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THE MAKING OF INEQUALITY. CAPITAL, LABOUR AND THE DISTRIBUTION OF INCOME

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The making of inequality.
Capital, labour and the distribution of income

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Abstract

Inequality is a major problem of today's capitalism. The rise of disparities in income and wealth has been documented by many studies, and this paper provides a concise and updated documentation of facts and trends in advanced countries, contributing to an interpretation of the sources and dynamics of inequality.
First, the evolution of relations between capital and labour is investigated, providing empirical evidence on the distribution of income between profits and wages. Second, the market processes that shape disparities of income – of individuals and households, before and after taxes, redistribution and public services – are addressed, showing the complexity of current trends. Third, disparities in wealth are examined, showing a much starker picture than that resulting from income inequality.
The explanation of these developments points to four 'engines of inequality' – the power of capital over labour, the rise of 'oligarchs capitalism', the individualisation of economic conditions, the retreat of politics – that are at the source of today's inequalities. A full analysis of the dynamics of inequality, an interpretation of its mechanisms and a set of policy proposals to reverse it are developed in our book "Explaining inequality" (Franzini and Pianta, 2015).

Keywords: Inequality, Income distribution, Profits, Wages

JEL classification: D31, D33, E24, I38

1. Introduction[1]

In the last thirty years the economic conditions of people in our societies have become more unequal - the rich has become much richer, the middle has lost ground, the poor has slipped behind. Whether we measure economic inequality in terms of income or wealth we find that inequality within advanced countries has dramatically increased; disparities in income have indeed returned to levels typical of a century ago. Also at the global level inequality remains extremely high despite the rapid growth of major developing countries such as China and India – where domestic disparities are booming.

This makes inequality a major economic issue, social problem and political challenge in today's capitalism. A growing attention has gone to studies of inequality – including best seller books by Joseph Stiglitz (2012) and Thomas Piketty (2013) – but a convincing understanding of the mechanisms at its roots is still lacking. Therefore, inequality is far from becoming a sustained focus of social mobilisation, a priority for political forces, a major government concern.

Public opinion is indeed shocked to learn that by 2016 the richest 1% of the world may own the same wealth of all the other human beings (Oxfam 2015), but how can a link between such gross injustice and people's actual condition be made? The factors that have led to such an outcome remain out of the grasp of public opinion; is there a way this could ever be changed? In spite of occasional street demonstrations against the "1%", no political strategy for reversing such trends is at hand.

Mainstream thinking has long argued that economic inequality is a necessary condition – or, at best, an unfortunate side effect - for achieving the more general objectives of economic growth and market efficiency. Why should we then be concerned with high inequality?

Even if we do become concerned, we are told that inequality is to a large extent the consequence of international or global forces, laying beyond the reach of nation-states, the political unit where policy measures for countering inequality have usually been implemented. Indeed, the forces shaping inequality a century ago were mainly rooted in the distribution of income within national economies; today, they tend to be to a significant extent global processes – increased cross-border flows of capitals, goods, workers and knowledge; the expansion of finance; the rise and fall of industries and specializations; international production by multinational firms; wage setting influenced by distant locations, etc. The ability of national policies to address such developments has greatly diminished and governments have apparently chosen to accept their powerlessness and to make their citizens learn to live with high inequality, rather than striving to understand and counter the forces of inequality and their most unacceptable outcomes. Moreover, no international political authority has emerged with the mandate to address and regulate the unequal outcomes of such cross border processes.

Finally, we are told that the patterns of inequality show an unprecedented complexity; they are different from the past, include multiple dimensions – income and wealth, work and class, gender and ethnicity, education and social conditions, individual capacities and behaviour, and so on. Such complexity is hard to understand and even harder to act upon; how can we be sure that policies can improve one aspect, without at the same time worsening disparities in another dimension?

Such arguments need to be taken into account, but are no reason for giving up on understanding inequality and on trying to reverse it. For most of the 20th century the roots of inequality were in the transition from agricultural to industrial societies, in the resulting class structure and in the

[1] This paper draws from years of research, presentations at workshops and public discussion on inequality. Key ideas are sketched in Franzini and Pianta (2009,2011) and in our studies of inequality and economic crisis in Italy (Franzini, 2010, 2013; Pianta, 2012). The problems of high incomes and wealth are addressed in Franzini et al. (2014), the policy alternatives are discussed in Marcon and Pianta (2013). We thank Francesco Bogliacino, Valeria Cirillo, Elena Granaglia, Dario Guarascio, Matteo Lucchese, Michele Raitano for discussion on these issues.

functional distribution of income between capital and labour. Today, finance is a dominating force in most economies, reshaping capital accumulation and the patterns of distribution of income and wealth. Firms are engaged in international production, experience greater competition and unequal economic fortunes. Labour markets are increasingly segmented and workers are divided by gender, between white and blue collars, knowledge and manual workers, permanent and temporary employees, local and migrant labour, not to mention the various forms of unemployment.

A century ago the class structure of societies could broadly account for inequalities in incomes, status and opportunities. Today class identities are blurred, inequalities within workers are deeper and new aspects play a role. The inequality experienced by individuals is shaped by a combination of factors including class, gender and ethnic status, education and professional skills, type of employment contracts, access to social rights and public services, opportunities for social mobility within and between generations. In the past being member of a social group, in particular of the class of workers rather than of capitalists, was enough to make a reliable prediction as to one's position in the social ladder. Today, individuals' positions are the result of a variety of factors, new mechanisms shape the economic conditions of particular groups and inequality within members of relatively homogenous social categories may be high. This overlapping of dimensions of inequality - with individuals located at different intersections of such characteristics - indeed results in greater complexity which defies old approaches to inequality.

The following sections provide a detailed documentation of the making of today's inequality in advanced countries, and highlight a possible interpretation. We start with an analysis of how the power of capital over labour has been established, providing empirical evidence on the distribution of income between profits and wages, the market processes that shape disparities of income – of individuals and households, before and after taxes, redistribution and public services. A full analysis of the dynamics of inequality, an interpretation of its mechanisms and a set policy proposals to reverse it are developed in our book "Explaining inequality" (Franzini and Pianta, 2015).

2. Capital, labour and the distribution of income

Inequality starts with the way the economy is organised and income is distributed. In this section we show that in advanced countries the last thirty years have been characterised by a major change in the patterns of distribution resulting from market outcomes: the share of income going to capital has increased and the share going to labour has fallen. This "functional" distribution of income going to the "factors of production" (capital and labour) can then be investigated in the way it reaches individuals and households – who can receive both capital and labour incomes -, leading to the "personal" distribution of income emerging from market outcomes. Household income in turn is modified by taxation and redistribution (pensions and welfare payments) leading to the distribution of disposable (monetary) income. The presence of non-market activities should be taken into account; when public services such as education and health are provided to all as a citizen right paid by taxation, they reach all individuals on the basis of their needs rather than of their ability to pay, exerting an important "equalising" effect; disposable income can therefore be adjusted with the "value" of in-kind services provided by the welfare state. In this way we can measure inequality among households after the effects of all available policies.

Inequality can increase as a result of different processes. In advanced countries the dominant pattern has been the rise of "top incomes" – those of the richest 10% or 1% of the population – that have accelerated at an unprecedented rate, leaving behind the rest. They have typically combined high returns from financial investment and strong capital gains from the increased value of financial and real estate wealth; top managers and other "star" professionals have also obtained unprecedented compensations for their activities, that combine a remuneration for their labour, a rent from their social and professional power and a share of the profits often delivered in the form of stock. It is on this process that the analysis of Piketty (2013) has focused.

What about the rest of the income distribution? The increased share of the richest 10% has reduced the (relative) income of almost everyone else; in most advanced countries the poorest 10 or 20% have indeed suffered major (absolute) losses of market incomes, while the "middle" of the distribution has had a moderate loss or a stagnation of real incomes. Growing disparities in such market outcome distribution to individuals are reflected in a rise in inequality – with some variation across countries and periods - also among households where the different incomes received by their members are combined and adjustment for household size – including children and the elderly – is made through equivalence scales. Disparities in household 'equivalised' market income are reduced everywhere by the effect of taxes and transfers that result in household disposable income. An even greater reduction of inequality comes from the estimates of 'extended' household income that includes the monetary value of imputed rents for home owners and of the provision of public services obtained outside the market. The bad news, however, is that in the last decades the policy changes – less progressive taxation, reduced transfers, cuts in public services – have deeply weakened the redistributive processes. The result is that in most advanced countries inequality among households has continued to increase even after the effect of policy.

In our book "Explaining inequality" (Franzini and Pianta, 2015) we argue that these patterns are the result of four major "engines of inequality", including the following: a) the rising power of capital over labour; b) the rise of oligarchs capitalism; c) the individualisation of economic and social conditions; d) the retreat of politics, that has reduced the scope for policy action to limit disparities. How do such engines relate to the trends we highlight here?

The power of capital over labour is a key starting point. The distribution of income between capital and labour is shaped by the quantity and quality of both factors of production. Total profits will be higher when more capital is invested, new technologies are used and market structures allow oligopolistic power. A greater role of finance – as it has emerged in the last thirty years – would expand the share of profits (that pay also financial rents) because of the generally higher returns (and tax elusion and evasion) allowed by financial investments in unregulated global capital markets.

Total wages will be higher when the quantity of employment expands and when the composition of jobs shifts towards higher "quality" – from agriculture to manufacturing, or from traditional to high tech industries, where higher education and wages are needed. Conversely, total wages will be lower when jobs are moved abroad by international production systems, when they are replaced by machinery, when workers lose the protection of unions, national labour contracts and permanent employment, and when precarious, low wage jobs expand.

In advanced countries the combination of these processes has resulted in a greater power of capital over labour, and in an unprecedented reduction in the labour share of total income.

The growing "individualisation" of economic conditions in terms of employment relations, labour market outcomes, disposable income, access to social rights is an additional key engine of inequality. Disparities among individuals have increased on the basis of different factors; labour markets have become more segmented on the basis on employment contracts, precarious jobs, entry of migrants; the expected returns of education on wages have been moderated, while family background has gained influence in shaping actual income; social mobility based on merit has decreased; positions of rent in particular activities have become more relevant, in spite of the persistent rhetoric on competition. These developments affect in complex ways wage earners and in particular the "middle" of the distribution of income; their effect on overall inequality measures could be difficult to detect, but they increase the perception of unfairness of the distributional outcomes.

So far we have considered the annual *flows* of incomes to capital, labour and households. But the *stock* of wealth – which generates the stream of capital income - is equally important for understanding inequality. Piketty (2013) made a major contribution in drawing attention to the role of wealth. With the rise of finance, and frequent speculative "bubbles" in the financial and real

estate markets, the value of wealth has increased at a much faster pace than that of GDP, contributing to the rise of "top incomes" and to greater income inequality. But wealth inequality – both at the national and at the global level - has indeed reached extreme, unacceptable levels and represents a major challenge for our societies. Too little attention has been devoted so far to wealth disparities and to their effects on growth and on the efficiency and fairness of economic activities. In particular, large wealth is transmitted through heritage from one generation to the next; with the drastic reduction of abolition of inheritance taxes in most advanced countries, such disparities are becoming ever more entrenched; as returns on wealth are greater than income growth, the possibility of accumulating wealth out of incomes is reduced, and the concentration of wealth is increasing through inheritance. Merit, education and efficiency are losing their role in the distribution of economic benefits over a lifetime, and today's capitalism becomes increasingly close to an "ancien régime" society dominated by an oligarchy of wealth.
Large and growing disparities in wealth are both the result and a factor contributing to the power of capital over labour, and are the driving force of "oligarchs capitalism", an additional engine of inequality. The next sections provide evidence on the processes summarised above. The interpretation of the sources of inequality is developed in Franzini and Pianta (2015).

