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Social investment, labour market participation and public debt sustainability: An empirical analysis of European countries

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Abstract

This article explores the role of SI Stock, Flow and Buffer policies by shedding light on their relationships with active labour market participation and public debt sustainability for a panel of 22 European countries from 1997 to 2018. We find SI Stock, Flow and Buffer to be positively correlated with labour market participation and more sustainable public debt. When disaggregating the components of SI, we detect a small degree of heterogeneity, with Active Labour Market Policies (ALMPs) negatively associated with the activity rate and positively associated with the employment rate. This result is coherent with the idea that ALMPs make a significant contribution to increasing opportunities for those already in the labour market rather than creating new jobs for those excluded from the labour market, that is, inactive individuals. In this case, our findings indicate that measures to fight social exclusion and out-of-work expenditure (Buffer), as well as in-kind family benefits, are significantly associated with employability for those excluded from the labour market.

KEYWORDS
employability, labour market, public debt sustainability, social investment

1 | INTRODUCTION

Over the past decade, 'social investment' (SI) has gained considerable attention in political economy discussions about the future of the welfare state in the 21st century (Busemeyer & Garritzmann, 2017; Cantillon, 2011; Cantillon & Van Lancker, 2013; Esping-Andersen et al., 2002; Garritzmann et al., 2018; Hemerijck, 2017; Marx & Verbist, 2017a; Marx & Verbist, 2017b; Morel et al., 2012; Plavgo & Hemerijck, 2021).

In general terms, the shift to a SI welfare state is expected to tackle unemployment and sustain the knowledge-based economy while improving the welfare state's carrying capacity in the long term. This is consistent in particular with European welfare states' current recalibration strategies in light of post-COVID European macro-economic governance. As a consequence of the outbreak of the previous euro crisis, social investment reforms halted in most member states, especially in Mediterranean countries, where the widespread turn to austerity favoured retrenchment and social expenditure cuts (Petmesidou & Guillén, 2014; Ronchi, 2018). Against this background, the rigid fiscal constraints of structural reforms weakened the fiscal capacity of high-debt countries, widening the gap between so-called "virtuous" countries and those that, given their more critical budgetary conditions, had no alternative but to cut social spending (Matsaganis, 2013; Petmesidou & Guillén, 2014). The EU institutions' rapid response to the COVID-19 pandemic has hinted at a paradigm shift compared to the past, with the suspension of the Stability Growth Pact and multiple constraints that had previously limited the fiscal space of member states. Massive investments have been made available thanks to the Next Generation EU (NGEU) initiative and the Recovery and Resilience Facility (RRF), which allow member states to spend 20% of the available budget on social inclusion. Specifically, the latter marked a departure from the austerity-oriented conditionality of structural reforms. As some recent analyses have shown (Corti et al., 2022), RRF has indeed fasted-forward the implementation of SI, especially in countries with limited fiscal capacity (Italy, Spain, Portugal and Belgium). However, these measures are temporary and budgetary rules could be reintroduced in the near future. In the meantime, unprecedented government interventions aimed at containing the economic cost of the COVID-19 pandemic have pushed up public debt levels. The question of the fiscal sustainability of welfare spending thus remains crucial, especially for high-debt countries. The SI literature, discussed in the next section, has intensively investigated and described the distributive effects of these policies on social cohesion and poverty reduction. However, few studies have empirically investigated SI in connection with labour market conditions and fiscal sustainability.

This article contributes to filling this gap by empirically analysing the association of SI with active labour market participation and with public debt sustainability. To our knowledge, except for the study by Ko and Bae (2020) testing the effectiveness of ALMPs on fiscal sustainability, ours is the first attempt to systematically study SI Stock, Flow and Buffer and their relationship with active labour market participation and public debt sustainability. To do so, we assemble a data panel of 22 European countries for the period 1997–2018. Two different 'core' models are estimated to investigate SI expenditure on the labour market and public finances, proxied by the government debt-to-GDP ratio. The first model (baseline) is estimated using aggregated SI expenditure, while in the second model (extended) we expand the analysis by disaggregating SI expenditure into its main components. Third, we provide additional findings for the labour market by including additional labour market variables, that is, the female activity rate and employment rate. Lastly, we further disaggregate two SI components, namely family and social exclusion, by shedding light on potential heterogeneity between cash and in-kind measures.

The article is organised as follows: the next section discusses the theoretical framework, highlighting the main functions of SI policies in light of the welfare recalibration debate, and introducing the empirical analysis. Section 3 presents the data and methodology. Sections 4 and 5 present and discuss the results.

