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**Inequality and welfare:
Is Europe special?**

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Inequality and welfare: Is Europe special?*

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Abstract

We review the literature about inequality and welfare with a particular focus on whether Europe has a special sensitivity to these matters or specific outcomes. We argue that both statements are likely to be true which raises the possibility of a causal link. Europe has relatively good results in terms of inequality and welfare in comparison with other continents and more specifically America, because these issues matter for European people. Still, research needs to be fostered in at least 5 areas that are detailed at the end of this review. A specific attention is devoted to the contribution of other social sciences and natural sciences (cognitive science) to the development of our knowledge for these fields.

Keywords: Inequality, income inequality, equality of opportunity, welfare, well-being, Europe, the U.S.

JEL Classification: D63, I31, P52, O51, O52.

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1. Introduction

Distribution and redistribution issues have never left the European stage both in public debate and on the research agenda in economics and other social sciences. The novelty comes from the US where things are changing dramatically. While for a long time inequality was not considered as a hot topic, and correlatively a benign-neglect public policy seemed to be in force, rising inequality is attracting the attention of the media, of the public and of politicians in the US, as testified by the huge success of Piketty's masterpiece "*Capital in the twenty first century*". Since to some extent the political agenda of each society is reflected in the scientific agenda of researchers through inclination and public funding, it is not surprising that Europe is challenging the US in many areas regarding inequality and welfare. Having said that, our understanding of the dynamics of inequality does not match the needs required by well-calibrated economic and social policies.

This paper will be structured around the points mentioned in Coeure's call for expression of interest. All issues may be encompassed in a broader question: is Europe special? Special because of the issues raised at a social or political level or because of the nature of the contribution made by European economists. As Angela Merkel likes to say, Europe represents 7% of the population, 25% of the World GDP and 50% of the total of social spending at the world level. These figures tell us first that Europe is small and rich. In terms of revealed collective preference, it also tells us that European societies, as diverse as they are, care more on average about the distribution of welfare than other parts of the globe. Various reasons may allow us to explain such a pattern: European societies are rich, they are getting older (the median age in Germany is almost 10 years higher than in the US, China, Australia and Russia), and in democratic societies this high social spending should also reflect the preference of the citizens and tax payers. The words of the German Chancellor convey the fear – and this feeling is likely widespread – that social spending is so much higher in the EU than in other parts of the world that it is undermining Europe's competitiveness. Notwithstanding that inequality and social welfare are prerogatives of nation states, European institutions play the role of a lifeguard station to some extent. The coordination of social security rights for mobile workers, standards for health and safety in the workplace, some EU directives on workers' rights (maximum weekly hours of work for instance), and a legal basis for enforcing non-discrimination among EU citizens can be viewed as the first steps of a more coordinated and developed policy in the social realm as called for by some recent policy reports ((Vandenbrouck (2014), Vandenbrouck and Vanhercke (2014), Friends of Europe (2015)).

This essay falls into eight parts. I will start by setting the scene in defining the concepts of inequality and welfare and the links that economists establish between them. Next, I will proceed by showing that these two concepts raise issues involving several sciences (social and hard). I will then describe Europe's inequality pattern vis-à-vis the US and

the rankings of Europe nation states according to various concepts of welfare. It turns out that Europe is at the forefront of research in many subfields and that will be the topic of the fourth part. After the diagnosis, comes advice for action. I will develop the fact that data are improving, but remain largely incomplete when looking at more sophisticated issues. Part 6 argues that among the most interesting and important issues regarding inequality and welfare some are at the intersection of several topics surveyed by the different PI. I then zoom in on the most cutting edge research issues in this field in my opinion. Among these issues some are more specific to Europe and it is the focus of the last part. I will end up by making recommendations on ways to gear research in Europe about inequality and welfare toward forefront issues.

I should also mention that there is another motive to redistribute income, risk-aversion. There are many social risks such as illness, ageing, handicap, long-term care, unemployment that will partially or fully reduce the earning capacity of an individual. Risk aversion leads people to insure against these risks. Social insurance will also redistribute income across individuals. However, from a purely conceptual point of view, the main motive of insurance redistribution is not between individuals but for the same individual at different periods or across different states in the world. Due to page constraint, I cannot review the literature about this insurance redistribution which is somewhat difficult to disentangle from the pure vertical distribution from rich to poor in empirical analysis. This is an important omission since risk preferences are important to understand the magnitude of public health expenditures, social security and public education. These public expenditures help to mitigate inequality of well-beings as well as vertical redistribution but their interplay is quite complex to understand. For instance, Moene and Wallerstein (2001) build up a model where redistribution is an inferior good whereas insurance motive is a normal good.

I have tried to maintain the technicalities at a minimum so that this survey can be read by a larger audience. There is no equation in the main text. A more formalized approach is confined to the appendix.

2. Inequality and welfare two interconnected notions

Inequality and welfare are two catch-all terms, and a natural way to get into the substance is to describe how economists and, more generally, social scientists have approached these two notions. This section is more conceptual than the others, but I think that there is no short cut to avoid misleading interpretations here.

Inequality

The word inequality refers to the distribution of some measurable (*in a cardinal sense*) quantity. In economics, there are many quantities whose the distribution one may be interested in. Earnings, disposable income, consumption, savings, wealth, working hours, leisure time, longevity, number of years of schooling, qualys, etc. are just a few

examples. A fundamental difference comes in when one asks whether inequality should be assessed ex-post or ex-ante.

The former means that all the different processes have occurred. The various processes refer to the production phase, the consumption phase, price determination and also government intervention through taxes, expenditures and transfers depending whether we want to look before or after the government intervention. Another way to term this ex-post inequality is to say that we are interested in the inequality of outcomes. A natural way to do this is to look at the distribution of the outcome in a statistical sense and to adopt simple or sophisticated measures of the dispersion of this outcome. The initial conceptual steps regarding measuring inequality date back to the beginning of the twentieth century. They were put forward by Vilfredo Pareto with his Pareto Law and index by Max Lorenz with the Lorenz curve, by Corrado Gini with the Gini index and by the British economist and member of the House of commons, Hugh Dalton (1920) (See Atkinson and Brandolini (2015) for an appraisal of his contribution) with the Pigou-Dalton principle of transfers. This principle states that inequality decreases when one performs a transfer from a richer individual to a poorer individual which does not reverse the ranking of the individuals, other things being equal. It is interesting to note that the period of the founding fathers of the measurement of inequality of income occurred at a time where, in many industrialized countries, the income and wealth inequalities were probably at a peak (see Figure 6 below).

Basically no cutting-edge innovation took place during the next 50 years except Simon Kuznets' discovery (1955) of the inverse U-shape curve between income inequality and growth. As countries experience economic growth, income inequality first increases and then decreases. And indeed this was the case with the period 1930-1970 corresponding to a period of decreasing inequality in the US and in many Western countries. At the beginning of the seventies, a second wave of innovations in the field of the measurement of inequality was initiated with the seminal works of Serge-Christophe Kolm (1968), Anthony Atkinson (1971), and Armatya Sen (1971) making crystal clear why the use of the Lorenz curve should be at the cornerstone of inequality measurement. Afterwards, many further developments came with measures which deal with the appraisal of multidimensional inequality (Atkinson and Bourguignon 1982 and 1987). The main novel issue was to cope with the relation between the different attributes (income, health, leisure etc.), whether they are substitutes or complements (Bourguignon and Chakravarty (2003)). If the different dimensions are thought to be substitutes for one another, then a decorrelation of the distribution of the different dimensions may decrease inequality, while if they are thought to be complements, a decorrelation can only increase inequality. A multidimensional setting seems particularly adapted to measure poverty when looking at empirical distribution data censored to the poverty line in each dimension (Alkire and Foster (2011)). A major difference between Europe and the US is that it is defined in relative terms (50% or 60% of the median) in Europe, whereas it is defined in absolute terms in the US (in monetary terms). Adam Smith

already argued in favor of a relative poverty line. Since the 70s the study of ex-post inequality and poverty has not left the stage in economics literature, with a greater emphasis since the 90s when it became apparent that inequality was on the rise, at least in the US and in the UK as well as elsewhere in many (but not all) other industrialized countries, invalidating the optimism delivered by the prediction of the Kuznets curve.

At the same time, at the beginning of the seventies, economists' attention was progressively drawn to the work of political philosophers who pointed out that ex-ante inequality was as important as ex-post inequality and maybe more important than inequality of outcome from a normative perspective. Since John Rawls's major opus (1971), all the subsequent flow of political philosophy (Sen (1980) and (1985), Dworkin (1981), Arneson (1989), Cohen (1989)) argue in one way or another that the focus on inequality of outcomes in the economic and social science literature is ill-conceived since some inequality can be considered as legitimate. The surfer in Malibu example (Van Parijs 1991) is emblematic of the argument. Suppose that someone living in LA, and being a college graduate³, after having paid low fees at one of the campuses of the University of California, chooses to spend most of his time surfing. California is known to be a good place to find surfing spots as well as jobs, except in downturn periods. In addition he can count on the skill premium if he decides to go to the labor market. He is doing some part-time job just to cover his bare-bone subsistence needs. Looking at the distribution of disposable income ex-post, this guy would be at the bottom part of the earnings distribution. Is the income inequality between him and his friend who is employed with the same degree in some movie studio in LA legitimate? Van Parijs (1996) and most post-Rawls philosophers are arguing that in terms of possibility sets, the Malibu surfer has got the same possibility set as the other graduates of the same university and that the discrepancies between ex-post incomes just reflect differences in preference. As a matter of fact, they result from differences of choices within the same opportunity set. The philosophers claim that these differences are legitimate and should not be compensated by public policy. This idea has been developed in many different ways because measuring ex-post inequality is much more complex than measuring ex-ante inequality. Inequality of opportunity sets, of capability sets, and of opportunity refer to different objects. Economists and other social scientists under the impulse of Sen (1985), Nussbaum and Sen (1999), Roemer (1993, 1998), Fleurbaey (2008) have tried to cope with conceptual difficulties and paucity of data.

Attitudes towards inequality depend on the source of inequality. According to questionnaires or experiments, most individuals like inequalities when they are based on merit, but much less when they are based on luck. It is therefore important to recognize that the evolution of inequality does not necessarily describe the evolution of unfairness.

³ The story changes a little bit so as it becomes also compatible with the equality of opportunity requisite.

Welfare

While inequality is purely positive, welfare belongs to the normative realm and then it cannot come as a surprise that it can be viewed from outside of economics as a muddling topic where there is large variation of view-points among economists and more generally social thinkers. As a matter of fact, it can also be viewed within economics as a shaky notion. Lionel Robbins (1932) is notorious for having defended the view that the level of happiness is neither measurable nor comparable across a population, a standpoint that is maintained in the segment of the profession which has a quite narrow view of economics and which thinks that the less economists talk about welfare, the better. But even beyond them, very recently, two prominent economists who are deeply interested in redistribution issues, Emmanuel Saez from Berkeley and Stéphanie Stancheva from Harvard, in a paper devoted to optimal income taxation (Saez and Stancheva (2014)) argue in favor of an approach which completely bypasses the construction of a social welfare function which has been the cornerstone of welfare economics since the seminal article of Abram Bergson (1938). Politics or maybe political science is replacing political philosophy. The priorities devoted to different groups are just a matter of political opinions retrieved from questionnaires and these opinions are then plugged in the abbreviated formula of optimal marginal income tax. This line of research suggests that it is not the business of economists to tackle the murky issue of trying to do more than taking political opinions for granted.