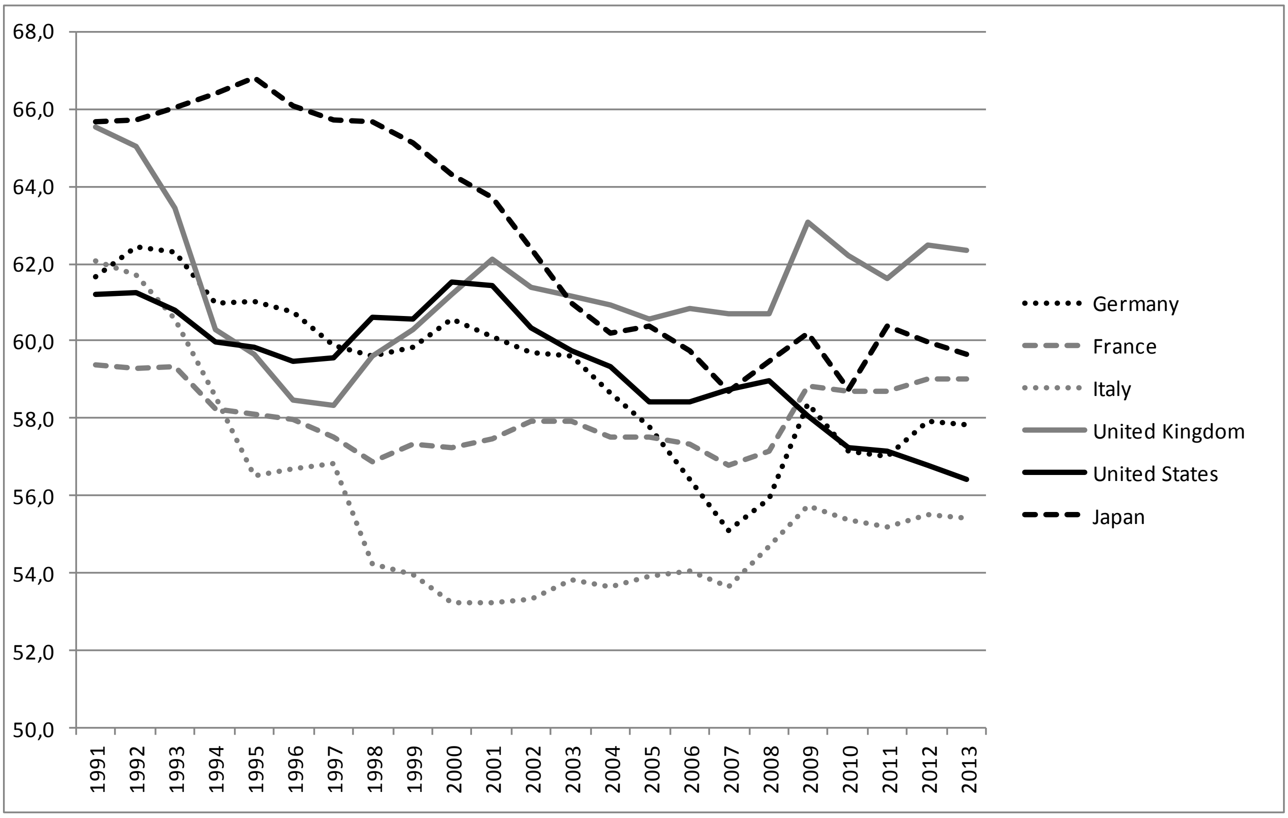
3. Capital vs. labour

Inequality between capital and labour is reflected in the functional distribution of income. In advanced countries labour's share ranges between 55 and 70% of national income; it had increased during the 1970s, and has fallen since the 1980s, shifting to capital between 10 and 15 percentage points of total income. Calculations differ depending on the variables used (GDP, net income or value added of the private sector) and on methodologies adopted (for treating the financial sector, capital consumption, income of self employed, etc.). Data – in particular for the US and UK - show a substantial difference when the income of the top 1% of wage earners – that mostly include top managers who receive a combination of capital and labour income – is excluded from labour income. Overall employee compensation shows a modest decline since 1980, while compensation of the bottom 99% of wage earners experiences a fall of close to ten percentage points in the net value added of the business sector. A fundamental shift in capital-labour relations has emerged since the 1980s; profits have rebounded, financial rents have substantially increased, in a few countries a higher share has gone to the self-employed, and the wage share has fallen; the fall in labour's compensation is parallel to the rise in personal income inequality (Glyn, 2009, p.122).
The ILO Global wage report 2014-2015 (ILO, 2015) provides an effective summary of such trends showing the impact of the crisis started in 2008. Figure 2.1 reports the pattern between 1991 and 2013 for major advanced countries members of the G20 group[2]. The measure is the labour share in income considering total labour compensation (wages and social insurance contributions paid by employers), adjusted for the income of the self-employed. The general fall of the labour share has continued; in 1991 shares ranged between 59% (in France and Australia) to 66% (in the UK and Japan); in 2013 they were everywhere below 60% (with the exception of the UK) and as low to 55% (in Italy and Australia). UK and US data may be biased upward by the presence within the labour share of "labour income" by the top managers in the richest 10%. Italy, the US and Japan have been the countries with the steepest loss of labour income. In this general downward trend, the values for 2007 and 2008 have marked the lowest labour shares for all countries; the recession of 2009 has – as expected - hit profits most, but the rise of labour shares in that year has been followed by a new fall in 2010 for all countries (Australia excluded) and by modest change in either direction since then.

[2] The G20 includes Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, the Republic of Korea, Mexico, the Russian Federation, Saudi Arabia, South Africa, Turkey, the United Kingdom, the United States and the European Union.

A breakdown of such data shows that since the 1990s the falling labour share is not the result of shifts in the sectoral composition of the economy (from labour-intensive to capital intensive sectors), but of greater profits within industries, especially in financial services and medium-high technology (ILO, 2015, p.11; ILO, 2012). The ILO report also provides a focus on the EU countries hardest hit by the crisis. Between 1991 and 2013 in Spain the labour share has fallen from 62 to 54%, with half of such fall after 2009. In Greece the share has decreased from 57 to 48%, with a loss of 7 percentage points since 2009.

Figure 1
Labour income share, 1991-2013



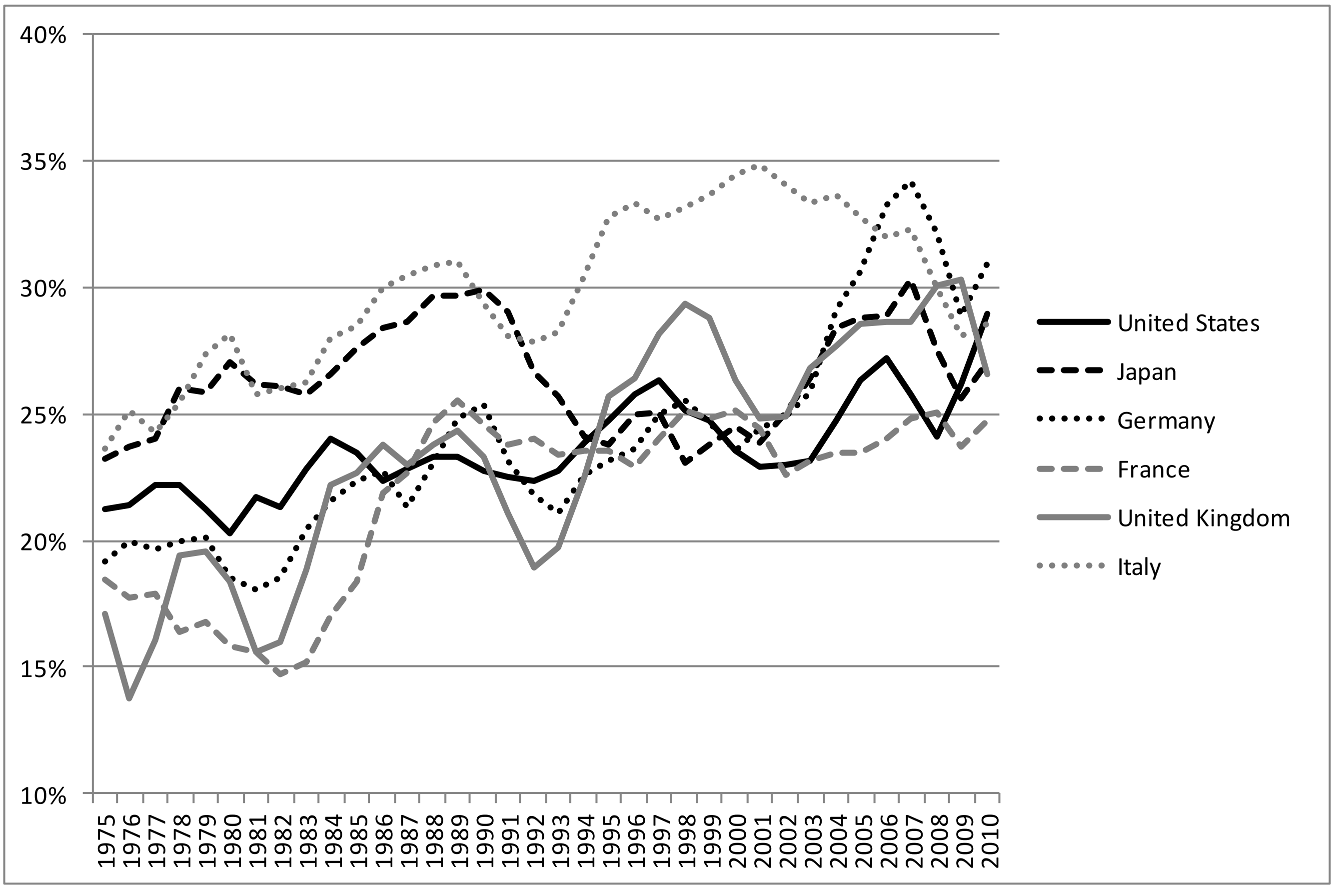
Wage share of GDP adjusted for the income of the self-employed
(compensation per employee as a percentage of GDP at market prices per person employed).
Data from European Commission AMECO database
Adapted from: ILO Global Wage Report 2014/15, p.11

In the 2012 Employment Outlook, the OECD had investigated the falling labour share from 1990 to 2009, finding that all OECD countries – except Greece, Denmark, the Czech Republic and Iceland – experienced a fall that went in parallel with increasing income inequality. The fall is greater when we consider the business sector only, as opposed to the total economy; in one third of OECD countries the fall was greater than 5 percentage points (OECD 2012, p.113, 117). Moreover, the OECD pointed out the polarisation that has taken place within wages; in the past two decades the ‘wages’ of the top 1% of the income distribution have increased by 20%, while labour income for poorer workers has declined. In this way, the decline of the labour share is significantly greater if we exclude the remuneration of the top 1% - in the US and Canada the fall in the labour share doubles to 4.5 and 6 percentage points and in Italy it reaches 9 percentage points (ibid, pp.113-115). The OECD argued that “the worsening of the labour income share might have an adverse effect on the level of aggregate demand and on how quickly economies can recover from the recent crisis", concluding that "these trends might endanger social cohesion" (ibid. p.110).

A complementary evidence comes from the evolution of the capital share in national income. Thomas Piketty (2013, p.351; see Piketty and Zucman, 2013 for the methodology), using national accounts, has documented the long term rise of the share of capital from 1975 to 2010, reported in Figure 2.2. At the start the share ranged from 15 to 25%; by 2010 countries were grouped between 25 and 30%. Italy has had one of the highest values, growing until the 2008 crisis (these data probably are not adjusted for the importance of self-employment and include the remuneration of their labour); Japan had a large share until 1990; Germany has emerged since 2006 with the highest values of the capital share. As already pointed out, the lower shares for the US and the UK result from considering as "labour income" most of the remuneration of top managers that mix a variety of incomes.

The period between 1975 and 1990 is the one with the most rapid increase of the capital share in income, with very rapid increases in France, Germany and the UK. Recessions always lead to a temporary fall of the capital share, and the one in 1992 is particularly serious; by 1994 however capital had recovered its previous share and started a major rise, supported by the full liberalisation of capital movements and the financial boom associated to the "new economy". The recession of 2001 interrupted again the rise of the capital share, followed by a new recovery and an overall stability. Surprisingly, the crisis of 2008 and the recession of 2009 did not lead to a generalised fall of the capital share in all countries.