2 | LITERATURE REVIEW: THE RATIONALE OF SOCIAL INVESTMENT

The comprehensive rationale of SI has its roots in the seminal work of Gøsta Esping-Andersen, Duncan Gallie, Anton Hemerijck and John Miles *Why We Need a New Welfare State* (2002).[1] The concept of SI was originally developed to

enable people to confront new social risks (Bonoli, 2005; Bonoli & Natali, 2012; Hemerijck, 2013; Taylor-Gooby, 2004) throughout their entire life course. The importance of a life-course perspective is indeed one of its main features and, according to Hemerijck (2012), perhaps its most relevant theoretical advancement. Core to this recalibrating approach is the idea that preparing is better than repairing. This approach entails states using their capacity to invest in people from early childhood to old age, enabling full participation in the knowledge society while at the same time enlarging the number of active contributors, thereby producing a win-win situation in terms of welfare sustainability as well. SI policies concern education beginning in early childhood as well as lifelong learning, family and life-work balance measures, and ALMPs. All of these measures impact individuals' opportunities throughout their entire life-course as well as mutually reinforcing: (1) early childhood education and care and education policies, enabling human capital formation and skills development which in turn predicts better outcomes for individuals' well-being during their lifetime and reduces inequalities; (2) family policies and work-life balance measures allowing for higher female participation in the labour market and better gender equality; and (3) ALMPs leading to skills improvement and addressing issues such as the quality of working life and the marginalisation of specific categories of workers and vulnerable people including the low-skilled, young people, and lone parents.

Previous studies have indicated that SI reforms are associated with high levels of employment, especially among women, productivity, and decreases in (child) poverty (Hemerijck, 2017; Kuitto, 2016; Plavgo & Hemerijck, 2021; Ronchi, 2018). Other authors have criticised these dynamics, however, casting doubt on the poverty mitigation effects of SI. The critics of SI stress the perverse Matthew effects of SI policies, in particular in the areas of early childhood, family policy and ALMPs. According to SI critics (Bonoli et al., 2017; Cantillon, 2011; Cantillon & Van Lancker, 2013; Pavolini & Van Lancker, 2018), this policy framework leads to distortive outcomes by favouring 'work-rich' middle-class families at the expense of the poorest segment of society.

Other studies (Busemeyer & Garritzmann, 2017; Garritzmann et al., 2018) focused on public opinion about and preferences for SI and emphasise the potential trade-offs between compensative ex-post passive measures and SI policies. Other authors (Marx & Verbist, 2017a; Marx & Verbist, 2017b; Nolan, 2013, 2017) have critiqued the excessive stigmatisation of the 'old' ex-post measures. In line with this interpretation, Ferragina (2022) has stressed that the expansion of employment-oriented social policies (childcare and active labour market policy) has been accompanied by significant cutbacks in compensatory policies (unemployment benefits, family allowances and income maintenance) in many European countries, with the effect of reducing the redistributive functions of welfare states. Indeed, such stigmatisation was especially present in early SI theorizations (see Esping-Andersen et al., 2002; Hemerijck, 2013) because of the implicit distinction between 'ex-ante' social expenditures worth investing in because they are 'productive' (ALMPs, training, care and work-life balance) and 'ex-post' social expenditures to which it is instead worth accepting cuts because they are unproductive. The new SI conceptual framework formulated by Hemerijck (2017) tries to overcome this tension between passive and active measures by enlarging the previous SI theorizations. The operational taxonomy among Stock, Flow and Buffer represents the pillar of a new architecture for SI policies (Hemerijck, 2017). The first pillar consists in the education and training investment necessary to increase the stock of human capital and enhance capabilities in a lifelong perspective. Early education childhood and care, education, training, and lifelong learning stand as core policies. The Flow component is concerned with easing flows within the labour market by facilitating life-course and labour-market transitions. Policy prescriptions in this area comprise active labour market measures and services for improving work-life balance. Buffering includes income protection and economic stabilisation: buffers function like a safety net for individuals, not only through social stabilisers during crises (similar to a Keynesian approach) but also in a comprehensive life-course perspective via unemployment benefits and minimum-income support schemes. Buffers are recognised as key given the importance of protecting income through guaranteed minimum-income schemes to ensure more inclusive and fair entry points into the knowledge economy and society. Both the Great Recession and the recession triggered by the pandemic clearly indicate that old social risks have not disappeared, and so old forms of social protection are still needed alongside better integration between ALMPs and measures to safeguard income.