Welfare may be defined both at an individual and at a collective level. In its common sense, welfare refers to the well-being and happiness of an individual. By extension, it also designates social benefits to the poor or socially disabled in tune with the fact that the government's objective in a welfare state is to provide assistance to those in need. Collective welfare is by extension the well-being of a group of people. The GDP or the GDP per capita has been used as a measure of the standard of living at a country scale. It is a rather crude measure of collective welfare and indeed it has been challenged since the very beginning. Simon Kuznets, one of the founding fathers of the national income account, declared in 1934 that "the welfare of a nation can scarcely be inferred from a measure of national income." On the other side of the Atlantic, John Hicks and Nicholas Kaldor proposed as a measure of national welfare something close to the GDP adjusted for leisure and pollution. Basically, the GNI (Gross national income) per capita suffers from two weaknesses. First, it ignores negative externalities on the environment generated by economic activity, and it neglects other important dimensions that matter for welfare such as health, knowledge, leisure. Second, distribution issues are missed by using a per capita measure. Well before the Stiglitz-Sen-Fitoussi report (2009), the index of human development (HDI) produced by the UNDP (United Nations Development Program) attempts to address the first weakness by incorporating two additional dimensions, health and education, on top of per capita GNI. The health indicator is the life expectancy at birth. The education indicator is made up of variations around the mean years of schooling. The three indicators are normalized on a (0,1) scale by the

average of a lower and upper bounds. The dispersion of the three elementary indicators across the population of a country is ignored in the traditional HDI. Foster and Alkire (2010) (based on Foster Lopez-Calva Szekely (2006)) helped to build an IHDI (inequality of human development index) which accounts for inequality in each dimension. As it will become clear below, there is a presumption that inequality reduces social welfare. The construction of such indicators is far from obvious and requires many assumptions: some are technical, other are more normative. Consequently, the robustness of the country ranking is all but warranted.

Aggregating welfare

There are basically two routes to construct such indices. The basic information structure can be illustrated by the following matrix where the profiles of individuals are represented in rows according to various dimensions that are featured in columns. The typical element of this matrix is the allocation of individual i in good j , x_i^j .

$$\begin{matrix} & \text{Dimensions} \\ \text{Individuals} & \left(\begin{matrix} x_i^j \end{matrix} \right) \end{matrix}$$

The HDI or IHDI illustrates (see Diagram 1) a first alternative where each dimension is first aggregated into a specific aggregator, (for instance the GNI per capita for the income dimension) and then we have to solve the problem of how to add carrots and tomatoes. It is important to recognize that with this first route, collective welfare does not aggregate individual welfare which is not defined as such. This way of proceeding bypasses computing individual welfare and hence it ignores the correlation between the different distributions.

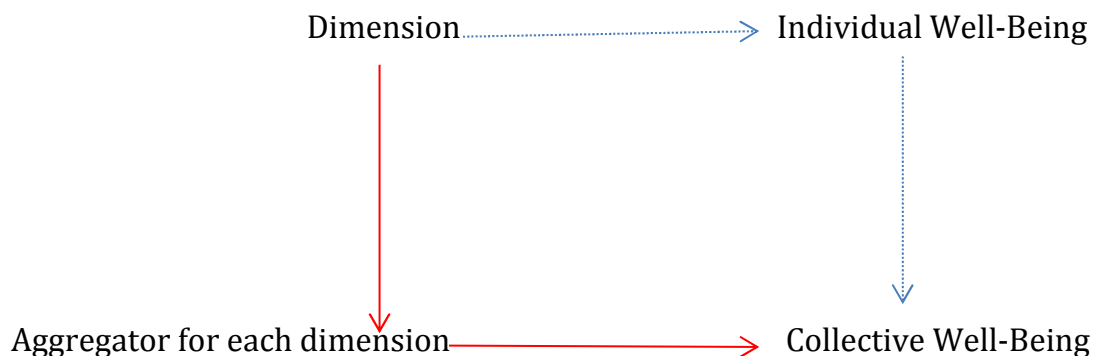


Diagram 1: The two routes for aggregating welfares in a multidimensional setting

The other route is deeply imbedded in the social choice literature which deals with the principles of aggregation of preference. The main concept is the Bergson-Samuelson

social welfare function which dates back to Bergson (1938). This concept has been enlarged by Sen to functional, namely, a function of functions aggregating the various individual utility functions which are numerical representation of individual preferences over the various dimensions into a function, that is, a numerical representations of collective choices. The crucial role of the informational basis of social choice introduced by Armatya Sen (1970) in his book *Collective choice and social welfare* was perfectly understood by Claude d'Aspremont and Louis Gevers (1977) to offer some escape to the Arrow impossibility theorem (1963). The important distinctions are between the requirements of:

- *Level comparability* where the levels of each individual well-being indicator⁴ are made comparable. The worst-off in a society need to be defined, as in the maxmin solution. This kind of comparison is, for instance, necessary when one has to decide who most deserves social benefits.

- *First-difference comparability*. The differences (gains and losses) in well-being indicators are comparable across individuals. This sort of comparability is needed to compute the sum of utilities, or to compute the total welfare gain of a tax-transfer policy measure.

- *Ratio-scale comparability*. The ratio of individual well-being indicators is comparable. The ratio-scale comparability requires each individual well-being indicator to have a common and natural 0. For instance, the Nash Bargaining solution (defined as a product of utilities gains with respect to some status quo) has to be computed, or each individual has to report his happiness on a common scale between 0 and 10 as is quite common in all happiness studies.

This second route allows for the correlation between attributes to matter in computing social welfare. To some extent, this second approach is preferable to the first one but obviously the construction of an individual well-being indicator represents a major challenge. There again, two routes may be followed, a normative one trying to build an individual well-being indicator on sound properties, a route followed by Marc Fleurbaey and François Maniquet (2011) or a more positive route built on happiness literature (Layard (2011)). One may also want to combine both, an attempt proposed by Marc Fleurbaey (2011). Of course, even if it were proved that one can strictly measure individual well-being on an objective basis, it remains a normative choice to select this objective measure of well-being as the measure of individual welfare that will be used in collective choice.

The relationship between inequality and welfare

It arises from the previous developments that inequality and welfare are closely related. And yet, it is far from obvious that the two words and concepts, inequality and welfare, are intimately related in the mind of the layman, as they are in the economist's. In the

⁴ At this stage, I prefer not to use the word utility which I reserve for naming subjective well-being.

history of economic thought they have been linked since Edgeworth (1897). He put forward the idea that even if you are interested in total welfare defined as the sum of individual happiness as advocated by Jeremy Bentham and John Stuart Mill, you should favor egalitarianism, and in particular you should agree to progressive income taxation. This reasoning is important because the conclusion is paradoxical. Even if one only cares about the sum of welfare across the population⁵, one should look carefully at income distribution. Of course, the conclusion that, the more equal a society, the greater the collective welfare defined as a sum, does not hold without assumptions. More precisely, if the marginal utility of income is the same for each individual and is decreasing, then the bliss point is reached for an equal distribution of income. The result is valid, absent any cost of redistributing income and in particular any behavioral responses. Obviously, one can immediately find people who would object to fully confiscating individual incomes. However, the important point is not there. This framework has been the point of departure of the optimal income taxation à la Mirrlees (1971), who reintroduced behavior responses but who kept intact the two major assumptions set up by Edgeworth. The model represents the canonical model of the welfarist tradition of optimal income taxation and then of welfarist redistribution before the attempt of Saez and Stancheva (2014) to replace it by another paradigm.

Two assumptions about individual welfare

Let us have a look at each assumption. The decreasingness of marginal utility of income, after having been postulated by Bentham, has been recently tested thanks to happiness surveys (Layard, Nickell and Mayraz (2008)) and is confirmed by empirical evidence. Apparently, the utility that fits the data the most is logconcave, that is, marginal utility declines more rapidly than it decreases with a log utility function.

On the other hand, it seems obvious that the similarity assumption could be violated by the data. The similarity assumption is normative but is important to understand it in depth before rejecting it. The critics of this assumption are often misguided. Obviously, there is no particular reason to think that a €1,000 additional income given to two individuals who have already the same base income would make them equally happier. However, suppose that they are equally the same from all objective characteristics that can be gathered in any household survey. They are the same age, they grew up in the same family, school and neighborhood background, they are in good physical and mental health, they have the same jobs and so on. Obviously even if they are similar from all objective perspectives, it does not mean that they are going to assess an income gain in the same way. So, another way of formulating this assumption is to say that unless there is some objective characteristic that is measurable and can be certified at the bar of

⁵ Of course, it is all but obvious that we should choose the sum or the average of individual welfare to define the collective well-being. It is only for pedagogical purpose that the discussion focuses on the sum.

political justice, in a parliament for instance, the marginal utility associated to a gain or a loss of income from a given level of income is assumed to be the same. That is, the burden of proof falls on those who claim that some categories of people need specific treatment. The fact that you are grumpy, for instance, will not pass the bar of social justice unless you are demonstrating that it is related to some external objective cause. This discussion is partly linked to the question of expensive/cheap tastes in the philosophical literature about social justice.

Normative social choice theorists learnt to cope with what is known as the expensive taste problem. Expensive tastes play an important role for rejecting the use of a subjective indicator of welfare in prominent theories of social justice: in Scanlon (1974) when adopting an objective criterion of well-being, in Rawls's account of primary goods (Rawls 1980), in Dworkin's advocacy of equality of resources rather than welfare (1981), in Arneson (1989) when he made equality of opportunity for welfare more appealing than equality of welfare. The prevalent view is that expensive tastes should not play a role in the redistributive policy unless they are correlated to some objective cause. This standpoint concerns utility levels. We would add an additional point when the discussion brings about comparing gains and losses in utility induced by transferring income from one individual to another as in the Pigou-Dalton principle of transfers.

This kind of comparison is common practice and I would like to illustrate the contrast between an acceptable point to discriminate and a case which might be viewed as unpalatable. Family needs provide the right case and the distinction wage earners/self-employed the wrong case.