Figure 2
The capital share in advanced countries, 1975-2010



Adapted from Piketty (2013), Figure 6.5, p.351.
For sources and data see piketty.pse.ens.fr/capital21c

The interpretation offered by Piketty is that this rise is associated to a growing capital/income ratio – resulting from an elasticity of substitution between capital and labour above 1 – and to a stronger "bargaining power" of capital vs. labour, in a context of greater international mobility of capital: "it likely that the two effects have reinforced each other in the last decades, and is possible that they will continue to do so in the future" (Piketty, 2013, p.351). The transformations of the economy and the power of capital over labour are identified as key drivers of inequality.

A fundamental mechanism behind falling labour shares is the inability of wages to keep up with productivity increases. If both had moved at the same pace, the functional distribution of income would have not changed. Figure 2.2, again from the ILO report, points out the broadening gap between labour productivity and real wages in the aggregate of 36 developed economies[3]. The former is measured by GDP per worker, considering the whole economy and ignoring changes in hours worked, in the quality of employment and in capital. Wages are deflated by the consumer price index that reflects workers' standard of living (using the GDP deflator the gap would be halved). Putting 1991 data equal to 100, productivity in 2013 has reached 117 and wages are just above 106. Again, the recession of 2009 is visible with a marked fall of GDP per worker; after 2010, however, there is a return to the previous trend of productivity increase. Conversely, after the crisis the dynamics of real wages has been basically flat. The widespread gap between the dynamics of productivity and that of wages within industries is documented also by the OECD (2012, p.121).

Why wages have not been able to catch up with productivity? Outcomes in the distribution of income between capital and labour depend on the overall balance of forces in the economy and in workplaces. Several developments – including the pressure from finance for high returns in firms, international production, labour saving technologies, the precarisation of employment, the weakening of unions, the reduced role of national labour contracts - have made more difficult for workers to obtain wage increases in line with output per worker. In fact, ILO data show that in these developed economies real wages increased by 0.1% in 2012 and 0.2% in 2013 (ILO, 2015, p.6). Italy and the UK have been the major countries with significant losses in average real wages. Looking at the EU countries hardest hit by the crisis, putting the real average wage index equal to 100 in 2007, in 2013 Spain has gone to 97 and Greece to 76 (ibid. p.7).

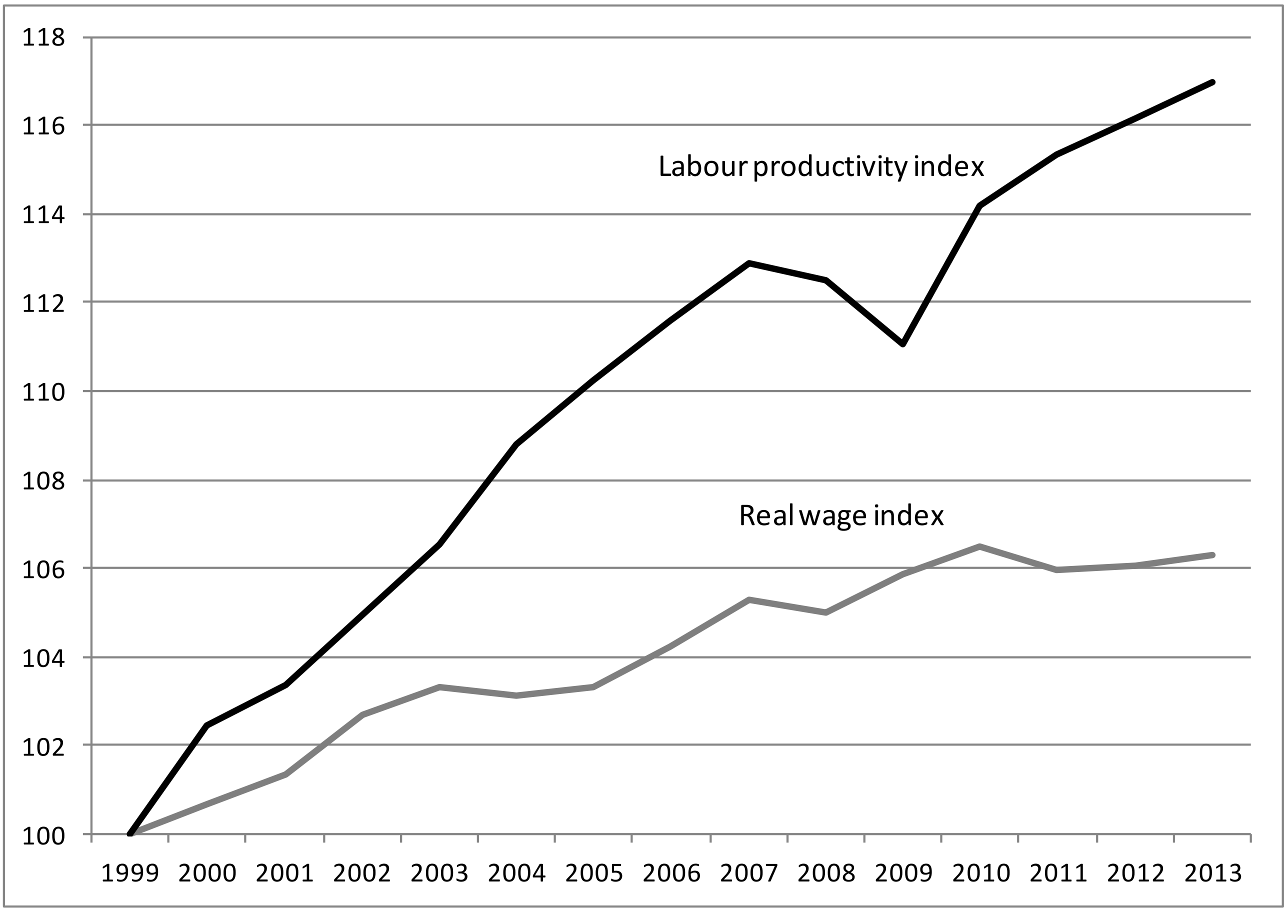
How do such developments in wages and profits affect inequality? Wages are the largest – and often only – source of income for most households; profits are distributed to a large extent to the richer 10% of the population. For advanced economies wages represent almost 80% of total household income, with higher values for the US, Germany, the UK and Sweden. Italy and Greece have a share of income from self-employment above 20%; when combined with wages, all labour income is again close to 80%, while old age pensions account for more than 15%. This situation is common to most income groups; only the poorest 10% has a majority of income coming from non-labour sources – either social transfers or pensions – with wide variation according to national specificities (ibid. p. 36-37).

The methodology developed by Di Nardo et al. (1996) allows to explore the factors that shape a change in household inequality levels, including changes in wages, in employment (a loss of job by a family members means a loss of wage), in other incomes, in public transfers, etc. The ILO report investigates in such a way, during the years of the crisis, the sources of increased disparities between the richer 10% and the poorer 10% of the population in developed economies. Comparing 2006 and 2010, Spain and the US are the countries with the largest absolute increase in the P90/P10 ratio – the ratio between the income above which we find the richest 10% and the one below which we find the poorest 10%. In Spain the income threshold for the richest 10% is now 5.7 times the income below which we find the poorest 10% and was 4.4 times in 2006. In the US is 10.6 times

[3] Economies included are EU countries, the US, Canada, Norway, Iceland, Israel, Australia, New Zealand. The gap between productivity and wage growth has been documented for the US by Fleck, Glaser and Sprague (2011) and by the Economic report of the President (USCEA, 2014).

and was 9.5 times in 2006. For Spain 90% of this increase in inequality is the result of changes in employment and wages (job losses and wage decline for the poorest, gains for the richest), while changes in other incomes account for rest. For the US the combined effect of changes in jobs and wages account for 140% of the variation in inequality, and other incomes have compensated to some extent such growing disparities in labour market outcomes (ILO, 2015, p.30).

Figure 3
Growth of labour productivity and average wages in advanced countries, 1991-2013



Wage growth is calculated as a weighted average of year-on-year growth in average monthly real wages in 36 economies. Index is based to 1999 because of data availability.
Data from ILO Global Wage Database; ILO Trends Econometric Model.
From: ILO Global Wage Report 2014/15, p.8.

In Europe a clear divide emerges between Northern and Central countries that have continued to expand employment – contributing in this way to a reduced inequality among households – and Southern countries hardest hit by the crisis where job losses have been a major source of disparities. In Germany, the UK, France and Sweden new jobs have contributed to reduce disparities, while the unequal distribution of other incomes (mainly from capital) has been a major force of inequality; on the whole Germany and the UK reported an overall modest reduction of disparities, while France and Sweden had an increase of our measure of inequality.

Such a range of data highlight the difficulty that in advanced countries labour has had in maintaining its share of national income in the face of deep changes in the organisation of the economy – rise of finance, technological change, international production –, in the operation of labour markets – precarisation of employment and reduced union power - and the context of the crisis started in 2008. The growing power of capital over labour clearly emerges as a key factor in the increase of inequality.

4. The problem of the very rich

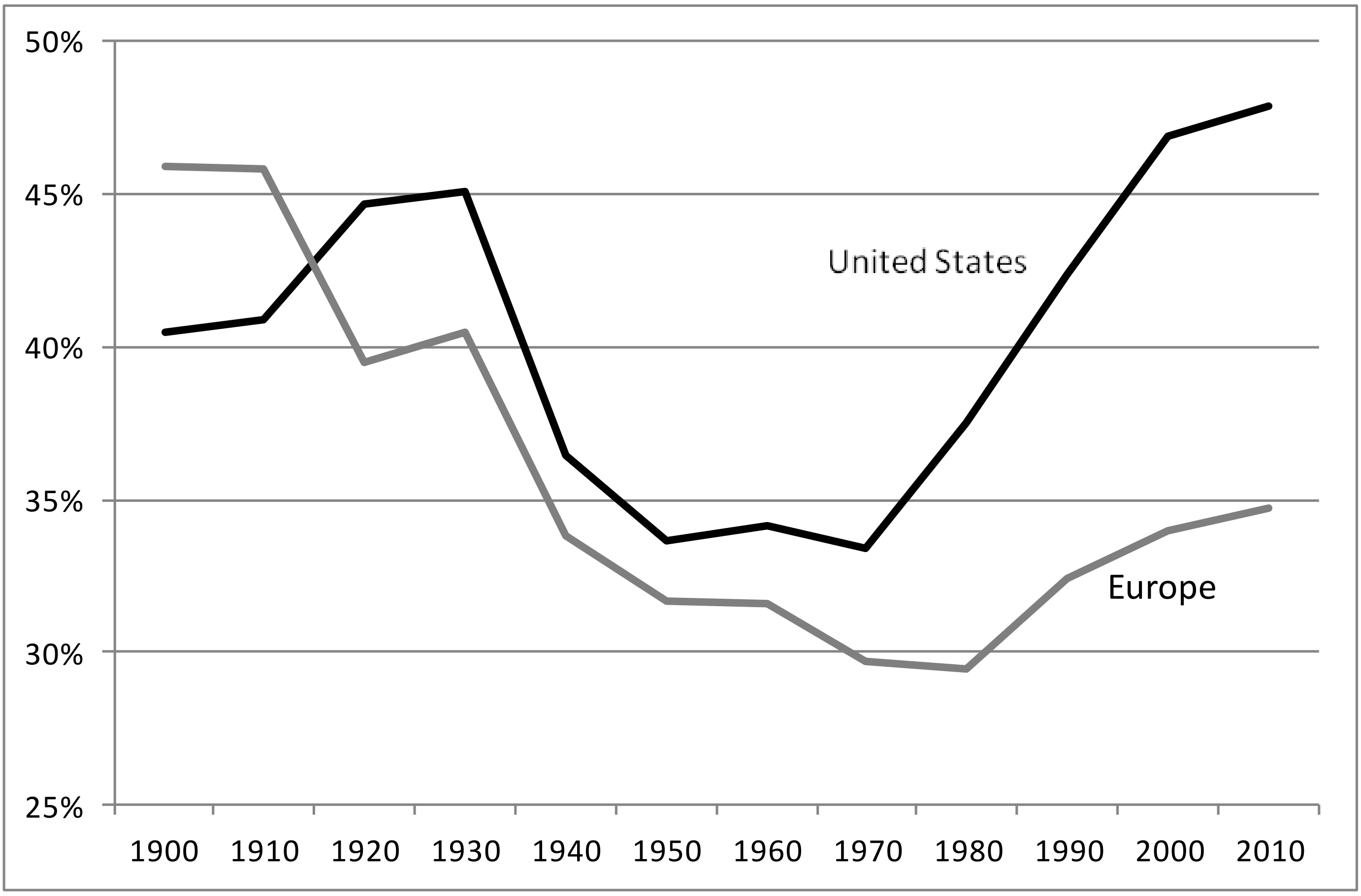
A very important development of recent years in many countries is the increasing share of income accruing to the already rich. This partly overlaps with the above evidence on the rising share of capital as the richest 10%, 1%, or even 0.1% of the population concentrate income from business profits, financial rents, top management and "star" professional activities. A crucial evidence on this problem has emerged from detailed studies based on tax records that distinguish taxpayers by income classes, reporting the number of individuals belonging to each class, mean income and its source (labour, firm, capital, rents, transfers) (Atkinson and Piketty, 2007, 2010; Atkinson et al. 2011). Top income data refer to individual gross incomes reported to the fiscal administration (some differences exist in definition across countries); inequality measured by these data could be reduced once taxes and transfers are paid and when from individuals we move to household incomes (converted through the scales of equivalence that allow to compare incomes of households of different size).

