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THE RISE OF INCOME INEQUALITY IN OECD COUNTRIES

Pasquale Tridico

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Dipartimento di Economia
Università degli Studi Roma Tre
Via Silvio D'Amico, 77 - 00145 Roma
Tel. 0039-06-57335655 fax 0039-06-57335771
E-mail: dip_eco@uniroma3.it
http://dipeco.uniroma3.it

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The rise of income inequality in OECD countries

Pasquale Tridico[1], University Roma Tre, pasquale.tridico@uniroma3.it

Abstract

The objective of this paper is to identify the determinants of the increase in income inequality that rich countries have experienced over the last two decades. My hypothesis is that along with the financialisation of economies that has taken place since 1990, inequality increased because labour flexibility intensified, labour market institutions weakened as trade unions lost power, and public social spending started to retrench and did not compensate the vulnerabilities created by the globalization process. Using data from 34 OECD countries from 1990 to 2013, I empirically evaluate this hypothesis. My results clearly suggest that the increase in inequality over the last two decades is caused by an increase in financialisation, a deepening of labour flexibility, the weakening of trade unions, and the retrenchment of the welfare state.

Keywords: inequality, financialisation, labour market, welfare states

JEL: I380, F600, G010

1. Introduction

Over the last two decades at least, income inequality within rich countries has increased. The richest 10 per cent of the population in the OECD countries earn about ten times the income of the poorest 10 per cent; in the late 1980s the richest 10 per cent earned about 7 times the income of the poorest 10 percent (OECD, 2014). At the same time the Gini Coefficient increased from about 27% to 33% on average. In a way this contradicts the famous Kuznets curve (1955) according to which inequality increases in the initial phase of the development process, and then decreases as economies become richer. Piketty (2014) already noticed its limitations and in his recent book, he rejects the idea of the bell curve. What he proposes is a horizontal "S" curve – inequality re-increases again when countries reach an advanced stage of development. Following to some extent Piketty's broad conclusions, I focus in this paper on the years which are probably the ones during

[1] I wish to thank Paolo Liberati for his useful comments. I wish to thank also the participants of the First World Congress of Comparative Economics, held in Rome at the Roma Tre University (25-27 June 2015), where the paper was first presented. The usual disclaimer applies.

which inequality increased the most, i.e., from 1990 to 2013. During this period the world changed substantially, the structure of rich economies was reshaped, and in most of them the impressive technological progress has led to strong and long waves of transformations. Before that, in the late 1970s, political changes also created the basis for a new paradigm of political economy, first in the U.S. and in the U.K., and later in most advanced and emerging economies.

This new paradigm, which I call "financial capitalism", is characterised by a strong dependency on the financial sector, by the globalization and intensification of international trade and capital mobility, and by the "flexibilisation" of the labour market (Epstein, 2005, ILO, 2013). From an economic policy perspective these changes resulted in the partial withdrawal of the state from the economy (i.e., the minimization of its economic intervention) and the dominance of supply-side policies (i.e., labour flexibility, tax competition for firms and capital, etc.) (Shield, 2012).

In this context, I argue that income inequality increased because labour, which is the most important production factor for income, is seen by the supply-side approach as a cost to be compressed rather than as a fundamental part of aggregate demand to be expanded. In the age of financial capitalism, labour-capital relations are changing, and in most cases labour represents the weaker part. On the one hand, as a result of the conflict between labour and capital, trade unions lost power, and labour market regulations such as labour protection against firing, unemployment benefits, minimum wage, etc., weakened. On the other hand, the expansion of labour flexibility, atypical labour contracts and temporary jobs created unstable jobs and therefore unstable consumption (Jha and Golder, 2008).

Moreover, within the aforementioned new paradigm of political economy, the welfare state represents another cost to compress. In order to improve firms' competitiveness and boost economic growth, advocates of the so called "efficiency thesis" argue social spending needs to be reduced[2] (Allan and Scruggs, 2004; Castells, 2004; Blackmon, 2006). In fact most countries are experiencing a retrenchment of the welfare state or at least a stabilization of public expenditure. In an age of globalisation and ageing, this corresponds to a per capita reduction in real terms (Adema et al., 2011.

The link between globalisation and inequality has been largely explored in the literature since the Stolper and Samuelson theorem, according to which market integration increases inequality and vulnerability as increased international trade raises the incomes of the owners of abundant factors and reduces the incomes of the owners of scarce factors (Stolper and Samuelson, 1941). Since advanced industrial countries are more capital-intensive economies and abundant in

[2] I will come back to this later.

skilled labour, trade is expected to be beneficial for skilled labour and detrimental to unskilled labour, thus increasing income inequality. For labour-intensive economies, which is typically the case of developing countries, trade is expected to increase regional disparities.

Other recent explanations for inequalities were put forward by Van Reenen (2011) who found support for trade-induced technological change associated with inequality. Chusseau and Dumont (2012) show that globalization, skill-biased technological change and changes in labour market institutions weakening the Welfare State explain the increase of inequality in a group of 12 rich countries. Other labour markets arguments explaining inequality have been challenged by Lemieux et al. (2009) and Card et al. (2004) among others. Atkinson et al. (2011) instead, pointed out the changes in taxation that reduced progressivity in particular at the top of the distribution as main drivers of inequality. Similarly Facundo et al. (2013) argue that reductions in the top income tax rate is the most important factor explaining inequality. Finally, other bodies of the literature, have stressed the link between credit availability (as a consequence of increasing inequality) and financial crises (see for instance Perugini et al., 2015) and inequality as the cause for the current financial crisis (Stockhammer, 2013).

My contribution emerges clearly in light of this existing literature since it aims at synthesising most of the causes mentioned above in a single and valid empirical model, stressing in particular the role of financialisation, globalization and labour market institutions as an explanation of inequality.

To sum up, financialisation, labour flexibility and the weakening of trade unions, plus the retrenchment of the welfare state are the most important factors in my analysis explaining the explosion of income inequality over the past two decades. The econometric analysis of the paper uses data from 34 OECD countries from 1990 to 2013, and clearly and robustly suggest all these factors are at play.

The rest of the paper is organized as follows: in section 2 I briefly review the literature regarding the relationship between globalisation and inequality; in section 3 I analyse, theoretically and empirically, the relationship between financialisation and labour market legislation and its impact on inequality; in section 4 I put forward my econometric model, and conclude the paper in section 5.

2. Globalisation and inequality

Globalisation is still a generic term, which, in most definitions, is identified as a process of *intensification* of trade, capital mobility, finance, and labour flexibility. By contrast, authors such as

Hay and Wincott (2012) disagree with such a definition of globalisation and would rather define it as a process not only of *intensification* of those flows but also of *extensive increase*, on a global level, of trade, capital and labour mobility, and technological exchange, among others (Held et al., 1999). Because evidence of this second type of definition of globalisation is missing and since not all countries have taken part in the globalisation process (quite the opposite; globalisation interests a limited, yet increasing, number of countries), they conclude that it would be more appropriate to speak about regionalisation rather than globalisation. For instance, trade, capital and labour mobility increased particularly in the European Union (Europeanisation), among advanced and emerging economies (trans-regionalism), and between North American countries (with regional agreements such as NAFTA), etc. Hence, the interpretation of globalisation remains quite controversial and an on-going and evolutionary process.

Nonetheless, while it is true that globalisation affects more advanced and increasingly more emerging economies, typically BRIC countries, it is objectively impossible to deny the intensification of this process and the increase in the number of countries involved in the global economy over the last two decades.

Figure 1 is the simplest representation of this kind of globalisation. In particular, a first big wave of globalisation, identified purely according to the *intensive* definition, occurred after 1970, and may have been generated by a new international monetary system, the change in oil prices and the birth of the European Monetary System. However, this first wave of globalisation was unstable and the process of intensification declined during the 1980s. Finally, the process of intensive globalisation, often accompanied by the extensive inclusion of more and more countries, steadily rejuvenated at the end of the 1980s when several institutional, geopolitical and technological changes occurred.

Figure 1 – Globalisation in terms of trade intensification

Source: The World Bank database

Neoclassical economics strongly supports globalisation, or to be more precise, trade openness (defined as imports and exports as a percentage of GDP) and capital mobility.[3] Lewis (1980) and many economists such as Lucas (1993) and Baghwati (2004) believe trade is the engine of economic growth. However, the experience of globalisation so far has shown that the performance of opened economies can vary dramatically (Rodrik, 1999; Rodrik et al., 2004). Openness and integration in the world economy should be accompanied by appropriate institutions, state strategies and particularly by an important welfare state that supports internal cohesion and maintains external competitive advantages. In fact, according to Rodrik (1999), the best-performing countries are the ones that are integrated in the world economy with institutions capable of supporting the impact of globalisation on the domestic market and social cohesion. Countries with poor social institutions, weak conflict management institutions (which means poor welfare states) and strong social cleavages suffer external shocks and do not perform well in the world economy.

Rodrik (2011) and also Stiglitz (2006) offer a sort of guide concerning what should be taken in and what should be left out of the globalisation process. Institutions and policies control, along with a strong role of government is essential in order to compensate for globalisation damages (such as inequality and unemployment) and vulnerabilities (such as employment problems for unskilled workers). In this context, while trade openness could bring advantages and stimulate economic growth, capital mobility would be more problematic for unskilled workers and for employment levels in the country of origin of foreign direct investment (FDI), as we will argue more in detail below.

Nevertheless, for most of the globalisation period, the US has proven the neoclassicals right, showing that to perform well in a globalised economy a country does not necessarily need a strong welfare state. However, the current financial and economic crisis which started in the US in 2007 suggests Rodrik's argument still holds true: "*The world market is a source of disruption and upheaval as much as it is an opportunity for profit and economic growth. Without the complementary institutions at home – in the areas of governance, judiciary, civil liberties, social insurance, and education, one gets too much of the former and too little of the latter*" (Rodrik, 1999:96).

