample of persons who were not employed in year *t-1* (i.e., those who would most likely benefit from activation measures) and for young people. Moreover, not only there is a lot of cross-country disparity in the development of social investment (Kvist, 2013; Kuitto, 2016), but this disparity also matters considerably for individual (employment) outcomes. For example, if on the one hand it is true that a (very) high SI-effort appears able to mitigate crisis-employment shocks and employment disincentives possibly linked to social protection, in low-SI countries these predicaments persist. This result, together with the statistically irrelevant within-country effect of the budgetary efforts put into SI, likely brings bad news for an EU-wide social

investment strategy. It suggests, in fact, that a catch-up process would be harder than one could wish for SI-laggards. Countries whose welfare arrangements fall short of EU-average levels of social investment are not only unable to benefit from possible policy complementarities in the here-and-now, but would also have to strive hard to invest in new social policies without visible (employment) improvements in the short term. To be sure, social investment policies like childcare, education and training certainly harbour long-term effects which are not grasped in the short-to-medium-term of the empirical analyses presented in this article (see for example Heckman, 2006; Kvist, 2013; Hemerijck, 2017). Further research is certainly needed to inspect more in-depth the over-time outcomes of specific policies that can be led back to the SI or SP dimensions of the welfare state. In any event, the long-term horizon of SI outcomes clashes with the short-term perspective of national politicians in EU member states and, at least in the euro crisis years, of 'austerity headmasters' in Brussels (Hemerijck, 2017: 17). In the words of Ferrera (2016: 1233), '[t]he temporal mismatch between social investment reforms and their returns requires a degree of "political patience" [...] which is not readily available in contemporary democracies'.

This article has a number of limitations, which may stimulate further research. The most important concerns the above-mentioned long-term timeframe of the bulk of social investment outcomes. Especially ECEC and, more in general, investments in human capital are expected to yield returns over the long term, which would possibly become visible in ten- or even twenty-year time (Heckman, 2006; Brilli et al., 2016). The analyses presented in this article focus on shorter-term employment effects of social investment policies. That is to say, those outcomes which can become visible in a time span of 1-2 years, like for example the increased likelihood of employment associated to interventions which range from activation to work-family reconciliation policies. Future research should inspect longer-term individual returns on SI

based on (country-specific) panel data. Moreover, data on the actual receipt or use of specific SI policies could allow for a more precise test of the implied causal mechanisms.

Second, policy complementarities also deserve more attention. In this article I looked at complementarities in terms of interplays between social investment and social protection policies (including benefit receipt measured at the individual level). However, other types of complementarities, between different kinds of policies, should also be investigated, as done, for example, in Plavgo (2022) and Nieuwenhuis (2022). Moreover, contextual effects also matter (Bassanini and Duval, 2009; Thévenon, 2016; Bakker and Van Vliet, 2021). Social investment reform may not lead to the wished-for outcomes where socio-economic conditions or the institutional background are not favourable, for example in areas where the demand of high-skilled labour is scarce (Kazepov and Ranci, 2017). Another aspect of social policy (in-)complementarities that deserves further attention relates to the so called 'Matthew effect' critique to social investment—unintended unfair distributional outcomes of investment-oriented policies (Bonoli et al., 2017). The relationship between higher SI spending and better individuals' likelihood of being employed does not reflect in how far SI policies reach the most vulnerable. As tentatively done here as well as in Hemerijck et al. (2016; see also Rovny, 2014), future research should investigate the impact of varying social policy mixes among most vulnerable social groups, which are generally far from the labour market and less likely to be reached (solely) by employment-centred policies like SI (Noël, 2020). By the same token, the possible gendered effects of diverse social investment-oriented policies should also be addressed in future studies (see for example Kuitto and Helmdag, 2021).

