Economic growth, welfare models and inequality in the context of globalisation

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Abstract

The recent economic crisis was a test case for many advanced countries to determine the capacity of their socio-economic model to cope with the challenges of globalisation and financial crash. From this perspective, the aim of this article is to explore whether the expansion of the welfare state should be seen as a barrier to economic growth and competitiveness, as 'neoliberal' economists often argue, or whether increasing public social provision might contribute to enhancing real income. After a comparative discussion of the evolution of different welfare models in developed countries, we advance our argument that public social spending is not a drain on competitiveness or an obstacle to economic efficiency. On the contrary, we explore the possibility that increasing welfare expenditure can stimulate economic growth along with lowering inequality, while the so-called 'efficiency thesis' (according to which globalisation needs to be accompanied by the retrenchment of welfare states in order to promote external competitiveness) produces worse economic performance and higher inequality. As a test of this hypothesis, we analyse empirical data on 34 Organisation for Economic Co-operation and Development countries from 1990 to 2013. We use econometric analysis to indicate that the so-called 'compensation thesis' (a process whereby globalisation is regulated through expansion of welfare states) may contribute to real income dynamics, while greater income inequality may inhibit per capita gross domestic product growth.

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Introduction

The recent economic crisis has been a test for many advanced countries to determine whether their socio-economic model, built in the preceding decades, could cope with the challenges of globalisation and financial turmoil. During the crisis, the spending attitudes of governments varied significantly, although some similar patterns can be outlined. Initially, governments decided to pursue some Keynesian programmes of public stimuli (albeit frequently to save banks and financial institutions), while at a later stage – especially after 2010/2011 – austerity policies were implemented (Vis et al., 2011), also for the purpose of enhancing external competitiveness (Paternesi Meloni, 2017). The aim of this study is to explore whether the expansion of the welfare state, which in this article is proxied by public social spending growth,[1] should be considered a barrier to economic growth, as argued by 'neoliberal' economists, or on the contrary whether increasing public social expenditure might be instrumental in leading to per capita income growth even in a context of rising globalisation.

More specifically, we explore whether adherence to the so-called 'efficiency thesis' or to the so-called 'compensation thesis' produces better results, in terms of per capita real growth. According to the efficiency thesis, during globalisation the dimensions of the welfare state need to be retrenched in order to foster competition. According to the 'compensation thesis', the size of the welfare state should be expanded in response to the increasing inequality generated by globalisation.

To investigate these topics, we first overview and refine the comparative classification of states into welfare models, focusing on the relationship between inequality and growth. We start with the traditional comparison between Scandinavian and Continental European welfare states, where lower levels of inequality accompanied higher economic growth, with Anglo-Saxon and Mediterranean countries exhibiting higher levels of inequality and worse economic performance. In regard to the traditional classification into 'three worlds' of capitalism (Liberal, Corporative and Social-Democratic models), we maintain that Mediterranean countries, characterised by low efficiency and high inequality, cannot be included any longer in the Corporative model (where inequalities are lower and income distribution is more equitable), while Central and Eastern European Countries (CEEC) should be treated as an additional cluster.

In the second part of the article, we set forth an empirical investigation, based on a 34 Organisation for Economic Co-operation and Development (OECD) countries panel data set from 1990 to 2013, aimed at testing whether the so-called 'compensation thesis' actually holds. More specifically, we first explore the relationships among social spending, income inequality and real per capita gross domestic product (GDP) growth with respect to different welfare models (sections 'Welfare regimes: A brief literature overview' and 'Inequality and welfare models: An empirical investigation') and subsequently seek to assess, using econometric analysis, whether per capita GDP growth is higher for countries which invest more in the welfare dimension (section 'The model'). Our purpose is to provide criteria according to which welfare state evolution can be considered as reflecting the impacts of globalisation on real income growth. We argue, on the basis of our findings, that countries which can be considered as 'winners' in the process of globalisation are those that embraced a sort of welfare-supported globalisation and managed not to retrench their welfare state. Consequently, social investment

can be considered the best policy option even in a more globalised world, not only because it allows a reduction (or keeping lower) of inequality, but also since it produces better performance in terms of per capita real growth.

The rest of the article is organised as follows. In section 'Welfare regimes: A brief literature overview', a review of the relevant literature on welfare regimes is performed with the purpose of outlining various welfare models. Then, section 'Inequality and welfare models: An empirical investigation' analyses empirical evidence about the relationships among welfare, income inequality and economic performances under different socio-economic models. In section 'The model', our econometric model is used to test whether welfare state expansion is actually functional to per capita GDP growth, as claimed by the 'compensation thesis'. Finally, the section 'Conclusion' derives some policy implications.

Welfare regimes: A brief literature overview

The most widespread classification of socio-economic models is that proposed by Esping-Andersen (1990), according to which welfare models can be divided into three groups, namely: the Liberal, Continental and Scandinavian models. Although methodologically still very relevant, this taxonomy was based on evidence before the 1990s. Hay and Wincott (2012) propose a dated version, extending the Esping-Andersen classification to five models by adding the Mediterranean group and the CEEC groupings. The peculiarities of a sort of 'Southern' model had already emerged in Ferrera (1996). Moreover, welfare patterns have further diverged since 1990: the Scandinavian model has followed the so-called 'compensation thesis' by increasing welfare in order to cope with the challenges of globalisation; the Continental model has maintained or slightly increased the level of welfare spending; and three other groups, namely, the Liberal, Mediterranean and CEEC, have converged in reducing public social expenditure during the past two decades, clearly following the so-called 'efficiency thesis' in confronting globalisation.

More broadly, countries can also be classified according to their type of economic system, characterised by particular institutional forms and macroeconomic factors (domestic competition, role of the state and international openness among others). Following this approach, both Amoroso (2003) and Jessop (2002) identify four types of economic systems: the Anglo-Saxon model (or competitive capitalism); the Corporative model (or corporative capitalism), the Dirigiste model and the Social-Democratic model. To these, Choi (2006) and other scholars (Qian, 2003; Yeager, 1999) added the current model of Socialist Markets, represented in particular by China and Vietnam. A similar story has been narrated by Amable (2004) who proposes five different ideal types of capitalism, taking into consideration several institutional features (product market competition, wage–labour nexus, financial sector, social protection and education). More specifically, Amable combines the Dirigiste and the Corporative models (shaping a Continental European model) and adds two new models (namely, Asian and South European). Thus, the Amable (2004) classification is as follows: (1) the Market-Based economy (USA and UK are the closest to this cluster), (2) Continental European capitalism (lead by Germany and France), (3) the Social-Democratic economies (represented by Scandinavian economies), (4) South European capitalism and (5) Asian capitalism. In

Table 1. Country classification by welfare model (34 OECD countries).

| Anglo-Saxon	Continental	Mediterranean	Scandinavian	Central and Eastern European Coalition (CEEC)	Asian	Others
Australia (AU)	Austria (AT)	Greece (GR)	Denmark (DK)	Czech Rep. (CZ)	Japan (JP)	Chile (CL)
Canada (CA)	Belgium (BE)	Italy (IT)	Finland (FI)	Estonia (EE)	Korea (KR)	Israel (IL)
Ireland (IE)	France (FR)	Portugal (PT)	Iceland (IS)	Hungary (HU)		Mexico (MX)
New Zealand (NZ)	Germany (DE)	Spain (ES)	Norway (NO)	Poland (PL)		Turkey (TR)
United Kingdom (UK)	Luxembourg (LU)		Sweden (SW)	Slovak Rep. (SK)		
United States (US)	Netherlands (NL)			Slovenia (SI)		
	Switzerland (CH)					

Table 1 reports our classification of countries based on different welfare regimes. Country designations based on ISO 2-digit code (ISO, 2013).

parallel to the classification of welfare models, a theory of *varieties of capitalism* has been proposed, in particular by Soskice and Hall (2001), which considers welfare state and capitalism as complements, not as adversaries (see Rubery (2009) for a gender-based critique of the latter).