For Lucas (1993), international trade stimulates economic growth through a process of structural change and capital accumulation, as in the case of Ireland, where according to Walsh and Whelan (2000), a structural change had already taken place during the 1970s and created conditions that allowed the Irish economy to grow considerably in the 1990s and later in the 2000s. Capital

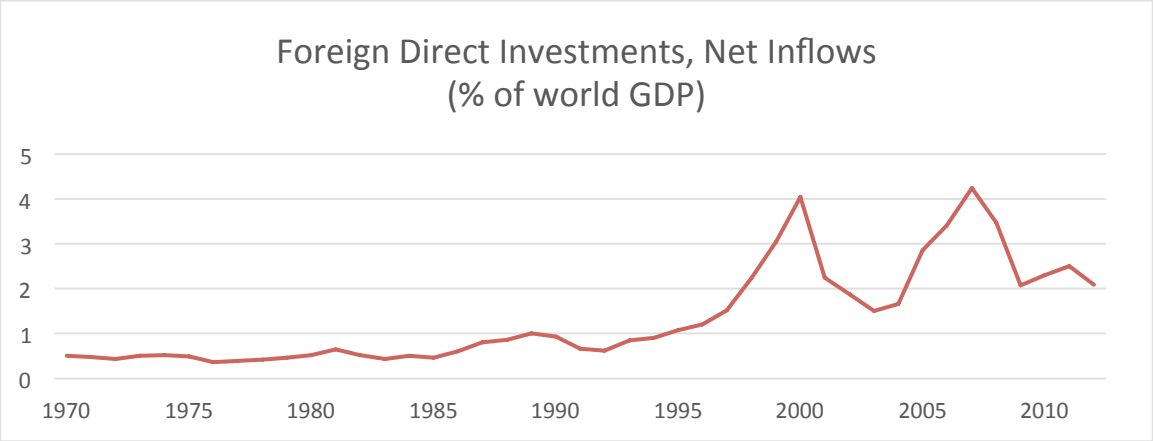
[3] Interestingly enough, the IMF has recently backtracked with regards capital market liberalization, arguing that opening capital markets in developing economies could increase economic instability if an appropriate regulatory environment was not put in place IMF (2014).

accumulation is determined by "learning by doing" and "learning by schooling" in a process of knowledge and innovation spillovers. A country that protects its goods made with intensive skilled work from international competition by raising tariffs on them will see a domestic increase in the price of those goods. Skilled workers' wages will increase and R&D will become more expensive. Consequently, investments in R&D will decrease, and growth will be negatively affected. On the contrary, removing tariffs on those goods will cause a reduction in their price, a reduction in the cost of R&D, and thus an increase in investments in R&D, with positive effects on growth (Lucas, 1993).

This argument, however, does not take into consideration the inequality and uneven development caused by trade liberalisation and intensification via wage differentials. This issue was already raised by Stolper and Samuelson as we saw previously. Similarly, increased capital flows are expected to raise income inequality in advanced industrial economies because capital outflows from capital-rich countries to LDCs reduce domestic investment and lower the productive capability and demands for labour in these economies (Ha, 2008; Tsebelis, 2002). Since a reduction in total capital in the production process increases the marginal productivity of capital and reduces the marginal effect of labour, capital outflows increase the income of capital relative to labour, thus exacerbating income inequality. In particular, because FDI outflows from advanced industrial economies tend to be concentrated in industries with low-skilled labour in the home country (Lee, 1996), rapidly rising FDI outflows often reduce the demand for low-skilled labour and increase income gaps in industrialised countries. In fact, several studies find that FDI outflows is associated with expanded income inequality in industrialised countries (Leamer, 1996; McKeown, 1999; Wood, 1994).

Empirically, it is interesting to observe the expansion of FDI, which experienced a strong increase in the 1990s due to the liberalisation of capital markets, followed by a collapse at the beginning of the 2000s due to the global uncertainty caused by the international events of September 11, 2001 (as shown in figure 2 below). A further and bigger increase in FDI flows can be observed immediately after and up to the financial crash of 2007, reaching a peak in 2006-07. The current crisis, marked by financial instability and depression, caused a further squeeze in FDI, although it remains at a substantially higher level than at the beginning of the 1990s.

Figure 2 – FDI in the world economy



Source: The World Bank database

Another argument which needs to take into consideration is the impact of economic integration in terms of trade openness and FDI on public finance. This is relevant because obviously public policies affect redistribution and therefore inequality. First of all, it can be stated that financial openness is negatively associated to government size, as Liberati (2007) concluded in his empirical paper. Beyond the size of governments, however, is very difficult to find conclusive answers concerning the relations between economic integration and public finance. As Gastaldi and Liberati (2011: 343) in their literature review paper concludes: "according to the available empirical literature, the most likely answer is *we do not know*". Studies and researches present contrasting results and a definite conclusion in this filed is impossible to release.

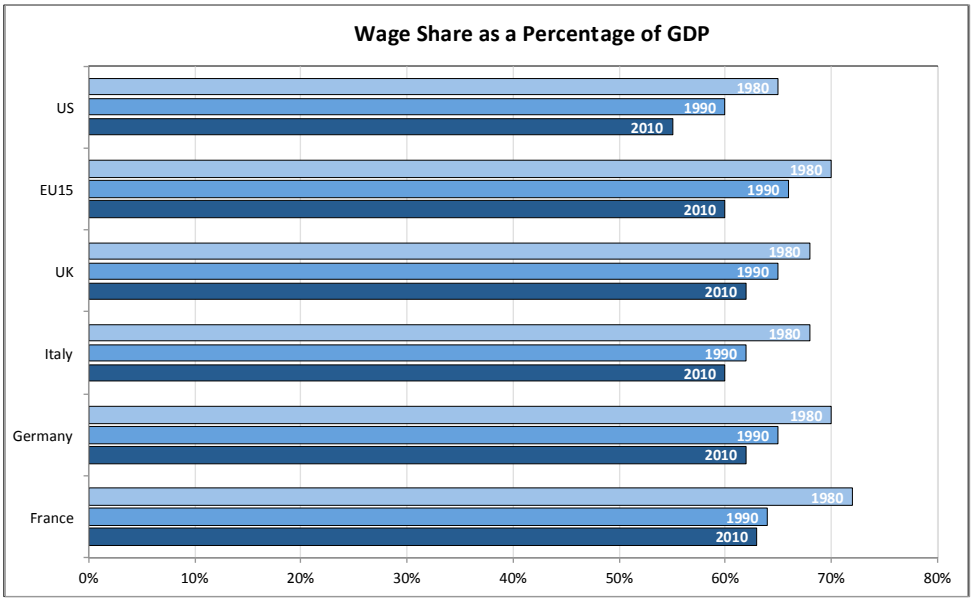
Globalisation however, poses several challenges to national economies and governments. One of the most important is its effect on inequality, both within and between countries, and its impact on welfare state sustainability. The debate about these challenges has been very lively, and it has produced two main interpretations. The first one states that globalisation reduces the size of welfare states because the latter constitutes a cost for firms. Higher levels of welfare spending necessitate higher levels of income tax, payroll taxes, and/or corporate tax which all reduce profit prospective and increase firms' costs. Firms would therefore be pushed to go abroad unless government retrenched social spending and reduced taxes. Thus, in order to maintain high levels of investment and employment in the country, the welfare state needs to be reduced under the process of globalisation. This famous interpretation is known as the "efficiency thesis". This thesis was developed within the neoclassical and neoliberal paradigm, and it argues that globalisation has forced (or should force) states to retrench social welfare in order to achieve a market-friendly environment, improve its competitiveness and attract increasingly mobile international capital (Allan & Scruggs, 2004; Blackmon, 2006; Castells, 2004).

The efficiency thesis is contrasted with the "compensation thesis", which argues that because globalisation increases inequality, welfare states need to increase. In other words, globalisation pressures governments to expand welfare expenditures in order to compensate the domestic "losers" of the globalisation process (Brady et al. 2005; Rodrik, 1998; Swank, 2002).

It is true that with the rise of outsourcing practices and FDI outflows, globalisation has improved the position of capital with respect to labour. Firms' decision to move capital and production across countries has distributional effects: the position of low-skilled workers in industrial countries is worsened by a combination of 1) globalisation and 2) new technology. The first increases the bargaining power of capital against labour, with the consequence of easing capital owners' procurement of tax reductions and welfare retrenchment (Chusseau and Daumont, 2014). States are willing to embark on tax competition among themselves in order to keep investments and production at home . The second has a direct and negative impact on unskilled labour and income distribution without welfare support and social institutions (Tisdell and Svizzero, 2003).

In this context, wage shares in the richest countries have declined dramatically, as figure 3 suggests, with negative consequences on aggregate demand and on income distribution.