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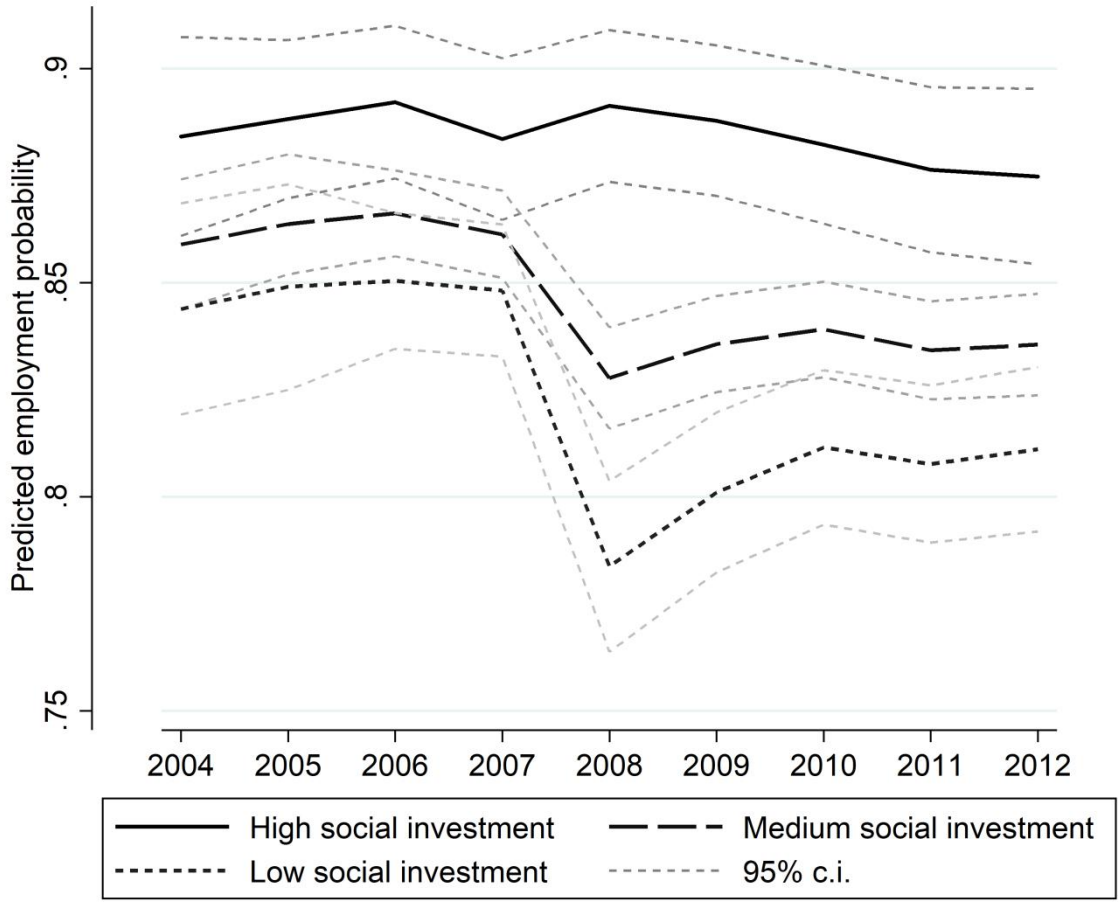
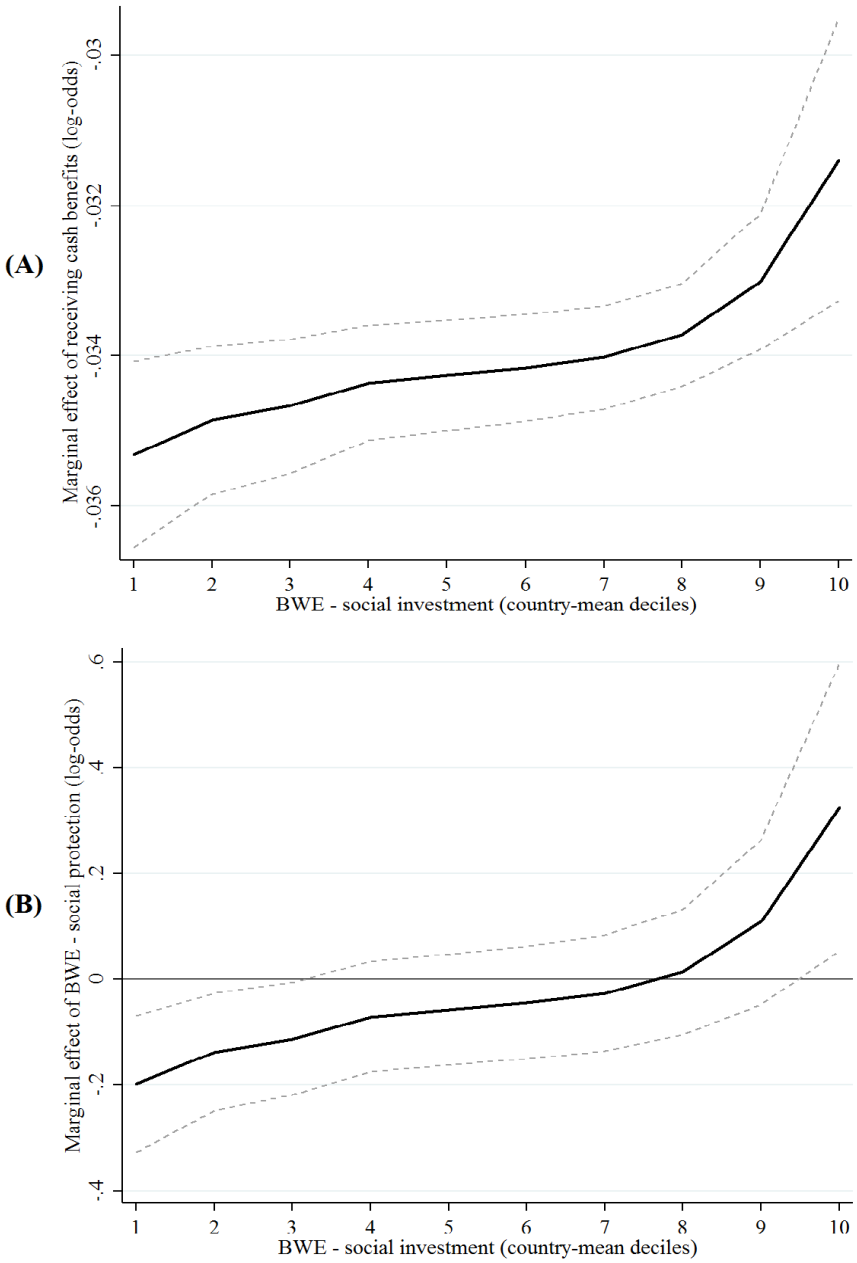
Figure 1. Time trends of predicted employment probabilities for high-, medium-, and low-SI country groups; computed from the 'societal growth curve' model including all macroeconomic controls (model 2 Table A.8), covariates kept at their means



Note: the year 2013 is excluded since 2013 data are available for only 2 countries (UK and IE: see Table A.1 in the Online Appendix). Country groups based on SI scores and on Ronchi (2018): 'High social investment': Denmark, Finland, Luxembourg, the Netherlands, Norway, Sweden. 'Medium social investment': Austria, Belgium, Spain, France, Hungary, Ireland, Italy, Portugal, Slovenia, UK. 'Low social investment': Bulgaria, Cyprus, Czech Republic, Estonia, Greece, Lithuania, Latvia, Malta, Poland, Romania, Slovakia.

Figure 2. Marginal effects on individual employment likelihood of: (A) Cash benefits receipt (expressed as proportion of GDP per capita, scaled 0-100), plotted at each decile of the sample distribution of SI scores (country-level); (B) Budgetary Welfare Effort (BWE) on SP, plotted at each decile of SI scores (country-level) and with the sample restricted to persons non-employed in year *t-1*



Online Appendix

Supplemental material of the article "*Boosting work through welfare? Individual-level employment outcomes of social investment across European welfare states through the Great Recession*"

Table A.1. Frequency distribution: sample composition by countries and years.