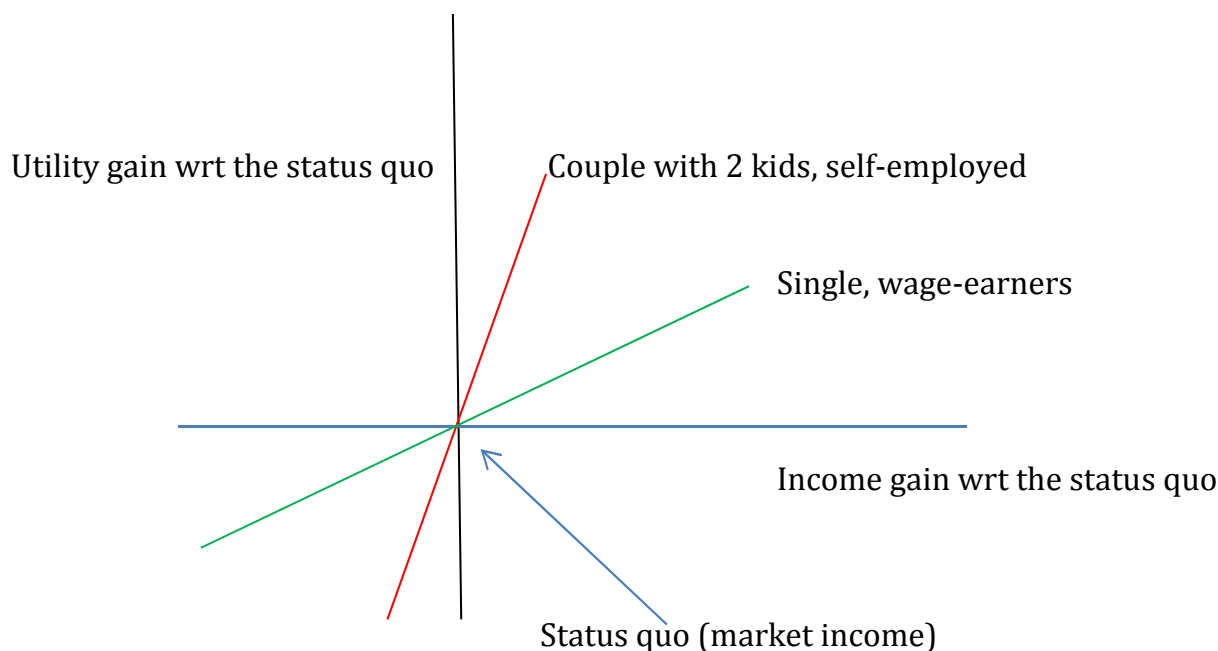


Figure 1 Comparing of gains and losses around the status quo

Figure 1 illustrates the dilemma faced by a redistributive policy which looks at the redistribution around the allocation coming out from the markets, which may have the property of a status quo. If there is no social agreement, then no redistribution takes place. For the sake of illustration we only graph a first-order approximation of a local change of income around the status quo.⁶ It is simpler to consider that all categories of individuals get the same market income, even if the reasoning can be extended a little bit beyond that.

Let us suppose that there are two kinds of persons, those who are more sensitive to pain and pleasure (plain line) and those who are less sensitive to pain and pleasure (dashed line). The situation can also be contrasted in terms of the elasticity of marginal utility to income around some initial allocation, if we accept the ratio-scale comparison assumption. This elasticity gives the relative change in marginal utility gained from an increment in consumption of 1%.

Family size provides a first example of such a differentiation and it is largely admitted that an additional gain will bring more happiness to a couple with two kids than to a single household. This kind of assumption has been put forth by Atkinson and Bourguignon (1987) in their extension of the Lorenz criterion to households who differ in needs and in particular in family size. Tax treatments in all advanced countries provide specific provisions for family composition and size for the benefit of families and at the expense of singles. Social benefits are also greater for families than for singles. Then, we have an example of largely accepted transfers between groups which is welfare-enhancing when welfare is computed as the sum of objective differences in well-being at the margin.

Now consider the case of the tax treatment of self-employed wrt wage earners. It is more speculative to assume that self-earners are more marginal-utility elastic than wage-earners. They self-select as self-employed and it is very likely that this self-selection process bears selection bias in terms of preference. Risk attitude, being one's own master and love of freedom, ambition, less work disutility come to mind as dimensions of preference with a potential selection bias. However, all these aspects miss the point that we want to emphasize, which is that they may embark in self-employment because they aspire to become rich in a way that wage-earners do not. An empirical evidence consistent with this supposition (see appendix A for a formal proof) is the fact that all empirical studies find a higher labor elasticity and a higher reported elasticity of taxable income to the net-of-tax rate for self-employed than for wage earners. (Saez Slemrod Giertz (2012)). Optimal income tax theory recommends a specific lower tax treatment, something that has not been granted even if the latter may occasionally benefit from specific advantageous tax deductions for business expenses. It is then interesting to

⁶ A kink at the status reflecting a ratchet effect might be more realistic. Anyway the important feature is the fact that the two curves cross.

investigate why they have not benefited from a more advantageous treatment on a large scale.

There are basically three reasons that can be invoked to explain that it has not happened yet. The first one is that the taste for money is not verifiable and then at this stage highly manipulable. Still, it could be verifiable in the near future thanks to the rapid advances in the neuroscience of happiness (see Kringsbach Berridge (2010)). The second reason may be that there is a large heterogeneity in the preference for money of self-employed, while everyone agrees that taking care of a kid represents additional expenses. The magnitude of heterogeneity among the self-employed is an empirical matter that could also be unveiled by the progress of neuroscience. The third reason is ethical. Suppose that we get to learn that all self-employed are suffering from a greater utility sacrifice to be taxed than all wage earners. It will not be enough to convince MPs to grant them a specific tax treatment because of the widespread opinion that people should be held responsible for their preferences and should not be compensated for. This political stance is advocated by the philosophers of responsibility and by economists like Marc Fleurbaey and François Maniquet. Fine, except that the same reasoning applies to kids for it is difficult to defend that in western societies the presence of kids in a family does not testify their parents' preferences.

The expensive taste argument cannot be used here, because those who have expensive taste on the tax side have cheap tastes on the transfer side and vice-versa. Self-employed would be happy benefit receivers and grumpy tax payers while wage-earners would be the opposite. This may have some behavioral consequences. It would lead to the somewhat speculative prediction that self-employed would be bad tax compliers and good benefit compliers whereas it will be the opposite for tax-earners. This prediction is at least verified on the tax side, where in every country, tax avoidance and tax evasion are more pronounced for self-employed but it may be because income tax cannot be easily withheld for self-employed. Therefore, even if self-employed face the same statutory rates, there is little doubt that they support lower effective tax rates than wage-earners. I do not have a clue about less cheating about social benefits from self-employed.

This kind of comparison of first differences in utility is also made in optimal income tax theory when establishing the optimal marginal tax formula with the use of a small perturbation à la Saez (2001). We are looking at a small tax change (tax and transfer payment since tax reform is budget neutral) and we compute the first-order welfare changes (including behavioral responses and tax revenues) for all individuals impacted by the change. Basically the analogue of Figure 1 illustrates the marginal gains and losses associated to the tax perturbation with the status quo figuring out the optimal allocation. If the initial allocation is locally optimal, then the net collective welfare gain introduced by any tax perturbation should be zero. The computation is just a little bit

less crude than the one we have previously described since the marginal individual welfare changes are weighted by social weight describing the society concern for fairness. Saez and Stancheva (2014) nested the standard welfarist approach in a more general one with generalized marginal social welfare weights which represents the value that society puts on providing an additional € of consumption to any individual.

Making stock of what we want to communicate as the main message here is that a small departure from utilitarianism by assuming that individuals in a homogenous society have the same marginal utility allows us to conclude that an extra income is more valuable to the poor than to the rich and that inequality means a loss in collective welfare. This idea was immensely influential in the Anglo-Saxon world and in fact was the idea pioneered by Hugh Dalton (1920) to measure inequality. This idea of an ethical measure of inequality was brought into full view of the economics profession and beyond by Antony Atkinson (1970) in his seminal paper with his equally distributed equivalent income (EDE). It is defined as the equal distribution of income which gives the same total welfare as the actual welfare. The reduction of average income in the EDE in proportion of the actual average income gives a measure of the waste of resources induced by the inequality of the income distribution⁷.

The second message is that departing from the identity assumption of the well-being indicator is hazardous and should not be undertaken except for some well identified cases such as family size, handicap, etc. Here, I fully agree with the following quote from Saez and Stancheva “Redistribution based on marginal utility is socially acceptable if there are objective reasons a person has higher needs, such as having a medical condition requiring high expenses, or a large family with many dependents.”

3. Normative and positive issues involving several sciences

Maybe the first important observation that is important to convey to a large public is that inequality and welfare were far from being at the heart of the discipline. Graphs 1 and 2 ⁸ illustrate the trend in publication in comparison with articles devoted to detection of causal phenomena. One could check that from the late 1970s to the early 1990s it was a topic that had no particular appeal to economists. Afterwards following the inequality increase in the US and the UK in the 80s and 90s, there had been a surge of economist interest in this issue. In 1997, Antony Atkinson gave his presidential

⁷ Dalton measured inequality by We/W , where We is the welfare that would be obtained if everybody received the average income. This measure is generally not invariant with respect to equi-proportional changes in all incomes. By contrast, Atkinson measured equality by $EDE/\text{average income}$ is invariant to equi-proportional changes in all incomes.

⁸ I am grateful to Pedro Rosa-Dias from Sussex University for sending me these graphs that he prepared for his talk about causality and inequality for the conference in the honor of John Roemer in Queens Mary London June 2015.

address to the Royal Economic Society titled “Bringing Income Distribution in from the cold”. The inequality has plateaued in these both countries at the beginning of the millennium and the interest is fading away again. In section 2, we already noted a positive correlation between peaks of inequality and interest by social scientists in the field earlier in the twentieth century. Regarding Piketty’s shock on the economic literature, it is still to be confirmed. Even when it was rocketing, the expression of interest from economists for inequality seems quite moderate in comparison with the interest in causality that becomes a central topic in the field.

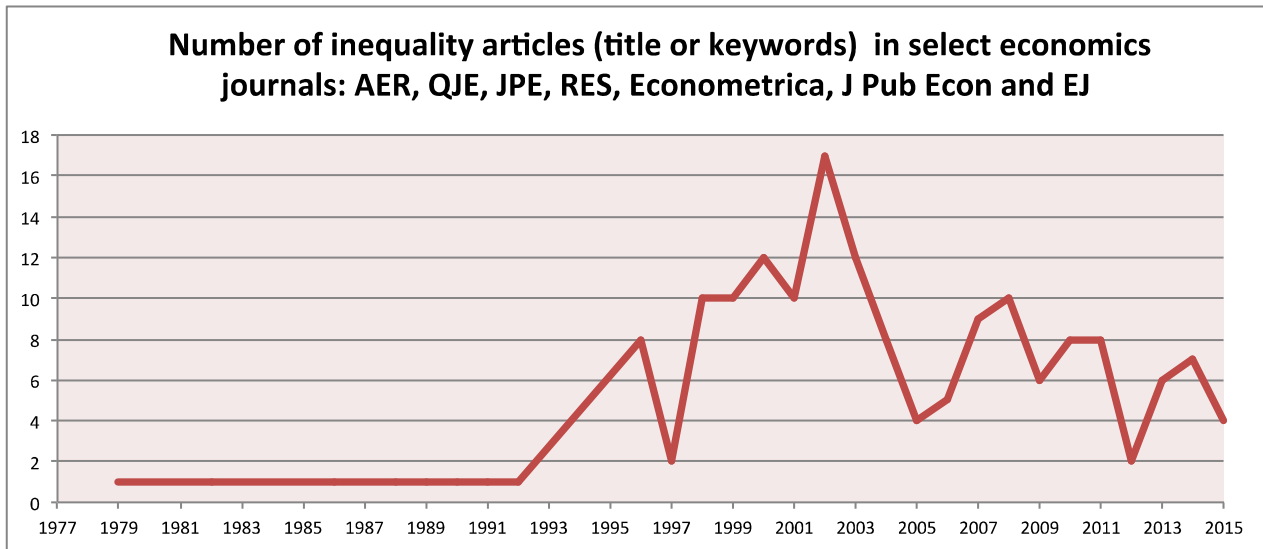


Figure 1: Stylized trends in the economic literature about inequality (source Scopus)