Figure 3 - Wage share in selected OECD countries



Note: The unadjusted wage share is calculated as total labour compensation of employees divided by value added.
Source: own elaboration on the ILO (2013)

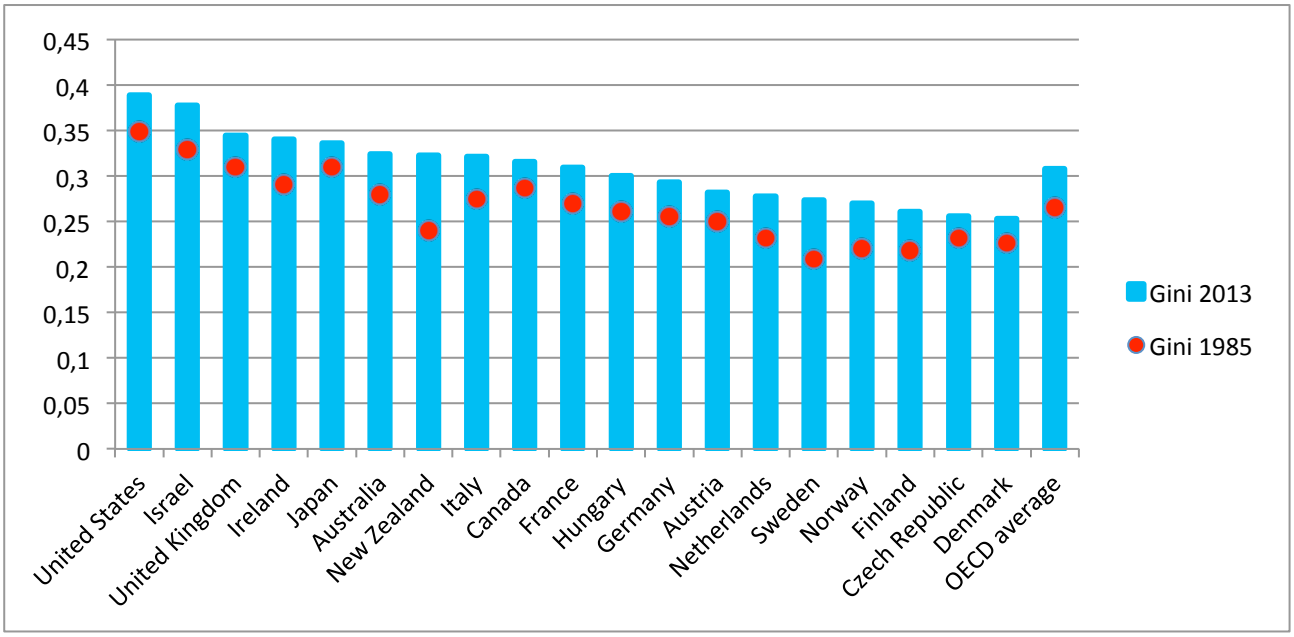
The new macroeconomic consensus of the last two-three decades is strictly linked to, if not completely correspondent with, the Washington Consensus doctrine, which called for the implementation of some institutional forms that better suit the globalisation process such as the financialisation of the economy and the introduction of labour flexibility in the economy (see

Tridico, 2012).[4] Acemoglu (2011) argues that the policies implemented over the last two decades in particular were more closely aligned with the preferences of a minority of high-income voters. Instead of redistributive policies favouring low- and middle-income constituents, politicians implemented financial deregulation policies favouring a small group of influential high-income earners (many of whom worked in, or directly benefited from, the financial sector).

To sum up, inequality has increased in most advanced and emerging economies over the last two decades – an era of growing interconnectedness of the world economy – as many studies have already shown (Atkinson, 1999; Galbraith, 2012; Milanovic, 2011; Piketty, 2014), and a simple look at Gini coefficients across countries exposes this trend.

In the next section, I examine the main factors underpinning this development and then, in the following section, I will put forward a model, which tries to explain the determinants of inequality.

Figure 4 – Inequality – Gini Coefficient



Source: OECD

3. Financialisation, labour market institutions and inequality

Financialisation is defined in several ways by scholars from the political sciences, sociology and economics. Most of these definitions, however, converge towards the identification of the financialisation process in a political economy phenomenon where there is a growing

[4] It has to be said that in the last years, in particular after the 2007 financial crash, the Washington Consensus along with other mainstream policies, evolved, and the main advocates of those policies started to acknowledge failures and mistakes (IMF, 2014).

dominance of capital financial systems over bank-based financial systems (Krippner, 2005), or more broadly, the increasing role of financial motives, financial markets, financial actors and financial institutions in the operation of domestic and international economies (Epstein, 2005: 3-4). This process culminated, according to the Bank for International Settlements, in a daily volume of foreign exchange transactions of about 2 trillion dollars in 2006, just before the financial crash of the summer 2007. This is more or less equivalent to the GDP of France. In contrast, in 1989, this volume was about 500 billion dollars per day (BIS, 2013).

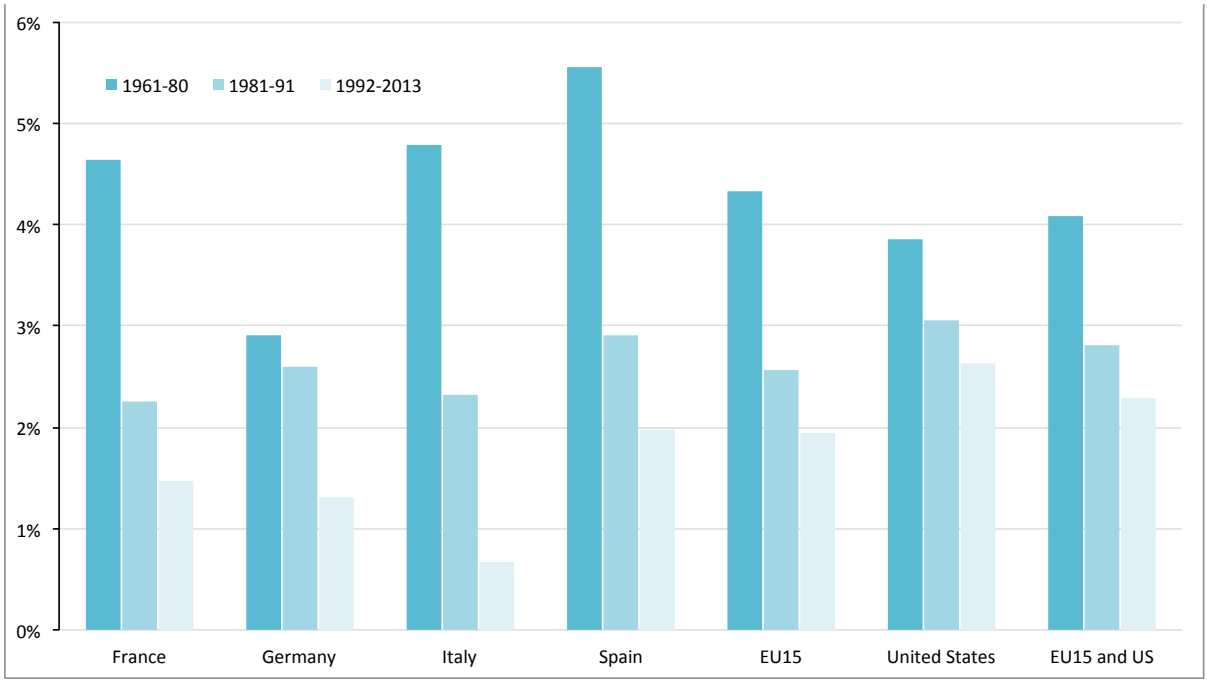
Financialisation (a process which involves a set of institutions and financial tools) and labour flexibility (a set of labour market policies that increase the ease for businesses to fire and hire workers, and to cut wages) are two general categories of institutional arrangements that have gone hand in hand in particular during the last two decades, although not everywhere. They have been introduced across the world by countries, in varying degrees, in order to take advantage of the globalisation process which most policy makers and governments believe will boost their national economy. Labour flexibility has increased almost everywhere in Europe and in advanced economies over the last 20 years. However, some countries, such as Austria, Belgium, France and Germany have retained more rigid labour markets. Other economies, such as Denmark, Sweden, Finland and the Netherlands, introduced higher levels of flexibility along with higher levels of security (OECD, 2013). Countries such as the US, the UK and Ireland increased (or maintained) their already very flexible labour markets. Finally, Mediterranean countries such as Italy, Spain and Greece and most of the former communist economies in Europe combined very hybrid situations (of liberal and corporative elements) with an increased level of labour flexibility.

The political and economic roots of the financialisation process, that brought about a new financial-led growth regime, can be found by the 1970s (Jessop, 2002). After the fall of the Soviet Union, Alan Greenspan, who rose to oversee the US Federal Reserve at the end of the Reagan administration, believed that the world economy could expand greatly through the globalisation of the financial sector (Greenspan, 2007; Semmler and Young, 2010). Many other economies followed the American example of a financial-led regime of accumulation, which used other institutional forms such as flexible labour and the nexus of compressed wages in order to increase firms' competitiveness (Tridico 2012). Shareholders sought higher dividends because they invested their own capital in firms, taking on a higher level of risk. Since the economic growth of advanced economies under financial capitalism has not been higher than under previous phases (the so-called Fordist period), as figure 5 shows[5], it follows that wages should be compressed in order for

[5] Figure 5 shows that GDP growth during Fordism (which is usually identified by the period before 1980) is higher than growth during both the transition period (which is usually identified by the period during the 1980s, in particular the

shareholders to obtain higher dividends. However, wages have not followed the increases in productivity and profits continued to soar (as has been the case in most of advanced countries and in particular in US).

Figure 5 – Average GDP Growth in the EU15 and the US (1961-2013)



Source: The World Bank database

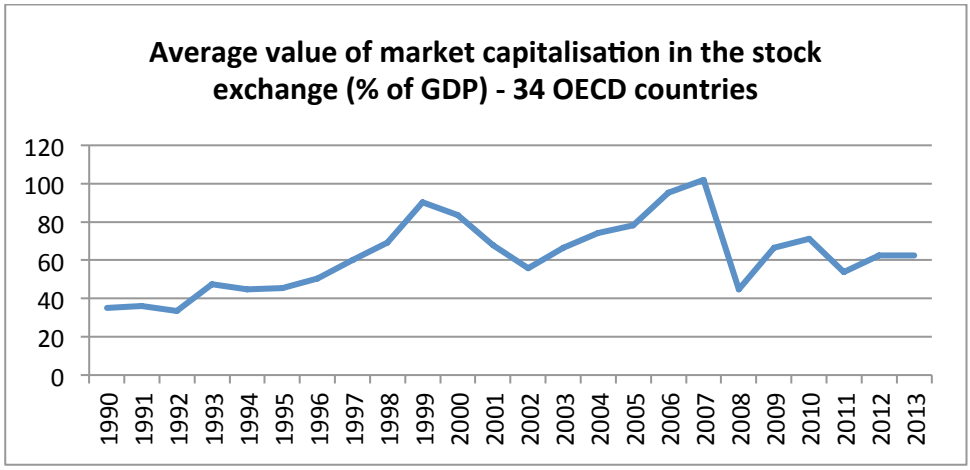
Similarly, Lin and Tomaskovic-Devey (2011) argue that the increasing reliance by firms on earnings realized through financial channels generated surplus from production, strengthening owners' and elite workers' negotiating power relative to other workers. This resulted in the exclusion of most of workers from revenue and therefore in the increase of inequality.