	Year (income reference period)										
Country	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	*Total*
AT	2,367	2,533	2,389	2,061	1,947	2,269	2,243	1,931	1,844	–	*19,584*
BE	1,438	2,388	2,256	2,229	1,795	2,028	2,080	1,964	1,892	–	*18,070*
BG	–	–	–	1,368	2,456	2,978	2,359	2,087	1,805	–	*13,053*
CY	–	1,599	1,533	1,469	1,279	1,220	2,468	1,759	2,303	–	*13,630*
CZ	–	5,553	4,704	3,534	2,665	3,411	3,496	3,111	2,467	–	*28,941*
DK	–	1,846	1,737	1,975	1,880	1,736	1,550	1,550	1,990	–	*14,264*
EE	1,385	802	2,292	2,120	1,864	1,661	1,969	2,032	2,259	–	*16,384*
EL	2,073	2,042	2,323	2,111	3,116	2,897	1,933	1,748	–	–	*18,243*
ES	4,458	4,806	4,844	5,543	5,578	5,697	5,075	4,669	4,651	–	*45,321*
FI	2,815	2,626	2,530	2,436	2,350	2,211	4,185	4,211	3,984	–	*27,348*
FR	1,430	–	2,266	2,261	2,334	2,307	2,365	2,305	2,250	–	*17,518*
HU	–	2,850	3,450	3,895	3,223	4,456	3,717	6,801	3,138	–	*31,530*
IE	–	1,262	1,263	1,106	1,095	1,004	–	–	–	1,637	*7,367*
IT	8,186	8,213	7,866	7,983	7,693	6,874	5,949	7,599	6,852	–	*67,215*
LT	–	1,542	2,102	1,969	1,750	1,935	2,183	1,750	1,747	–	*14,978*
LU	872	729	831	647	516	1,349	1,770	1,667	1,618	–	*9,999*
LV	–	1,521	1,556	1,788	2,257	2,099	2,310	2,176	1,924	–	*15,631*
MT	–	–	–	–	1,482	1,782	1,807	2,004	1,771	–	*8,846*
NL	–	5,143	2,754	4,262	4,164	3,541	3,965	4,252	3,699	–	*31,780*
NO	–	–	–	–	–	857	660	603	1,743	–	*3,863*
PL	–	6,075	6,067	5,692	5,163	4,938	5,260	5,069	5,430	–	*43,694*
PT	–	1,700	1,601	–	1,730	2,078	1,991	2,330	2,370	–	*13,800*
RO	–	–	–	2,985	2,672	2,732	2,872	2,668	–	–	*13,929*
SE	2,198	1,958	1,954	2,580	2,134	1,991	1,874	1,682	–	–	*16,371*
SI	–	4,846	4,608	4,635	5,288	5,040	4,474	4,380	4,787	–	*38,058*
SK	–	2,347	2,353	2,812	2,705	2,596	2,549	2,543	2,615	–	*20,520*
UK	–	–	2,960	2,587	2,496	2,423	2,346	2,515	2,653	4,215	*22,195*
Total	*27,222*	*62,381*	*66,239*	*70,048*	*71,632*	*74,110*	*73,450*	*75,406*	*65,792*	*5,852*	*592,132*

Table A.2. Individual-level variables list and brief description.

Variable	Description	Type
Dependent variable		
Employed	Whether a person is employed in the current year	dummy
Work intensity	Ratio of the total number of months that an individual have worked during the 'income reference period' and the total number of months that the same individual could have virtually worked in the same period (i.e. 12 months if the individual was fit for work during the whole year), weighted by part-time work* (robustness check: see Table A.6)	continuous (0-1)
Independent variables (controls)		
Employed (lagged)	Whether a person was employed in year *t-1*	dummy
Age	Sample reduced to people aged 20-64	continuous (20-64)
Age squared	Quadratic age term	continuous
Male	Gender dummy	dummy
Children <5	Whether there is at least one child below 5 years old in the household	dummy
No. of children	Number of children <18 years old living in the household	continuous
Married	Whether a person is married / cohabits with the partner	dummy
Education	Level of education attained	(Low) – mid – high
Bad health	Whether a person declared to be in bad health conditions	dummy
Household (HH) size	Equivalised household size (OECD-modified scale)	continuous
HH employment	Employment situation of HH members other than the respondents: 1: no one (else) employed (reference category); 2: at least 1 employed HH member; 3: single-member HH	categorical (see description in the article)
Cash benefits	Amount of cash benefits received by the respondents (unemployment benefits, old-age benefits, survivors benefits, sickness and disability benefits, education-related allowances, family/children allowances, housing allowances, social exclusion transfers not elsewhere classified), including the 'personal share' of benefits paid to the household**; expressed in % of GDP per capita; top-coded to 100.	continuous (0-100)

Note: HH = Household; reference category in brackets when relevant.

* Most of the information included in the EU-SILC refers to the so called 'income reference period': a 12-month fixed period, which is generally the previous calendar or tax year. There are two exceptions in that: the UK, for which the income reference period is the current year, and Ireland, for which the survey is continuous and income is collected for the last twelve months. This has been taken into account in the construction of variables: while variables for all the other countries refer to the EU-SILC survey year minus one, for the UK and Ireland the reference year has been left equal to the survey year. This is why in the full country-years sample used for the analyses, years range from 2004 to 2013 and, based on the specific definition of 'income reference period' used in those countries, information from the year 2013 is available only for the UK and Ireland (see Table A.1). Along with what suggested by Ward and Özdemir (2013), months worked part-time have been weighted while taking into account the average number of weekly working hours for each countries' part-time workers, as empirically measured in the data. (I thank Erhan Özdemir for sharing his syntax for weighting the work intensity indicator by part-time work).