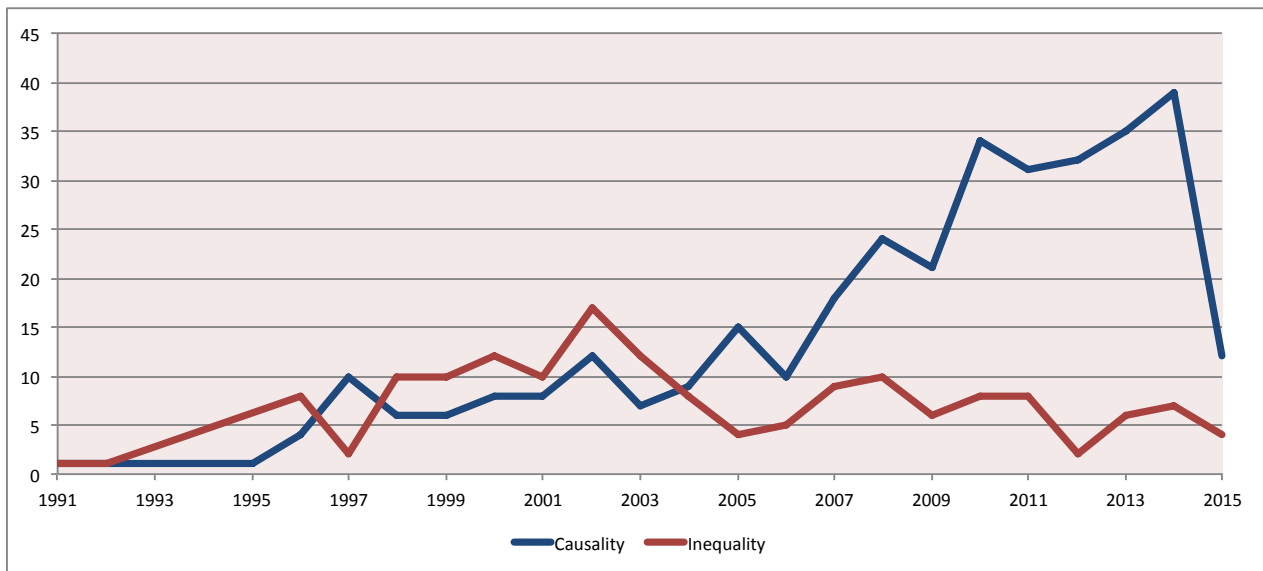


Figure 2: Stylized trend in the economics literature: Comparison causality and equality (Source Scopus)

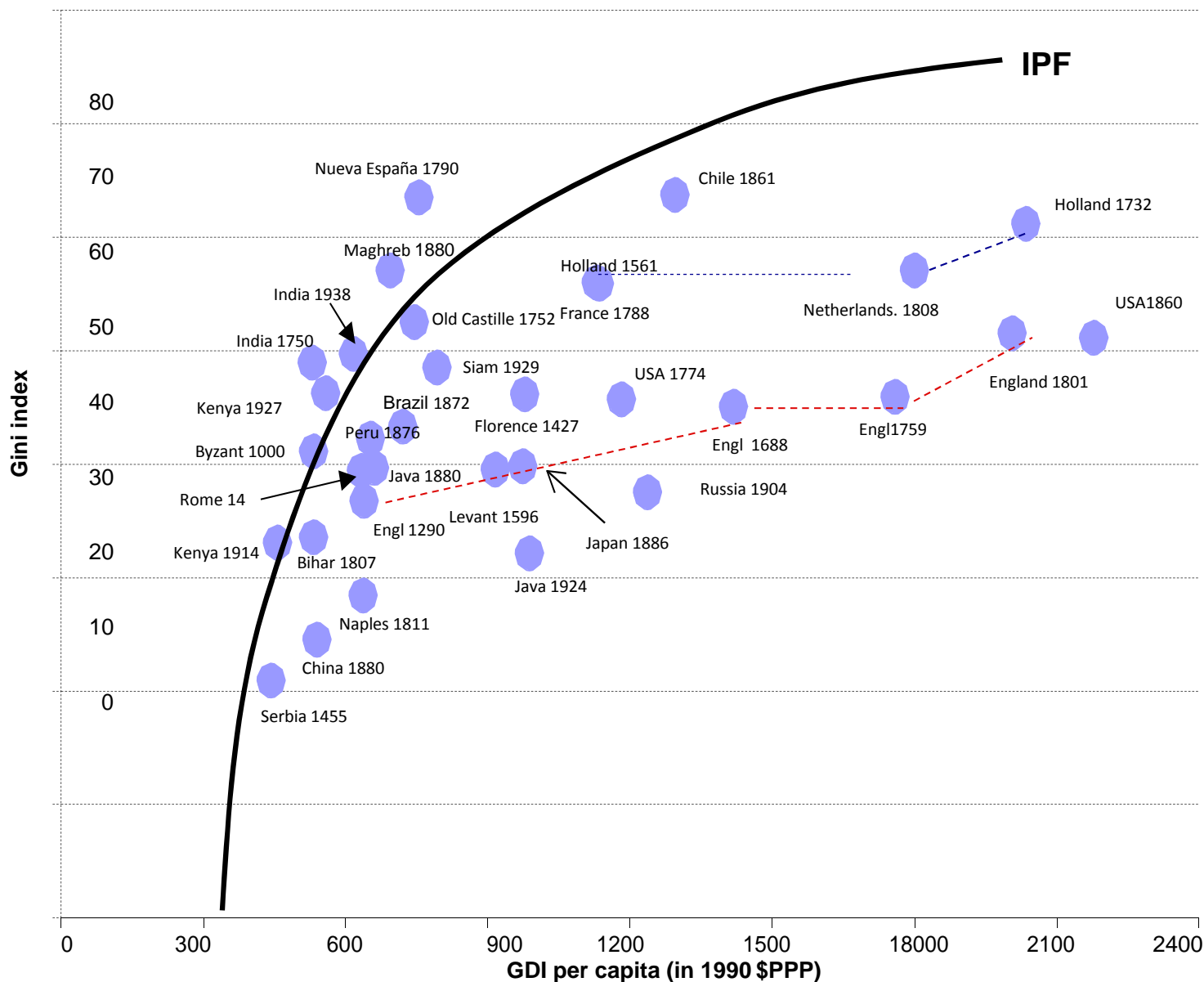
Fortunately, economists can rely on other colleagues of other disciplines. I am here giving some examples of interaction between economics and other sciences.

Distribution and redistribution are and should be described in a purely positive manner. However people are highly interested in these issues because they are likely to have a representation of what should be a just or fair distribution issuing from markets and a just redistribution process involving various public policies. They will compare what they see to what they think and if the discrepancy is too high they will declare that the situation is unfair. Obviously, differences in opinions are present and are shaped by political stances and economic environments. So they are only partly endogenous to economic variables and economists need the contribution of other social sciences to understand how ideas emerge and then spread due to social or economic conditions.

Political Philosophy

I have already mentioned the deep influence that political philosophers since John Rawls have had on the evolution of thinking among economists about the normative approach to social justice. They helped to structure ideas which have been around in a consistent way and it clarifies the opposition and the incompatibility between the different stances. Utilitarianism, which had long been the leading ethics inspiring economics, was challenged by the works of John Rawls, Amartya Sen, Ronald Dworkin and many others. It has pervaded the work of economists dealing with economic inequality by suggesting that the normative judgment about the fairness of an allocation depends as much on the process leading to inequality as on the resulting inequality level. Political philosophy continues to fuel economics with new ideas regarding equality and attention needs to be paid to how they cope with new problems. I will drop a few names whose thesis has received widespread attention among economists and social scientists. Robert Nozick's with his 1974 book *Anarchy, State, and Utopia* expressed a libertarian view point in a rejoinder to John Rawls, Derek Parfit (1984) with the repugnant conclusion of utilitarianism when applied to population ethic problems, Brian Barry and Philip Van Parijs (1995) for their support of the universal income, Jon Elster (1992) for studying how institutions allocate rights and goods to cope with social justice, Ronald Dworkin (1981 a and b), Thomas Scanlon (1986), Gerald Cohen (1989) and Richard Arneson (1989) for focusing on the issue of responsibility, the former two where individuals are held responsible for preferences as long as they identified with them, the latter two where individuals are responsible for what they control. All these ideas have been brought into the full view of the economic profession by the textbooks of John Roemer (1996) and Marc Fleurbaey (1996) on distributive justice where the axiomatic method is used to understand the prerequisite of each normative ethic in depth by the choice of some primitive principle. They also fuse political philosophy and modern economic thinking with their own proposals on equality of opportunity, Roemer (1993, 1998) and Fleurbaey (2008) following the example of their elders Amartya Sen (1985) with his capability approach and Serge-Christophe Kolm when he was promoting envy-free allocations (Kolm, 1972) or the "Equal Labour Income Equalisation" (ELIE), (Kolm 2005).

Figure 3. Estimated Gini coefficients and the Inequality Possibility Frontier (pre-industrial economies) Source: Milanovic (2013). Updated from Milanovic, Lindert and Williamson (2011).

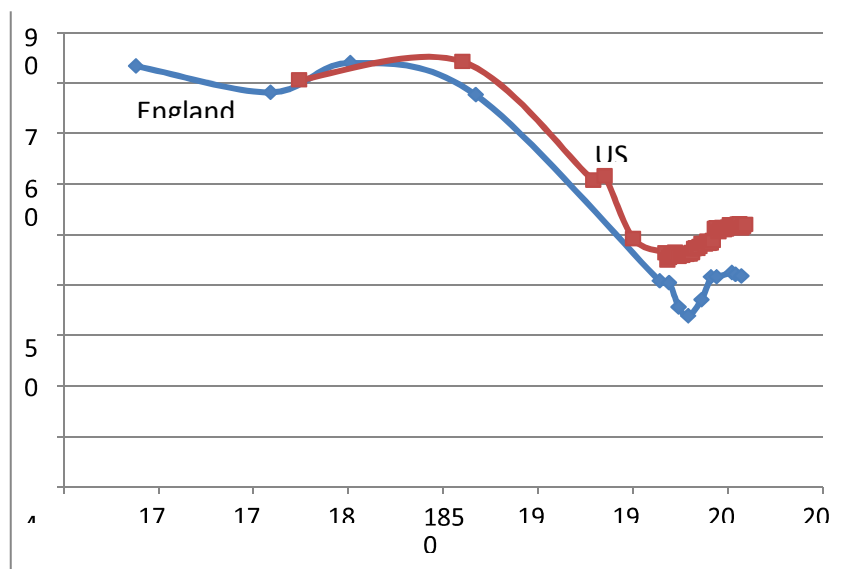


If philosophy is helpful on the normative side, *History* or may be more accurately the use of historical data in departments of economic history, has been extremely helpful on the positive side to give a sense of the degree of magnitude of income or wealth inequality nowadays in comparison to the past. I here give the example of the extraction rate a simple but meaningful concept due to Branko Milanovic (2006). It is computed as the ratio between the actual Gini of some income distribution and the maximum feasible Gini. It is defined as the Gini which will prevail if almost all the population except a tiny fraction of the population received an income just allowing to struggle with life. The subsistence level has been defined nearly as \$ 1 a day (in purchasing power parity terms) for all periods. The original “\$1 a day” line was a typical line amongst low-income countries in the data available in the 90s. A tiny fraction of the population receives all

the surplus of the economy. The Ancient Egypt comes to mind as a typical example. The inequality possibility frontier (IPF) delineates two regions. Above the frontier, we should not observe any society unless some fraction of the population is going to starve and the population is going to decrease. Then above the frontier, it cannot be a steady state. Below the frontier, we are observing societies where either the exploiters are not a tiny group or the exploited are going to get an income higher than the subsistence level or both.