In light of these developments, labour flexibility and wage contraction were functional to obtaining this result (higher dividends for shareholders), at least in the short run. As far as financialisation is concerned, figure 6 below shows the expansion of financialisation among OECD economies over the past two decades. The variable here is the World Bank's "Market capitalization of listed [domestic] companies" as a percentage of GDP.[6] One can observe an important increase in the 1990s, driven probably by the "dot.com" bubble; the fall after the September 11, in 2001; another consistent increase with a bubble which reached its peak in 2006 driven by the housing sector; and finally the crash of 2007-08 and the following stabilization after 2012 to a level which is almost double than the average value of 1990 (more than 60% of GDP versus less than 40%).

decade 1981-1991) and post-Fordism (or the period of globalisation and finacialization) which is identified by the last period from 1992 until today. For more details on the periodization of Fordism and post-Fordism, see Jessop (2002).

[6] Financialization is captured by the variable "Market capitalisation" (also known as market value) which is the share price multiplied by the number of shares outstanding. Listed domestic companies are the domestically incorporated companies listed on the country's stock exchanges at the end of the year. Listed companies do not include investment companies, mutual funds, or other collective investment vehicles.

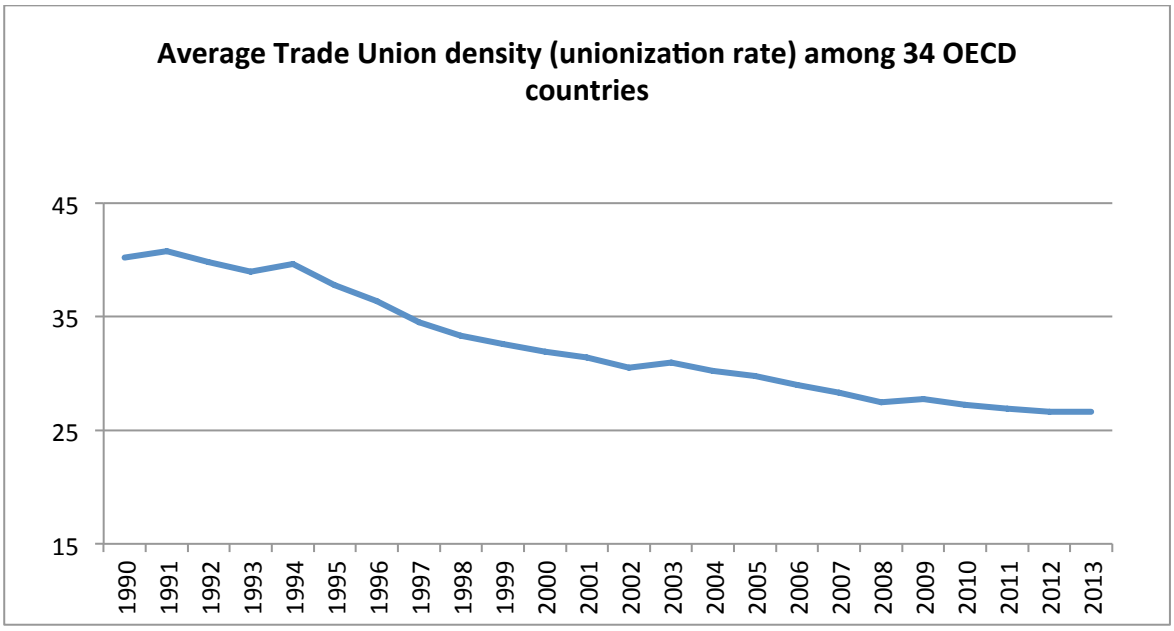
Figure 6 - Financialisation



Source: The World Bank database

More specifically, the highest level of financialisation is found in Anglo-Saxon economies (particularly the US, the UK, Australia and Canada, which have enormous values of financialisation – between 100-150% of GDP), while the lowest levels of financialisation are in continental Europe, with the notable exception of Switzerland. The US promoted neo-liberalism as a main ideological paradigm for globalisation and financialisation through global, multi, and bilateral measures under pressure from all the major international financial institutions, multinational corporations, and Wall Street institutions (Epstein, 2005).[7]

Figure 7 – The decline of Trade Unions density

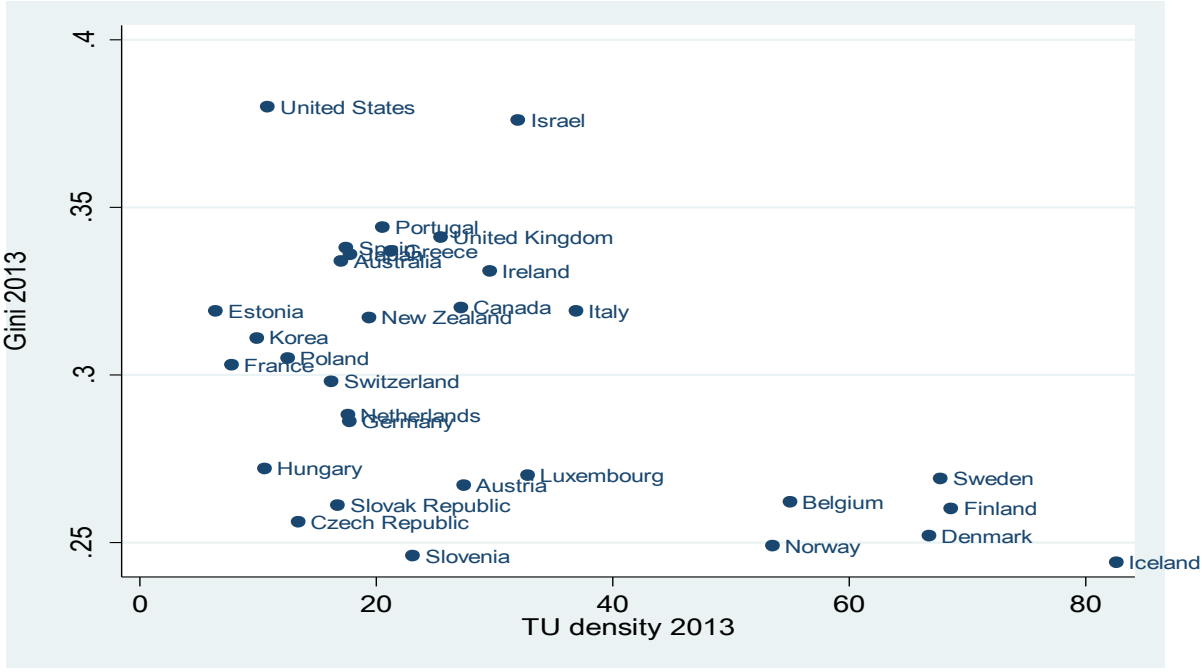


Source: own elaboration on OECD data

[7] Interestingly enough, financialization also took place in Scandinavian economies. This is consistent with the results of Engelen et. al. (2010) and van der Zwan (2014), who show that financialisation takes place everywhere, including in countries with strong welfare states. However, here, the high level of social expenditure is able to contain inequality (which is nevertheless increasing in Scandinavian countries too). The highest percentage of financialization in terms of GDP is Switzerland, while, in terms of absolute value, the US is the most financialised market, followed by the UK.

Within financial capitalism, the bargaining position of capital relative to labour in higher-income countries increased importantly. As Feenstra (1998, p.46) observes, the impact of globalisation on changing the bargaining position of labour and capital has far-reaching consequences. The decline in union power, particularly within trade-oriented industries, may well account for a portion of the increased wage inequality in the United States and in other countries (Borjas and Ramey, 1995; Gordon, 2012).

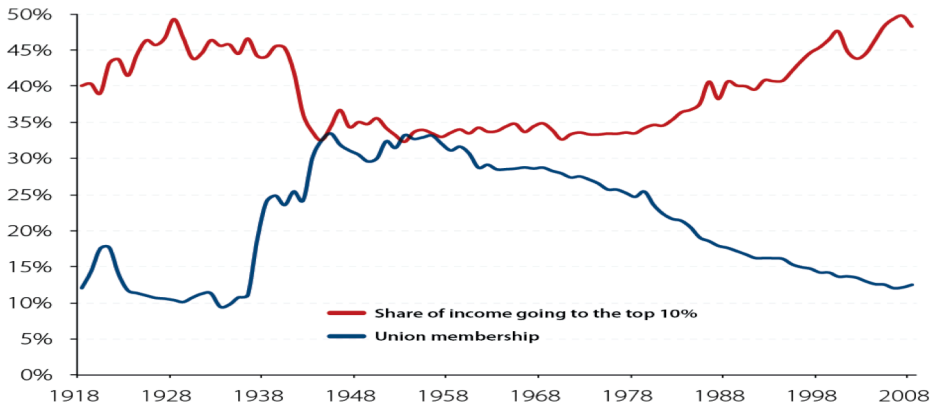
Figure 8 – Trade unions and Inequality



Source: own elaboration on OECD data

Of particular interest seems the case of USA where it is clear the inverse relation, throughout most of the 20th century, between trade unions membership and inequality. Gordon (2012) argues that between the New Deal, which granted among other important things, also workers basic collective bargaining rights, and the end of 1960s "labor unions both sustained prosperity, and ensured that it was shared". Since the 1970s and in particular during the Reagan administration, "unions came under attack—in the workplace, in the courts, and in public policy. As a result, union membership has fallen and income inequality has worsened—reaching levels not seen since the 1920s" Gordon (2012).