The work by Atkinson, Piketty and their colleagues has highlighted in a very effective way the extreme inequalities associated to the rising incomes of the very rich. The well known graph reported in Figure 2.3 shows the long run evolution – from 1900 to 2010 – of the the share of income of the top 10%. In the United States in 2000 this share has surpassed that of 1930, continuing to increase above 45%. At the start of the XX century the US were less unequal than Europe, with its feudal tradition; the rapid industrialisation and the financial boom of the "belle époque" from 1910 to 1930 fuelled a major rise of inequality, with the top income decile obtaining 45% of total income. The Great Crash and the Great Depression reduced that share by one quarter in 1940; the second world war further reduced it below 35% in 1950. From the 1950s to the 1970s the share of the very rich was stable or declining, constrained by a reduced role of finance and capital controls, greater power of labour in the industrial expansion, the expansion of the welfare state. In 1980, however, the rise of top incomes started, with a steep increase until 2000 and a slower one – affected by the 2008 crisis - after that.

Patterns in Europe are rather different. Piketty considers the UK, Germany, France and Sweden (that rank in this order in terms of todays' inequality) and their arithmetic mean is shown in Figure 2.4. At the start of the XX century inequality in Europe was as high as the current one in the US; the first world war and the collapse of aristocratic élites led to a first decline between 1910 and 1920; the "belle époque" of finance allowed a reprieve, but from the Great Crash on trends in Europe mirrored that of the US, with lower values resulting from the greater role of state in the economy, the power of unionised labour, and more extensive welfare reforms. The lowest share of the very rich was reached in 1980, under 30% of total income. Since then, however, the rise has started in Europe too, reaching 35%, and has not been stopped by the 2008 crisis.

Even within the very rich – the top 10% - income is unevenly distributed, and the "ultra rich" 1% of individuals concentrate about half of the share of the top decile. A systematic analysis of national trends is possible with our calculations on the database made available by Piketty and colleagues. Figure 2.5 summarises the evidence for the US and a larger group of European countries. The shares of income of the richest 1% vary widely among countries: the US and the UK are characterized by the highest values – between 15 and 18% in 2010. Germany, Italy and France follow, while the Netherlands and Sweden have the lowest values, below 7%. However, the rise since 1980 is generalised in all countries, again with the US and the UK showing the most extreme values, returning to levels typical of the early XX century (if capital gains are added to incomes, the share of the "ultra rich" in the US further increases by 3 percentage points).

Figure 4
The share of income of the richest 10% in the US and Europe, 1900-2010

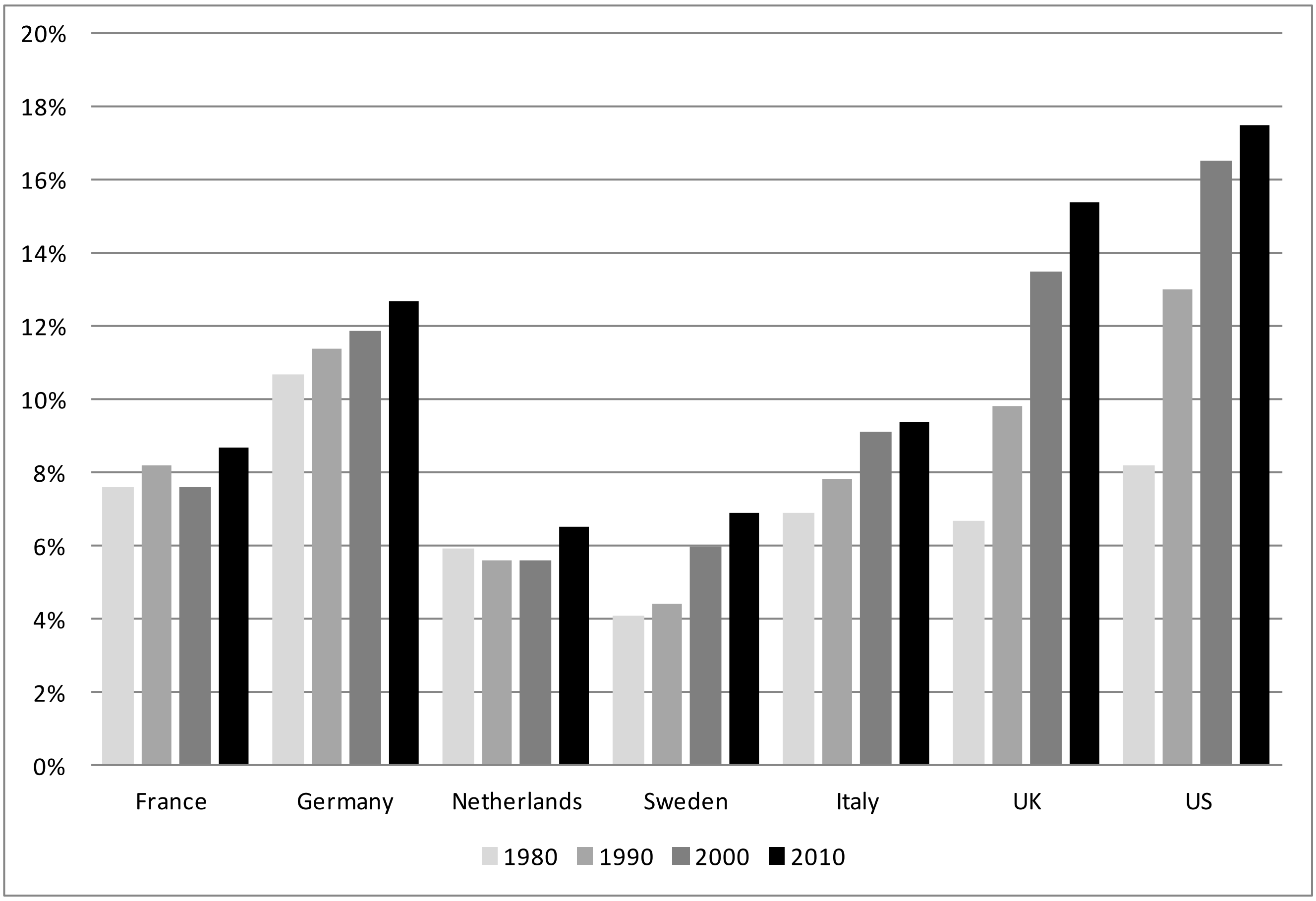


Adapted from Piketty (2013), Figure 9.8, p.514.
For sources and data see piketty.pse.ens.fr/capital21c

We could repeat the exercise, and find that within the "ultra rich" 1% there is a top group of the 0.1% - the "incredibly rich" individuals - that control 9% of total income in the US and 6% in the UK, more than four times the level of the 1970s (Alvaredo et al. 2013). These data can only be interpreted as the outcome of our second "engine of inequality", the rise of "oligarch capitalism".

Where do such "incredible" incomes come from? Atkinson, Piketty and their colleagues have argued that in past decades the richest individuals mostly earned their income from capital and rents; conversely, in the last three decades the "labour" income of the very rich appears to have increased with the extreme salaries of top managers (especially in the financial sectors) and 'star' professionals also in the sport and show business (Atkinson et al. 2011). Today in the US the share of "labour" earnings in the income of the top 0.1% is about 45% and has increased by 20 percentage points in since the 1970s (Alvaredo et al. 2013). Even in Italy the composition of top incomes has changed since the 1980s: the share of labour income (from employment and self-employment) of the top 1% rose from 46 to 71% and the share of capital income and rents was proportionally reduced (Alvaredo and Pisano, 2010).

Figure 5
The top 1% income share in advanced countries, 1980-2010

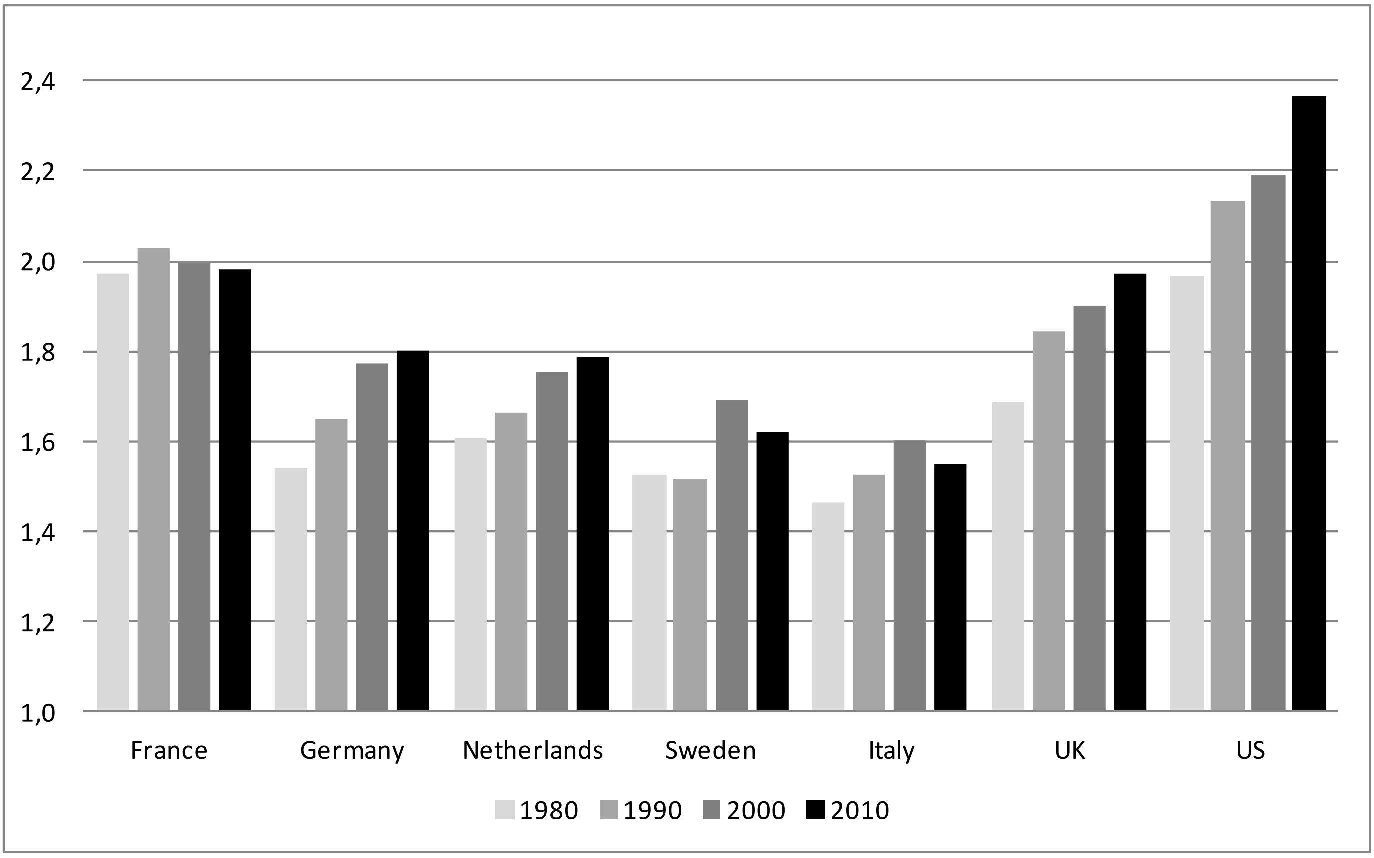


Calculations on data from the World Top Income Database
http://topincomes.parisschoolofeconomics.eu/