3 | THEORETICAL FRAMEWORK

Our theoretical framework builds on the three complementary policy functions of SI as theorised by Hemerijck (2017): (1) fostering life-long human capital stock development; (2) easing the flow of family life course transitions; and (3) upholding inclusive social protection buffers in times of need. Passive (ex-post) measures include pensions and early retirement schemes.

In summary, our theoretical framework indicates that, in the mid-term, the combination of Stock, Flow and Buffer policies is expected to aid in addressing unemployment while also fostering fiscal sustainability of the welfare state. However, few studies to date have empirically tested the relationship between SI and public debt. Although some research provides evidence that SI expenditures do improve fiscal sustainability (for a review, see Ko & Bae, 2020) this relationship has not been fully covered by the SI literature. This article aims at filling this gap by empirically testing the association of SI expenditure with active labour market participation and public debt sustainability through a panel data analysis of 22 European countries over the period 1997–2018. To this end, our main dependent variable is the activity rate, namely the proportion of the population aged 15–64 actively engaged in the labour market (both employed and actively looking for work). This represents a measure of the size of the labour supply. Together with employment and unemployment rates, the activity rate is a key indicator for assessing labour market performance and is also central to employment policy design and implementation. In this article, we select the activity rate as the main baseline dependent variable because it serves to signal whether supply-side oriented social spending (SI) components are associated with greater participation in the labour market. The other dependent variable analysed here, the government debt-to-GDP ratio, is a commonly-used indicator of fiscal sustainability. The importance of including this variable in our analysis stems from the investment-related role played by SI expenditure as opposed to passive social spending. Our hypothesis is that an increase in SI expenditure brings about a higher labour market participation rate. Given that SI supports greater active labour market participation by improving the conditions of access to the labour market, it implies a wider tax base which also makes social spending sustainable. In addition, we do find that higher SI (social passive) expenditure is positively associated with a lower (higher) debt-to-GDP ratio. A potential causal relationship would unfold as follows: an increase in SI expenditure expands the size of the workforce which in turn boosts fiscal revenues. As a result, these dynamics contribute to reducing the deficit and thus public debt, which is the sum of the past debt stock and the current deficit. To further corroborate our claim, we estimate the relationship between SI and government revenues, finding a positive correlation (see Table A1 in the Appendix).

4 | DATA AND METHODOLOGY

To explore the association between SI, its components and passive spending with the activity rate and public debt, we use annual data from a panel of European countries for the period 1997–2018. Generally, these two baseline dependent variables are highly policy-relevant indicators: they are included among the headline indicators of the Macroeconomic Imbalance Procedure scoreboard[2] and are thus essential for coordinating and monitoring the European Union's economic policy.

This research analyses the trends in welfare systems and social investment-oriented recalibration process carried out in the main European countries by reclassifying some expenditure items based on the following two areas of investigation: (i) social investment expenditure and related components, and (ii) passive social expenditure. This approach is not an absolute novelty, and since the beginning of the last decade, several scholars have indeed employed public expenditure data to delineate welfare trajectories according to different theoretical perspectives and under various labels such as capacitating/activating vs. protecting/compensating social spending (Cantillon & Vandenbroucke, 2014; Hemerijck, 2013; Nikolai, 2012; Ronchi, 2018; Vandenbroucke & Vleminckx, 2011). By focusing on certain welfare functions, it is possible to examine the amount of resources devoted to 'new' social

investment policies, but there is not yet an agreed-on definition of what counts as social investment policy (Hemerijck, 2013; Nolan, 2013). Above all, it is difficult to define exactly which social expenditures can be classified as investment, as there is not a clear distinction between social expenditure (consumption) and investment. The resulting conceptual fuzziness affects the accuracy and consistency of efforts to measure active and passive expenditure (De Deken, 2014; Nolan, 2013; Vandenbrouke, 2017).

Within these theoretical constraints, the conceptualisation of SI based on the theoretical framework developed by Hemerijck (2017) is useful for deciding which components to include in the aggregate of SI. When operationalising these components and empirically translating them into indicators, however, we have chosen not to include the three pillars themselves among the elements considered in the analysis. The reason is that it proves very difficult to isolate the function of the individual factors, as each component could be interpreted differently. For instance, early childhood education and care policies can be considered both on the stock side as fundamental to increasing human capital, improving life chances and future wellbeing, and on the flow side as allowing greater participation in the labour market. Similarly, unemployment benefits can be considered not only buffers, as they support income in the employment-exit phase, but also Flow measures since they facilitate the transition from one job to another.