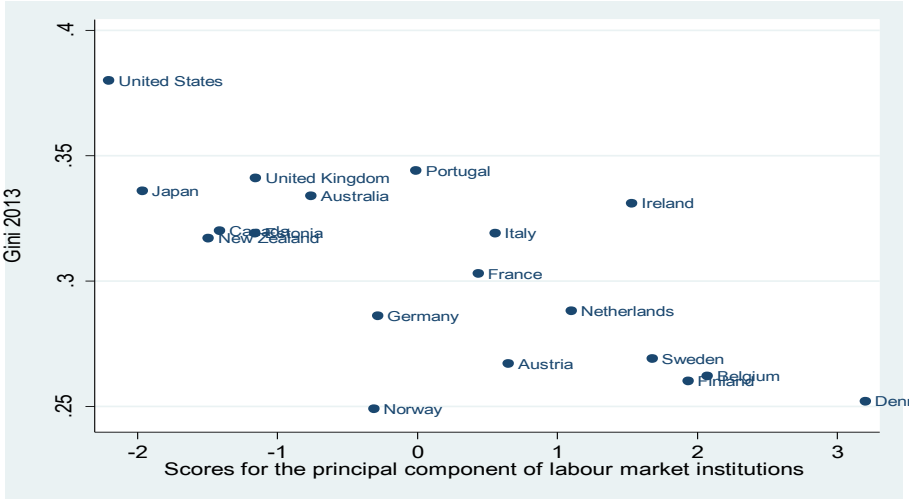
Figure 9 - Unionisation and share of income to the top 10%



Source: reproduced from Gordon, 2012

The decline in unionisation rates has contributed to the weakening of labour market institutions such as labour protection against firing and hiring, the level and duration of unemployment benefits with the introduction of constraints concerning eligibility and the reduction in most of the cases of their length and amount, the minimum wage, etc. In the appendix a list of nine labour market indicators (the seven in table A1, plus EPL and TU density in table A2) is presented. Out of them, a factor analysis was carried out in order to establish the most important elements explaining variation among the variables. This resulted in a principal component that, when scattered in a plot against the inequality index (Gini in 2013) produces figure 8 below. This figure displays a clear correlation between the two: the higher the score of the principal component (more protection in the labour market) the lower the Gini level, and vice versa[8].

Figure 10 - Inequality and Labour Market indicators

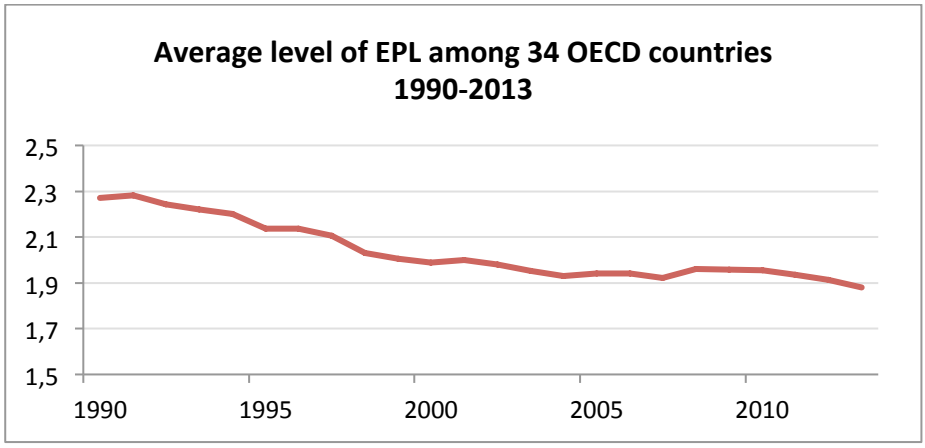


Source: own elaboration on OECD data

[8] A similar results is obtained by Butcher et al (2012) and by Autor et al., (2015) who found that minimum wages have little effect on employment but do have impacts on wage inequality in particular in UK and in US during 1990s and 2000s.

The OECD's Employment Protection Legislation (EPL) indicator is probably the most important labour market indicator. It measures the general level of worker protection in the labour market and consequently the level of labour flexibility (it varies between 0 for very low protection, and 6 for very high protection). In essence, it shows the level of protection offered by national legislation with respect to regular employment, temporary employment and collective dismissal – in other words, regulation that allows employers to fire and hire workers at will (OECD, 2004). The figure below shows the evolution of the average level of EPL among OECD countries from 1990 to 2013. Its decline clearly underlines an increase in labour flexibility.

Figure 11 – Labour Market Flexibility

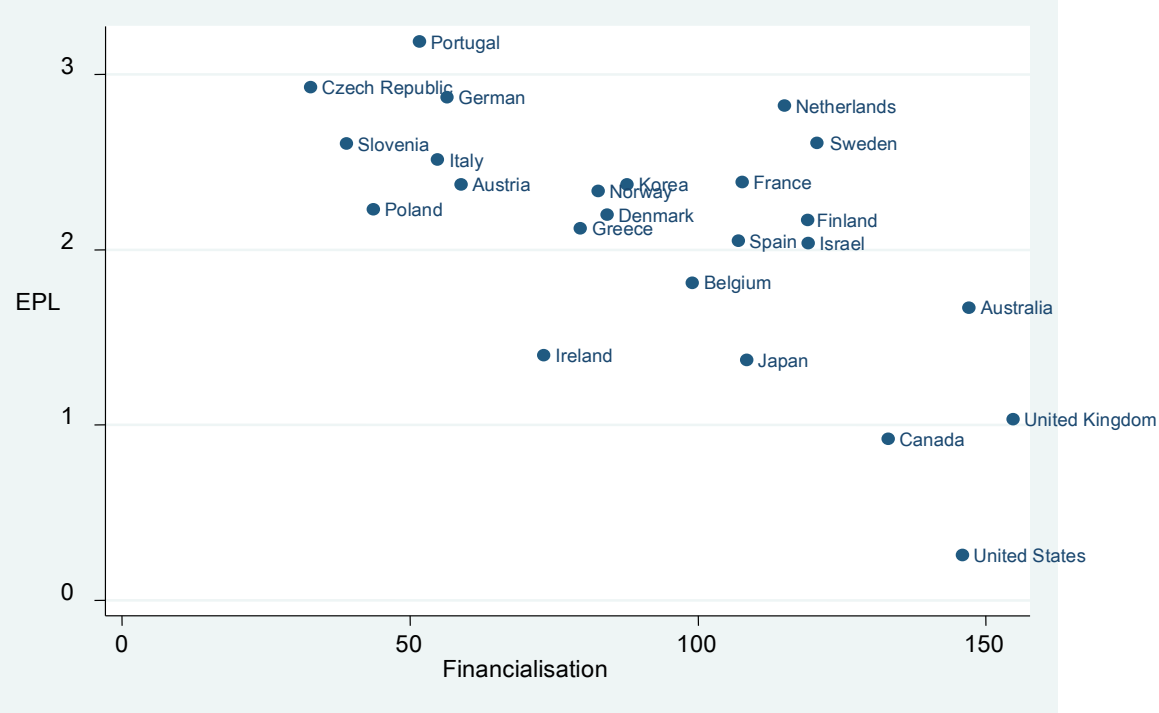


Source: own elaboration on OECD data

A flexible labour market with compressed wages needs to be supplemented by available financialisation, credit and developed financial tools to sustain consumption, which otherwise would be compressed by low and unstable wages (Brancaccio and Fontana, 2011). Therefore, a large number of financial tools were invented to finance consumption, postpone payments, extend credit, and create extra-consumption (Tridico, 2012). That being said, it is difficult to establish a causal relation: we cannot be certain whether financialisation required labour flexibility or if increased labour flexibility brought about hyper-financialisation. A simple, but important, correlation (figure 10) between these two complementary institutional forms of neoliberalism seems more likely.

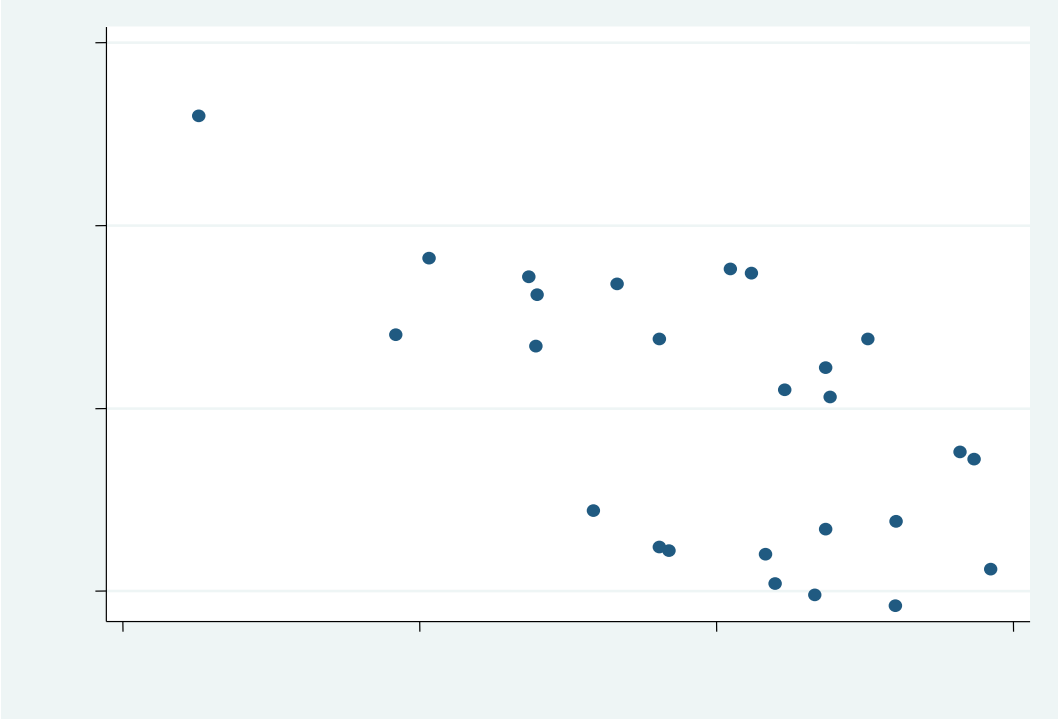
Labour flexibility allows for the reduction of firms' labour costs and thus wage savings at the expense of wage earners, that is, consumers. In such a situation, inequality increases and aggregate demand is restricted because consumption decreases.