The graph extracted from Milanovic (2013) based on Milanovic, Lindert and Williamson (2011) in Figure 3 is absolutely fascinating. It provides the most damning indictment of colonization of the rest of the world by Europeans. All the regions above the IPF are colonized regions except Byzantium and the Moghul Empire (India 1750). It proves that the colonial regimes were just regimes of total extraction of the surplus to the benefit of the colonizers. Latin America is still trying to cope with this daunting legacy in terms of inequality. Rome in the beginning of the first century or England in the late 13th century performed a little bit better but it is quite amazing how the slow growth of England from that century onwards was pro-poor. The same went for Holland. On the opposite, at the eve of Revolution, France was extraordinary unequal with still current deep consequences about the way that the French view any form of inequality.

Figure 4. UK and US historical inequality extraction ratios (elasticity of the social minimum with respect to mean income = 0.5) Source Milanovic (2013)



What is also amazing is that restricting the focus on just the US and the UK, this movement of going away from the IPF has stopped since the mid-70s and even reversed. The concept of minimal subsistence level has been adapted by Milanovic (2013) to take into account the fact that the basic need requirement is going to increase with the average income in developed societies. The elasticity of the social minimum wrt to mean

income has been estimated at around 0.5. We have to admit as robust empirical evidence that in the Anglo-Saxon world growth has failed to be pro-poor since the last quarter of the 20th century. However we cannot say that *from the point of view of the worst-off* we are back to the eve of WW1 as Piketty can rightly argue for the wealth share of the top 1 percent. It is also a bit reassuring that the rise in the extraction ratio has been at a standstill since the beginning of the third millennium.

Sociology and political science are bringing their expertise in carrying out representative surveys within and across countries on opinions on various matters. A very good example of their expertise in Europe is provided by the European Social Survey (ESS) which is an academically driven cross-national survey that has been conducted every two years across Europe since 2001. This representative survey measures the attitudes, beliefs and behavior patterns of diverse populations in more than thirty European nations. In comparison with other surveys conducted all over the world, the distinctive feature of the ESS is the high quality of comparative data provided by the ESS. Survey respondents were selected using strict random probability sampling, with a minimum target response rate of 70%, to try and ensure that representative national samples were obtained. The ESS's high quality translation of questions and systematic international sampling approach enables reliable cross-country comparisons to be made. In the next section, we will use their survey results about well-being across Europe's nations.

Another domain where sociological studies have been extremely influential on the economists' research agenda even implicitly was social mobility and more specifically the reproduction of social disadvantage at school. Well before it becomes fashionable in economics, the sociologists of education have explored the degree to which family, environment characteristics, and genetics influence educational achievement. For instance, the "Coleman report" in 1966 found that student background and socioeconomic status are much more important in determining educational outcomes than measured differences in school resources. In the same vein, the work of Richard Breen and John Goldthorpe in the UK and Pierre Bourdieu and Jean-Claude Passeron in France come to mind.

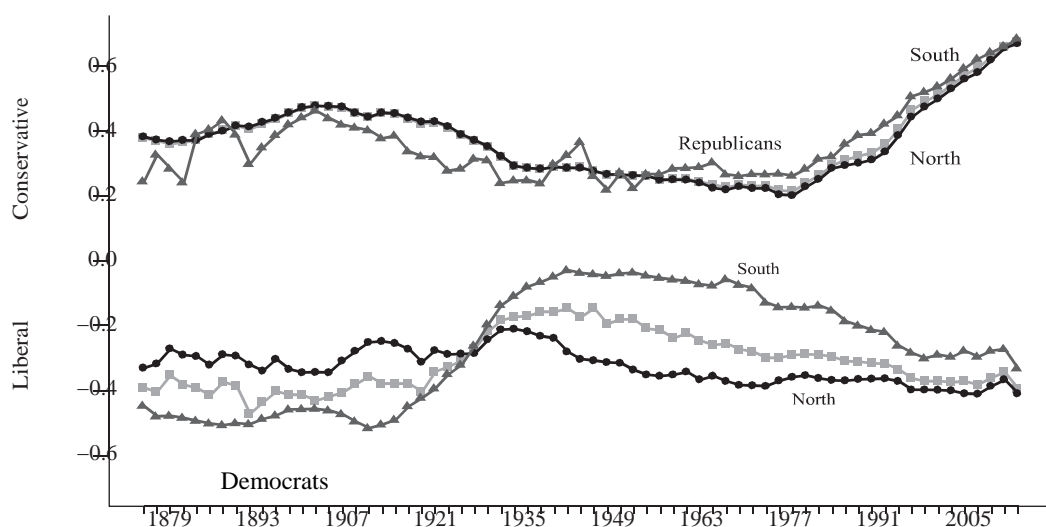
Another important sociological idea has pervaded the debate about inequality of opportunity among economists. Sociologists have been divided about the relative importance of social structure vs autonomy (human agency in the sociological jargon) in determining individual behavior but they all agree that the former factor is important. On the opposite, a corner stone of neoclassical economics is that preferences are stable and make an individual what he is. How the preferences came to be formed was outside of economics. John Roemer has contended that the rank of the student in the distribution of, let's say, school effort (if it can be measured) among all students sharing the same background characteristics provides a measure of the autonomy of the

individual. This deep idea is clearly reminiscent of the sociological debate about determinism versus voluntarism. The fact that this distribution is not reduced to a spike implies that there is some room for voluntarism.

Political science sheds light about why western democracies have not fully react to counterbalance the increase of market-income inequality. Regarding the emblematic US case, Bonica et al. (2013) provide very useful insights. It is fascinating that the great inequality moderation during the period 1930-1970 corresponds to a period where the ideological opposition between Republicans and Democrats on the liberal-conservative dimension was minimal. From the seventies, the average political opinions in each party fell apart, Democrats becoming more and more liberal (in the American sense) and Republicans more and more conservative. As Figure 5 shows, most of the polarization has been produced by a rightward movement of Republicans. Since the American political system requires somewhat a consensus or at least moderate representatives from the other political side (because of the bicameral legislature with a filibuster) to pass laws, the polarization has created a policy gridlock preventing the US system from adopting redistributive policies to maintain disposable inequality in a moderate range.

Figure 5 Republican-Democrat distance on Liberal-Conservative Dimension for the US House of Representatives, 1879-2012

Source: Bonica, McCarty, Poole, Rosenthal 2013



The next issue is to understand why such a kind of polarization happens and why after all redistribution policies become less popular. It is maybe the most difficult issue of social sciences to establish some causal relations about why political stances are becoming more or less popular. John Roemer (Roemer et al. 2007) hypothesises that instead of being one dimensional (more or less welfare state), the political agenda is nowadays bidimensional where the second political axis is how open the society should be to people originating from other ethnicities. The choice along this second dimension interferes with the choice over the redistributive dimension and changes the

equilibrium of the political game. If people of the ethnic majority have the feeling (maybe it is untrue) that the welfare recipients come in a disproportionate fraction from the minorities, some voters will be against an extension of the welfare state and even for a reduction of the welfare state because of their mixed feelings vis-à-vis the minority. The authors estimate that if all voters held non-racist views, liberal and conservative parties alike would have proposed levels of redistribution 10 to 20 percent higher than they did. On European data (ESS), Senik, Stichnoth, Van der Straeten (2009) found that natives that hold negative views about immigrants tend to be less supportive of the welfare state independently of the perceived presence of immigrants. To the extent that the racial issue used to be less intense in Europe than in the US, it may explain the distinctive choice of the US political system regarding the degree of powerfulness of the welfare state.

Psychology helps to understand how to design experiments to assess the fairness of a situation and the different feelings like happiness induced by a given situation or a change in situation. Psychologists are particularly useful to understand the traps that the scientist has to bypass to get an adequate answer to some questionnaire.

There is a huge wave of studies about happiness but the work of psychologists, such as Daniel Kahneman (Kahneman and Riis (2005)), shows that individuals approach this concept in various ways. They cannot think straight about well-being. People are confused about how they feel *in* their life and how happy they are *about* their life. The former view corresponds to emotional states whereas the latter view is closer to what people think of their life. Depending on what you are asking, the emotional-self or the cognitive-self, the answers will be different and the correlation is not higher than 0.4-0.5. To illustrate, when people are asked about how their feelings vary with income, the emotional-self (Gallup polls for the US in a study conducted by Angus Deaton and Daniel Kahneman (2010)) reports a completely flat curve beyond an annual income of \$75,000, whereas the remembering-self reports a life evaluation which rises steadily (approximately linearly with the log of income). These authors conclude that money buys life satisfaction but not happiness whereas a lack of money exacerbates the bad feeling associated to ill health, divorce and being alone. Well, at this stage, it is still not clear how we can use these figures to design public policies but this issue represents a clear challenge for the following years.

A second distinction refers to the emotional quality of an individual. The experienced-self knows about the present while the remembering-self keeps records and maintains the story of his/her life. The remembering-self is a story teller. What we keep in memories helps us to build a story. Discrepancies can occur between the experiencing-self and the remembering-self. When a colonoscopy experience ending with a pain peak is extended with some moments of further lower pain, the patient keeps in mind a lower pain although the pain experienced by the patient lasts longer and is at least as great in

the extending clinical test as in the initial test⁹. Any social scientist who fails to make the distinction between these two notions is going to mess up the study of emotional happiness.