Inequality and welfare models: An empirical investigation

While broadly sympathetic to the argument of Soskice and Hall (2001), according to which the welfare state and capitalism should not be regarded as incompatible, we share the classification of Hay and Wincott (2012) and add some elements to the picture by taking into consideration the evolution of different economic features in the past two decades among advanced economies. In detail, we combine traditional traits such as welfare spending (Bonoli, 1997) along with some features related to the emerging challenges of globalisation (trade openness and financial flows), as well as inequality and labour market flexibility. Our investigation refers to 34 OECD countries.[2] By merging some elements of Hay and Wincott (2012) and Amable (2004), we cluster 30 of these countries in six groups – namely, Anglo-Saxon, Continental, Mediterranean, Scandinavian, CEEC and Asian, as in Table 1 – while Chile, Israel, Mexico and Turkey have not been grouped owing to their specific features.

In addition, we emphasise that a broad process of financialisation of the economy emerged in parallel to the more known trade-globalisation phenomena (Engelen et al.,
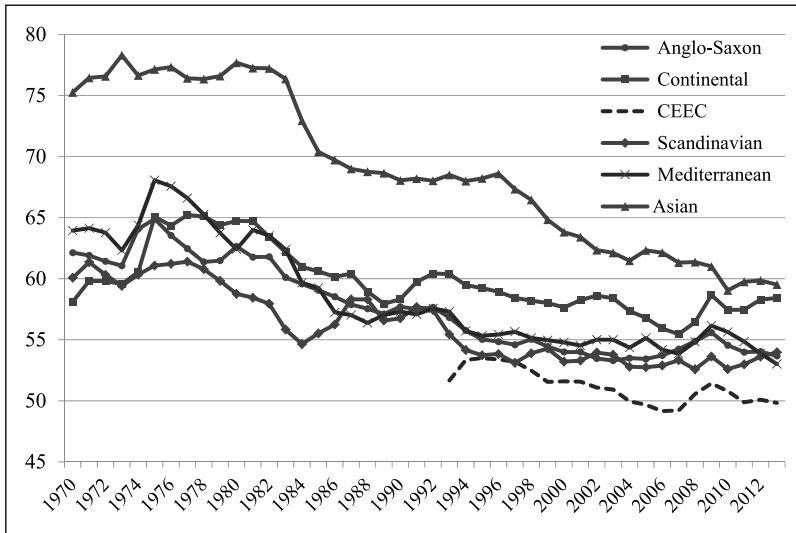
Figure 1. Labour income shares by welfare model (1970/2013).
Source: Organisation for Economic Co-operation and Development (OECD), 2017.
Shows dynamics of labour income share ratios (adjusted wage shares) clustered by welfare model. Based on simple average value of labour income share for each group, calculated annually. Because of lack of historical data, the CEEC group starts from 1993.

2010; Epstein, 2005; Krippner, 2005). Capital mobility increased substantially and foreign direct investment (FDI) pursued mainly cheaper labour costs and higher returns. Moreover, at the international level, a sort of tax competition has taken place among countries in the past two to three decades to attract more capital, and this has helped shift power relations between labour and capital, advantaging capital, combined with a strong decline in trade union participation and a progressive weakening in labour market institutions. This has led to negative consequences for income distribution and has increased inequality (Borjas and Ramey, 1995; Chusseau and Dumont, 2012; Gordon, 2012). Wage shares declined dramatically in particular during 1980–1990, and stagnated later, with a negative impact on aggregate demand, as argued by some post-Keynesian authors (Lavoie, 2014; Stockhammer, 2015).[3] Cynamon and Fazzari (2013) found that inequality affects demand growth and creates a drag on the economy because high-income groups spend a smaller share of income;[4] while Goda and Lysandrou (2014) argued that economic inequality is boosted by credit consumption, and in turn this affects negatively stable economic growth. In this respect, Figure 1 reports the dynamics of average labour income shares (i.e. wage share adjusted by self-employment) by country groups.

Empirical evidence shows Asian countries as having the highest labour income shares, despite huge decreases in the past decades. Furthermore, wage shares remain, on average, higher in Scandinavian and in Continental European countries than in Anglo-Saxon, Mediterranean and CEEC countries. The Anglo-Saxon and the Mediterranean economies have suffered the most from the restructuring process (particularly financial globalisation)[5] that has progressively intensified since the 1980s. In this respect, globalisation

has posed several challenges to national economies and governments. One of the most important factors has been the pressure on labour relations and its impact on income inequality, both within and between countries, as well as its consequences for welfare state sustainability (Hay and Wincott, 2012). The debate is very lively and has produced two main interpretations of the problem.

The first interpretation states that globalisation depresses the size of welfare states because social provision constitutes a cost for firms: since welfare state expansion leads to higher income taxes, social costs and contributions, it tends to reduce prospective profits and increase companies' costs. Firms will hence be pushed to transfer capital abroad unless government retrenches welfare spending and reduces taxes; then, in order to maintain higher levels of investment and employment, globalisation processes require the welfare state to be confined, with adverse consequences for income inequality. This 'efficiency thesis', developed within the so-called 'neoliberal' paradigm, argues that globalisation has forced states to retrench social spending in order to achieve a market-friendly environment, to increasingly attract international capital and to foster external competitiveness (Allan and Scruggs, 2004; Blackmon, 2006; Castells, 2004). This view sees welfare states as a cost for firms: owing to capital mobility, companies will shift to the lowest cost location for production, putting pressure on governments to lower their welfare provision.

Against this argument, a second approach emerged: the 'compensation thesis' maintains that since globalisation increases income inequality, welfare states need to be expanded to mitigate vulnerability created by globalisation. In other words, increasing trade openness and capital mobility actually pressure governments to expand welfare support in order to compensate those who are damaged by the globalisation process (Brady et al., 2005; Rodrik, 1998; Swank, 2002). Globalisation can produce net gains at the national level but where, within nations, there are winners and losers, then losers should be compensated by (partial) redistribution from the winners. Extending the 'compensation' argument, welfare expansion would allow countries to further pursue globalisation. An extensive interpretation would then see welfare expansion not as a result but as a condition of globalisation: briefly, in order to continue (or to start) with the process of globalisation, policy-makers must expand social safety nets.

Nonetheless, with respect to income inequality, through outsourcing practices and FDI outflows, globalisation has improved the bargaining position of capital relative to labour in higher income countries (Feenstra, 1998). Declining trade union power, particularly within export-oriented industries, may well account for a portion of increasing wage inequality in the United States and in other countries (Borjas and Ramey, 1995; Lavoie and Stockhammer, 2013). Moreover, the actual (or even the potential) decision by firms to relocate capital and production across countries has distributional effects since it can worsen the position of low-skilled workers in industrial countries by a combination of (1) growing globalisation and (2) availability of new technologies. With regard to the first pressure, as well as exacerbating competition among workers, global capital mobility may increase the bargaining power of capital in pressuring the state for tax reductions and welfare retrenchment: governments willingly embark on tax competition with each other in order to keep investment and production at home. The second effect, according to the so-called *skill-biased technical change* argument,[6] is a direct and
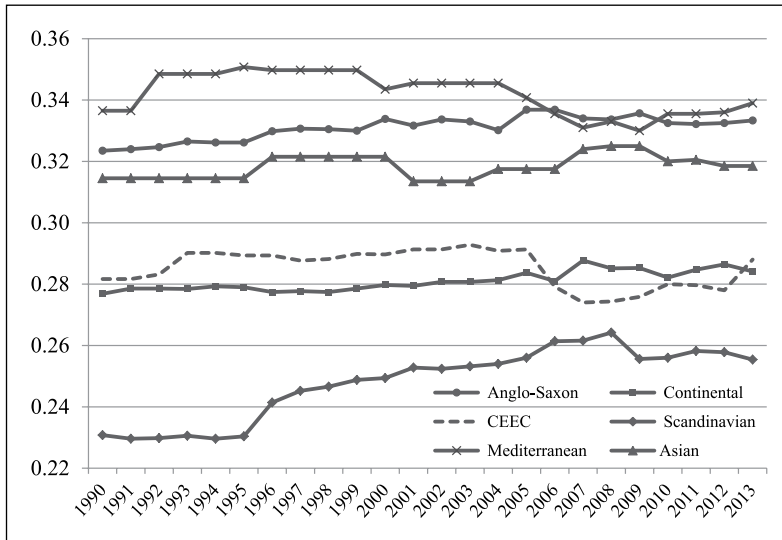
Figure 2. Inequality by welfare model (1990–2013).
Source: OECD, 2017.
Displays the dynamic of Gini coefficients clustered by welfare model, based on simple annual average value of Gini among countries in each cluster. Uses current Organisation for Economic Co-operation and Development (OECD) definition: disposable income, post taxes and transfers where higher values mean higher concentrations of income.

negative impact on unskilled workers' employment and their earnings – and consequently on real output in wage-led economies – in a context of lowering welfare support and social institutions.