Lazonick (2015, p.28-31) has noted that the definition of salaries includes compensation from the realised gains on exercising stock options and the vesting of stock awards, as this stock-based pay is not reported in tax returns. Looking at the 500 highest paid executives in the US in the ExecuComp database – all members of the richest 0.1% -, in 2013 they had an average total compensation of $24.4 million; 84% came from gains on exercising stock options and the vesting of stock awards, while salaries and bonuses accounted for just 5%. A study by Bakija et al. (2012, p.1) found that "executives, managers, supervisors and financial professionals account for about 60% of the top 0.1% of income earners". What emerges is that a dominant part of the income of the richest 0.1% comes from stock-based pay whose value is driven by the rise of finance and by the timing of the exercise of stock options, where top managers have insider knowledge (Lazonick, 2015, p.32). At the root of the extreme incomes of the "incredibly rich" there are the booming stock markets and the rents top managers can obtain from their position of power. There is no room for explanations of this pattern based on the productivity of top managers and the role of technology.

The evidence so far has pointed out the rise of the share of the very rich in total incomes. But what has happened to other income groups? We can investigate how the threshold separating the income of the richest 10% from the other 90% compares with the median of the income distribution – the income threshold that divides in half the population. Figure 2.6 shows changes in the ratio between the 90th and the 50th percentile of the distribution (P90/P50) of individual earnings. It shows that in the US in 2010 the threshold identifying the top 10% was 2.4 times the median US income, as opposed to less than 2 times in 1980. In other words the distribution of income has become more skewed towards the rich, even without considering the major rise of the incomes of the top 10%; similar trends are found in the UK, Germany, the Netherlands, although at lower inequality levels. France has a high but stable ratio, while Italy and Sweden have the lowest gap between the rich and median incomes.

Figure 6
The P90/P50 ratio in gross earnings of employees in advanced economies, 1980-2010



Ratio between the income threshold of the top 10% of incomes and the median of the income distribution. Calculations on data from the Chartbook of Economic Inequality http://www.chartbookofeconomicinequality.com/

A similar ratio can be calculated between the income beyond which we find the richest ten percent and the upper limit of the poorest ten percent (P90/P10 ratio). Considering inequalities in labour income and comparing 1970 and 1990, the ratio has increased from 3.2 to 4.5 in the US, from 2.5 to 3.3 in the UK and has remained at 2.1 in Sweden (Piketty, 2002). The very rich – in other words – have increased their distance both from the very poor and from the middle of the income distribution.

5. The distribution of household income

If we want a comprehensive picture of the overall change in the distribution of income, we need to move from individual earnings (gross of taxes) to household income, where families share the different sources of incomes their members receive and an adjustment for size of families is made through equivalence scales. Market incomes are made by the gross incomes earned by all household members and coming from all market sources (employment, self-employment, firms, capital, rents). We can measure inequality in the distribution of household income using the Gini coefficient, which ranges from 0 (perfectly equal distribution) to 1 (one household concentrating all income).

The sources of these data are surveys on households where information on the different types of income is obtained; such data are made available by the OECD, the World Bank, WIDER, the Luxembourg Income Study and other sources.[4] However, it is well known that household survey generally fail to precisely record the tails of the income distribution; both the very rich and the poorest (especially immigrant households) tend to be under-sampled in income surveys, resulting in an under-estimation of inequality.

Household income, moreover, can be substantially lower than national income, and much closer to household final consumption; the rest is accounted for by saving by firms and by the net balances of the public sector and the balance of payments. Deaton (2005) reports that in the US household income is about 70% of GDP and that, considering 272 surveys of households in different countries, household income on average is just 57% of GDP (Deaton, 2005, p.4; Anand and Segal, 2014, p.947). This means that the inequality measured among household does not include all the forces that in a national economy may produce disparities - including the functional distribution of income, the role of the business sector, etc.

The focus of this section is on the distribution of income across households; as discussed in the introduction, we can compare inequality emerging from market outcomes (in Figure 2.7), assess the redistributive impact of taxes and public transfers (in Figure 2.8) and of the provision of public services (in Figure 2.9).

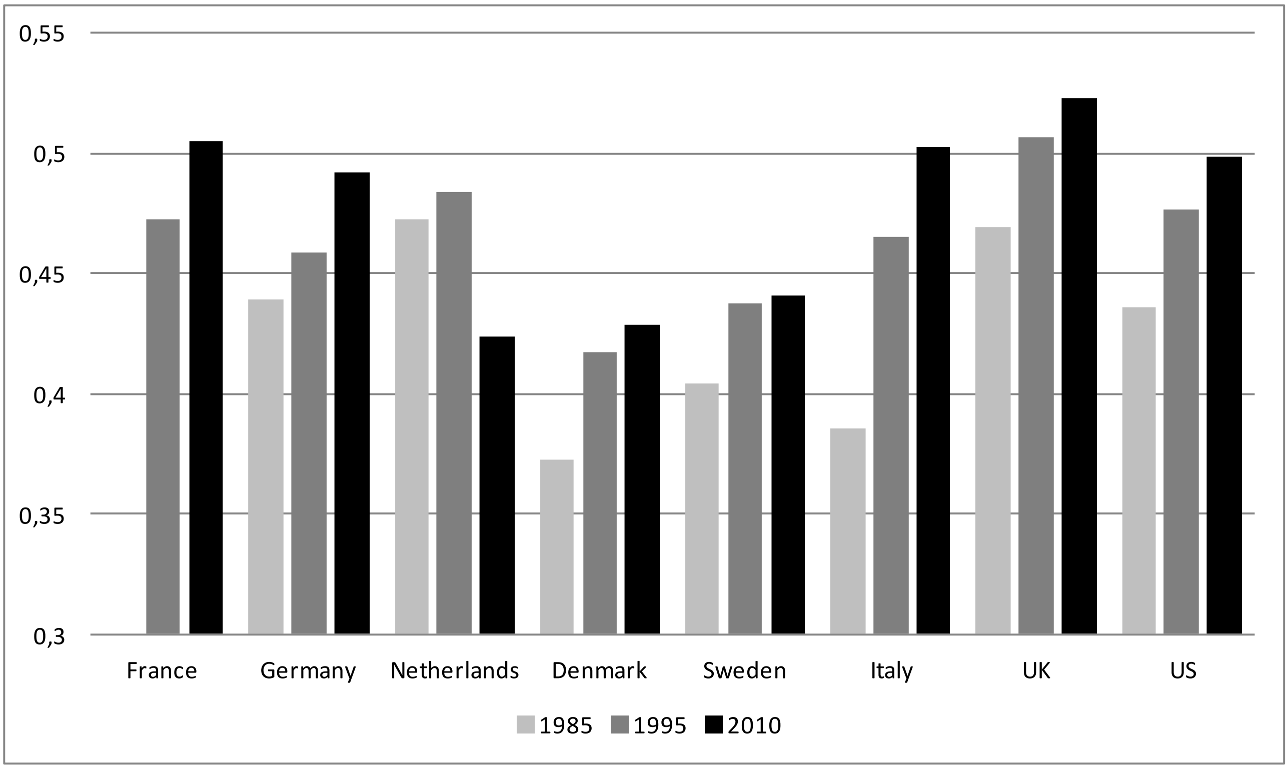
Market income distribution among households, and its trend, depends on several factors. First, the inequality within each income source and the share of total income obtained by that source are important - for instance, the increasing share of capital income tends to increase inequality because capital income distribution is usually very unequal among households. Second, the number of household components and income recipients matter - a higher participation rate of females belonging to the poorest households reduces inequality; if females of richer households enter employment, inequality increases. Third, also the income gaps among household components are relevant - when couples are composed of two high earners (the so-called assortative mating) market income inequality grows.

Extensive studies have documented the general rise in income inequality in advanced countries in the last three decades – see OECD (2008, 2011,2015), Salverda et al. (2014), Bogliacino and Maestri (2014), Morelli et al. (2014). In this section we focus on a selected group of countries – in Europe and the US - that are representative of the diversity of inequality patterns. In the period 1985-2010 disparities – measured by the Gini coefficient – have increased everywhere, with a partial exception for the Netherlands. The highest increases took place from the mid-1980s to the mid-1990s, except for Germany, where inequality has increased most in the second part of the

[4] Data for individuals are transformed into the household data used here using equivalence scales; if we compare a household with one person and a household with two persons having the same total monetary income, the benefits obtained by each individual of the latter household are more than half that of the former. Market incomes are gross of taxes and public transfers. In Figure 2.8 disposable income is examined, including taxes and transfers; following standard methodology, home production, imputed rents for owner occupiers or fringe benefits are not included in disposable income.

observed period. In 2010 the UK, France, Italy, the US and Germany ranked (in this order) as the most unequal rich countries, with Gini values around 0.50, while the Netherlands, Denmark and Sweden had a lower inequality, with Gini values around 0.43.

Figure 7
Gini index of inequality in household market incomes, 1985-2010

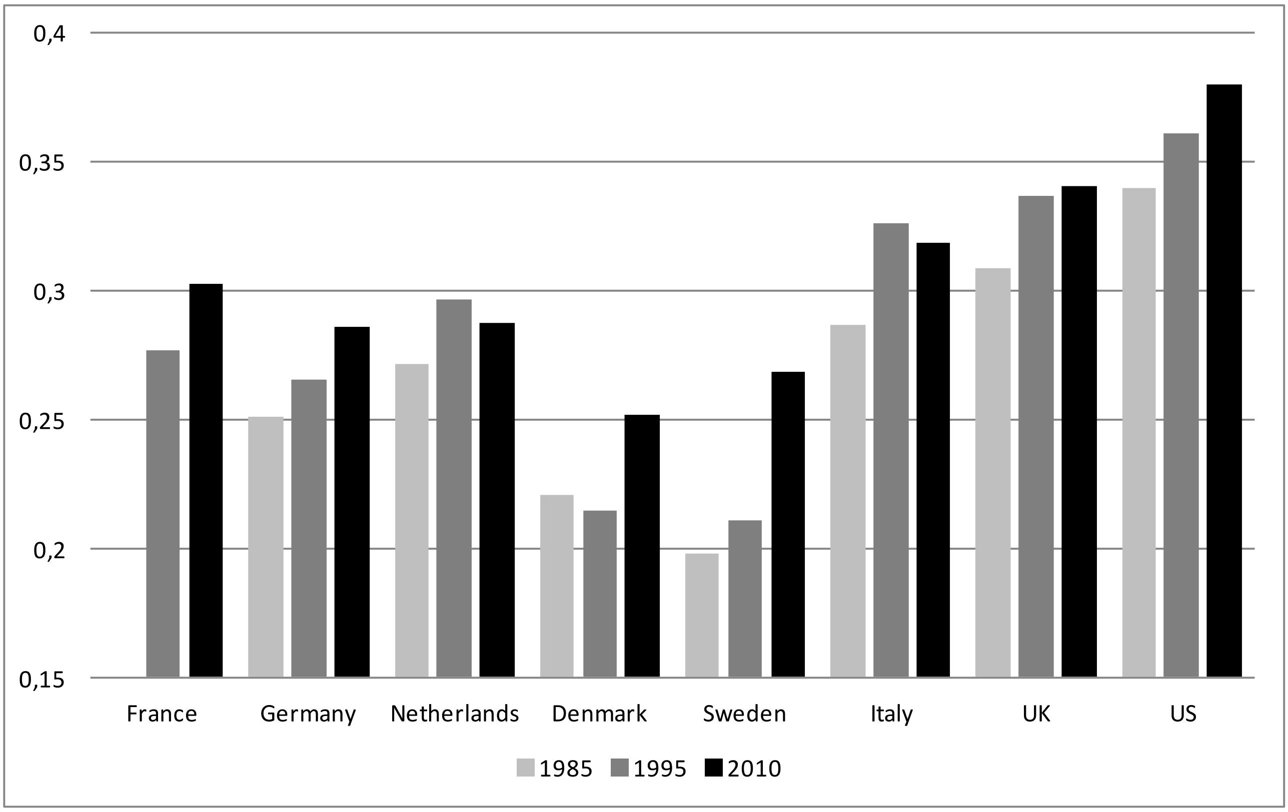


Gini index on equivalised household market incomes.
Calculations on OECD data, http://www.oecd.org/social/income-distribution-database.htm