Neurosciences: Happiness in the twenty first century

And what if Jeremy Bentham was right with his invention of happiness? I am referring here to the famous quote “Nature has placed mankind under the governance of two sovereign masters, pain and pleasure.” One century later, Sigmund Freud was of the opinion that people strive for happiness. Nowadays, according to Ken Berridge¹⁰ from Michigan University (Kringelbach and Berridge (2010)), we do have a few insights to understand the brain mechanism of hedonic states, even if we do not have a full-fledged neuroscience of happiness as we have one for memory or vision. The Aristotelian distinction between Eudemonia and Hedonia is still useful. Hedonic feelings are generated deep in the brain and all rewards arise from the same brain circuit (network) which is quite fragile whereas the prefrontal cortex is just a coding region. Abstract pleasure such as art and music or social pleasure such as meeting children or friends activate the same brain region as sensory pleasures such as food and sex, raising the hypothesis, extrapolating from what we know, that the same brain circuit is calling upon to generate a sustainable sense of well-being embracing both eudemonia and hedonia. The brain region for pleasure wanted is separate from the region for pleasure liked and it opens the possibility to wanted pleasure that is not liked. Apparently this is what happens with addiction which is a recipe for unhappiness. Hedonic feelings come within us as testified by the example of paraplegics who can report very high feelings of hedonic feelings despite constraint conditions. The role of some neurotransmitters such as dopamine is better understood. Neuroscientists use neuro imaging such as functional magnetic resonance imaging (fMRI) to determine which areas of the brain are the most active during particular tasks. We can thus detect happiness in the brain through different techniques and happiness is not a pure invention of moral philosophy. Can we measure happiness by a somewhat physical scale in the brain by correlating existing chemical levels with different responses of subjects on some scale? Can we imagine bypassing self-reported happiness to measure directly by physiological assessment alone? A first step has been made by measuring thermal pain in a controlled lab experiment (see Brown et al. (2011), Wagner et al. (2013)). Cerebral circuitry is far from having revealed all its secrets but we can hope for major progress in this century.

Another important domain where development psychology and neurosciences can help is the study of cognitive and non-cognitive development of infants in relation to their family background. It is fascinating to learn (Gopnik, Kuhl, and Meltzoff 2011, Dehaene

⁹ It might have been anticipated by the French philosopher Henri Bergson (1889) who contented in his doctoral dissertation that people conscience fails to record duration.

¹⁰ Aspen conference <https://www.youtube.com/watch?v=8f-T7lgdLPI>

2013¹¹) that the same mechanisms used by scientists to develop scientific theories are used by children to develop causal models of their environment. The cognitive development of children in early life is made possible by three factors: innate knowledge, advanced learning ability (Bayesian learning), and the evolved ability of parents to teach their offspring. It is this third factor that may be linked to the familial and early-school roots of equality of opportunity. In the US, the gap between blacks and whites in terms of equality of opportunity continues to be a pressing political issue. In particular it is important to dismiss the idea that children growing up in poor families cannot achieve good educational outcome due to low innate talent. On tests of intelligence, young adult blacks systematically score less than whites although the gap is diminishing. However, incentives partly determine scores on IQ tests. The black-white gap in IQ completely vanishes by giving candies for correct answers (the evidence is summarized in Borghans et al. (2008) and Almlund et al. (2011)). Using a newly available nationally representative data set that includes a test of mental function for children aged eight to twelve months, Fryer and Levitt (2013) bear new insights on the social construction of this cognitive capacity gap. They find only minor racial differences in test outcomes (0.06 standard deviation units in the raw data) that disappear with the inclusion of a limited set of controls. Interestingly, when introducing SES, higher SES black children perform better but the effect is small (a top-quintile SES child outscores a bottom-quintile child by 0.08 of a standard deviation) and the deviation is not robust with respect to the introduction of other controls. Black children, however, lose ground in the first years of schooling (Fryer and Levitt (2004, 2006)). Differences emerge as early as age two, and by the time black children enter kindergarten they lag whites by 0.64 of a standard deviation in maths. The gap continues to grow as children advance in schooling. According to these authors, there is suggestive evidence that differences in school quality may be an important part of the explanation for this widening in test scores. Both neuroscience, psychological and economic studies support James Heckman's political stance (2012) that if we want to raise equality of opportunity, the sooner the public intervention, the better, with respect to the age of children. This should be fully understood by all decision makers if we want to build more offensive social states.

This survey will not be useless if it helps to get a sense that cutting-edge research program on inequality and welfare should mix-up researchers from different fields. As an example on how to do this, one can have a look on the International Panel of Social Progress¹². For each field brings up some specific skills that due to the division of labor will be very hard for economists to develop in a few months. (see Appendix A for a potential example of cooperation of economists, psychologists and neuroscientists).

¹¹ <http://www.college-de-france.fr/site/stanislas-dehaene/course-2013-01-08-09h30.htm>

¹² <http://www.ip-socialprogress.org/>

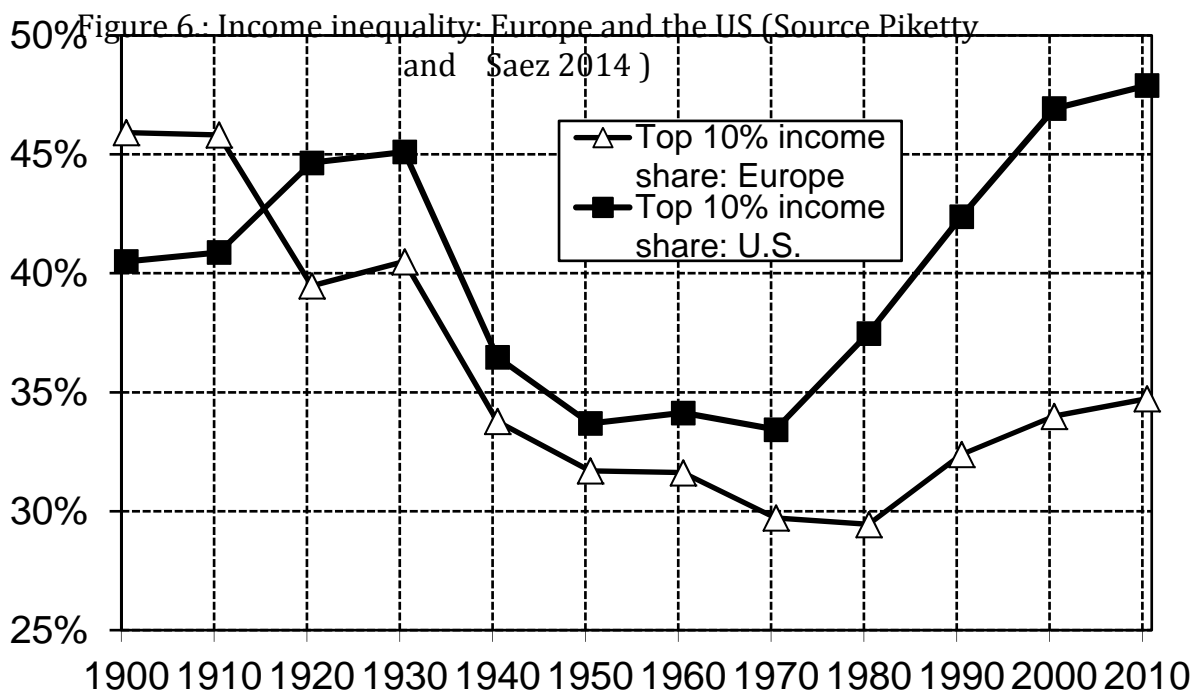
4. Europe inequality pattern vis-à-vis the US

I will now review how Europe and the US differ in many ways regarding both the pattern and the evolution of inequality. As suggested by the previous insights, it is important to distinguish results in terms of inequality of outcome from those capturing inequality of opportunities. Next, I will move to attitudes to income inequality and I will end up with what we know about welfare comparisons.

a) Inequality of income

Even if the situation is contrasted across European countries, it is fair to say that, with respect to the US, inequality increase has been contained in Europe as a whole. The redistributive power of the welfare state has not been reduced globally. Of course, these statements should be qualified. It remains to be seen how the Great Recession will affect the current state of affairs. At this point, a cautionary note is in order. The picture may depend on the measure of inequality one is taking to some extent. The share of top 1%, the share of top 10% in total income, or the Gini index do not deliver exactly the same message, the same ranking, although the correlation between all these measures is high. Due to page constraint, we are focusing on the main robust messages and the graphs presented here should be merely viewed as illustrations.

The graph for pre-tax and pre-transfer income inequality in Figure 6 provides a long-run perspective from which we can see that inequality in the US and Europe (defined arbitrarily by Saez and Piketty (2014) as the arithmetic mean of the situation prevailing in France, Germany, Sweden and the UK) has followed different paths. We can distinguish three periods. In the first period, 1900-1930, inequality fell in Europe while it rose in the US. WW1 and its consequences levelled down both output and inequality in Europe. In a second period, 1930-1970, inequality fell sharply in both continents and the trends are remarkably parallel. In the last period, 1970-1980, inequality rose steadily in the US and moderately in Europe. As a matter of fact, the rise in Europe did not occur before the 80s. The first decade of this millennium shows a slowing down of the inequality rise in both regions.



In looking at this chart, we have focused on the changes over time. We will not speculate on the levels up to the 70s for the stark construction of the graph for Europe. Nevertheless, the huge gulf in 2010 between the US and Europe in terms of inequality levels is confirmed by all studies whether we look at market-income inequality or at disposal income inequality and the chosen inequality index. For instance, the LIS data set¹³ whose the purpose is to make distributional data comparable between countries, delivers the message that the Gini index for the 2010 disposable income is higher in the US than in the 23 European countries present in this data set.

However the heterogeneity in Europe remains large with the best student in the European (and likely world) class being Sweden with a Gini index of 0.237 closely followed by all Nordic countries. Most countries of continental Europe (plus Ireland) are following next with the Netherlands leading the pack, the other Benelux and Alpine countries, the countries which used to belong to the former Austro-Hungarian Empire (Slovenia, Slovakia, the Czech Republic, Hungary), France (0.289) and Germany (0.289) and Ireland (0.294) closing the march. All these countries have a Gini index lower than 0.3. The somewhat outliers in Europe are the Mediterranean countries (Italy, Spain, Greece) with a Gini of about 0.330, the UK with around the same degree of inequality, Poland being somewhat in between the pack and the outliers (0.31). On the whole, Europe can be described as the continent of depressed or contained inequality in the developed world, the other zone of quite low inequality being Japan, South Korea and Taiwan but still with Gini values slightly above 0.3. The former dominions, Canada,

¹³ LIS key figures : <http://www.lisdatacenter.org/data-access/key-figures/download-key-figures/> downloaded 4 August 2015.

Australia are quite close to their mother country, the Eastern former communist countries Russia, Serbia and Estonia are in the same league as the Mediterranean countries. The US, Israel and Uruguay share a different vision of inequality with a Gini index in the range 0.37-0.38. It is far from being innocuous for the further development of the European Union towards a more integrated area to note that the UK is in a midway position between the US and continental Europe.

Of course, the inequality between all citizens of the European Union is far much larger than the inequality in each member state for it takes into account the per-capita-GDP discrepancy between the different countries¹⁴. What is amazing is that the inequality in Europe viewed as a unified country is as high as the inequality in the US (Milanovic (2012)). It means that in the US-Europe comparison, the between-country inequality term offsets the within-country inequality term. From this we can draw that the convergence policies directed toward enhancing growth in the lowest-GDP members are as important nowadays as they were in the past.