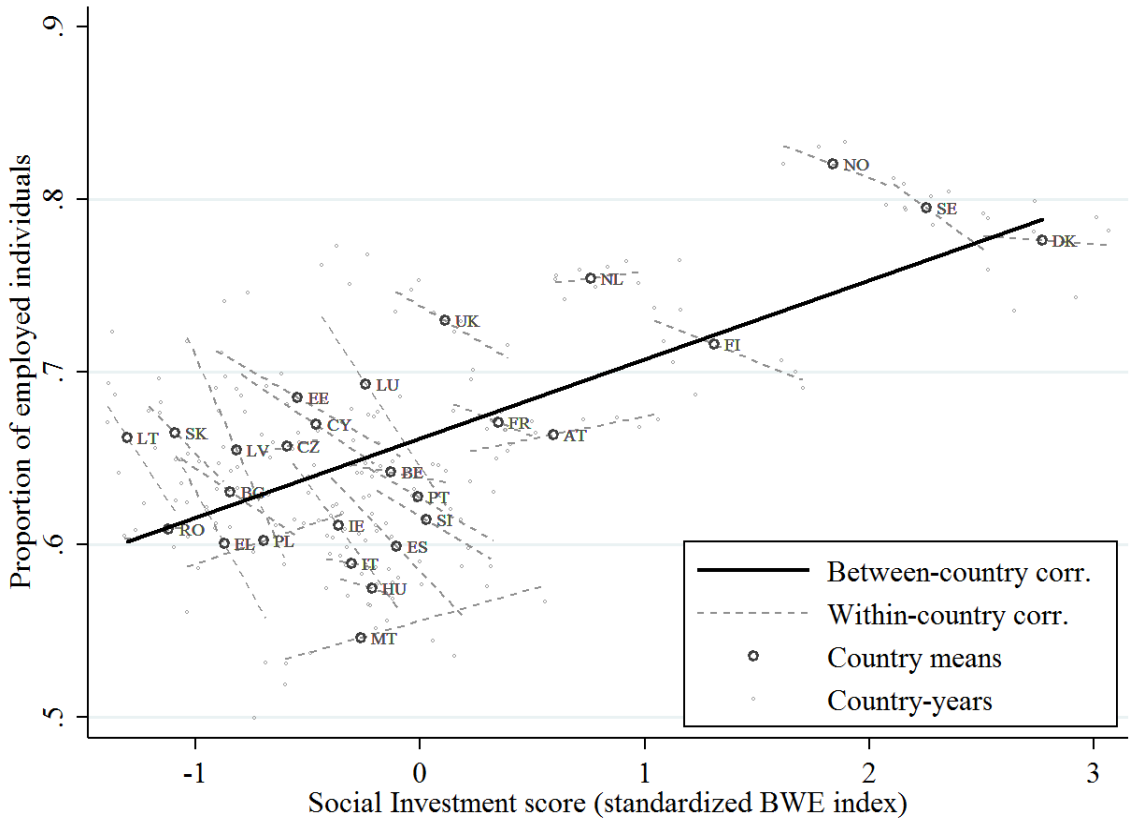
** The 'personal share' of benefits received by the household equals the household-income components divided by the equivalised household size. The underlying assumption is that household-level cash transfers are evenly shared within the household.

Table A.3. Country-level variables list and brief description.

Variable	Description and data source	Type
Independent variables		
Social investment	Budgetary Welfare Effort index for SI, expressed as share of GDP per capita. Source: SIWE (see Ronchi 2016)	standardized
Social Protection	Budgetary Welfare Effort index for SP, expressed as share of GDP per capita. Source: SIWE (see Ronchi 2016)	standardized
Control variables		
GDP per capita	Real GDP per capita, in Purchasing Power Parity (PPP). Source: Eurostat (*nama_10_pc*)	standardized
GDP growth	Annual real GDP growth. Source: Eurostat (*naida_10_gdp*)	standardized
Welfare size	Total welfare expenditure as % of GDP. Source: Eurostat (*spr_exp_sum*)	standardized
Unemployment rate	Number of people unemployed as a percentage of the labour force. The labour force is the total number of people employed and unemployed. Source: Eurostat (*une_rt_a*)	standardized
Welfare regimes	Welfare state clusters, as explained in the article. *Nordic/Social Democratic*: Denmark, Finland, Norway, Sweden; *Continental/conservative*: Austria, Belgium, France, Luxembourg, the Netherlands; *Anglo-Saxon/Liberal*: Ireland, UK; *Southern*: Cyprus, Greece, Spain, Italy, Malta, Portugal; *Eastern/post-spocialist*: Bulgaria, Czech Republic, Estonia, Hungary, Lithuania, Latvia, Poland, Romania, Slovenia, Slovakia.	categorical

Note: Eurostat tags in parentheses.

Figure A.1. Between-country and within-country correlations between the proportion of employed individuals and the budgetary welfare effort (BWE) score for social investment.



Note: The figure shows between- and within-country correlations between social investment (SI) and individual employment likelihood. The between-country correlation is depicted by the thick black line, which refers to country-averages, combining all years. The resulting 27 data points show a strong and almost linear correlation between (country-average) SI BWE-index scores and the proportion of employed individuals for each country: the Pearson correlation index amounts to 0.73 ($p<0.001$). Within-country correlations—based on over-time variation within each country—are represented by the thin dashed lines. With few exceptions (e.g., Poland, Malta, Austria), the vast majority of them is negative. However, less than the half of these correlations reaches statistical significance: for Spain, Ireland, Latvia, Sweden and the UK country-years correlations are significant with $p<0.05$. For Austria, Belgium, Cyprus, Estonia, Greece, Poland, Slovenia and Slovakia correlations become significant only at 10%. Moreover, the average country-years correlation—not shown in the figure—is 0.61 ($p<0.001$).

Table A.4. Logistic multilevel models of individual employment. Base model with micro-level controls plus time dummies only, and models testing country-level variables (Models 1-7). Log-odds shown.