In line with previous measurements, therefore, a core set of expenditure items have been included in the measurement of social investment as operationalisations of the Esping-Andersen et al. model (Esping-Andersen et al., 2002): public spending on family/children, education, and ALMPs implementation. Alongside these core aggregates and also considering the evolution of the definition proposed by Hemerijck, in this exercise SI expenditure also includes so-called buffers. In particular, these comprise 'Out-of-work income maintenance and support' expenditures, mostly unemployment benefits commonly labelled as passive labour market policies, and social exclusion expenditures. We include R&D expenditures as well, as these are crucial for addressing the extent to which a specific country has pursued the transition towards a knowledge-based economy, an aspect that is very pertinent in framing social investment policies.[3] R&D expenditures included in the SI aggregate focus on the state in delivering these initiatives. Passive social expenditure, on the other hand, is mainly composed of pensions (both old age and survivors) along with early retirement measures.

A detailed breakdown of the two main aggregates and their components is presented in the table below. All expenditure items are calculated as a ratio of GDP[4] and the time spans from 1997 to 2018 (Table 1).

It is worth noting that no distinctions are made in this paper between in-kind and cash-benefit spending, but some robustness checks are provided to better interpret the findings. Furthermore, no attempt is made to understand whether and why there are trade-offs between social investment and passive social spending.

Finally, to account for the determinants of growth, several macroeconomic variables are also included as regressors in the model. A wide range of indicators accounting for macroeconomic structure, economic performance, openness, and competitiveness, as well as demographic dynamics, have then been added to the regression analysis (see the Appendix for a description of the data and sources). More specifically, among the controls we include: (i) The real GDP per capita, which summarises the country's aggregate macroeconomic performance. (ii) The ratio of government spending and investment over GDP, to keep track of the aggregate amount of government expenditure, as well as the amount of investment made by each country. (iii) Public R&D, which is a core indicator which has been employed since the early 2000 s as one of the benchmark indicators for monitoring European progress towards a knowledge-based economy, as defined first in the Lisbon Strategy and subsequently in the Eu2020 strategy (European Commission, 2010). The indicator used here as a control variable includes all R&D expenditure in the government sector (GOVERD) and higher education sector (HERD), a definition of public R&D that aligns with the European Innovation Scoreboard 2020.[5] (iv) Current account and foreign direct investments are included to account for external imbalances and a country's relative attractiveness in the global economy. (v) The employment rate, considered an indirect but desirable target of SI.[6] (vi) The share of elderly people (aged 65 and older) to consider the age composition of national populations since this plays a role in the income distribution of a country as well as its welfare provisions (e.g., pensions). Notice that when analysing the relationship between SI and fiscal sustainability, we also include the 10-year government bond yield among the controls as this is a key driver of the debt-to-GDP ratio.

TABLE 1 Data and sources

Aggregate	Components	Detail	Sources	Databases
Social investment expenditure	Expenditure on family/children benefits	Total	Eurostat	Social protection
	Expenditure on social exclusion benefits	Total	Eurostat	Social protection
	Expenditure on education	Pre-primary and primary education	Eurostat	Public expenditure (COFOG)
		Secondary education	Eurostat	Public expenditure (COFOG)
		Post-secondary non-tertiary education	Eurostat	Public expenditure (COFOG)
	R&D expenditure	Publicly funded and performed R&D	Eurostat	R&D statistics
	ALMP expenditure	Labour market services	DG Employment	LMP database
		LMP measures (categories 2–7)	DG Employment	LMP database
	PLMP expenditure	Out-of-work income maintenance and support	DG Employment	LMP database
Passive social expenditure	Expenditure on old age benefits	Total	Eurostat	Social protection
	Expenditure on survivors' benefits	Total	Eurostat	Social protection
	PLMP expenditure	Early retirement	DG Employment	LMP database

To explore the association between welfare spending—disaggregated between active (SI) and passive spending—and the two baseline dependent variables, namely public debt, and the activity rate, we estimate the following panel data regression:

$$y_{i,t} = \alpha_i + \Theta(L)\, x_{i,t-1} + \beta\, SI_{i,t-1} + \gamma\, PS_{i,t} + \varepsilon_{i,t}, \quad (1)$$

where $y_{i,t}$ is the dependent variable, in turn, the activity rate or public debt-to-GDP of country i in period t in the baseline model, α_i is a country fixed effect, $x_{i,t-1}$ is a series of lagged covariates described in the previous section, and $SI_{i,t-1}$ and $PS_{i,t-1}$ are active (SI) and passive spending, respectively. We are interested in the sign of the β and γ estimated parameters to gain insight into the relationship between these two welfare spending aggregates and our dependent variables.