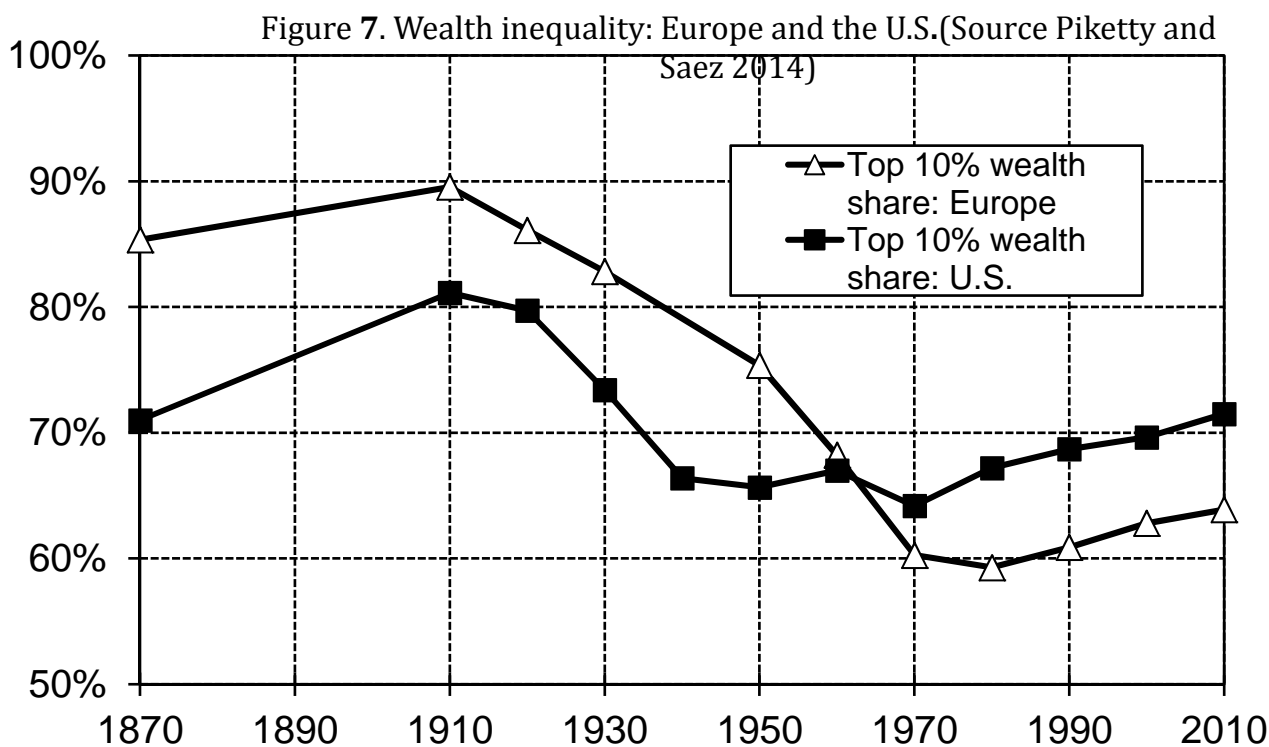
Forces behind the increase in gross-income inequality

We do know much more about the reasons beneath the evolution of inequality in the US than for any European country. The US benefit from a size effect in applied research to their economy (a kind of economies of scope). There are many more US economists working on a given applied subject than colleagues from any other country. A side effect is that there is more competition and the emulation raises the quality of the studies.

Primary income comes from 2 factors, capital or more exactly wealth¹⁵ and labor. Piketty (2014) entertains the idea that capital-income inequality was partially responsible for the rise of inequality whereas the main bulk of research has been mainly focused on labor income. Here, we consider a somewhat restrictive issue which is the potential impact of wealth inequality in the divergence between Europe and the US in the inequality pattern since the 70s. The empirical evidence points out in two opposite directions. On the one hand, the wealth-income ratio is higher in Europe than in the US (see Figure 3 in Piketty-Saez 2014) meaning that if the rate of return were the same, the share of capital income should be higher in Europe than in the US. On the other hand, the following chart (Figure 7) shows that wealth has been more concentrated in the US since the end of the Vietnam War than in Europe. Moreover, the speed of concentration is somewhat higher in the US than in Europe. We conclude that at this stage, it is far from obvious that the divergence between Europe and the US mainly comes from capital income.

¹⁴ By the way, international inequality, that is, inequality of living standards between countries, raises some difficult measurement issues (See for instance, Neary (2004).

¹⁵ An important part of wealth, mainly housing, is not a production factor.

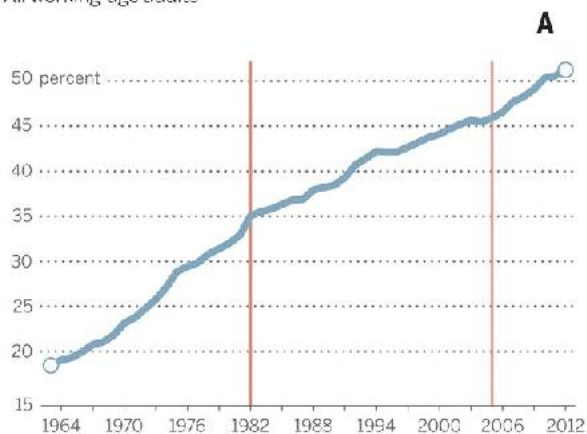


A labor-inequality pattern is the usual suspect for the growing transatlantic divergence. David Autor (2014) provides a very well-documented review of the reasons which may explain the dramatic increase in earning inequality in the US since the end of the Vietnam War. According to Goldin and Katz (2007, 2008) about two-thirds of the overall rise of earnings dispersion between 1980 and 2005 is proximately accounted for by the increased premium associated with schooling in general and postsecondary education in particular. The skill premium in the US has more than doubled over the past three decades. The magnitude of the impact of this phenomenon on the earning inequality is four times as large as the increase share of the top 1%. The US labor economists following Golding and Katz favor an explanation through the demand and supply forces on the labor market. There is a race between education and technology, namely, if the supply of college graduates does not keep pace with a persistent outward shift in demand for skills, the skill premium will rise. Many factors may explain the upward shift of the demand for college graduates. The so-called skill-biased technological change is one of them and it is not debatable that the ITC revolution has increased the demand for high cognitive skills at the expense of people with only physical stamina. On top of that, the falling barriers on international trade have increased the potentiality of outsourcing. In terms of the international division of labor the western countries up to now managed to keep the design and the marketing of the products, while the production processes were partially or totally outsourced to low-wage countries. For some reason that we will not try to explain here, the American educational system was not able to produce enough college graduates in the period 1982-2004. The left panel of Figure 8 underscores that the pace of increase lowered during this period and the right panel

shows how the college-graduate deficit for this period is associated to an impressive surge in the skill premium well fitted by the labor market model.

The supply of college graduates and the U.S. college/high school premium, 1963–2012

College share of hours worked (%), 1963–2012:
All working-age adults



College versus high school
wage gap (%)

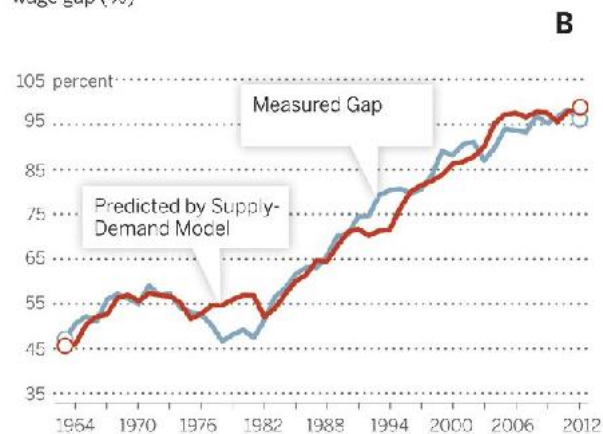


Figure 8: The supply of college graduates and the U.S. college/high school premium, 1963–2012. Source David Autor (2014) *Science*.

(A) College share of hours worked in the United States, 1963–2012: All working-age adults.

(B) The fit of a simple labor market model to explain the evolution of the skill premium.

While there have been a lot of debate about the skill premium evolution in the US among labor economists, this issue has received less attention in Europe so far. Crivellaro (2014) represents a first attempt at filling the gap. As a matter of fact, we do not have a beautiful simple story as in the US case. We can make the premise that the same market-driven forces are at work in each European country. However, the labor demand shift towards skilled labor may be less pronounced in European countries than in the US because of the lower importance of multinational firms or because European countries have been mainly followers in the ICT revolution. Bertola and Inghino (1995) report a lack of high-skill intense sectors in Europe. Regarding the supply effect, it is governed by national conditions and particularly by national education institutions and the dynamics of college enrollment. There is no particular reason to believe that the US example is going to be replicated everywhere. Apparently, according to this study, the wage premium was flattening or slightly decreasing in all European countries surveyed except the UK. It seems that in most European countries, the supply of colleges graduate keeps up with the demand.

On top of market-driven forces, there are obviously other factors such as the role of public policies, (tax and transfer, minimum wages), the labor-market institutions (labor legislation, union density, more or less decentralized wage-bargaining) that play a role and which can influence for the best or the worst the interaction of supply and demand.

Apparently, this has also occurred in Europe (see Machin and Van Reenen 2010) but we need further research here.

Now, regarding the dramatic increase of the share of the top 1 percent in the US which has not been experienced at this scale by any other country, one can also elaborate a driven-market explanation which would be based on the super-star story (Rosen (1981)). The competition game in the ITC sector is often a winner-take-all game. The bandwagon effect generated by the network of consumers means that the first firm which succeeds in driving consumer mindshare will be in a position of natural monopoly. The US because of their technological leadership and market size would be the place where this bandwagon effect occurs more often and the leader on the US market will have a decisive competitive advantage on its foreign competitors. We deduce that the density of winner-takes-all in the US should be higher than in any other Western country. It would be strange if this feature was not related to the share of top 1% in the US. On top of that, the importance of the finance industry in the US (in the UK too) cannot be dismissed (see Bivens, J, L. Mishel (2013)).

At this stage, we conclude that it would be quite hazardous to put on the same footing labor income inequality and wealth inequality as potential culprits of the great transatlantic divergence in terms of inequality.

Convergence process in Europe

The inequality of primary income can be more or less reduced through the system of tax and transfers organized at the household level. We have already mentioned that many European countries share a relatively low level of disposable-income inequality (Gini lower than 0.3). What is fascinating and this feature has been overlooked in the literature is that a convergence process across European states is underway, both in terms of disposable income inequality and in terms of the redistributive power of the state.

The left panel in Figure 9 illustrates the former feature and the right panel the latter over the period 1985-2010. The starting period is when the internal market was set out by the Single European Act. The convergence process in terms of disposable income has been mainly obtained by a catching-up of low-inequality countries (Nordic countries) while the inequality in the high-inequality countries has been contained (UK, Italy, Poland). The mid-way countries (Germany, France and the Netherlands) follow the path of a slight upward trend of inequality. This lower dispersion has been obtained at the cost of a levelling-up which may entail mixed feelings.