DV: employed	Base Model	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Level 1: individual (N=592,132)								
Constant	-5.96***	-5.95***	-5.95***	-5.95***	-5.95***	-5.95***	-5.95***	-5.96***
Employed (*t-1*)	3.43***	3.43***	3.43***	3.43***	3.43***	3.43***	3.43***	3.43***
Age	0.27***	0.27***	0.27***	0.27***	0.27***	0.27***	0.27***	0.27***
Age square	-0.00***	-0.00***	-0.00***	-0.00***	-0.00***	-0.00***	-0.00***	-0.00***
Male	0.52***	0.52***	0.52***	0.52***	0.52***	0.52***	0.52***	0.52***
Children <5 (dummy)	-0.17***	-0.17***	-0.17***	-0.17***	-0.17***	-0.17***	-0.17***	-0.17***
Male X Children<5	0.63***	0.63***	0.63***	0.63***	0.63***	0.63***	0.63***	0.63***
No. of children (<18)	0.17***	0.17***	0.17***	0.17***	0.17***	0.17***	0.17***	0.17***
Married	-0.18***	-0.18***	-0.18***	-0.18***	-0.18***	-0.18***	-0.18***	-0.18***
Education (ref.: low):								
Education (medium)	0.24***	0.25***	0.25***	0.25***	0.25***	0.25***	0.25***	0.25***
Education (high)	0.78***	0.78***	0.78***	0.78***	0.78***	0.78***	0.78***	0.78***
Bad health	-1.02***	-1.02***	-1.02***	-1.02***	-1.02***	-1.02***	-1.02***	-1.02***
Household (HH) size	-0.50***	-0.50***	-0.50***	-0.50***	-0.50***	-0.50***	-0.50***	-0.50***
Employment situation of other HH members (ref.: no one else employed in the HH):								
At least 1 employed	1.46***	1.46***	1.46***	1.46***	1.46***	1.46***	1.46***	1.46***
Single-member HH	0.39***	0.39***	0.39***	0.39***	0.39***	0.39***	0.39***	0.39***
Cash benefits	-0.03***	-0.03***	-0.03***	-0.03***	-0.03***	-0.03***	-0.03***	-0.03***
Year dummies (ref.: 2004):								
2005	0.04	0.04	0.04	0.03	0.04	0.03	0.04	0.04
2006	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
2007	0.04	0.04	0.04	0.03	0.04	0.05	0.04	0.04

2008	-0.23***	-0.23**	-0.22**	-0.24**	-0.24**	-0.22**	-0.23**	-0.23**
2009	-0.17*	-0.19**	-0.18*	-0.18*	-0.19**	-0.18*	-0.19**	-0.19**
2010	-0.14*	-0.18*	-0.18*	-0.15	-0.17*	-0.19**	-0.18*	-0.17*
2011	-0.18*	-0.21**	-0.21**	-0.21**	-0.20**	-0.23**	-0.22**	-0.20**
2012	-0.17*	-0.20**	-0.20**	-0.20**	-0.19**	-0.22**	-0.20**	-0.19*
2013	-0.10	-0.13	-0.13	-0.12	-0.10	-0.16	-0.13	-0.09
Level 2: country-years (N=208; all variables refer to year t-1; standardized coefficients)								
Social investment (SI)		0.16***	0.16***	0.16***	0.19***	0.17***	0.16***	0.21***
GDP per capita			-0.03					0.01
GDP growth				0.02				0.02
Welfare size					-0.04			-0.07
Unemployment rate						0.02		0.04
Social Protection (SP)							-0.00	0.04
Level 3: country (N=27; no variables explicitly modelled)								
Variance components								
Var. (Country)	0.0560***	0.0209**	0.0212**	0.0202**	0.0194**	0.0218**	0.0209**	0.0192**
Var. (Country-years)	0.0273***	0.0288***	0.0286***	0.0289***	0.0289***	0.0284***	0.0288***	0.0283***
Log-likelihood	-155604.1	-155595.9	-155595.6	-155595.7	-155595.4	-155595.3	-155595.9	-155593.7
AIC	311268.2	311253.9	311255.2	311255.5	311254.8	311254.7	311255.9	311259.4
BIC	311607.0	311604.0	311616.6	311616.8	311616.1	311616.1	311617.3	311665.9
N	592,132	592,132	592,132	592,132	592,132	592,132	592,132	592,132

Note: * p<0.05, ** p<0.01, *** p<0.001

Table A.5. Logistic multilevel models with country-fixed effects instead of a separate level 3 (robustness check for the *within-effect* of SI); direct effect of SI (Model 1, robustness check for M1 in Table A.4) and interaction models (Models 2 and 3, robustness checks for M1 and M5 in Table A.9)

DV: employed	Model 1 (SI direct effect; full sample)	Model 2 (cross-level interaction; full sample)	Model 3 (level-2 interaction; non-employed in *t-1*)
Level 1: individual (N=592,132; micro-level variables omitted)			
Year dummies (omitted; jointly significant with p<0.001)			
Level 2: country-years (N=208)			
Social investment (SI)	-0.125	-0.1259	-0.1695
Social protection (SP)		-0.0632	-0.094
Interactions			
SI X Cash benefit		0.0013***	
SI X SP			0.1682***
Country-fixed effects (ref.: Austria)			
Belgium	-0.0831	-0.1638	-0.2998
Bulgaria	-0.1099	-0.276	-0.4727
Cyprus	-0.0887	-0.1491	-0.4317*
Czech Rep.	-0.0743	-0.1874	-0.3528
Denmark	0.7397***	0.6353**	0.8131**
Estonia	-0.0878	-0.2537	-0.175
Greece	-0.4014**	-0.5317**	-0.7797**
Spain	-0.3504***	-0.5396*	-0.4479
Finland	0.3833***	0.2587	0.5528**
France	0.1471	0.0758	0.0187
Hungary	-0.1456	-0.2204	0.0428
Ireland	-0.1796	-0.3015	-0.5237*
Italy	-0.2851	-0.3895*	-0.7119***
Lithuania	-0.4372*	-0.7273*	-1.4337**
Luxembourg	-0.0769	-0.0986	-0.1318
Latvia	-0.2678	-0.4588	-0.1467
Malta	-0.1768	-0.3174	-0.8691***
Netherlands	0.3875***	0.3185**	0.0598
Norway	0.8730***	0.7313***	0.7518**
Poland	-0.0729	-0.1862	-0.2246
Portugal	0.0051	-0.1358	-0.2397
Romania	-0.2206	-0.3866	-1.2206***
Sweden	0.9707***	0.8239***	0.9580***
Slovenia	-0.2521**	-0.3625*	-0.5999**
Slovakia	-0.1644	-0.2941	-0.6823*
UK	0.2658**	0.2132	0.3401*
Variance components			
Var. (Country)	-	-	-

Var. (Country-years)	0.0228***	0.0227***	0.0307***
Log-likelihood	-155552.7	-155546.0	-62476.4
AIC	311217.4	311208.0	125066.8
BIC	311849.8	311862.9	125649.2
N	592,132	592,132	592,132

Note: * p<0.05, ** p<0.01, *** p<0.001

Table A.6. Linear multilevel models of the alternative dependent variable individual 'work intensity'. Model 1 tests the effect of SI; Model 2 adds all country-level controls.