As a consequence of these processes, intensified globalisation (particularly during the 1990s and the 2000s) was accompanied by increased income inequality, not only in emerging economies but also in advanced countries.[7] Figure 2 reports the Gini coefficient across OECD countries, indicating greater levels of inequality in Mediterranean and Anglo-Saxon countries than in Scandinavian countries (despite an overall upward trend).

Most recent literature describing the new socio-economic model built around the world in the past two decades sees it as a consequence of the new macroeconomic consensus linked to the process of globalisation (Arestis et al., 2013; Galbraith, 2012; Palley, 2012; Stockhammer, 2015). This 'Washington consensus' has called for the implementation of institutional forms that better suit the globalisation process, such as the financialisation of the economy and the introduction of labour flexibility (Tridico, 2012). Over the past 20 years, to varying degrees in different advanced economies, labour market institutions have increased the freedom of entrepreneurs to hire and fire workers and to cut wages (Storm and Naastepad, 2012). However, flexibility has taken different forms. Some countries, such as Germany, Austria, Belgium and France, still have quite rigid labour markets; some, such as Denmark, Sweden, Finland and the Netherlands, have introduced higher levels of both flexibility and security; others, such as the USA, the UK

and Ireland, have intensified job insecurity or maintained a very flexible labour market. Finally, Mediterranean countries and most of the former communist economies in Europe have built a hybrid combination of liberal and corporative elements with an increasing level of labour flexibility. It is useful to assess labour flexibility using Employment Protection Index (Employment Protection Legislation (EPL)), an OECD indicator measuring the level of worker protection in the labour market. This metric, which ranges from 0 (very low protection) to 6 (very high protection), is an indicator of the extent to which national legislation controls regular employment, temporary employment and collective dismissal – in other words, it reflects the degree to which employers are free to fire and hire workers at will (OECD, 2004). In general, labour flexibility has increased consistently in recent times as policy-makers have facilitated firms' rapid adjustment of their productive systems to new processes in response to globalisation, regardless of negative effects on wages and labour productivity.

Inequality and labour flexibility have largely (although not everywhere) gone hand in hand during the past two decades, particularly in advanced economies whose governments have accepted the doctrine that globalisation will boost income growth. It is therefore interesting to notice an inverse relationship between inequality levels and the EPL index, as captured by Figure 3: the higher the labour flexibility, the higher the inequality. More specifically, Continental and Scandinavian European countries exhibit a higher EPL (i.e. lower labour market flexibility) and lower inequality, while Anglo-Saxon and Mediterranean countries generally show higher inequality and a lower EPL (Tridico, 2013).

As labour flexibility allows for the reduction of labour costs and thus wage saving at the expense of wage earners (i.e. people with high propensity to consume), income inequality can be expected to increase and, consequently, aggregate demand is likely to be restricted owing to decreasing consumption (Kalecki, 1954).[8] Nevertheless, we argue that what determines whether inequality increases or decreases under the condition of globalisation seems to be the socio-economic model that each country has been willing to build. More specifically, what is most relevant is the set of policies that each country is actually able to implement in order to cope with the challenges of globalisation, in terms of both income distribution and competitiveness (Rodrik, 1999). Of particular importance have been the institutions and conflict management policies that countries have adopted during the past two decades – social protection against unemployment and lower wages, social expenditure against poverty, public programmes on health and disease, national policy for housing and so forth. A proxy for these patterns can be offered by the relationships in our set of OECD countries – which can be considered the most advanced market economies – between inequality and welfare expenditure. As Figure 4 shows, countries that spend more on welfare appear to have, on average, a lower level of inequality.

However, supporters of the 'efficiency thesis' claim that expanding welfare provision may hamper economic growth, considering it an obstacle to efficiency and competitiveness. Conversely, 'compensation thesis' advocates see growing public social support as contributing to growth and facilitating globalisation. Within this debate, our contribution provides relevant empirical evidence. We start with a simple correlation between the growth rate in public social spending[9] (in real terms) and the growth rate of per capita real GDP (constant prices, constant purchasing power parities (PPPs)).
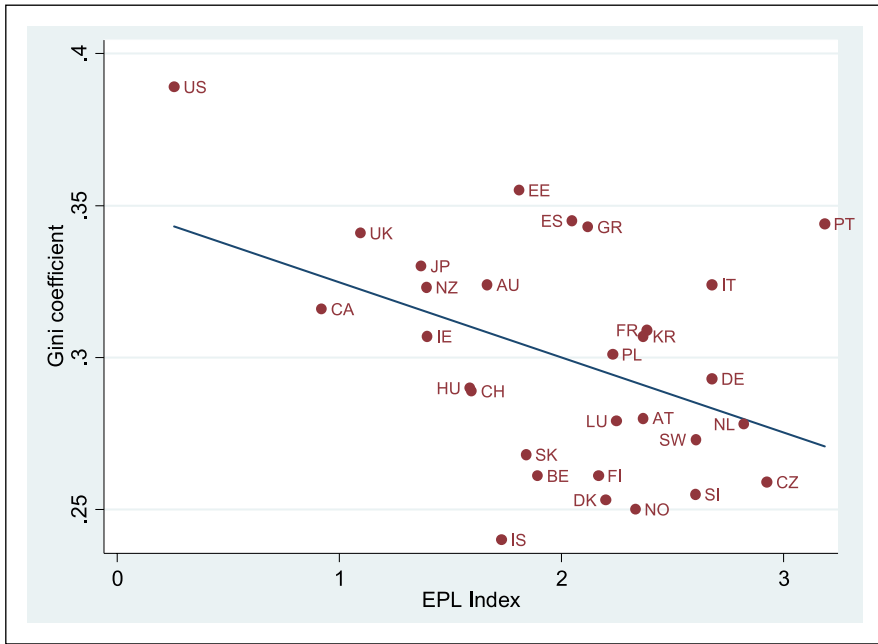
Figure 3. Inequality and employment protection.
Source: OECD, 2017.
Correlation between the index of Employment Protection Legislation (EPL) and the Gini coefficient in 2013.
Correlation is −0.403.
Based on Organisation for Economic Co-operation and Development (OECD) data on employment
protection (2013) (regular contracts, version 1, 1985–2013) and inequality (Gini coefficient 2013: disposable
income, post taxes and transfers). Closest year data used for countries where 2013 Gini coefficient not
available. Excludes countries not clustered in the six identified models.