The choice between a random-effects or fixed-effects estimator was made using the Mundlak (1978) test. The advantage of this methodology as compared to the Hausman test is that it can be used when the errors are heteroskedastic or have intragroup correlation. Specifically, we compute the panel-level average of time-varying covariates and then use a random-effects estimator to regress the covariates and panel-level means previously generated against our outcome. Finally, we test whether the panel-level means generated here are jointly zero. On the basis of this test, we reject the null hypothesis, suggesting that time-invariant unobservables are related to our regressors and that the fixed-effects model is appropriate. Therefore, in our model we can control for time-invariant and country-specific effects, thus eliminating a potential source of omitted variable bias. Next, we perform a series of tests on the properties of the residuals. To test for the presence of non-constant variance (heteroskedasticity) in the errors, we implement the Breusch–Pagan test. Table 2 shows that we reject the null hypothesis that the errors are homoscedastic.

To detect whether the errors are serially correlated, we calculate the heteroskedasticity-robust (HR) test statistic by Born and Breitung (2016). Table 3 shows that we cannot reject the null hypothesis of no first-order serial correlation at the 5% value.

We estimate the model using the Feasible Generalised Least Square (FGLS) estimator. By choosing this alternative to OLS, we are able to correct the estimates for the presence of heteroskedasticity across panels without inflating the standard errors of the OLS estimates, as is the case in our analysis.[7]

5 | RESULTS

The results concerning the activity rate for the panel of 22 European countries[8] are presented in Table 4. We first show the results using aggregated SI expenditure, then disaggregate SI into its main components to shedding light

TABLE 2 Breusch–Pagan LR test

LR statistic	*p*-Value
215.81	0

Note: H_0: Constant variance (homoskedasticity); H_a: Non-constant variance (heteroskedasticity).

TABLE 3 Born and Breitung HR test

HR statistic	*p*-Value
1.80	0.072

Note: H_0: No first-order serial correlation and H_a: Some first order serial correlation.

TABLE 4 Activity rate—results

	Baseline model	Extended model
SI_{t-1}	0.460***	–
	(0.0752)	
$Family_{t-1}$		−0.263*
		(0.102)
$SExcl_{t-1}$		1.223***
		(0.201)
Edu_{t-1}		1.110***
		(0.122)
$ALMP_{t-1}$		−1.132***
		(0.307)
OW_{t-1}		0.802***
		(0.165)
PS_{t-1}	−0.213***	−0.248***
	(0.0586)	(0.0547)
Full control set	Yes	Yes
Observations	344	343

Source: Author's calculation using Eurostat data 1997-2018
Note: *p < 0.05, **p < 0.01, ***p < 0.001, Standard errors in parentheses.

on more granular dynamics. The data used are collected at an annual frequency for the period 1997–2018. In all the results shown, we include the full set of controls explained in detail in the previous section.

One clear result emerging from the Baseline result in Table 4 (first column) is that an increase in SI (passive social spending) is positively (negatively) associated with labour force participation. Nevertheless, this finding requires deeper examination. Up to this point, we have assumed away any heterogeneity among SI spending components, but in reality, different SI components, focusing on different dimensions, might have a different magnitude or sign. To address this concern, we again estimate equation (1) but this time using SI disaggregated into its main components rather than the aggregate item. This additional analysis allows us to comment on the following specific SI spending items: family, social exclusion (SExcl), education (Edu), ALMPs and out-of-work (OW). The findings indicate that investing in education generates better labour market outcomes, a finding already acknowledged by the SI literature (Hemerijck, 2013). In contrast, the findings for the activity rate highlight some heterogeneity, especially for family and ALMP areas. Specifically, the Extended model for the activity rate reported in the second column of Table 4 indicates that social exclusion, education and out-of-work spending items are all associated with an increase in the activity rate, whereas spending on family and ALMPs are negatively associated with the activity rate.