DV: Work intensity (continuous, 0-1)	Model 1 (only SI)	Model 2 (controls)
Level 1: individual (N=560,966)		
Constant	-0.0738***	-0.0758***
Work intensity (*t-1*)	0.6778***	0.6778***
Age	0.0151***	0.0151***
Age squared	-0.0002***	-0.0002***
Male	0.0464***	0.0464***
Children <5 (dummy)	-0.0282***	-0.0282***
Male X Children<5	0.0585***	0.0584***
No. of children (<18)	0.0124***	0.0124***
Married	-0.0252***	-0.0252***
Education (ref.: Low):		
Education (medium)	0.0168***	0.0168***
Education (high)	0.0473***	0.0473***
Bad health	-0.0621***	-0.0621***
Household (HH) size	-0.0417***	-0.0417***
Employment situation of other HH members (ref.: no one else employed in the HH):		
At least 1 employed	0.1531***	0.1531***
Single-member HH	0.0508***	0.0508***
Cash benefits	-0.0035***	-0.0035***
Year dummies (ref.: 2004):		
2005	-0.0112	-0.0145*
2006	-0.0094	-0.0115
2007	-0.0080	-0.0127
2008	-0.0193**	-0.0225**
2009	-0.0358***	-0.0302***
2010	-0.0230**	-0.0044
2011	-0.0218**	-0.0197**
2012	-0.0240**	-0.0228**
2013	-0.0306*	-0.0275
Level 2: country-years (N=208; all variables refer to t-1; standardized coeff.)		
Social investment (SI)	0.0094***	0.0101***
Social Protection (SP)		0.0004
GDP per capita		-0.0035
GDP growth		0.0100***
Welfare size		-0.0025
Unemployment rate		0.0006
Level 3: country (N=27; no variables explicitly modelled)		

Variance components		
Var. (Country)	-4.6376***	-4.7331***
Var. (Country-years)	4.0018***	4.0536***
Var. (Individual)	-1.4884***	-1.4884***
Log-likelihood	-135891.597	-135885.9244
AIC	-77313.03	-77324.42
BIC	-76953.43	-76908.64
N	560,966	560,966

Note: * p<0.05, ** p<0.01, *** p<0.001

Table A.7. Logistic multilevel models of individual employment (log-odds) for active (ALMP) and passive labour market policies (PLMP), and for childcare services and passive child benefits/allowances. Log-odds shown for the within- (level 2) and between-effects (level 3). Models 1 and 6 refer to the full sample; the other models have been run on samples restricted to theory-relevant social groups (see the article).

DV: employed	Model 1 LMP Full sample	Model 2 LMP non-empl. in *t-1*	Model 3 LMP Lower-educated	Model 4 LMP Young people	Model 5 Child policy Full sample	Model 6 Child policy Living with children	Model 7 Child policy Women
Level 1: individual (omitted)							
Year dummies (omitted; jointly significant p<0.001 in all models)							
*Level 2: country-years, N=208 (**Within Effects**)*							
ALMP (SI)	0.0806	0.2532†	0.0809	0.2775*			
PLMP (SP)	- 0.0861	-0.2225	-0.0711	-2491*			
Childcare services (SI)					-0.0037	0.0347	-0.0412
Child benefits (SP)					-0.2137*	-0.2091*	-0.1525†
*Level 3: country, N=27 (**Between Effects**)*							
ALMP (SI)	0.1335	0.3077†	0.1635†	0.1345			
PLMP (SP)	0.0426	-0.0978	0.0367	0.0022			
Childcare services (SI)					0.0856	0.1484*	0.0935
Child benefits (SP)					0.0205	-0.227	0.047
Variance components							
Var. (Country)	0.0293**	0.1013***	0.0318**	0.0409**	0.0476***	0.0547**	0.0441***
Var. (Country-years)	0.0274***	0.0395***	0.0280***	0.0210***	0.0266***	0.0320***	0.0203***
Log-likelihood	-155595.27	-62532.399	-122794.7564	-45361.1771	-155598.56	-59513.11	-83991.2779
AIC	311258.55	125130.80	245653.5129	90790.3543	311265.13	119092.23	168046.5557
BIC	311642.46	125467.92	246006.0833	91120.0926	311649.04	119434.37	168386.762
N	592,132	201,991	450,370	120,353	592,132	235,116	306,032

Note: † p<0.10, * p<0.05, ** p<0.01, *** p<0.001

Table A.8. Logistic multilevel models of individual employment including 'societal growth curves'; log-odds shown. Model 1: Societal growth curve model including only SI and its interaction with time; Model 2: adds all country-level macroeconomic controls; Model 3: includes welfare regimes as controls. Micro-level controls' coefficients omitted.

DV: employed	Model 1 (Only SI)	Model 2 (macro controls)	Model 3 (Welfare regimes)
Level 1: individual (N=592,132; micro-level variables omitted)			
Year dummies (omitted; jointly significant with p<0.001)			
Level 2: country-years (N=208)			
Level 3: countries (N=27)			
Social investment (SI)	0.13	0.15*	0.04
Social Protection (SP)		-0.01	
GDP per capita		-0.01	
GDP growth		0.29*	
Welfare size		-0.00	
Unemployment rate		-0.05	
Welfare regimes (ref. Social-Democratic)			
Liberal			-0.161
Conservative			-0.2319
Southern			-0.3829*
Eastern			-0.2492
Interaction SI x Year (ref. year: 2004)			
SI x 2005	0.02	0.0217	0.0244
SI x 2006	0.0112	0.0138	0.0161
SI x 2007	-0.0206	-0.0173	-0.0153
SI x 2008	0.2068**	0.2104**	0.2121**
SI x 2009	0.1431*	0.1479*	0.1478*
SI x 2010	0.0887	0.0934	0.0928
SI x 2011	0.0754	0.0799	0.0795
SI x 2012	0.0576	0.0634	0.0603
SI x 2013	-0.368	-0.2689	-.2754
Variance components			
Var. (Country)	0.0205**	0.0151**	0.0144**
Var. (Country-years)	0.0228***	0.0229***	0.0228***
Log-likelihood	-155576.2	-155573.0	155572.3
AIC	311232.4	311236.0	311232.6
BIC	311684.1	311744.1	311729.5
N	592,132	592,132	592,132

Note: * p<0.05, ** p<0.01, *** p<0.001

Figure A.2. Time trends of predicted employment probabilities for high- and low-SI countries (average SI-scores of the higher and lower halves of the SI-indicator distribution, obtained empirically from the sample); computed from the 'societal growth curve' including macroeconomic controls (model 2 Table A.8), keeping covariates at their means. Robustness check for figure 1 in the article.