Figure 12 - Correlation scatter between financialisation and labour flexibility (EPL) in 2013



Source: Own elaboration on the OECD and World Bank database

Figure 13 - Correlation scatter between inequality and EPL in 2013

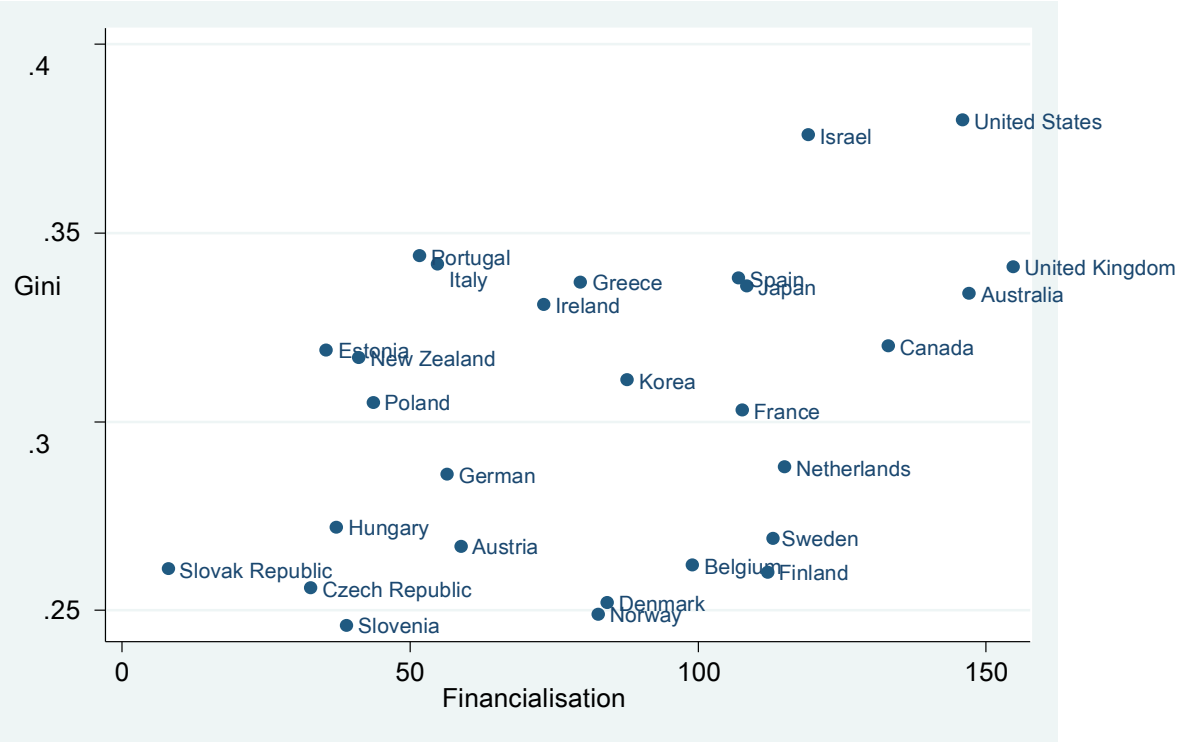


Source: Own elaboration on the OECD

It is very interesting to notice an inverse relationship between inequality and the EPL index (labour flexibility): the lower the EPL (higher flexibility), the higher the inequality. Continental and Scandinavian European countries have a higher EPL (lower flexibility) and lower inequality relative to Anglo-Saxon and Mediterranean countries, which generally show the opposite values of higher inequality and lower EPL (higher flexibility).

As a result, one can see in figures 10 and 12 that high financialisation is typically associated with high Gini coefficients and high labour flexibility. More interesting is the parallel trends of these variables: when financialisation increases, both flexibility and inequality increases, as the correlation scatters seem to suggest. In other words, as it was argued elsewhere (Tridico, 2012), the rise of inequality generated an increased demand for credit, which translated into a credit expansion provided for by accommodating monetary policies and financial deregulation. One should take particular notice of the particular path of Scandinavian countries (especially Sweden and Finland) which display a relatively high degree of financialisation, yet, are able to contain inequality (which nevertheless is increasing) with their strong welfare states (along with other labour market institutions).

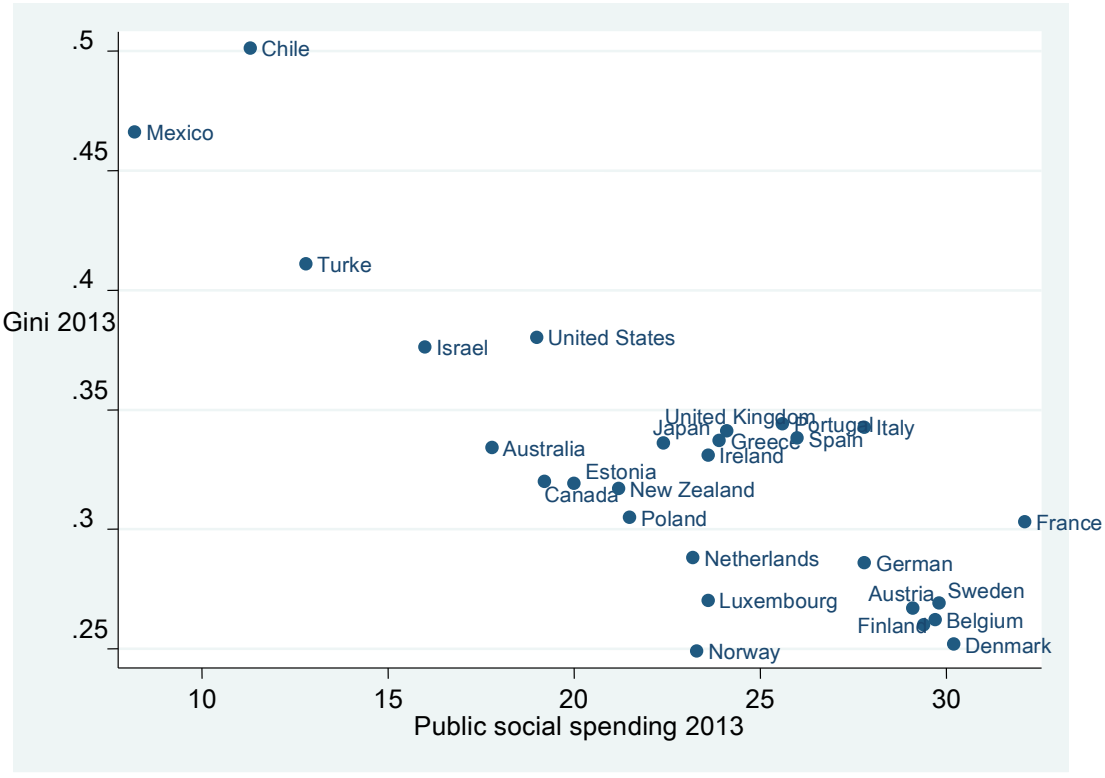
Figure 14 - Correlation scatter between financialisation and inequality in 2013



Source: own elaboration on OECD and World Bank database

Finally, our series of correlations and scatters suggest that what contributes to the increase or decrease of inequality seems to be the choice of the socio-economic model that each country built during the decades after the Second World War. More specifically, what is most relevant is the set of policies that each country is currently able to implement in order to cope with the challenges of globalisation both in terms of income distribution and competitiveness (Rodrik, 1999). These include in particular social protection against unemployment and low wages, welfare programs against poverty, health and education policies, social policy for housing, and so forth. As figure 13 below shows, there seems to be a clear relationship between inequality and welfare expenditures in the sense that countries that spend more on welfare generally have a lower level of inequality. [9]

Figure 15 – Inequality (Gini) and Public Social Expenditure (% GDP)

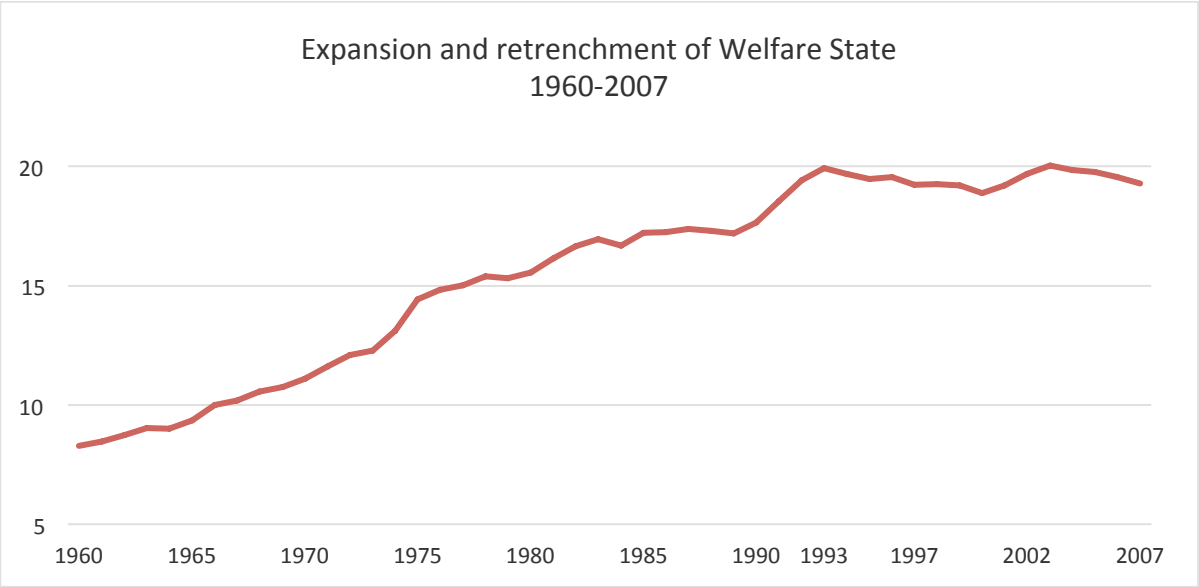


Source: own elaboration on the OECD data

After the Second World War and particularly since 1960, countries, especially those in Europe, invested increasing shares of their GDP on developing welfare states. This trend continued until the beginning of the 1990s. After that, and particularly after the peak reached in 1993, governments started to retrench welfare states, and welfare expenditure was lower at the eve of the financial crisis in 2007 than in 1993 (OECD, 2012).