On the basis of Figure 5, the positive relationship between per capita income growth
and public social spending growth offers some challenge to the 'efficiency thesis': welfare expansion cannot be regarded as inconsistent with real growth. However, this evidence is not enough in itself to provide empirical validation for the 'compensation
thesis'. In this regard, evidence concerning the relation between welfare expenditure
(expansion or retrenchment) and growth in the context of globalisation is often found to
be inconsistent and mixed. On one hand, Blackmon (2006) argues that globalisation has
forced welfare state retrenchment in order for markets to achieve more competitiveness,
and other economists have claimed that increasing welfare spending is not conducive to
better economic performance (Alesina and Perotti, 1994) and that reducing the size of
government will lead to higher incomes and improved competitiveness (Mitchell, 2005).
On the other hand, other scholars argue that social spending has contributed to, rather
than inhibited, economic growth (Furceri and Zdzienicka, 2012; Lindert, 2004; Rodrik,
1998). We investigate these divergent claims through a multivariate regression model
which will allow us to analyse the relationships between welfare expansion and per capita real growth, taking into account both a set of control variables (able to play a relevant
role in determining income growth) and causality issues.
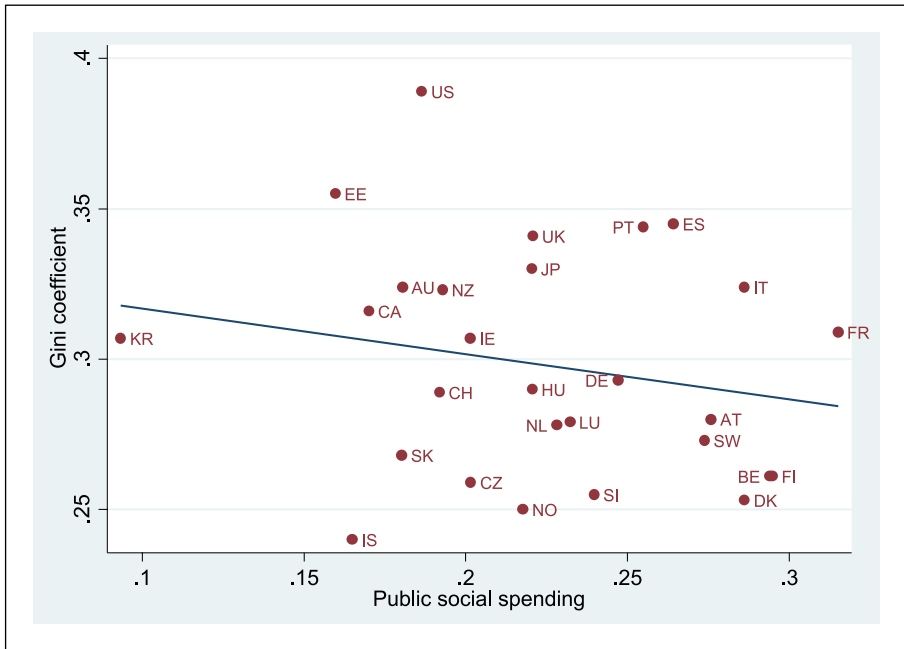
Figure 4. Inequality and public social expenditure.
Source: OECD, 2017.
Correlation between public social spending as share of GDP and Gini coefficient in 2013 Correlation
is −0.206.
Nine areas of social policy spending included, as per Organisation for Economic Co-operation and
Development (OECD): old age, survivors, incapacity-related benefits, health, family, active labour market,
unemployment, housing and others. Data on inequality refer to the Gini coefficient for 2013 or closest year,
as per Figure 3. Excludes outliers, as per Figure 3.

The model

In order to test whether the 'compensation thesis' empirically holds, in this section we deploy an econometric analysis based on a panel dataset using annual data for 34 OECD economies from 1990 to 2013.[10] The dynamic growth equation to be estimated is the following

$$g_{it} = c_i + \beta_y \cdot y_{it-1} + \sum_{s=0}^{1} \beta_s \cdot \dot{PSS}_{it-s} + \sum_{k=0}^{1} \beta_k \cdot \dot{INV}_{it-k} + \beta_o \cdot OPEN_{it} +$$
$$+ \beta_q \cdot INEQ_{it} + \beta_f \cdot \Delta FDI_{it} + \beta_e \cdot ED_{it} + \beta_c \cdot ULC_{it} + \delta_t + \epsilon_{it}$$

where

- g_{it} is per capita real income growth rate (USD, constant PPP);
- y_{it} is the log of lagged per capita real income, used in order to control for the expected reduction in real growth as per capita income rises (Baldacci et al., 2004) and in order to better cope with feasible autocorrelation issues;[11]
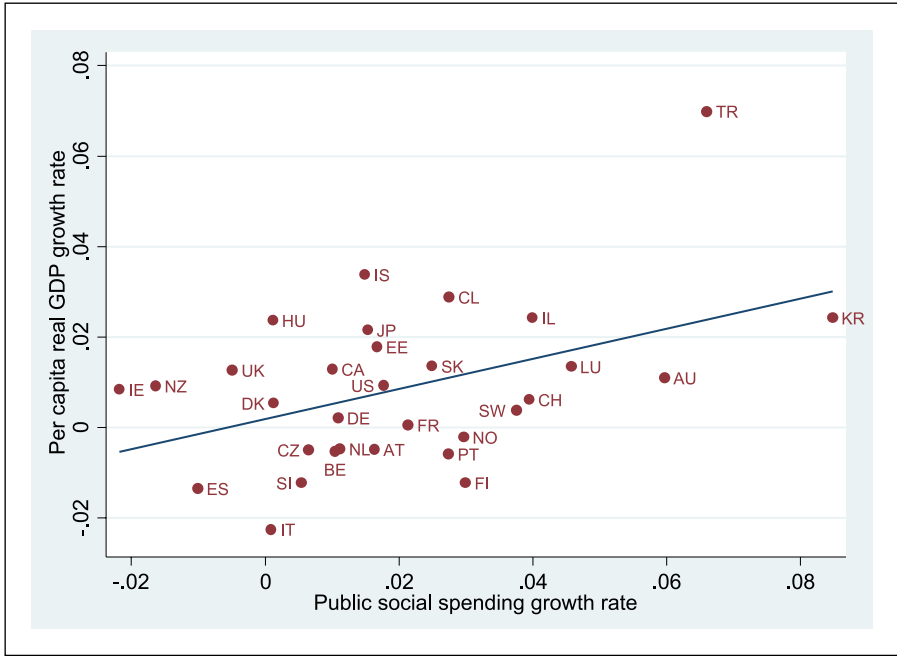
Figure 5. Income growth and public social expenditure.
Source: OECD, 2017.
Correlation between public social spending growth rate and per capita real GDP growth rate in 2013.
Correlation is +0.441.
Public social spending growth rate (2013) computed on the basis of public social expenditure at constant prices. Per capita real GDP growth rate computed on the basis of 2013 GDP per head (constant prices, constant purchasing price parities (PPPs)). For the sake of data comparability, here we considered the overall set of 34 Organisation for Economic Co-operation and Development (OECD) countries used in the econometric surveys.

- $P\dot{S}S_{it}$ is the growth rate of public social spending in real terms; as we expect that countries have higher income growth if they invest more in welfare, we test both current and lagged growth of public social spending in order to control for reasonable anti-cyclical effects (i.e. automatic stabilisers); according to the 'compensation thesis', we expect β_s coefficients to be positive;
- $I\dot{N}V_{it}$ is the growth rate of investment, measured as gross fixed capital formation (both public and private) in real terms; we expect β_k coefficients to be positive since investment growth should reflect increasing capital stock, which in turn would positively affect real growth;
- $OPEN_{it}$ is the degree of trade openness, measured as export plus import (goods and services) divided by GDP; since this indicator is a proxy for globalisation, the coefficient β_o indicates whether high-income growth is associated with a greater degree of openness in terms of trade;
- $INEQ_{it}$ is the level of inequality, measured by the Gini coefficient (current definition, disposable income post taxes and transfers); as we argue that an inequitable

income distribution can hinder economic growth, we expect the coefficient β_q to be negative (a high Gini coefficient means greater concentration of income, hence higher inequality);

- The set of three control variables, considered for an 'augmented' model specification, as well as for robustness, is composed of: (1) ΔFDI_{it}, a metric of financial globalisation, where FDI represents the share of FDI inflows on GDP; (2) ED_{it} is a metric of education (human capital), which indicates the share of the population aged 25–35 with tertiary qualifications; (3) ULC_{it} is the unit labour cost in the total economy, that is, wages adjusted for labour productivity (a widely used indicator of external competitiveness);

- c_i country-specific fixed effects identified by the type of welfare model, while δ_t denotes year dummies; both random and fixed effects are used with respect to the panel variable (country or welfare model, alternatively), while the use of year dummies allows us to consider time fixed effects (to deal with common time-related shocks and thus to remove correlations in errors across countries);

- ε_{it} denotes the error term.