Can policies affect such market outcomes? In Figure 9 we show the values of the Gini coefficients for the disposable monetary income for households – income after taxes and transfers. The redistributive impact of public action is significant, especially in Europe, with a substantial lowering of inequality levels. In 2010 the US, the UK, Italy, France, the Netherlands and Germany rank (in this order) as the most unequal countries, with Gini values ranging from 0.38 to 0.28. Since 1985, however, the same general pattern of rising inequalities is evident even after redistribution; the more equal societies – Denmark and Sweden – have experienced between 1995 and 2010 the largest rise of inequality in disposable incomes of all countries. In the last period the Netherlands and Italy recorded a slight reduction of the Gini coefficient and in the UK its growth has been modest. The increase in the Gini indexes has continued in most countries when we look at the 2013 data reported by the OECD (2015, p.24, figure 1.3).
Outside these countries, Spain, Portugal and Greece had a partly different pattern, as they experienced a delayed reduction of inequality after the end of dictatorships in the 1970s, a fall that continued in some cases for several years (Bogliacino and Maestri, 2014, p.16).
The average household disposable income was heavily affected by the crisis started in 2008, with a stagnation or fall in real terms in most OECD countries; in the countries most hit by the recession the losses reached 8% per year in Greece and 3.5% per year in Spain, Ireland and Iceland. Behind

such averages, however, the fall in disposable income was concentrated in the poorest households; in Spain the bottom 10% of the distribution had a loss of almost 13% per year, while the richest 10% had a reduction of 1.5% only. (OECD, 2015, p.24).

Figure 8
Gini index of inequality in household disposable incomes, 1985-2010



Gini index on equivalised household disposable incomes, after taxes and monetary transfers.
Calculations on OECD data, http://www.oecd.org/social/income-distribution-database.htm

Behind the aggregate measures of inequality different drivers are at work that can be identified by the combined use of the different indicators. Several studies – including the OECD (2008) report - have pointed out that a rise in income shares by the top quintile of the income distribution (the richest 20% of households) has been a key determinant of greater inequalities in most countries; in the last twenty years, the average annual growth of real incomes of the top quintile has been twice as large as the one of the bottom quintile (the poorest 20% of households) (OECD, 2008). Again, this evidence is consistent – in spite of the different perspective and data sources – with the previous findings on the rising share of capital and of top incomes.

Considering the data on household disposable income – after taxes and transfers - the decrease reported for the Netherlands (Figure 2.8 above) has been mainly due to the increase in participation rates of females belonging to less advantaged households and has been favoured by gender reconciliation measures and the introduction of part-time contractual arrangements (Kenworthy e Pontusson 2005).

In the case of Italy, the large increase of market income inequality from 1985 to 2010 and the reduction of disposable income inequality have been explored by several studies. The main rise of the Gini index was associated to the effects of the 1992 recession and to the restrictive fiscal policies that were introduced (Ballarino et al. 2014). Through a decomposition of the Gini index on market inequality by income sources, Fiorio et al. (2012) found that the main driver of divergence were labour incomes (mostly by self-employed). Over these years Italy experienced a substantial growth of employment which – by reducing the number of zero earners – is considered the crucial driver of a decrease of inequality. Italy's employment growth did not reduce inequality as a large part of new jobs went to females belonging to better-off households, especially in the Southern regions (Ballarino et al. 2014). On the other hand, new jobs have often been associated to low wages and to widening wage disparities due to labour market deregulation; the resulting rise in inequality is also affected by the increasing share of self-employment incomes, the rise in rents and returns on financial capital. Changes in these other sources of income have expanded overall disparities. The result is that since the 1990s, substantial increases in living standards have benefitted managers, pensioners, self-employed and rentiers, while disadvantaging white-collar and blue-collar workers (Brandolini 2005). True inequality could also be higher due to unreported income and tax evasion, which mainly advantages those on the upper part of the income distribution.

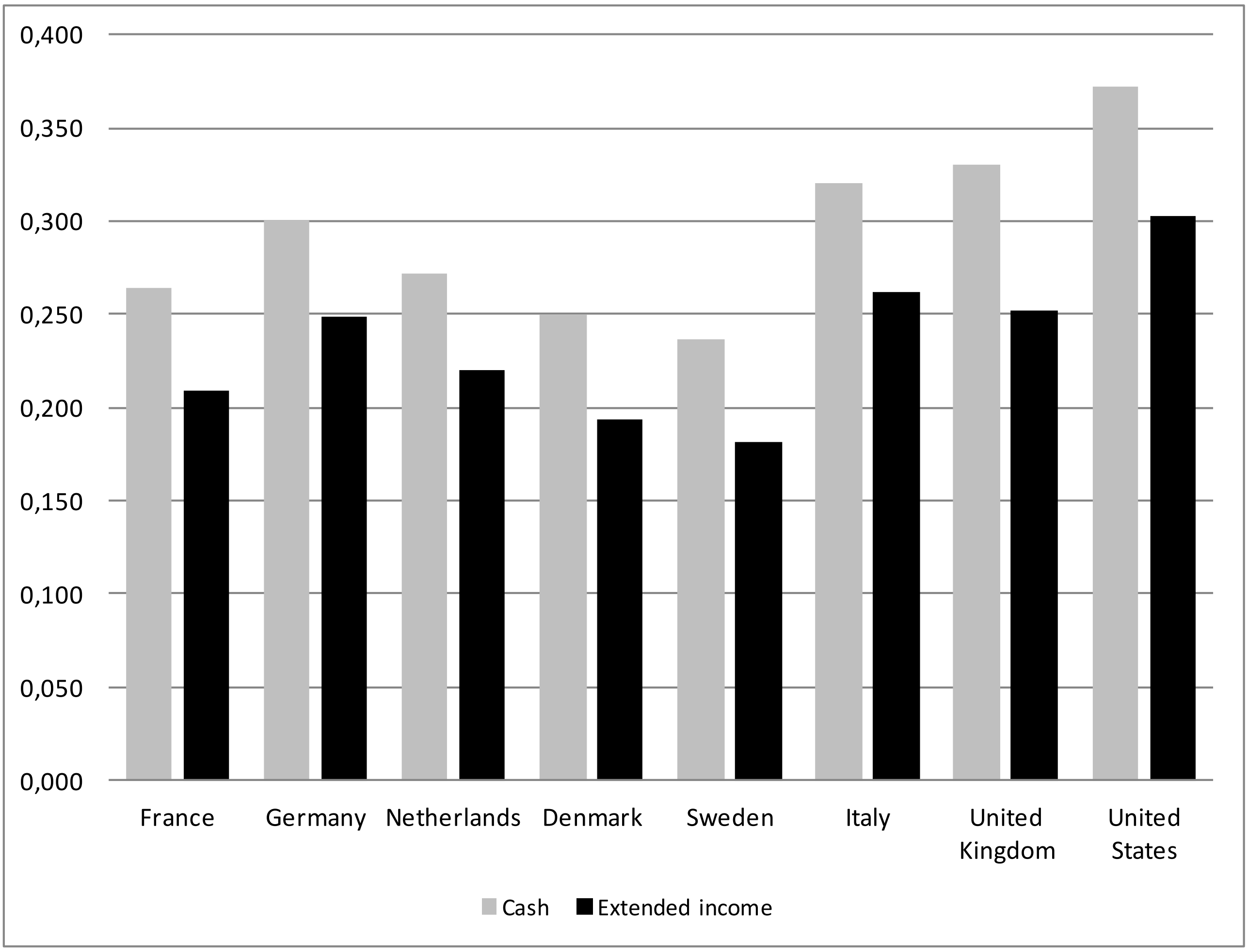
In the case of the United States a useful summary of these dynamics is provided by Atkinson and Bourguignon (2014b, p.xix,xx) with graphs mapping the Gini coefficient for household gross income and the share of the top 0.1% in gross income; both variables show a strong increase starting in the early 1980s after a long period of stability. However, the earnings of the top decile measured as a percentage of median income have had a continuing rise since 1945, from less than 150% to close to 250%, suggesting that the 'distancing of the top' has been a permanent aspect of US income distribution; from 1945 to 1980 such pattern, however, was compensated by a 'catching up of the bottom' documented by the rapid fall over that period of the share of the US population living below the official poverty line – fallen from 35% in 1950 to just above 10% at the end of the 1970s. Since the 1980s growth at the top continued and improvement at the bottom stopped, leading to the change of direction of the Gini coefficient, that started a steady rise.

Finally, a thorough assessment of the redistributive role of the State should include not just taxes and monetary transfers, but also the activities that provide services outside the market – such as health, education, caring – offered to all citizens in particular social conditions as part of their social rights. This State provision limits the range of economic activities based on ability to pay and introduces the principle that in some fields of crucial social relevance services should be granted to all and funded through general taxation. This was a fundamental principle of the expansion of the welfare state in post war decades – when inequality had the steepest fall – and plays a key role in assuring the basic conditions for the development of individuals' capabilities and for their equality of opportunities.

How can we account for the impact of these activities on inequality? Non-market public services granted to all as citizenship rights have a pervasive egalitarian effect in economic, social and political contexts that however may be difficult to quantify. The simplest way to proceed is to consider them "transfers in kind" that integrate monetary transfers by the State. We could assign to all individuals a share of the cost of such services as the monetary equivalent of the services they have obtained. If we compare the same service provided free by the State and at a price by private organisations, it makes sense to consider that all users of the former have had an additional consumption (paid through taxes) that avoided the expenditure sustained by the buyers of the latter. In this case, we can add to individual (or household) incomes the relevant share of the monetary cost of the services they have obtained, and recalculate inequality on this disposable income adjusted for public services.

Limitations in the availability of recent data and methodological problems are obstacles to such a thorough assessment. The more systematic study available is in the OECD report "Divided we stand" (OECD 2011, chapter 8), where a wide range of public services are considered – health, education, childhood services, services to the elderly, social housing, other services (to the disabled, unemployed, etc). Such public provision is of great relevance, accounting – when the value of services is calculated at their cost of production - for 20% of GDP in Denmark and Sweden and 12-13% in Italy and the United States; education and health are everywhere the most important components, accounting for more than three quarters of all public provisions. More importantly, the provision of public services outside the market is more important than cash transfers from the State to households in almost all countries (Italy is an exception); typically, the former are one third higher than the latter. Looking at the impact of public services on households we find even higher effects; when we add the monetary value of services to disposable income – post tax and transfers – we find an increase in average household income close to 40% in Denmark and Sweden and of 29% in the OECD average. This increase is relevant for all households, but in percentage of disposable income is of vital relevance for the poorer ones; the rise in income amounts to 76% for the poorest 20% of households and to 14% for the richest quintile (ibid. pp.314-316, Table 8.1).