[9] I have also included here three emerging countries: Chile, Turkey and Mexico, new OECD countries, which, although they are outliers with respect to the values of the other OECD countries, fit well with the discourse and constitute a group in themselves (with very low levels of social spending and very high inequality).

Figure 16 – The Welfare States since 1960 (Public Social Expenditure, % of GDP)



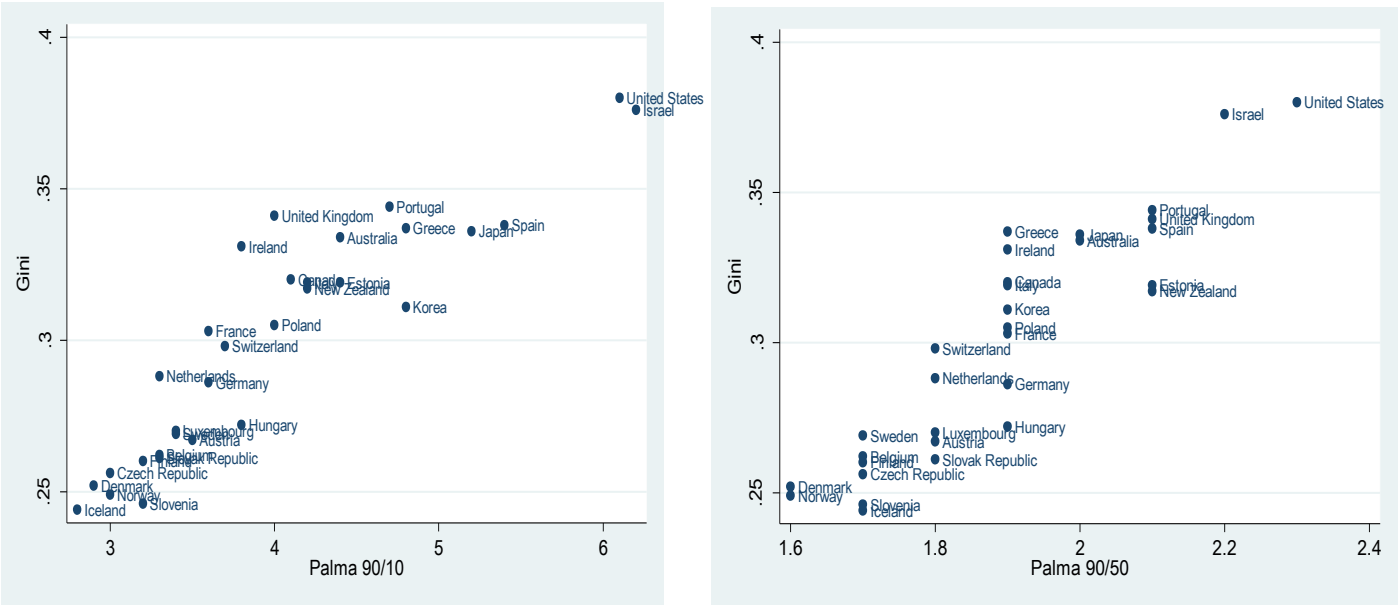
Source: own elaboration on OECD data

Only countries which managed to keep relatively high levels of welfare spending (along with the other variables discussed) have managed to keep low levels of inequality, as our model in the next section shows.

4. The model

The model that I put forward in this section takes into consideration the analysis and the correlations discussed previously. The objective is to identify the determinants of inequality over the last two decades in rich countries. We have observed that inequality increases in the past two decades or more, according to both Gini coefficient and various Palma ratio indicators. The strong correlation between these two indicators represented below is consistent through time.

Figure 17 – Correlation between Gini and Palma ratios (2012)



Note: The Palma 90/10 ratio is the ratio of the upper bound value of the ninth decile (i.e. the 10% of people with highest income) to that of the upper bound value of the first decile. The Palma 90/50 ratio is the ratio of the upper bound value of the ninth decile to the median income. Source: own elaboration on OECD data

In our model we preferred to use the Gini coefficient since it has a wider coverage in terms of years and countries than the Palma ratio.

Our equation is represented by the following equation:

$$Ineq = \alpha + \beta_1 F - \beta_2 EPL - \beta_3 TU - \beta_4 S + \varepsilon$$

where the dependent variable is inequality (Ineq) and the independent variables are financialisation (F), labour flexibility, indicated as LF, or as (the reduction of) EPL (Employment Protection Legislation), trade union density (TU) and public social spending (S). I use panel data for 34 OECD countries from 1990 to 2013, for a total of 816 observations.

Interestingly enough the correlation matrix in appendix (table A3) does not show the existence of auto-correlation problems among the independent variables, and it may be difficult to argue in favour of a reverse causality between the dependent and the independent variables of our model, i.e., the reduction of welfare state, the weakening of trade unions and the increase of labour flexibility, although endogeneity may always exist to some degree.

The regression results are very interesting and confirm our hypothesis. I use a GLS model with a random effect to establish the relation, verified through the Hausman test against the fixed effect. The GLS model (I) produces very robust results, according to which inequality increases when 1) financialization increases (i.e. the level of market capitalization as defined previously), when 2) labour flexibility increases (i.e., the Employment Protection Legislation, EPL, decreases),

when 3) trade unions are weaker (i.e., TU density declines) and when 4) the level of public social spending decreases. All coefficients are statistically significant at least at the 5% level.

Table 1 - Regression results for Inequality (Gini, 1990-2013)

	Random-effects GLS regression		Fixed-effect Regression
	Number of obs = 816 Number of groups = 34 Panel = 1990-2013		
	Model I	**Model II** (with control var)	**Model III**
Var	Coeff (St. er. in brackets)	Coeff (St. er. in brackets)	
Financialisation (F)	.0000502 (.000019) 0.008**	.0000459 (.0000214) 0.032**	.0000451 (.000021) 0.032**
EPL (LF)	-.0040886 (.0021277) 0.050**	-.0051814 (.0024638) 0.035**	-.0061798 (.0025251) 0.015**
TU density (TU)	-.0005735 (.0001389) 0.000*	-.0005768 (.0001975) 0.003*	-.0004044 (.0002232) 0.070***
Social Spending (S)	-.000829 (.0002327) 0.000*	-.0010213 (.0003015) 0.001*	-.0007598 (.000301) 0.012**
Unemployment		.0000153 (.0002661) 0.954	-.0000472 (.0002632) 0.858
FDI in		.0000543 (.0000604) 0.369	.0000384 (.000059) 0.515
Import		-.0001758 (.0001385) 0.204	2.92e-06 (.0001501) 0.984
Econ. Growth		.0001935 (.0002315) 0.403	.0001312 (.0002276) 0.565
Tertiary Education lev.		-.0001815 (.0003467) 0.600	.0001228 (.000372) 0.741
Time dummies (years 1990-2013)	YES	YES	YES
Constant	.3530048 (.0124588) 0.000*	-.2291932 (.4890413) 0.639	.2456811 (.5126353) 0.632
	R-sq = 0.2437 Wald chi2(4)= 32.55 Prob > chi2 = 0.0000	R-sq = 0.3167 Wald chi 2(10)= 40.36 Prob > chi2 = 0.0000	R-sq = 0.1447 Prob > F = 0.0009
Hausman Test (RE vs FE): b (RE) = consistent under Ho and Ha; obtained from xtreg B (FE) = inconsistent under Ha, efficient under Ho; obtained from xtreg Test: Ho: difference in coefficients not systematic chi2(10) = (b-B)'[(V_b-V_B)^(-1)](b-B) = 101.88 Prob>chi2 = 0.0000			

* indicates significance level at 1%; ** significance level at 5%; *** significance level at 10%. Source: own elaboration

Thus, we can consider the following output (RE GLS model):

$$Gini = .35 + .00005 * F_{ij} - .004 * EPL_{ij} - .0006 * TU_{ij} - .0008 * S_{ij}$$, with i = country, and j = year

Model III shows the results of the fixed effect regression, which are not consistent against the random effect and therefore are not advised by the Hausman test performed. In Model II I include some relevant control variables such as the unemployment rate, import (as a percentage of GDP), FDI inflow (as a percentage of GDP), economic growth and tertiary education level, plus the years (time). All these variables are used for the same span time covered by the panel, i.e. 1990-2013. As the regression table suggests, adding these variables to the initial model does affect the results (they are all statistically insignificant), since the coefficients for our variables of interest (F, EPL, TU and S) stay approximately the same. This means that higher unemployment rates do not affect inequality levelts, so long as the welfare state of that country is able to compensate the unemployed. Moreover, the other two control variables suggest that an open economy is not condemned to increased inequality if this economy has a stronger welfare state, powerful trade unions, a more rigid labour market and social institutions which mitigate the negative effects of globalisation. This seems to be the case, for instance, of the very competitive Scandinavian and continental European economies which are also countries where inequality is low.

5. Conclusion

This paper argues that the increase in inequality, which has been very marked over the last two decades, is due to a radical change to the main features of the socio-economic model of advanced economies. This change involves a shift towards financialisation, a pressure on labour through increased labour flexibility, the decline of trade unions' power and the retrenchment of public social spending. Our sample was composed of data for 34 OECD countries during the period between 1990 and 2013. The econometric analysis produced very interesting results and the regression confirmed our hypothesis that inequality increases when the level of labour flexibility and the level of financialization of the economy increases, and when trade unions density and public social spending declines. The introduction of control variables such as the unemployment rate, FDI, imports, economic growth or tertiary education level, does not alter the results.