In Table 2, we report the results, which refer to four different model specifications estimated by means of feasible generalised least squares (FGLS)-based regressions. First, we estimated the baseline model (column I) without considering the set of control variables by means of a generalised least squares (GLS) regression and without controlling for country-specific fixed effects (thus assuming $c_i = c$ for all i). Then, in the second column, we extended the analysis (column II) to our vector of controls, namely, FDI-inflows dynamics, tertiary education and competitiveness), using the same estimation methodology as for the baseline model. Finally, using FGLS regressions, we estimated the baseline model by considering panel heterogeneity, thus alternatively using country-specific fixed effects (column III) and country fixed effects identified by the type of welfare model (column IV).

As can be seen by comparing the different columns in Table 2, the model is remarkably robust to different specifications in terms of both additional predictors and fixed effects (both country and welfare models). With respect to the 'baseline' version of the model (Table 1, Column I), both current and lagged growth rates of public social spending are positively related to per capita income growth, and particularly the current growth rate is highly statistically significant. Moreover, both investment growth rates (current and lagged) and trade openness are positively related to per capita income growth, while income inequality is negatively related ($\beta_q < 0$ at 1% significance level). Regrettably, the inclusion of control variables reduces substantially the number of observations. Notwithstanding this, our main findings are robust to the inclusion of additional variables. In this respect, some elements can be added to the picture: specifically, the dynamics of FDI inflows is proved not to be statistically functional to per capita real income growth, while increasing unit labour cost (ULC) – that is, decreasing external cost-competitiveness – is negatively related to growth ($\beta_c < 0$ at 1% significance level). Moreover, the level of tertiary education is positively related to per capita income growth ($\beta_e > 0$ at 5% significance level).

Table 2. Regression models on panel data (34 countries, 1990–2013), different specifications.

Dependent variable: Growth of per capita GDP (constant prices, constant PPPs)

Explanatory variables	(I) Baseline	(II) Extended	(III) Country FE	(IV) Welfare model FE
Log of per capita real GDP_PPP (−1)	−0.015872*** (0.0016956)	−0.0229144*** (0.00026673)	−0.0344901*** (0.0079244)	−0.0197185*** (0.002993)
Public social spending (current growth rate)	0.0613615*** (0.0136043)	0.0611668*** (0.0201348)	0.045208*** (0.0136352)	0.0495006*** (0.0137437)
Public social spending (lagged growth rate)	0.0080413 (0.0085515)	0.0440650** (0.0199094)	0.004669 (0.0082839)	0.0058596 (0.0084409)
Investment (current growth rate)	0.2066561*** (0.0076553)	0.1873926*** (0.0110600)	0.2006232*** (0.0074687)	0.2045026*** (0.007601)
Investment (lagged growth rate)	0.0321133*** (0.0075301)	0.0272973** (0.0109317)	0.031122*** (0.0072855)	0.031648*** (0.0074467)
Openness (Exp. + Imp.)/GDP	0.0053070*** (0.0012361)	0.0048272*** (0.0016669)	0.0091812** (0.0045103)	0.0075918*** (0.0014709)
Inequality (Gini coefficient)	−0.0560039*** (0.0106983)	−0.0328796* (0.0193373)	−0.0740489* (0.0447477)	−0.0265767 (0.0205978)
FDI inflows to GDP (first difference)		0.0015193 (0.0035947)		
Competitiveness (ULC)		−0.037158*** (0.0113023)		
Tertiary education		0.0002133** (0.0000980)		
Constant	0.1816324*** (0.0192870)	0.2701664*** (0.0271047)	0.3837447*** (0.0841231)	0.2132292*** (0.033143)
Panel fixed effect	NO	NO	Country	Welfare model
Time fixed effect	Year	Year	Year	Year
No. of obs.	711	443	711	711
Wooldridge test	$F_{(1, 33)}$ = 51.071 Prob. > F = 0.000	$F_{(1, 28)}$ = 44.577 Prob. > F = 0.000	$F_{(1, 33)}$ = 51.071 Prob. > F = 0.000	$F_{(1, 33)}$ = 51.071 Prob. > F = 0.000
Statistics	Log likelihood = 2003.65 Wald χ^2(61) = 2290.90 Prob. > χ^2 = 0.000	Log likelihood = 1263.09 Wald χ^2(31) = 1724.10 Prob. > χ^2 = 0.000	Log likelihood = 2047.99 Wald χ^2(61) = 2689.64 Prob. > χ^2 = 0.000	Log likelihood = 2016.98 Wald χ^2(61) = 2405.53 Prob. > χ^2 = 0.000

Data sources: Organisation for Economic Co-operation and Development (OECD) 2017. In detail, data on GDP, per capita GDP_PPP, Export and Import drawn from dataset 1. *GDP*; public social spending drawn from OECD *Social Expenditure Database (SOCX)*; Tertiary Education drawn from *Educational attainment and labour-force status*; Gross fixed capital formation and ULC drawn from *Economic Outlook No 101, June 2017*; FDI drawn from FDI *flows by industry*; Gini coefficients drawn from dataset Income Distribution and Poverty; Real effective exchange rate (REER) drawn from data set *Factbook Country Statistical Profiles, 2015/2016 edition*.

GDP: gross domestic product; FDI: foreign direct investment; PPP: purchasing price parity; FE: fixed effect; ULC: unit labour cost.

Robust standard errors clustered by countries in parentheses.

*** p < 0.01; **p < 0.05; *p < 0.1.

Table 3. Causality between public social spending and GDP: Bi-variate Granger-causality test.

Panel VAR – GMM Estimations (coefficients and standard errors)	Δ% PSS	Δ% GDP
Δ% PSS (−1)	0.1749902* (0.0897532)	0.0499908** (0.0251135)
Δ% GDP (−1)	0.1511627* (0.0842266)	0.4587807*** (0.0538703)

Panel VAR Granger-causality Wald test, χ2 (degrees of freedom) and p > χ2	Δ% PSS	Δ% GDP
Δ% PSS	–	3.962 (1)** 0.047
Δ% GDP	3.221 (1)* 0.073	–

GDP: gross domestic product; VAR: vector autoregression; GMM: generalised method of moments; PSS: public social spending.
Robust standard errors in parentheses; final GMM Criterion $Q(b)$ = 1.36e–34; No. of obs. = 677; No. of panels = 34; Ave. no. of T = 19.912.
H_o: the 'row variable' does not Granger-cause the 'column variable'.
*** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

Since the extended specification might suffer from the poor availability of data, we opted for testing the baseline model's robustness by considering panel heterogeneity. To this end, we estimated a two-way fixed effects model by means of FGLS: when we allow for country or welfare model fixed effects, respectively, regression coefficients are almost completely in line with the baseline estimation.