Given the puzzling result for family policies, we have performed an additional check. In Table 5, we further disaggregate this spending item between cash and in-kind benefits, as these two forms of social spending have very different goals. In-kind spending on family is associated with a higher activity rate, whereas in-cash benefits are negatively associated. This result suggests that only in-kind family benefits, and not monetary transfers, are positively associated with a higher labour force participation rate. On the contrary, in the case of social exclusion, it is

TABLE 5 Activity rate—extended model—cash (1) and extended model—in-kind (2) benefits

	(1)	(2)
$Family\_cash_{t-1}$	−0.332**	–
	(0.112)	
$SExcl\_cash_{t-1}$	1.442***	–
	(0.217)	
$Family\_kind_{t-1}$	–	0.681***
		(0.199)
$SExcl\_kind_{t-1}$	–	−1.143
		(0.610)
Edu_{t-1}	0.949***	1.232***
	(0.126)	(0.126)
$ALMP_{t-1}$	−1.512***	−1.930***
	(0.302)	(0.297)
OW_{t-1}	1.115***	1.150***
	(0.163)	(0.146)
PS_{t-1}	−0.251***	−0.161**
	(0.0509)	(0.0521)
Full control set	Yes	Yes
Observations	343	343

Source: Author's calculation using Eurostat data 1997-2018
Note: *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$, Standard errors in parentheses.

TABLE 6 Female activity rate—baseline model (1), extended model (2), extended model—cash (3) and extended model—in-kind (4) benefits.

	(1)	(2)	(3)	(4)
SI_{t-1}	1.074***			
	(0.117)			
$Family_{t-1}$		−0.383*		
		(0.162)		
$SExcl_{t-1}$		1.210***		
		(0.282)		
$Family\_cash_{t-1}$			−0.557**	
			(0.174)	
$SExcl\_cash_{t-1}$			0.884**	
			(0.294)	
$Family\_kind_{t-1}$				1.166***
				(0.319)
$SExcl\_kind_{t-1}$				2.142*
				(0. 871)
Edu_{t-1}		3.640***	3.633***	3.223***
		(0.147)	(0.147)	(0.169)
$ALMP_{t-1}$		1.128**	0.614	−2.426***
		(0.346)	(0.367)	(0.471)
OW_{t-1}		0.159	0.387	1.394***
		(0.193)	(0.204)	(0.243)
PS_{t-1}	−0.738***	−0.384***	−0.352***	−0.348**
	(0.0682)	(0.0717)	(0.0733)	(0.0674)
Full control set	Yes	Yes	Yes	Yes
Observations	343	343	343	343

Source: Author's calculation using Eurostat data 1997-2018
Note: *p < 0.05, **p < 0.01, ***p < 0.001, Standard errors in parentheses.

the cash component that is positively associated with the activity rate.[9] The latter finding, together with the results for out-of-work (OW) investment, confirms the potential positive effect of SI buffer components on the employability of beneficiaries.

We have also tested the hypothesis that these findings about cash and in-kind benefits are more pronounced when considering the female activity rate. The results confirm our conjecture: Table 6 shows a higher positive relationship with spending on care and reconciliation services and a stronger negative relationship with the cash component of the same aggregate. As for the buffer component, the cash vs. in-kind breakdown of social exclusion spending shows a lower association for the female activity rate, albeit one that is still significant and positive for the cash component, and a positive correlation with the in-kind component. If the objective of this SI spending component is to boost women's participation in the labour market, a focus on the in-kind component might well represent the most effective policy. Lastly, the Buffer component concerning temporary leakage from the labour market is also positive and significant, but only in the model where family and social exclusion expenditures take place through in-kind measures: this result shows that Buffers do not necessarily compromise better outcomes for women in the

labour market and may instead support them, especially when policies take the approach of providing services rather than monetary transfers. This finding reinforces the point made above.[10]

Given that ALMP policies are tools that may work for activating not the inactive but rather those already part of the labour force, we proceed by exploring the association of active (SI), its components, and passive welfare spending with the employment rate (Table 7). With aggregate SI, the findings for the employment rate show an association that is not statistically significant.[11] As far as the other components are concerned, the employment rate, not surprisingly, is negatively associated with welfare spending on out-of-work and education. Focusing on ALMPs, the association with the employment rate is positive and significant. This result is consistent with other analyses focusing on ALMP and labour market performance.[12] For instance, Escudero (2018) provides evidence of a non-systematically positive and significant relationship between ALMPs and labour market participation in general, while a positive association emerges with beneficiaries who already are in the labour market, whether employed or unemployed. Therefore, ALMPs are positively associated with employment since they are aimed at smoothing the transition between different statuses within the labour market. Our results on the activity rate and employment rate seem to confirm this picture at the aggregate level. In contrast, our findings on the activity rate suggest that some buffer components, especially policies designed to fight social exclusion, might be more relevant for employability. The same is true for the other buffering component of SI included in the model, that is, out-of-work expenditure. The estimation indicates that also in this case there is a significant association with the activity rate.