Figure 9
Gini index of inequality in cash disposable incomes and in extended income considering public services, 2007



Gini index on equivalised household market incomes (after taxes and monetary transfers) and on extended income (including the value of public services obtained).
Adapted from OECD (2011), data from http://www.oecd.org/social/income-distribution-database.htm

By offering a generally egalitarian set of public services – some of which are in fact targeted to the poor – State policies can indeed reduce significantly the inequality that we have measured so far in monetary terms. Table 2.9 reports the OECD data for the countries we have considered, comparing for 2007 the value of the Gini index calculated on household 'cash' disposable income (after taxes and transfers) and the Gini index on the 'extended' income that includes the imputed value of public services. The provision of public services leads to a general reduction of inequalities in all countries and to some changes in the rankings. In percentage terms, the Gini on 'extended' income falls by 17-19% in Germany, the US, Italy and the Netherlands, and by 21-24% in France, Sweden, Denmark, the UK. The US remains the most unequal country; in the UK the extent of provision of public services brings inequality below the Gini index for Italy and close to the value for Germany; the Netherlands has less redistribution than France, while Denmark and Sweden emerge again as the most egalitarian countries, with a significantly reduced Gini index below 0.20.
When we compare data for 2007 to data for 2000 divergent trends emerge. In France and Sweden we find that disparities in 'cash' disposable income have fallen, bringing down also inequality in 'extended' income; in all other countries we consider (and the OECD-17 average) both measures in 2007 are higher than in 2000. All countries except the UK have experienced a reduction in the redistributive impact of public services (measured as a percentage of 'cash' disposable income), suggesting that cuts in public services have reduced their egalitarian effect. In fact, the OECD report shows that the greater the fall in the share of public services in household disposable income - associated to cuts in expenditures - the deeper the fall in their contribution to reducing 'cash' inequalities (ibid. p.330-331, table 8.8, figure 8.11). Since 2007, the impact of the crisis and of austerity policies in most countries has further reduced the redistributive effect of public services (see Bogliacino and Maestri, 2014, p.23).
The different measures of inequality discussed above have recorded a substantial increase of disparities between the 1980s and today in all advanced countries. The rise sometimes has been steady, in other cases has been concentrated in a period and followed by stability. Across countries different factors have played a key role – the share of income going to capital, or the income of the richest 10 percent, the distance between top and median incomes, or between median and bottom incomes – and the relevance of policy has differed, with a different ability of taxes, transfers and the provision of public services to reduce the disparity of the distribution emerging from market earnings.

6. Inequality within labour income

The third "engine of inequality" is the "individualisation" of economic and social conditions (Franzini and Pianta, 2015, ch.4). This means that disparities have increased within types of income and within social groups, variously defined. Much attention has been devoted to the growing inequalities within labour incomes, resulting from the rapid rise of top incomes and the stagnation or fall of lower wages. We have already documented the former and pointed out that the remuneration of top managers and professionals – mostly made of stock-based pay - can hardly be considered a 'wage'. Disparities within wages, however, have greatly increased at all levels.
A recent Eurofound study (2015) examined wage inequality (for full-time equivalent wages in PPPs) considering Europe as a whole, finding an overall Gini coefficient in 2011 of 0.346. Wage disparities within Europe have declined up to 2008 as a result of the convergence in average wages of Central-Eastern European countries, while in Southern Europe no real increase took place and German wages stagnated. Since 2008, the crisis has led to a rising inequality driven by disparities within countries, with major wage decreases in Southern Europe. Comparing countries and industries, a major role of collective bargaining emerges leading to higher and more equal wages (ibid., p.61-62). Moreover, the rise in 'non-standard' forms of employment – temporary and precarious work, outsourced self-employment jobs, etc – has been identified as major factor in rising inequality, reflecting the changing balance of forces between capital and labour (ILO, 2015;

OECD, 2015).

Mainstream interpretations of disparities within wages have argued that this is largely due to differences in skills and education; the argument is that market outcomes reflect individual differences in education, abilities and effort, and that such disparities are the result of ‘merit’ that deserves to be rewarded by labour market outcomes. A large literature – recently surveyed by Salverda and Checchi (2014) - has addressed such question, arguing that disparities within wages are indeed a key determinant of the overall rise in income inequalities. A first stream of studies has investigated the impact on wage inequality of the shifts in the demand and supply of labour resulting from changes in education, technology, globalisation, etc. A second stream of research has considered the impact on earning inequality of labour market institutions – such as minimum wage, union presence, employment protection and unemployment benefits.

What is the empirical evidence on the ability of education to explain the growth of earnings inequality? Mainstream views, largely based on studies on studies on the US and UK, have argued that growing inequality since the 1980s has been driven by the increasing skill premium for high skilled workers (Bound and Johnson 1992, Katz and Murphy 1992). Skill biased technological change (SBTC), that is complementary to higher skills, and globalisation - that replaces low skilled workers in advanced countries with the increasing supply of workers in developing countries - have been considered as the most important causes of the rise in the skill premium. In this view, differences in human capital are a key driver of wage inequality and investment in higher education is generally recommended as the best policy for both productivity growth and for reducing inequality.

However, detailed empirical studies suggest that human capital variables such as experience and education are able to explain at most a third of the variance in wages, while residual or within-group wage inequality – i.e., wage dispersion among workers with the same education – represents the largest part of this variance (Lemieux 2006). In other terms, while differently educated individuals experience wage gaps, wage disparities are found also between individuals with the same education (e.g. inequality within groups with the same education).

We report here results from the study by Franzini and Raitano (2015) on European countries, using data from the EU-SILC survey of households. Workers are divided in three subgroups according to their educational attainments and disparities in wages are associated either to differences in skills (“between group inequality”) or to factors not related to skills (“within group inequality”). The index used is the mean logarithmic deviation because it is perfectly decomposable among subgroups, i.e. can be expressed as the sum of between and within inequality[5]. The decomposition by the three educational groups shows that in EU15 countries educational attainments explain a very small share of wage disparities - 12.5% of total earnings inequality in France, 12% in the UK, 10% in Italy, as low as 3.2% in Sweden – as shown in figure 2.10. Around 90% of the wage gap among workers is linked to within group inequality, i.e. to differences not directly related to education degrees (similar results are in Cholezas and Tsakloglou, 2007).

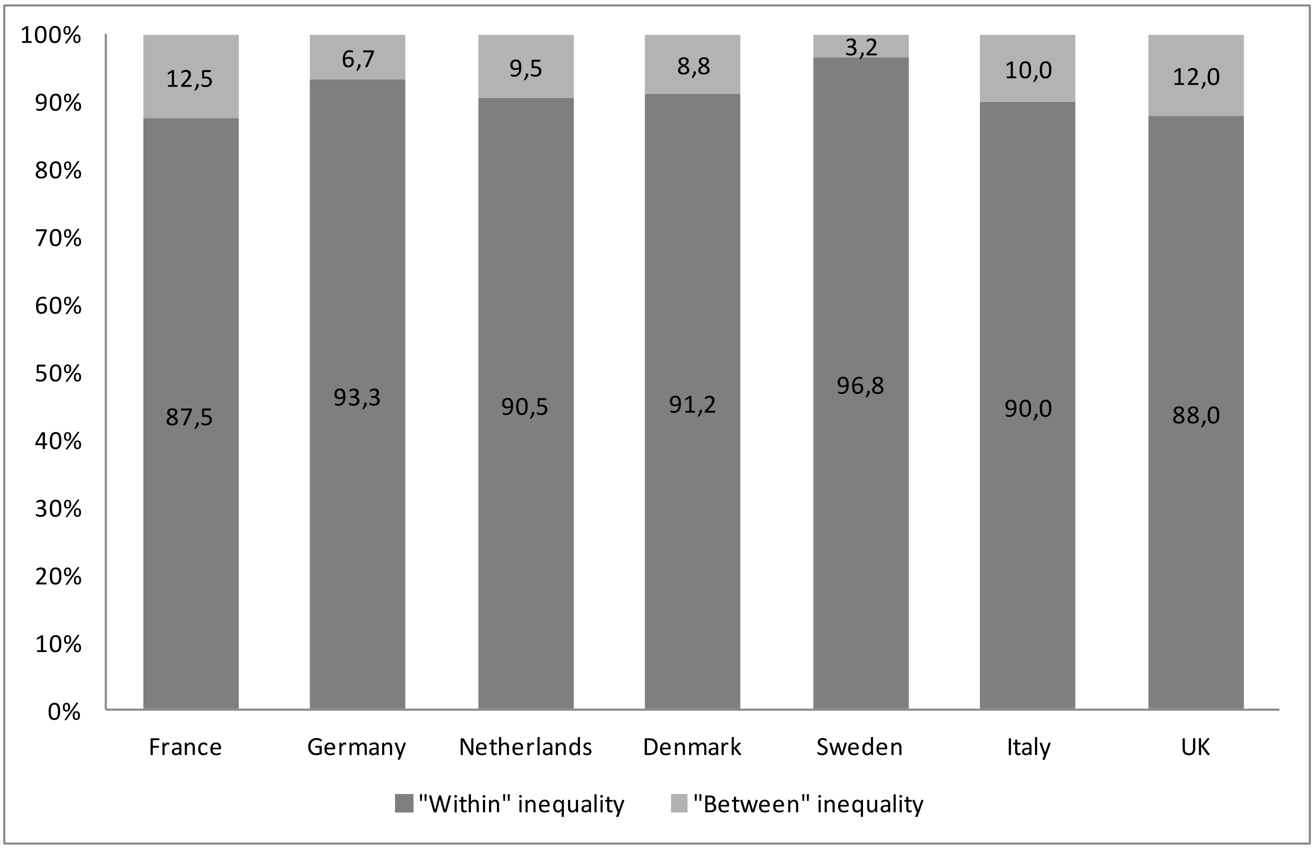
The time trend of within group inequality has been investigated for Italy by Franzini and Raitano (2014), using a long panel dataset tracking private employees. Considering weekly wages of full-time workers, results show that the share of inequality due to educational attainments has constantly fallen since 1992; the share due to the between group component decreased from 16.5% in 1992 to 8.9% in 2007.

This empirical evidence suggests that other determinants – different from education – are affecting the rising disparities in labour earnings. The growing power of capital over labour and the individualisation of economic conditions – two of our ‘engines of inequality’ – can highlight much of the developments leading to higher inequality among wages. The labour force has become more

[5] Between group inequality measures the inequality that would emerge if all individuals in a subgroup earned the mean income of the subgroup; within group inequality is the weighted average of the inequality measured inside all subgroups.

segmented on the basis of ethnic or migrant status and on the basis of the labour contract in force, with the diffusion of precarious employment and of different contracts for the same job. Union power has been reduced, with a lower union membership, militancy and ability to protect working conditions especially for the weakest groups of workers. The coverage of national collective contracts has been reduced, wage setting at the company level has expanded and minimum wages have not been effective in protecting low earners. Employment protection legislation has been scaled back in most countries, leaving more room for disparities in wages (see Salverda and Checchi, 2014, p.1631).

Figure 10
The importance of educational levels on inequality in gross earnings, 2006



Individuals are grouped in three educational groups; inequality is measured by the mean logarithmic deviation, decomposed between the (small) share due to disparities between educational groups and the (large) share due to disparities within each educational group
Source: Franzini and Raitano (2015), data from EU-SILC survey (2007).

7. Inequalities in wealth

We have so far investigated the annual *flows* of incomes to individuals and households. Their economic strength and wellbeing, however, are deeply affected by the *stock* of wealth they own. Piketty (2013) has shown how important wealth is for understanding the dynamics of inequality, and how complex the relationships to income growth and inequality are.
Wealth is made of real estate assets – most notably the house where a family lives – and of financial assets, less debt. Data sources are limited and difficult to compare, and include the United Nations

University WIDER project, the Global Wealth Report of Credit Suisse, the Luxemburg Wealth Study and the Household Finance and Consumption Network of the European Central Bank. The main studies on wealth inequality include OECD (2008,2015), ECB (2013), Piketty (2013), Piketty and Zucman (2014), Maestri et al. (2014).

The European Central Bank (ECB, 2013) has published the first results of the survey produced by the Eurosystem Household Finance and Consumption Network with data on assets, debt, net wealth, income and consumption in 15 Eurozone countries for 2010. It provides data on *real wealth* – including the value of the main residence, other real estate property, vehicles, valuables, and self-employment businesses –, on *financial wealth* – including deposits, private pensions or life insurances, mutual funds, shares, bonds and other financial assets – and on household *debt* (that is subtracted from the former in order to obtain net wealth). Wealth data are not equivalised for household size – as is done for incomes -, do not include the value of public pensions and in some countries private debt is highly affected by the debt incurred for undertaking higher education.