Of course, a key challenge associated with our econometrics is that public social spending is likely to be partly endogenous: we have to deal with the potential issue of reverse causality. This criticism is to some extent mitigated by the inclusion of per capita GDP level within the model, whose estimated coefficient (β_y) is negative in all model specifications (i.e. the expected reduction in real growth rates when per capita GDP is higher actually occurs). However, we additionally performed a *bi-variate* causality test (Granger, 1969) based on a panel-vector autoregression (VAR) methodology (Abrigo and Love, 2016) between public social spending growth rate and per capita GDP growth rate.[12] As shown in Table 3, bidirectional Granger-causality arises between public social spending and real income growth rates. Nevertheless, a more accurate assessment emerges from Table 4, where Granger-causality is tested in a *tri-variate* specification: when investment growth rate is included (as in the empirical model), growing public social spending Granger-causes income growth, but not *vice versa*.[13]

Furthermore, in order to detect whether the 'efficiency thesis' may hold with regard to competitiveness – that is, to verify whether increasing welfare provision actually reduces external competitiveness due to increasing costs – we performed a *bi-variate* Granger test between the growth rate of public social spending and the dynamics of ULC. As shown in Table 5, increasing public social spending has no statistically significant impact on the forward dynamics of ULC (in other words, Granger-causality does not emerge in this direction), while the ULC growth rate has significant effects on the forward dynamics of public social spending (decreasing external competitiveness is followed by

Table 4. Causality between public social spending and GDP: Tri-variate Granger-causality test.

Panel VAR – GMM Estimations (coefficients and standard errors)	Δ% PSS	Δ% GDP	Δ% INV
Δ% PSS (−1)	0.1749581** (0.0897436)	0.0493439** (0.0243072)	0.0401001 (0.0563777)
Δ% GDP (−1)	0.1563523 (0.1480347)	0.5632571*** (0.0859493)	0.9565269*** (0.2660048)
Δ% INV (−1)	−0.0022242* (0.0455615)	−0.044777 (0.0296851)	0.0897027 (0.1065758)

Panel VAR Granger-causality Wald test, χ^2 (degrees of freedom) and $p > \chi^2$	Δ% PSS		Δ% GDP		Δ% INV	
Δ% PSS	–		4.121 (1)**	0.042	0.506 (1)	0.477
Δ% GDP	1.116 (1)	0.291	–		12.931 (1)***	0.000
Δ% INV	0.002 (1)	0.961	2.275 (1)	0.131	–	
All (dependent variable excluded)	3.314 (2)	0.191	5.733 (2)*	0.057	12.972 (2)***	0.002

GDP: gross domestic product; VAR: vector autoregression; GMM: generalised method of moments; PSS: public social spending.
Robust standard errors in parentheses; final GMM Criterion $Q(b)$ = 2.80e−33; No. of obs. = 677; No. of panels = 34; Ave. no. of T = 19.912.
H_o: the 'row variable' does not Granger-cause the 'column variable'.
Δ% PSS = public social spending growth (constant prices).
Δ% GDP = per capita GDP growth (GDP per head, constant prices, constant purchasing price parities (PPPs)).
Δ% INV = gross fixed capital formation growth (constant prices).
*** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

Table 5. Causality between public social spending and external competitiveness: Bi-variate Granger-causality test.

Panel VAR – GMM Estimations (coefficients and standard errors)	Δ% PSS	Δ% ULC
Δ% PSS (−1)	0.0988694 (0.0681203)	−0.0421962 (0.02643)
Δ% ULC (−1)	0.3077899*** (0.1006467)	0.5986801*** (0.0757651)

Panel VAR Granger-causality Wald test, χ^2 (degrees of freedom) and $p > \chi^2$	Δ% PSS		Δ% ULC	
Δ% PSS	–		2.594 (1)	0.110
Δ% ULC	9.352 (1)***	0.002	–	

ULC: unit labour cost; VAR: vector autoregression; GMM: generalised method of moments; PSS: public social spending.
Robust standard errors in parentheses; final GMM Criterion $Q(b)$ = 6.87e−35; No. of obs. = 562; No. of panels = 29; Ave. no. of T = 19.379.
H_o: the 'row variable' does not Granger-cause the 'column variable'.
*** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

Table 6. Causality between public social spending and external competitiveness: Bi-variate Granger-causality test.

Panel VAR – GMM Estimations (coefficients and standard errors)	Δ% PSS		Δ% REER	
Δ% PSS (−1)	0.346914*** (0.0681203)		0.0415618 (0.1008574)	
Δ% REER (−1)	0.0767698* (0.0427137)		0.150171* (0.0654807)	
Panel VAR Granger-causality Wald test, χ² (degrees of freedom) and p > χ²	Δ% PSS		Δ% REER	
Δ% PSS	–		0.170 (1)	0.680
Δ% REER	3.230 (1)*	0.072	–	

VAR: vector autoregression; GMM: generalised method of moments; PSS: public social spending; REER: real effective exchange rate.

Robust standard errors in parentheses; final GMM Criterion $Q(b) = 4.46e–35$; No. of obs. = 660; No. of panels = 34; Ave. no. of T = 19.412.

H_o: the 'row variable' does not Granger-cause the 'column variable'.

Δ% PSS = public social spending growth (constant prices).

Δ% ULC = unit labour cost growth (2010 = 100).

Δ% REER = real effective exchange rate dynamics (2010 = 100).

*** $p < 0.01$; **$p < 0.05$; *$p < 0.1$.

increasing welfare provision, consistently with automatic stabilisation policies). The same conclusions can be traced with respect to the real effective exchange rate (REER),[14] an additional metric for price-competitiveness: according to Table 6, the public social spending growth rate does not Granger-cause REER dynamics. Ultimately, the typical narrative of the 'efficiency thesis', according to which increasing welfare spending would hinder economic growth by decreasing external competitiveness (with respect to both ULC and REER), is not supported by our results.

Finally, in addition to the usual regression statistics, some diagnostic issues were also explored. Since we have to deal with a relatively small (imperfect) collinearity between some predictors, and some endogeneity concerns can be also be raised, we carried out a *variance inflation factor* (VIF) test, which aims to exclude systematic multicollinearity among explanatory variables. When VIF is high, there is high multicollinearity, and consequently, regression coefficients would be unstable: despite the fact that there are no formal thresholds for determining the presence of multicollinearity, values of VIF that exceed 10 are often regarded as indicating multicollinearity. As can be seen in Table 7, the highest VIF value in our econometrics is 1.75 (while the VIF mean is 1.41); hence, collinearity is unlikely to be biasing the estimated coefficients.[15]

Conclusion

Within the broad debate on welfare state size and growth, and principally with respect to the challenges posed by globalisation along several dimensions (efficiency, income distribution and competitiveness among others), we comparatively investigated the relevance

Table 7. Multicollinearity *variance inflation factor* (VIF) test on extended GLS model.

Variable	VIF	1/VIF
Tertiary education	1.75	0.570700
Log of per capita real GDP_PPP (−1)	1.70	0.589834
Competitiveness (ULC)	1.63	0.615132
Investment (current growth rate)	1.49	0.671596
Openness (Exp. + Imp.)/GDP	1.40	0.713550
Investment (lagged growth rate)	1.38	0.725638
Public social spending (current growth rate)	1.28	0.781530
Public social spending (lagged growth rate)	1.22	0.819366
Inequality (Gini coefficient)	1.19	0.841196
FDI inflows to GDP (first difference)	1.09	0.917149
Mean VIF	1.41	–

GDP: gross domestic product; FDI: foreign direct investment; GLS: generalised least squares; ULC: unit labour cost.

of the 'efficiency thesis' (according to which globalisation needs to be accompanied by the retrenchment of the welfare state in order to foster competitiveness), and the 'compensation thesis' (which argues that the globalisation process should be state-regulated through expanded welfare provision). On the basis of our results, the contribution of this article is twofold.