Overall, our results can be summarised as follows. First, more room granted to SI is correlated with a stronger labour market, in terms of higher participation in the labour force. Labour market policies have a significant and positive correlation with the employment rate, and not with the activity rate. This is in line with the goal of these policies, that is, to improve conditions for those already in the labour market. In addition, in-kind family expenditure is positively associated with higher labour market participation, especially for women who are able to take advantage of a broad coverage of care services as in Nordic countries. Second, regarding employability for the most vulnerable

TABLE 7 Employment rate—results

	Baseline model	Extended model
SI_{t-1}	−0.0387	
	(0.0514)	
$Family_{t-1}$		−0.311**
		(0.0978)
$SExcl_{t-1}$		0.495**
		(0.182)
Edu_{t-1}		−0.398***
		(0.0980)
$ALMP_{t-1}$		1.318***
		(0.248)
OW_{t-1}		−0.681***
		(0.121)
PS_{t-1}	0.0706	0.0325
	(0.0376)	(0.0378)
Full control set[a]	Yes	Yes
Observations	354	354

Source: Author's calculation using Eurostat data 1997-2018
Note: *$p < 0.05$, **p < 0.01, ***p < 0.001, Standard errors in parentheses.
[a]Employment rate is excluded from the control set.

TABLE 8 Debt to GDP—results

	Baseline model	Extended model
SI_{t-1}	−4.373***	
	(0.393)	
$Family_{t-1}$		−14.50***
		(0.804)
$SExcl_{t-1}$		−5.674***
		(1.238)
Edu_{t-1}		−8.113***
		(0.787)
$ALMP_{t-1}$		−3.691**
		(1.398)
OW_{t-1}		−1.118
		(0.704)
PS_{t-1}	6.143***	3.286***
	(0.341)	(0.322)
Full control set	Yes	Yes
Observations	338	337

Source: Author's calculation using Eurostat data 1997-2018
Note: *p < 0.05, **p < 0.01, ***p < 0.001, Standard errors in parentheses.

beneficiaries, that is, those who are inactive, our analysis shows that some Buffer components (namely social exclusion and out-of-work expenditure) might be effective in cushioning asymmetric shocks but also in stimulating the activity rate in the labour market.

Table 8 presents the results for the public debt-to-GDP ratio. Notice that the set of controls is expanded to include a key determinant of fiscal sustainability, that is, the 10-year government bond yield. The analysis indicates that SI is positively associated with a lower ratio of public debt-to-GDP, whereas increases in passive spending are associated with a higher public debt-to-GDP ratio. Table 8 shows that all SI components confirm the negative association with public debt-to-GDP.[13] These results are very much in line with the SI literature. Indeed, SI has the potential to reduce the burden of the public debt-to-GDP ratio by improving both the numerator and the denominator. The first works by widening the tax base through better labour market conditions, and the second by encouraging a shift to higher value-added sectors, thereby supporting economic growth. According to our analysis, investing in income protection is associated with an increase in public spending with no burden on debt sustainability.

6 | CONCLUSIONS

In this paper, we provide an empirical analysis aimed at better understanding the role of SI expenditure. We do so by shedding light on its relationship with active labour market conditions and the public debt-to-GDP ratio.

The main findings indicate that SI Stock, Flow and Buffer are positively associated with higher active labour market participation. However, outcomes vary depending on the different components of SI expenditure. In fact, while the association between ALMPs expenditure and the employment rate is positive and significant, this is not the case for the activity rate. This result is consistent with the idea that ALMPs make a significant contribution to increasing opportunities for those already in the labour market, rather than inactive people. One explanation for this finding

seems to be that ALMPs smooth the transition among different statuses within the labour market rather than creating new jobs for those excluded from the labour market. In line with these findings, our analysis confirms that in-kind family expenditure is positively associated with higher female labour market participation.

Regarding inactive people, on the other hand, our findings indicate that measures to fight social exclusion and out-of-work expenditure (buffer) are positively associated with employability. This might suggest that beneficiaries of such programmes are incentivised to re-enter the labour market from previous situations of inactivity. This represents a positive effect because it decreases the number of people who are outside the labour market, thus decreasing the risk of prolonged welfare dependence and poverty trap.

By improving both the employment rate and activity rate, our analysis shows that SI policies are associated with a reduction, rather than an increase, in the ratio of public debt over GDP. This finding suggests that fiscal adjustments aimed at reducing SI might not be associated with stronger debt sustainability; quite the opposite, higher SI investment not only addresses crucial socioeconomic challenges but might also improve a country's fiscal debt position. Conversely, increases in expenditures on pensions and early retirement (passive spending), in keeping with their nature, are associated with higher public debt levels.