These results pose further challenging questions to governments and policy makers. First of all, whether inequality negatively affects economic performance; and secondly whether inequality negatively affects government revenues and fiscal performance. Important answers have already

been found by Winkelmann and Winkelmann (2010) who find a robust inverse relation between the size and the income of middle class (and economic performance) and inequality, and by Larch (2012) who found evidence that a more unequal distribution of income can harm fiscal performance of a country. More recently, evidence from the IMF (see Ostry et al., 2014) and the OECD (see Cingano, 2014) have also found that high levels of inequality were associated with lower economic growth, suggesting that there is no "big trade-off" between equality and efficiency. Hence, economic and fiscal policies in the post-2007 financial crisis should take into consideration their distributional implications.

The financialisation of advanced economies, as I discussed in this paper, occurred since the end of the 1970s in the US and the UK and since the end of the 1980s in Western Europe and in other advanced economies. It increased rapidly in the 1990s and in the 2000s, with negative effects on inequality. Compensations in the financial sector soared enormously in the last two decades, beyond any reasonable link with labour productivity. The globalisation of the economy which occurred during the same period, as I argued, increased the power of capital in relation to labour, and trade unions lost power, contributing to the deterioration of labour market institutions. During the process of financialisation and globalisation of economies, which identifies the shift towards what I called financial capitalism, labour markets were affected by radical changes too, involving above all an increase in labour flexibility. As I argued, a flexible labour market with compressed and low wages needs to be supplemented by credit consumption and developed financial tools to sustain consumption. Hence, a strong correlation between financialisation and labour flexibility was identified in our empirical analysis, suggesting complementarities between these two phenomena. .Labour market institutions such as protections against firing and hiring, weakened, and contracts for temporary jobs, increased. This process is captured in my paper by the trend of the Employment Protection Legislation (EPL) indicator which has decreased on average in my sample. In this context, labour was continuously under pressure, contributing to the worsening of income distribution and therefore to the increase in inequality. Finally, income distribution was worsened by the retrenchment of the welfare state (illustrated in my paper by the stagnation in public social spending) in advanced economies mostly with the justification that firms would be more competitive, and economies could attract more capitals the so-called "efficiency thesis" would suggest.

This argument, is not contrasting with the Piketty (2014), Atkinson et al., (2011) and with Facundo et al., (2013) arguments who maintain that inequality rose since the 1970s mostly because taxation reduced progressivity in particular at the top of the distribution. Quite the opposite: the shift towards a model where trade unions are less important, social spending declines,

financialisation become dominant and labour flexibility regulates industrial relations as main drivers of inequality, is very consistent with the lack of progressivity in taxation argument. All these policies and institutions are coherently part of the financial capitalism model in which inequality increased.

Obviously, there is a strong variation in the independent variables among the countries analysed and strong variation also exists with regards to inequality. Usually continental European countries, which have lower inequality levels, have lower levels of financialisation and labour flexibility, and higher levels of trade unions density and social spending. Conversely, Anglo-Saxon countries, which have higher inequality levels, have higher levels of financialisation and labour flexibility, and lower levels of trade unions density and social spending. Mediterranean countries, new European Union Member States (from Central and Eastern Europe) and emerging economies, which have increasing levels of inequality, are also increasing their levels of financialisation and of labour flexibility, while they are lowering their levels of trade unions density and social spending. These worrying changes constitute strong signals to policy makers who wish to reduce income inequality.

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APPENDIX

Table A1 – Labour Market Indicators

	Active Policy 2012 (% of GDP)	Passive Policy 2012 (% of GDP)	Coverage (in % of workers) of trade Unions 2009-11	Level of coordinat bargaining wage	Length unempl. subsidies (months) 2011	Substitut. rate for unempl. subsidies (% 2009 11)	Minimum wage, hourly (US$ PPP)	Scores of the principal component analysis
Australia	0.29	0.51	99.00	6.00	9	0.55	10.5	-.75
Austria	0.75	1.29	60.00	0.00	48	0.22		.65
Belgium	0.81	2.08	96.00	0.33	48	0.59	10.1	2.07
Canada	0.24	0.59	31.50	0.00	11	0.59	7.8	-1.41
Chile	0.1	0.23	48.00	0.00	18	0.71	2.9	2.07
Denmark	2.1	1.7	82.00	0.00	24	0.55		3.19
Estonia	0.29	0.44	80.00	4.00	24	0.49	2.8	-1.15
Finland	1.03	1.45	90.00	1.67	23	0.54		1.93
France	0.9	1.45	95.00	3.33	24	0.69	10.7	.43
Germany	0.69	0.98	63.00	0.00	12	0.60		-.28
Ireland	0.91	0.57	44.00	0.00	12	0.36	9.0	1.53
Italy	0.45	0.34	80.00	0.67	8	0.63		-.19
Netherlands	0.98	0.37	82.00	3.67	38	0.68	9.5	1.09
New Zealand	0.29	0.35	17.00	0.00	48	0.23	8.7	-1.49
Norway	0.54	0.3	72.00	0.00	24	0.67		-.31
Portugal	0.49	0.44	62.00	0.00	24	0.78	4.0	-.010
Sweden	1.33	0.59	92.00	0.00	35	0.60		1.67
UK	0.41		34.80	0.00	6	0.17	8.0	-1.15
US	0.12		13.10	0.00	23	0.57	7.3	-2.20

Note: data concerning most of these labour market indicators, on the basis of which the factor analysis was run, and the score of PC in the last column was extracted, are not available for all 34 OECD countries, but only for 19 as this table suggests. Source: own elaboration on OECD data

Table A2 – Descriptive statistics for the regression of table 1

	Financializ 2013 (% gdp)	Financializ avg (% gdp)	EPL 2013	EPL avg	TU density 2013	TU density avg	Social Spending 2013 (% gdp)	Social Spending avg (% gdp)	Inequality (Gini 2013)	Inequality (Gini avg)
Austral.	85	92	1.27	1.11	17	26	19	15.2	0.32	0.32
Austria	27	21	1.84	1.94	27	36	28.3	25.5	0.28	0.27
Belgium	62	57	2.09	2.46	55	54	30.9	26.3	0.26	0.27
Canada	111	95	0.59	0.59	27	30	17.2	16.9	0.32	0.31
Chile	117	97	2.81	2.81	15	15	10	10.8	0.50	0.51
Czech R	19	23	2.18	2.01	13	25	20.5	18.0	0.26	0.25
Denm.	72	54	1.79	1.95	67	72	30.2	26.9	0.25	0.23
Estonia	11	23	2.40	2.09	6	14	16.1	15.9	0.32	0.34
Finland	63	85	1.86	1.88	69	74	30.6	25.6	0.26	0.25
France	70	64	3.00	2.99	8	8	32	27.9	0.31	0.29
German	44	40	2.00	2.34	18	25	25.6	24.5	0.29	0.27
Greece	18	41	2.18	3.29	21	27	24.3	18.7	0.34	0.34
Hung	17	19	1.42	1.42	11	21	22.1	22.1	0.29	0.29
Iceland	21	62	1.18	1.18	83	88	17.1	15.7	0.25	0.26
Ireland	52	54	1.01	0.90	30	39	21.9	18.6	0.30	0.31
Israel	57	61	1.46	1.46	32	55	15	15.9	0.38	0.36
Italy	24	31	2.26	2.97	37	36	28.7	23.1	0.32	0.32
Japan	62	74	1.12	1.40	18	21	23	14.4	0.34	0.33
Korea R	105	60	2.25	2.55	10	12	10.2	5.7	0.31	0.31
Luxemb	123	149	3.00	3.00	33	41	23.4	20.9	0.28	0.27
Mexico	45	31	2.05	3.05	14	16	7.9	4.5	0.48	0.49
Netherla	84	92	1.88	2.00	18	22	24.6	23.8	0.28	0.29
NewZea	48	42	1.20	1.06	19	25	20.8	19.1	0.32	0.33
Norway	51	43	2.67	2.67	54	55	22	20.8	0.25	0.26
Poland	36	20	1.99	1.69	13	20	20.7	20.0	0.30	0.33
Portugal	31	32	2.50	3.57	21	23	25.8	17.0	0.34	0.37
Slovak	5	6	1.80	1.81	17	29	18.7	18.3	0.26	0.26
Sloven.	14	18	2.21	2.22	23	42	23.8	14.5	0.25	0.25
Spain	74	65	2.31	2.91	17	17	27.3	21.2	0.34	0.33
Sweden	107	92	1.71	2.17	68	77	28.2	28.8	0.27	0.24
Switzerl	171	187	1.36	1.36	16	20	19.9	16.5	0.29	0.30
Turkey	39	25	3.59	3.62	5	11	12.5	6.8	0.41	0.44
UK	124	128	0.70	0.71	25	30	22.5	19.4	0.34	0.34
US	119	115	0.25	0.25	11	13	18.6	15.1	0.39	0.37
OECD	62	62	1.88	1.11	17	21	21.7	15.2	0.32	0.32

Note: The average (avg) is for the whole period (1990-2013). Source: Own elaboration on OECD data

Table A3 – Correlation matrix

	gini	EPL	TU_dens.	SocSpend	Financ.	FDI_IN	import	growth	Unemploy.	3th_Edu.L
gini	1.0000									
EPL	0.2721	1.0000								
TU_density	-0.4535	-0.0640	1.0000							
SocSpend	-0.6734	-0.0973	0.4489	1.0000						
Financializ.	-0.1215	-0.3800	-0.0052	0.0938	1.0000					
FDI_in	-0.0301	-0.0449	0.0266	0.0737	-0.0258	1.0000				
import	-0.3201	0.0846	0.0344	0.2808	-0.0122	0.1158	1.0000			
growth	0.0726	-0.0198	-0.0649	-0.2520	0.0976	0.0386	-0.0424	1.0000		
unemployment	0.0265	0.1894	-0.0247	0.1909	-0.2615	-0.0130	0.0408	-0.1132	1.0000	
3th_Edu.L	-0.2507	-0.5556	0.1603	0.1372	0.4599	0.0109	-0.0719	-0.0978	-0.1940	1.0000

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Università degli studi Roma Tre - ROMA - dip_eco@uniroma3.it
http://dipeco.uniroma3.it