First, by means of some descriptive evidence with respect to different welfare models, we provide evidence that higher welfare provision is associated with a lower level of income inequality. Moreover, public social spending growth is positively related to real per capita GDP growth. These preliminary analyses indicate that the 'efficiency thesis' can be criticised, as countries with low social public spending (Anglo-Saxon and Mediterranean) suffered the most during the recent crisis in terms of economic growth and income distribution, while countries that implemented the 'compensation thesis' (Continental and Scandinavian) exhibited lower inequality and higher income growth. We observed an evolution in the welfare systems taxonomy, suggesting that further research and deeper analysis are needed in order to establish whether the traditional Esping-Andersen classification into three models still applies as far as inequality and social spending are concerned. It seems that Continental and Scandinavian countries are converging towards the same group (with high welfare dimensions and low inequality), while Anglo-Saxon and Mediterranean countries are experiencing a parallel journey towards low welfare spending and high inequality.

Secondly, in the light of our econometric investigations (conducted on a sample of 34 OECD countries from 1990 to 2013), the 'compensation thesis' can be largely validated. Increasing public social spending has been proved to be relevant for per capita income dynamics even in a context of increasing globalisation, while inequality resulted negatively related to real growth. This is because, from a Kaleckian point of view, with income polarisation and concentration in the hands of few, consumption propensity (which is lower for the richer) negatively affects aggregate demand and GDP dynamics. Moreover, per capita GDP growth is higher if countries exhibit higher growth rates of

investment and higher levels of tertiary education. As far as globalisation is concerned, economic growth is positively related to higher degrees of trade openness; on the contrary, FDI-inflows dynamics is not relevant in determining per capita income growth. This indicates that trade openness along with welfare support can produce better results in terms of per capita real GDP growth, while capital mobility is not associated with better economic performances.

Furthermore, our empirical findings clearly do not support the typical narrative of the 'efficiency thesis' since increasing public social spending does not hinder economic growth by reducing external competitiveness; although the latter was tested to be relevant for growth, its dynamics were shown not to be hampered by welfare state expansion, as the 'efficiency thesis' usually argues.

To summarise, our study has definitely reinforced the 'compensation thesis' – we have argued that, as experienced by Scandinavian economies, the challenges and threats of globalisation related to economic growth, income distribution and external competitiveness can be better coped with by increasing public social spending, not by welfare state retrenchment.

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Notes

1. In broad terms, governments spend money to correct market failures, or if equilibrium allocations are not socially optimal. Resources that are directly dedicated to the development of social welfare are called 'public social spending'.
2. Due to data availability, we investigated countries which were Organisation for Economic Co-operation and Development (OECD) members at the end of 2015. Latvia joined OECD in July 2016, but was excluded through lack of data.
3. Negative effects on aggregate demand (and then on output) of a shift in income distribution in favour of profits arise basically from the fact that wage earners have a higher propensity to consume than capitalists (Kalecki, 1954).
4. Cynamon and Fazzari (2013) found that after the 2007–2008 financial crisis, the top 5% in the US spent a smaller share of income and the following stagnant recovery could be explained by the demand drag on the economy.
5. Williamson (1985) argued that Mediterranean countries are affected also by administrative inefficiency and higher degrees of corruption, increasing transaction costs and reducing productivity performances.
6. Recent technological change may favour skilled over unskilled labour (as new information technologies are complementary with skilled labour) by increasing its relative productivity and, therefore, its relative demand. For these reasons, this factor bias has put technological change at the core of the debate on income distribution (Autor et al., 1998; Acemoglu, 2002; Katz, 1999).
7. See also Atkinson (1999), Milanovic (2002), Galbraith (2012) and Piketty (2014).
8. This is the *demand-side* explanation of the negative relationship between inequality and growth, endorsed in this article (Rowthorn, 1981). The *supply-side* literature on this topic maintained that inequality can foster growth, since growth is based on capital accumulation, and this latter is based on savings (Bourguignon, 1981; Kaldor, 1955). Conversely, from the early 1990s, a number of empirical studies suggested that equitable income distribution,

through different channels, can positively affect growth (Alesina and Rodrik, 1994; Deininger and Squire, 1998; Galor and Zeira, 1993; Persson and Tabellini, 1994).

9. Data on public social expenditure use the OECD Social Expenditure Database (SOCX), developed to serve a growing need for social policy indicators. It includes reliable and internationally comparable statistics on public social expenditure at programme level (nine areas of social policy (Adema et al., 2011).

10. Data sources and details are reported at the end of Table 1.

11. Before considering year dummies, we ran convergence tests in order to detect autocorrelation. The Wooldridge (2002) test indicated a need to control for time variables factors owing to the presence of autocorrelation in our panel.

12. We are conscious of criticisms of the Granger test despite its widespread adoption. These concerns mainly rely on the assumption, typical of such a test, that causation can be proved just because one variable precedes another (for a review of its fallacy, see Maziarz, 2015). However, alternative methodologies to assess causality are based on cointegration methods, not feasible in this context since our empirics consider stationary variables. Thus, we opted for a vector autoregression (VAR) model in testing causality.

13. Furthermore, notice that real growth is shown to Granger-cause investment dynamics, not vice versa.

14. An increase in real effective exchange rate (REER) is to be interpreted as a real appreciation, which can be associated with a loss of external competitiveness. The similar reasoning applies to unit labour cost (ULC).

15. In weaker models, values above 2.5 may be a cause for concern, but this is not the case in our survey.

References

Abrigo MR and Love I (2016) Estimation of panel vector autoregression in Stata. *Stata Journal* 16(3): 778–804.

Acemoglu S (2002) Technical change, inequality, and the labor market. *Journal of Economic Literature* 40(1): 7–72.

Adema W, Fron P and Ladaique M (2011) *Is the European welfare state really more expensive? Indicators on social spending (1980–2012); and a manual to the OECD Social Expenditure Database (SOCX)*. OECD Social, Employment and Migration, Working Paper no. 124. Paris: OECD Publishing. Available at: http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.4 66.2217&rep=rep1&type=pdf

Alesina A and Perotti R (1994) The welfare state and competitiveness. *American Economic Review* 87(5): 921–939.

Alesina A and Rodrik D (1994) Distributive politics and economic growth. *Quarterly Journal of Economics* 109(2): 465–490.

Allan JP and Scruggs L (2004) Political partisanship and welfare state reform in advanced industrial societies. *American Journal of Political Science* 48(3): 496–512.

Amable B (2004) *The Diversity of Modern Capitalism*. Oxford: Oxford University Press.

Amoroso B (2003) Globalization: the economic and social sustainability of markets and production systems – the classic example of agriculture. *Paper presented at the international conference, agricultural policy reform and the WTO: Where are we heading*, Capri, 24–26 June, pp. 23–26. Roskilde: Roskilde University.

Arestis P, Charles A and Fontana G (2013) Financialization, the great recession, and the stratification of the US labor market. *Feminist Economics* 19(3): 152–180.

Atkinson AB (1999) *The Economic Consequences of Rolling Back the Welfare State*. Cambridge, MA: MIT Press.

Autor DH, Katz LF and Krueger AB (1998) Computing inequality: have computers changed the labor market? *Quarterly Journal of Economics* 113(4): 1169–1213.

Baldacci ME, Clements MBJ, Gupta MS, et al. (2004) *Social spending, human capital, and growth in developing countries: implications for achieving the MDGs*. IMF, Working Paper no. 4–217, November. International Monetary Fund. Available at: https://www.imf.org/external/pubs/ft/wp/2004/wp04217.pdf (accessed 20 January 2018).

Blackmon P (2006) The state: back in the center of the globalization debate. *International Studies Review* 8(1): 116–119.

Bonoli G (1997) Classifying welfare states: a two-dimension approach. *Journal of Social Policy* 26(3): 351–372.

Borjas GJ and Ramey VA (1995) Foreign competition, market power, and wage inequality. *The Quarterly Journal of Economics* 110(4): 1075–1110.

Bourguignon F (1981) Pareto superiority of unegalitarian equilibria in Stiglitz' model of wealth distribution with convex saving function. *Econometrica* 49(6): 1469–1475.

Brady D, Beckfield J and Seeleib-Kaiser M (2005) Economic globalization and the welfare state in affluent democracies (1975–2001). *American Sociological Review* 70(6): 921–948.