The most stinking finding is that the bottom 20% of Europeans have a net wealth of zero – more precisely, the mean value of the lowest quintile is -2,800 euros; one European in five either has no assets, or his debt is higher than assets. Moving up, the second quintile has an average net wealth of €29,400, the third one €111,900, the fourth one €235,100 and the richest 20% of Europeans have a mean value of €780,700 in net wealth; they own 68% of total wealth. Even within this group wealth is highly concentrated, with the top 5% of households owning 37.2% of net wealth. Variation across countries are significant and are mainly due to the importance of home ownership; the mean net wealth of households is higher in Spain (€291,000), Italy (€275,000), Austria (€265,000), France (€233,000) and lower in Germany (€195,000), the Netherlands (€170,000), Finland (€161,000) (ibid.p.72-76, table 4.1).

In the aggregate of 15 countries real assets account for almost 85% of total assets (gross of debt); the median value for households is €145,000. Within real assets the main residence accounts for 61%, other real estate for 23%, self-employed businesses for 12%. In the Eurozone 60% of households own the house where they live (one third with a mortgage) and the median value of the main residence is €180,300. Considering other real assets, the median value of other real estate property is €103,000, of vehicles €7,000, of valuables €3,400, of self-employed businesses €30,000 (ibid. p.5,27, table 2.2).

Looking at financial assets – accounting for just 15% of total assets – their composition includes 43% of deposits, 26% of private pensions, 9% of mutual funds, 8% of shares, 7% of bonds, 5.3% of other financial assets. The median value of financial assets for Eurozone households is €11,400, suggesting a very limited relevance of finance in the wealth of most Europeans, well below the importance found in the US and UK. While 96% of households have bank deposits, only 33% have private pensions or life insurances and all the other financial assets are owned by less than 15% of households. Conversely, 44% of Eurozone households have debt; 23.1% have mortgage debt and 29.3% have other types of debt (ibid. p.5).

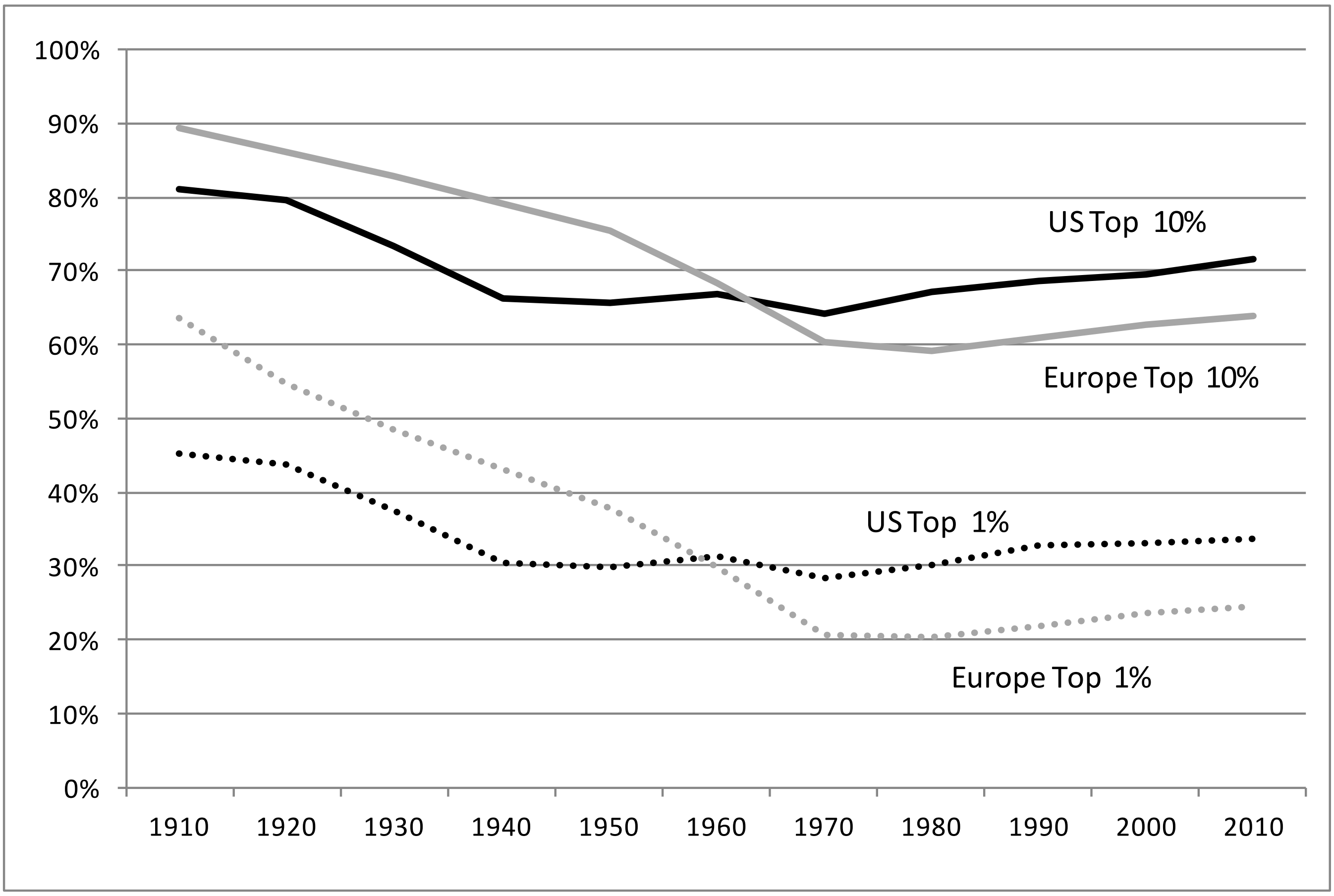
How did the concentration of wealth change in past decades? Maestri et al. (2014, figures 4.1,4.3 p.88,95) show that a clear pattern of rising wealth inequality can be found between 1970 and 2011, and in particular in the last decade, in almost all advanced countries. As a measure we can use again the Gini coefficient, noting that it may not be directly comparable with the one calculated on incomes as the poorest deciles have negative wealth and therefore the range of variation is not anymore between zero and one. In 2011 the United States show again the highest values of the Gini coefficient on wealth, above 0.8, with Denmark, Sweden and the Netherlands reaching similar levels in 2011, after rapid increases in inequality in the last decade. Germany is also rising, with a Gini coefficient around 7.5, while the UK and Italy in 2011 are below the 0.7 level as a result of a fall in recent years. The speculative bubbles of past decades have heavily affected the price dynamics of real estate and financial assets; as the 2007 crisis has led to (temporary) falls of housing and stock prices, a stabilisation or a reduction of wealth inequalities has appeared in some

countries.
Wealth inequality has worsened in Nordic countries in particular. Net wealth has become negative for the four bottom wealth deciles in Denmark, for the three bottom deciles in Sweden, and is negative or zero for the three bottom deciles in the Netherlands. The spread of debt is a major source of such developments, including housing and student loans. In the Netherlands, even before the crisis, housing loans were 110% of the value of assets; in Sweden 25% of households have a student loan (ibid. p.91-92). However, in Nordic countries the extent of public transfers and service provision, including social housing makes sure that most of the households holding no net wealth can avoid conditions of poverty.
Wealth inequality is much higher than income inequality – looking at Gini coefficients, disparities are generally twice as high - but their relationship is complex. Maestri et al. (2014, figure 4.7, p.98) provide a useful picture of the combinations of income and wealth disparities that are found in advanced countries, resulting from economic and institutional differences. The US, Australia and, to a less extent, the UK show high inequality in both aspects. Southern European countries – Italy, Spain, but also Japan – have high disparities in income, but lower ones in wealth, mainly due to the relevance of home ownership. Conversely, Sweden, Denmark and, to a lesser extent, France have low income inequality, resulting from an important role of the State in redistribution and public provision, but high wealth disparities.

A complementary picture of wealth dynamics is the one provided by Piketty (2013) based on tax returns – on inheritance and incomes –, focusing on the evolution of top incomes in the long term. Figure 2.11 compares over two centuries the shares of the wealthiest 10% and 1% in the United States and Europe - calculated as the average value for Britain, France and Sweden. From 1810 to 1910 Europe's aristocracy had an almost total control of wealth: the top 10% had 80 to 90% of wealth; the top 1% had 50 to 65% of wealth, both with a rising trend. In the United States the top groups started from a much lower level, but increased more rapidly their share of wealth: the top 10% went from less than 60 to more than 80% of total wealth; the top 1% from 25 to 45%. The two world wars brought about a steep fall of all shares; since 1950 the shares of the wealthiest Americans stabilised and raised again after 1970; in Europe the fall of both shares continued until 1970 as a result of the taxation and redistributive policies of the welfare state, rising again after 1980. In this perspective, in the US the wealthiest 10% has in 2010 more than 70% of total wealth, close to the level of 1930; in Europe their share is above 60%. Looking at the top 1%, in 2010 their share in the US is close to 35%, slightly lower than in 1930; in Europe their share of total wealth is under 25%.
These data confirm that today wealth inequality is at extremely high levels and growing. In the US the concentration of wealth is particularly striking; in fact, both income and wealth inequality today are similar to the levels recorded around 1930. In Europe – where financial wealth is less important and home ownership more widely diffused – absolute levels of inequality are lower, but still at unprecedented levels since 1970 (Piketty, 2013, p.550-557). In the analysis of Piketty, the roots of such dynamics are in the diverging patterns of the rate of return to capital and of the rate of growth of the economy – an issue that is discussed at length in Franzini and Pianta (2015, ch.4).
The difference between the US and Europe is related to the diversity in wealth structures; in Europe two thirds of assets are housing, and one third is other domestic capital – businesses and financial assets – while in the US the latter account for about 60% of all assets; both agricultural land and net foreign assets account for negligible shares (Piketty and Zucman 2014, p.1311-1314). The post-war decades have seen in Europe the diffusion of home ownership; in recent years the rising house prices have inflated such asset values, resulting in a lower concentration of wealth. In the US since the 1970s the importance of finance and the extreme rise in values associated to successive speculative bubbles have been a key driver of the country's wealth. In this regard, the rise of finance in the US has been a specific form taken by the first 'engine of inequality' - large and

growing disparities in wealth are both the result and a factor contributing to the power of capital over labour

Figure 11
Wealth inequality in the United States and Europe, 1910-2010; shares of the top 10% and top 1%



Adapted from Piketty (2013), Figure 10.6, p.556.
For sources and data see piketty.pse.ens.fr/capital21c

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The extreme concentration of wealth now reached in the US raises new problems in terms of its intergenerational transmission through inheritance, a process that drastically reduces the possibility to acquire wealth through labour income, leading to what we have called an 'oligarchs capitalism' (see Franzini and Pianta, 2015).

8. The need for explaining inequality

In our book "Explaining inequality" (Franzini and Pianta, 2015) we move from the evidence provided in this paper and develop an interpretation of the key engines of the recent rise in inequality. They include: a) the rising power of capital over labour; b) the rise of oligarchs capitalism; c) the individualisation of economic and social conditions; d) the retreat of politics, that has reduced the scope for policy action to limit disparities.

These four forces of inequality operate at different levels but closely interact with one another, reinforcing their effects. A strengthening of capital versus labour makes it possible the introduction of anti-labour and anti-poor policies that further consolidate unbalanced class relations. The individualisation of workers' position in labour markets is closely associated to a strengthening of capital's power over labour. A more individualised society offers less resistance to the rise of the wealth and power of oligarchs. A concentration of wealth in the hands of oligarchs means greater influence over the policy process that further advances their privilege and rents. The reduction of the public sphere through privatisations and deregulation widens the space where the polarising effect of market dynamics operate. This is why a policy to reverse inequality has to develop comprehensive approach, addressing the complexity of today's inequality.

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