Overall, we do not present a complete picture, and further effort on the causal effect of these policies is required. However, our results lead us to take a critical view of the austerity policies pursued as a response to the Great Recession. While the short-term fiscal restraint has been instrumental in stabilising public finance imbalances, it has also negatively impacted growth, especially in the most heavily indebted countries that would have needed more fiscal space to pursue a SI strategy. Our results show that SI is associated with better labour market outcomes and public debt reductions in the long run. The findings appear quite relevant considering the Covid-19 pandemic, a context in which fiscal constraints have been reduced to respond to the new crisis at both European and national levels. The fiscal rules established by the Stability Pact have been suspended, and programmes such as NGEU and RRF have opened a new window of opportunity for a comprehensive SI agenda. These programmes are temporary, however. Our results show that making SI a permanent social agenda would help stabilise public debt while fostering economic growth. This is especially important for southern European countries that have high public debt levels. In the ongoing discussion on the new EU macro-economic governance, SI represents the institutional lynchpin with the potential to foster inclusive growth.

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CONFLICT OF INTEREST STATEMENT

The authors report there are no competing interests to declare.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author.

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ENDNOTES

[1] This is based on the report 'A New European Welfare Architecture' delivered during the Belgian Presidency of the Council of the European Union (EU) in the second half of 2001.

[2] The Macroeconomic Imbalance Procedure (MIP) was introduced in 2011 with the Six Pack and is part of the European Semester. The purpose of the MIP is to monitor not only fiscal policies but also financial and macroeconomic trends on a

yearly basis and identify and correct potential imbalances. The procedure involves an alert mechanism (Alert mechanism report) aimed at identifying member states that present indicators of potential macroeconomic imbalances according to a scoreboard of 14 headline indicators. These headline indicators cover external imbalances and competitiveness, internal imbalances, the labour market and social issues. The activity rate was included in the scoreboard in 2015 along with long-term and youth unemployment rates.

[3] Regarding R&D inclusion in the SI framework, see Hemerijck (2013) and Ronchi (2018).

[4] We are aware of constraints on the use of indicators in relation to GDP and distortion due to the decrease of the denominator.

[5] For further details: https://ec.europa.eu/docsroom/documents/41861/attachments/1/translations/en/renditions/native

[6] SI have direct application on labour supply rather than labour demand. As a result, these policies can only strengthen labour force participation by promoting, for instance, inclusive education, training, and life-long learning.

[7] Wooldridge (2019) suggests that the GLS approach should be used if Newey-West standard errors seem too large to allow us to learn about the true effects (p. 400).

[8] Austria, Belgium, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Netherlands, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden and the United Kingdom.

[9] It should be noted that, in the social exclusion spending item, in-kind measures are comparatively modest.

[10] With regard to ALMPs, the negative association—significant for women in the model with in-kind expenditures only—appears stronger than the overall model, while the role of education spending, which also includes spending dedicated to early childhood, seems particularly relevant for the female activity rate.

[11] We have also estimated the relationship between SI and the female employment rate: in this case, the coefficient is positive and significant. Results are available upon request.

[12] For a review of the impacts of ALMP on employment, see Ko and Bae (2020).

[13] The out-of-work spending item loses its statistical significance at the 5% value, while maintaining its negative sign.

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APPENDIX A: Control variable description and sources

Real GDP per capita: Gross domestic product at market prices. Unit of measurement: Chain linked volumes, index 2015 = 100, per capita. Source: Eurostat, National accounts indicator (ESA 2010).

Government Expenditure: Total general government expenditure (% of GDP). Source: Eurostat

Public Investment Expenditure: General government gross fixed capital formation (% of GDP). Source: Eurostat.

Public R&D: Research and development expenditure (% of GDP), Government sector. Source: Eurostat.

Current Account Balance: Balance of Payments, Current Account (% of GDP), Total economy. Source: Eurostat.

Foreign Direct Investment: Foreign direct investment, net inflow (% of GDP). Source: IMF, International Financial Statistics and Balance of Payments databases, World Bank, International Debt Statistics, and World Bank and OECD GDP estimates.

Employment rate: Employment rate for age 15–64. Source: Eurostat

Share of elderly: Share of 65 and over—elderly. Source: OECD Historical Population Dataset.

Appendix: Additional results

TABLE A1 Government revenues to GDP—results

	Model
SI_{t-1}	0.448***
	(0.110)
PS_{t-1}	0.0820
	(0.0667)
Full control set	Yes
Observations	338

Source: Author's calculation using Eurostat data 1997-2018
Note: *p < 0.05, **p < 0.01, ***p < 0.001, Standard errors in parentheses.