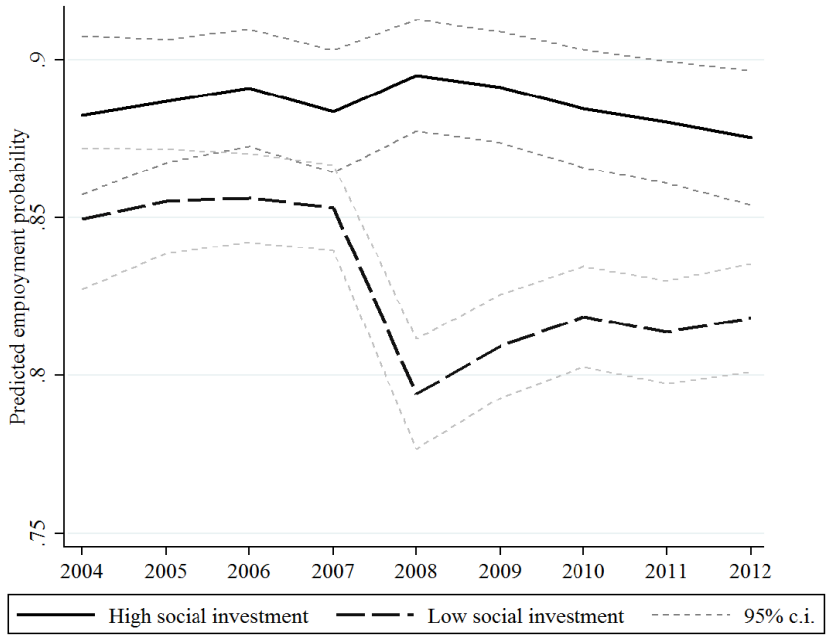


Figure A.3. Time trends of predicted employment probabilities for high-, medium-, and low-SI countries; computed from the 'societal growth curve' model including welfare regime clusters as country-level control (model 3 Table A.8), keeping covariates at their means. Robustness check for figure 1 in the article.

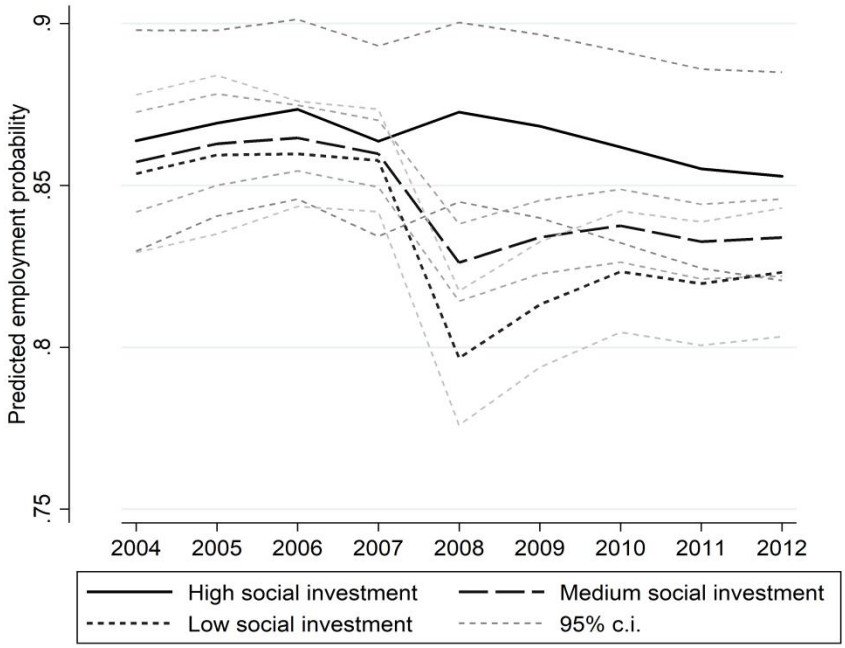


Table A.9. Logistic multilevel models of individual employment, testing the interaction between social protection and social investment budgetary efforts (models 1, 2) and between social investment and cash benefit receipt (models 3 to 8). Sample restricted to respondents who were not employed in year t-1 (models 5, 6) and to those who were employed in t-1 (models 7, 8). Log-odds shown.