Castells M (2004) Global informational capitalism. In: McGrew AG and Held D (eds) *The Global Transformations Reader: An Introduction to the Globalization Debate*. Cambridge: Polity Press.

Choi CJ (2006) Communitarian capitalism and the social market economy: an application to China. In: *Development Models, Globalization and Economies*. London: Palgrave Macmillan, pp. 37–51.

Chusseau N and Dumont M (2012) *Growing income inequalities in advanced countries*. ECINEQ WP 2012: 260. Available at: http://www.ecineq.org/milano/wp/ecineq2012-260.pdf (accessed 20 January 2018).

Cynamon BZ and Fazzari SM (2013) *Inequality and household finance during the consumer age*. Working Paper no. 752, February. Annandale-on-Hudson, NY: Levy Economics Institute. Available at: http://www.levyinstitute.org/pubs/wp_752.pdf

Deininger K and Squire L (1998) New ways of looking at old issues: inequality and growth. *Journal of Development Economics* 57(2): 259–287.

Engelen E, Konings M and Fernandez R (2010) Geographies of financialization in disarray: the Dutch case in comparative perspective. *Economic Geography* 86(1): 53–73.

Epstein GA (ed.) (2005) *Financialization and the World Economy*. Cheltenham: Edward Elgar Publishing.

Esping-Andersen G (1990) The three political economies of the welfare state. *International Journal of Sociology* 20(3): 92–123.

Feenstra RC (1998) Integration of trade and disintegration of production in the global economy. *The Journal of Economic Perspectives* 12(4): 31–50.

Ferrera M (1996) The 'Southern model' of welfare in social Europe. *Journal of European Social Policy* 6(1): 17–37.

Furceri D and Zdzienicka A (2012) The effects of social spending on economic activity: empirical evidence from a panel of OECD countries. *Fiscal Studies* 33(1): 129–152.

Galbraith JK (2012) *Inequality and Instability: A Study of the World Economy Just Before the Great Crisis*. Oxford: Oxford University Press.

Galor O and Zeira J (1993) Income distribution and macroeconomics. *Review of Economic Studies* 60(1): 35–52.

Goda T and Lysandrou P (2014) The contribution of wealth concentration to the subprime crisis: a quantitative estimation. *Cambridge Journal of Economics* 38(2): 301–327.

Gordon C (2012) Union decline and rising inequality in two charts. *Economic Policy Institute*, June. Available at: www.epi.org/blog/union-decline-rising-inequality-charts (accessed 20 January 2018).

Granger CW (1969) Investigating causal relations by econometric models and cross-spectral meth-
    ods. *Econometrica: Journal of the Econometric Society* 37(3): 424–438.

Hay C and Wincott D (2012) *The Political Economy of European Welfare Capitalism*. London:
    Palgrave Macmillan.

International Organization for Standardization (ISO) (2013) *Codes for the representation of names
    of countries and their subdivisions – part 1: country codes*. ISO 3166-1: 2013. Available at:
    https://www.iso.org/iso-3166-country-codes.html

Jessop RD (2002) *The Future of the Capitalist State*. Cambridge: Polity Press.

Kaldor N (1955) Alternative theories of distribution. *Review of Economic Studies* 23(2): 83–100.

Kalecki M (1954) *Theory of Economic Dynamics: An Essay on Cyclical and Long-Run Changes
    in Capitalist Economy*. London: George Allen & Unwin.

Katz LF (1999) Changes in the wage structure and earnings inequality. In: Ashenfelter O and Card
    D (eds) *Handbook of Labor Economics*, vol. A3. Amsterdam: Elsevier, pp. 1463–1555.

Krippner GR (2005) The financialization of the American economy. *Socio-Economic Review* 3(2):
    173–208.

Lavoie M (2014) *Post-Keynesian Economics: New Foundations*. Cheltenham: Edward Elgar
    Publishing.

Lavoie M and Stockhammer E (2013) Wage-led growth: concept, theories and policies. In: *Wage-
    Led Growth: An Equitable Strategy for Economic Recovery*. London: Palgrave Macmillan,
    pp. 13–39.

Lindert PH (2004) *Growing Public: The Story: Social Spending and Economic Growth since the
    Eighteenth Century*, vol. 1. Cambridge: Cambridge University Press.

Maziarz M (2015) A review of the Granger-causality fallacy. *Journal of Philosophical Economics*
    8(2): 86–105.

Milanovic B (2002) True world income distribution, 1988 and 1993: first calculation based on
    household surveys alone. *Economic Journal* 112(476): 51–92.

Mitchell DJ (2005) The impact of government spending on economic growth. *The Heritage
    Foundation*, 15 March. Available at: https://www.heritage.org/budget-and-spending/report/
    the-impact-government-spending-economic-growth (accessed 20 January 2018).

Organisation for Economic Co-operation and Development (OECD) (2004) *Employment Outlook:
    Employment Protection Regulation and Labour Market Performance* (Chapter 2). Paris: OECD.

Organisation for Economic Co-operation and Development (OECD) (2017) OECD.Stat. Available
    at: http://stats.oecd.org/ (accessed 20 January 2018).

Palley TI (2012) *From Financial Crisis to Stagnation: The Destruction of Shared Prosperity and
    the Role of Economics*. Cambridge: Cambridge University Press.

Paternesi Meloni W (2017) *Austerity and competitiveness in the Eurozone: a misleading linkage*.
    Working Paper Series no. 0223, 4 January. Rome: Department of Economics, Roma Tre
    University.

Persson T and Tabellini G (1994) Is inequality harmful for growth? *American Economic Review*
    84(3): 600–621.

Piketty T (2014) *Capital in the Twenty-First Century*. Cambridge, MA: Belknap Press.

Qian Y (2003) How reform worked in China. In: Rodrik F (ed.) *In Search of Prosperity*. Princeton,
    NJ: Princeton University Press, pp. 297–333.

Rodrik D (1998) Why do more open economies have bigger governments? *Journal of Political
    Economy* 106(5): 997–1032.

Rodrik D (1999) *The new global economy and developing countries: making openness work*.
    Overseas Development Council Policy Essay no. 24. Washington, DC: Johns Hopkins
    University Press for the Overseas Development Council.

Rowthorn B (1981) *Demand, Real Wages and Economic Growth*. London: North East London
    Polytechnic.

Rubery J (2009) How gendering the varieties of capitalism requires a wider lens. *Social Politics* 16(2): 192–203.

Soskice DW and Hall PA (2001) *Varieties of Capitalism: The Institutional Foundations of Comparative Advantage*. Oxford: Oxford University Press.

Stockhammer E (2015) Rising inequality as a cause of the present crisis. *Cambridge Journal of Economics* 39(3): 935–958.

Storm S and Naastepad CWM (2012) *Macroeconomics Beyond the NAIRU*. Cambridge, MA: Harvard University Press.

Swank D (2002) *Global Capital, Political Institutions, and Policy Change in Developed Welfare States*. Cambridge: Cambridge University Press.

Tridico P (2012) Financial crisis and global imbalances: its labour market origins and the aftermath. *Cambridge Journal of Economics* 36(1): 17–42.

Tridico P (2013) The impact of the economic crisis on EU labour markets: a comparative perspective. *International Labour Review* 152(2): 175–190.

Vis B, Van Kersbergen K and Hylands T (2011) To what extent did the financial crisis intensify the pressure to reform the welfare state? *Social Policy & Administration* 45(4): 338–353.

Williamson OE (1985) *The Economic Institutions of Capitalism: Firms, Markets, Relational Contracting*. New York: Free Press.

Wooldridge JM (2002) *Econometric Analysis of Cross Section and Panel Data*. Cambridge, MA: The MIT Press.

Yeager T (1999) *Institutions, Transition Economies, and Economic Development*. Boulder, CO: Westview Press.

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