DV: employed (t)	Model 1 *SI x benefit*	Model 2 *SI x benefit* *+ controls*	Model 3 *SI x SP*	Model 4 *SI x SP* *+ controls*	Model 5 *SI x SP* *Non-employed*	Model 6 *SI x SP* *Non-employed* *+ controls*	Model 7 *SI x SP* *Employed*	Model 8 *SI x SP* *Employed* *+ controls*
Level 1: individual (N=592,132; restricted samples in models 5 to 8)								
Constant	-5.9045***	-5.9162***	-5.9111***	-5.9217***	-5.5628***	-5.5838***	-3.3181***	-3.3221***
Employed (t-1)	3.4195***	3.4196***	3.4188***	3.4189***	-	-	-	-
Age	0.2645***	0.2645***	0.2650***	0.2650***	0.2674***	0.2674***	0.2940***	0.2940***
Age square	-0.0032***	-0.0032***	-0.0032***	-0.0032***	-0.0036***	-0.0036***	-0.0034***	-0.0034***
Male	0.5164***	0.5164***	0.5163***	0.5163***	0.5010***	0.5009***	0.4065***	0.4065***
Children <5 (dummy)	-0.1702***	-0.1702***	-0.1706***	-0.1707***	-0.0855**	-0.0853**	-0.3912***	-0.3913***
Male X Children<5	0.6374***	0.6374***	0.6368***	0.6368***	0.6917***	0.6916***	0.8621***	0.8620***
No. of children (<18)	0.1712***	0.1712***	0.1705***	0.1706***	0.2134***	0.2135***	0.1355***	0.1355***
Married	-0.1832***	-0.1831***	-0.1834***	-0.1833***	0.1055***	0.1057***	-0.2700***	-0.2698***
Education (ref.: low):								
Education (medium)	0.2456***	0.2453***	0.2453***	0.2451***	0.1208***	0.1206***	0.3239***	0.3238***
Education (high)	0.7802***	0.7802***	0.7799***	0.7799***	0.7452***	0.7456***	0.7735***	0.7734***
Bad health	-1.0216***	-1.0217***	-1.0232***	-1.0233***	-1.0751***	-1.0749***	-1.0087***	-1.0087***
Household (HH) size	-0.4997***	-0.5000***	-0.4989***	-0.4991***	-0.7747***	-0.7751***	-0.3218***	-0.3219***
Employment situation of other HH members (ref.: no one else employed in the HH):								
At least 1 employed	1.4623***	1.4622***	1.4615***	1.4614***	2.0660***	2.0659***	1.0284***	1.0283***
Single-member HH	0.3910***	0.3910***	0.3906***	0.3907***	0.5490***	0.5492***	0.2695***	0.2695***
Cash benefits	-0.0345***	-0.0345***	-0.0343***	-0.0343***	-0.0204***	-0.0204***	-0.0419***	-0.0419***
Year dummies (ref.: 2004)								
2005	0.0392	0.0307	0.0384	0.0299	0.0982	0.0815	-0.0294	-0.0238

2006	0.0836	0.0851	0.083	0.0843	0.0957	0.1003	0.0869	0.0898
2007	0.0447	0.0455	0.0432	0.0443	0.145	0.1551	-0.012	-0.0171
2008	-0.2289**	-0.2192**	-0.2301**	-0.2200**	-0.0936	-0.0592	-0.3112***	-0.3257***
2009	-0.1847*	-0.1583*	-0.1865**	-0.1602*	-0.1331	-0.0703	-0.2074*	-0.2225*
2010	-0.1810*	-0.1346	-0.1820*	-0.1368	-0.129	-0.0576	-0.2151*	-0.1933
2011	-0.2139**	-0.2086**	-0.2147**	-0.2101**	-0.2054*	-0.2125*	-0.2037*	-0.1692
2012	-0.2005**	-0.1928*	-0.2016**	-0.1946*	-0.1832	-0.1828	-0.2093*	-0.1767
2013	-0.115	-0.1155	-0.117	-0.1187	-0.0881	-0.1277	-0.1485	-0.0785
Level 2: country-years (N=208; all variables refer to year t-1; standardized coefficients)								
Social investment (SI)	0.1485***	0.1951***	0.1632***	0.2104***	0.2101***	0.2841***	0.0423	0.0845
Social protection (SP)	-0.0004	0.0419	-0.0007	0.0406	-0.0233	0.0247	0.0147	0.0572
Welfare size		-0.0693		-0.0688		-0.0632		-0.1095
GDP per capita		-0.008		-0.0085		-0.0647		0.0272
GDP growth		0.0201		0.0197		0.0376		-0.0043
Unemployment rate		0.0382		0.0384		0.0690*		-0.0057
Level 3: country (N=27; no variables explicitly modelled)								
Interactions								
SI X Cash benefit	**0.0013*** **	**0.0013*** **						
SI X SP			**0.0064**	**0.0048**	**0.1077***	**0.1104***	**-0.0544**	**-0.0684**
Variance components								
Var. (Country)	0.0202**	0.0186**	0.0207**	0.0189**	0.0675**	0.0553**	0.0689**	0.0656**
Var. (Country-years)	0.0293***	0.0288***	0.0293***	0.0288***	0.0405***	0.0393***	0.0469***	0.0465***
Log-likelihood	-155589.4	-155587.1	-155595.9	-155593.6	-62529.1	-62524.7	-88908.6	-88907.3
AIC	311244.9	311248.2	311257.9	311261.3	125122.2	125121.3	177881.1	177886.7
BIC	311617.4	311666.1	311630.5	311679.1	125449.2	125489.1	178229.1	178278.1
N	592,132	592,132	592,132	592,132	201,991	201,991	390,141	390,141

Note: * p<0.05, ** p<0.01, *** p<0.001

Figure A.4. Marginal effects on individual employment likelihood of individual 'cash benefits receipt' (expressed as proportion of GDP per capita, scaled 0-100), plotted at each decile of the sample distribution of SI scores (country-level). Computed from Model 2 Table A.5, which includes country-fixed effects. Robustness check for figure 2 in the article.

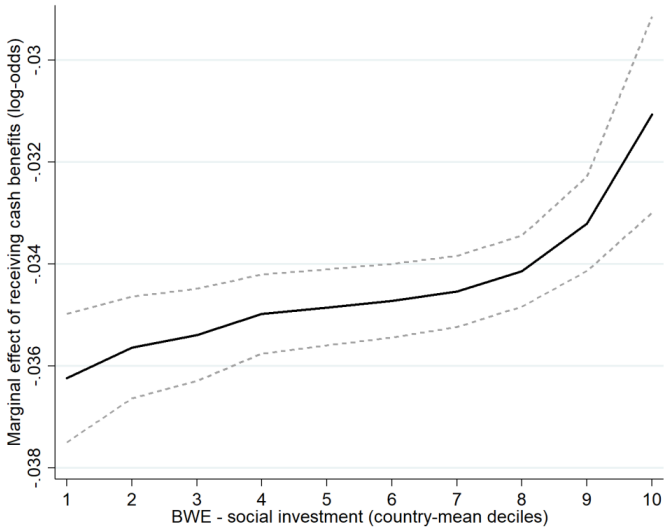


Figure A.5. Marginal effects on individual employment likelihood of Budgetary Welfare Effort (BWE) on SP, plotted at each decile of SI scores (country-level) and with the sample restricted to persons non-employed in year *t-1*. Computed from Model 3 Table A.5, which includes country-fixed effects. Robustness check for figure 2 in the article.