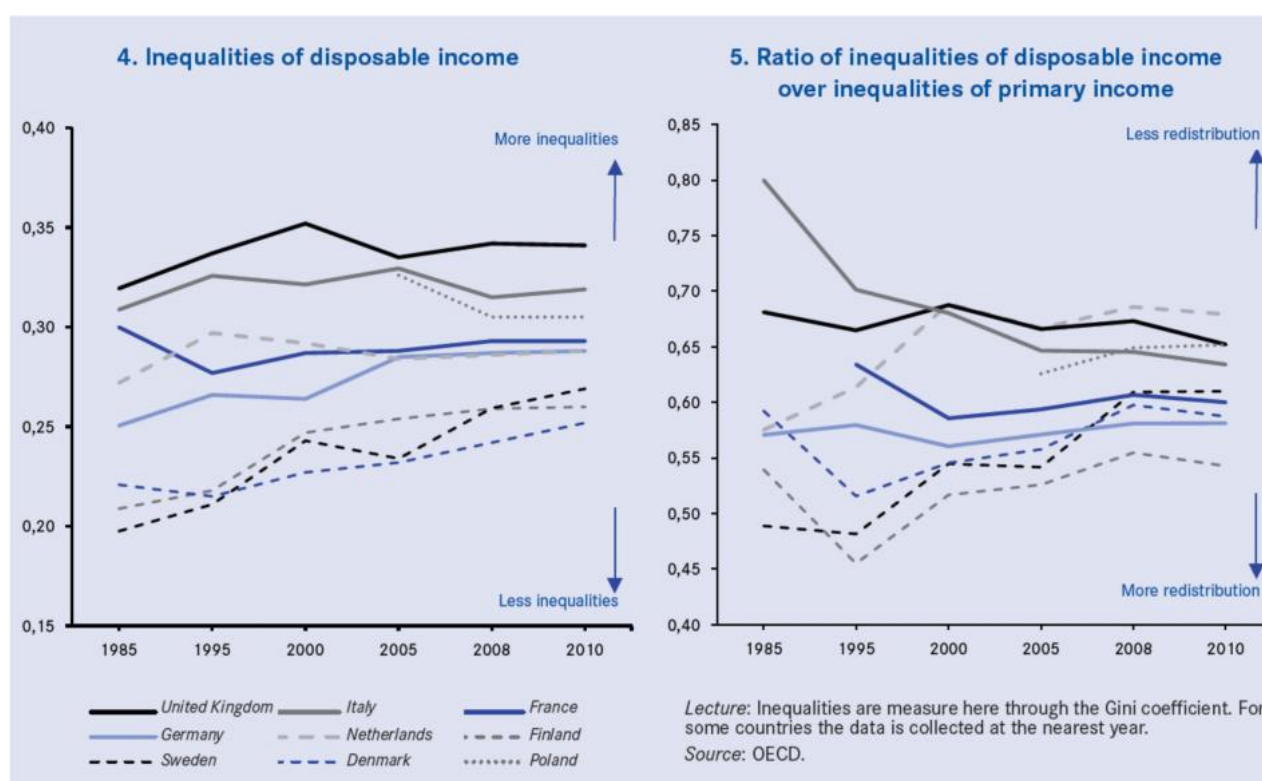
Still, it would be false to deduce that the tax and transfer system across member states has not become less redistributive along these years as shown by panel b. Indeed, there

seems to be also a convergence amongst EU Member states on the extent of redistribution. The system has become less redistributive in Nordic countries and the Netherlands but more so in Italy, the UK and Poland. In France and Germany, the tax-and benefit system has achieved an amount of redistribution which remains more or less constant along the period. In 2010, the ratio of after- to pre-tax inequalities ranged from 0.54 to 0.68 while it belonged to the 0.48-0.80 band in 1985.

.Figure 9: Convergence in Europe of the redistributive power of the state. Source OECD and Bénassy-Trannoy-Wolf (2014)

Left Panel: Inequalities (Gini) of disposable income

Right Panel: Ratio of inequalities (Gini disposable income/Gini primary income)



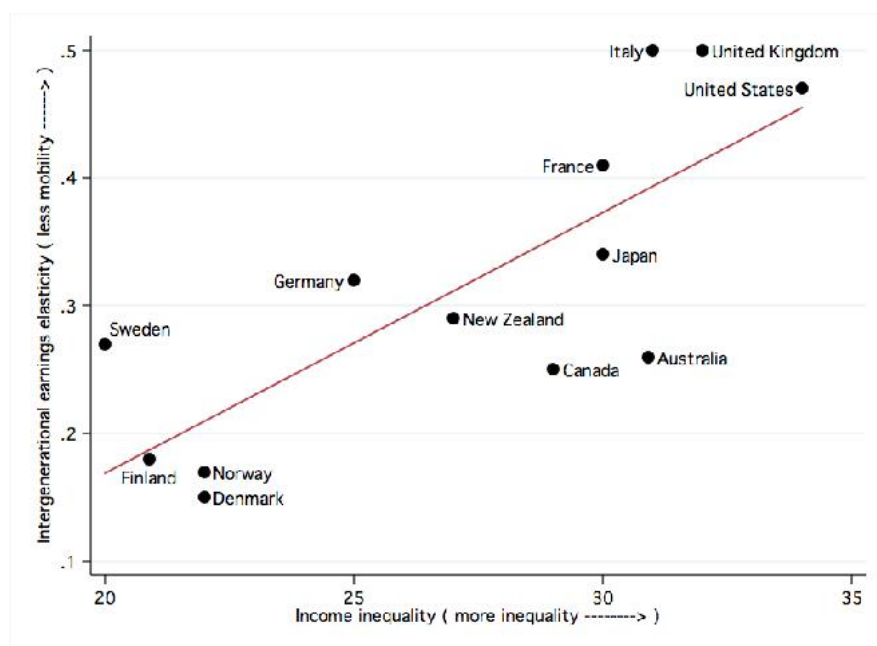
The redistributive powerfulness of the state is lower in other advanced countries, 0.69 in Japan, 0.71 in Australia, 0.72 in Canada and 0.76 in the United States: EU countries have seemed to converge to a degree of redistribution that is higher than in other advanced regions. This is quite good news for the promoters of a building up of a “European Union of social states” since it points out through a revealed preference argument that the redistributive preferences of citizens in different European countries are getting closer. This is an important building step in the movement to a more integrated Europe and it is interesting to notice that this trend is not limited to countries belonging to the Eurozone. On a more cautionary note, it remains to be seen whether the current crisis in the Eurozone will undermine this convergence process. The reforms of the welfare state which are underway in Britain can reverse the current trend for this country. Once again, it should be added that a constant redistributive power has not

been enough to prevent an increase in inequality in Europe. It can be argued however that the system should have become more redistributive to countervail the rise in primary income inequality.

b) Inequality of opportunity and intergenerational mobility

Intergenerational mobility and equality of opportunity are related concepts. We begin with reporting empirical evidence about the former concept for which we have accumulated more results. The global picture appears to be the following. The US had long been the reputation of being the land of opportunities. When looking at the data, the current situation is much less impressive. Nordic countries clearly perform better; Southern European Countries perform not much better than the US; continental European countries are in between. At first glance, the ranking of countries is not so much different from the ranking in terms of income inequality and indeed the correlation is high but still the scattered diagram in the space income inequality, intergenerational mobility is far from being lined up as illustrated by Figure 10. The comparison of Canada, Australia and France is instructive to that respect. Although they were in the same league in 1985 for disposable income inequality (Gini index) Figure 10 reveals that these three countries are in a very different position in terms of intergenerational mobility. This concept is approached by the intergenerational income elasticity which measures the extent to which offspring income levels reflect those of their parents. More precisely it gives how a marginal gain of parent income (usually the father) is translated thirty years later in a marginal gain of descendant income (usually the son). The value of this elasticity is low in Nordic countries (Denmark) around 0.20 meaning that 20% of the parental income advantage is passed on the following generation. Canada is not far behind with an elasticity of 0.25 but now for France the figure is as high as twice the value reported for Denmark. In Italy, the United Kingdom, and the United States, the situation is even worse and roughly 50 percent of any advantage or disadvantage of the past generation is passed on.

Figure 10: The Great Gatsby curve: More inequality is associated to less intergenerational mobility (Source: Corak 2013¹⁶)

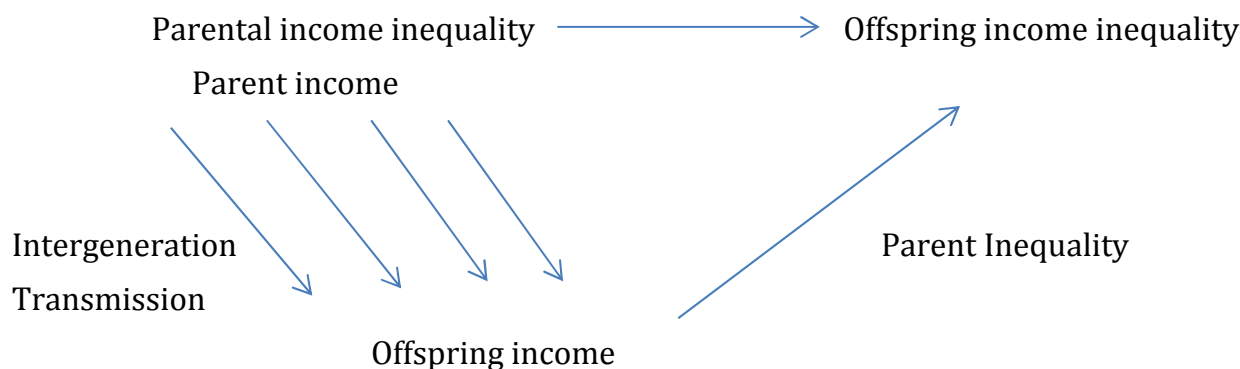


There is a strong relationship between inequality of opportunity and intergenerational immobility. Roughly speaking inequality of opportunity measures how the outcome inequality in the offspring generation is linked to the inequality in the parent generation. The inequality in the offspring generation refers to some outcome such as education, income, occupation, wealth, health, longevity etc. The inequality in the parent generation refers to the same variables which are called *circumstances* in the terminology that comes from Roemer (1993). These circumstances are certainly exogenous to the offspring destiny. For pedagogical purposes, suppose that we are only interested in income for both generation, that is, income as a circumstance, and income as an outcome. It is quite limitative but at the same time, parental income is an omnibus measure catching up many different advantages that can be passed on offspring. We want to know the extent to which income inequality in the offspring generation is due to the income inequality in the parent generation. The following diagram displays that the inequality of opportunity is a chaining process in which the output of the intergeneration transmission mechanism (computed as the intergenerational income elasticity for example) becomes the input of the parental income inequality process. We apply to each parental income the intergeneration mechanism to obtain the income fraction of the offspring related to that of their parent and then we allocate the inequality of the parental distribution to the obtained

¹⁶ Income inequality is measured as the Gini coefficient, using disposable household income for about 1985. Intergenerational economic mobility is measured as the elasticity between paternal earnings and a son's adult earnings, using data on a cohort of children born, roughly speaking, during the early to mid 1960s and measuring their adult outcomes in the mid to late 1990s.

distribution.¹⁷

Diagram 2 : The decomposition of inequality of opportunity



Under some assumptions, one can obtain simple formula for this composition operation. Lefranc Pistolesi and Trannoy (2007) show that inequality of income opportunity can be described as the product of the intergenerational elasticity of income times the parental income inequality.

The pattern of inequality of opportunity then depends on two forces, the evolution of parental distribution inequality and the trend in the intergenerational income elasticity. This leads to the following key-observation. The evolution of inequality of opportunity nowadays, that is, for the current generation in the age group 30-50, depends on events which took place deep in the past. The transmission phenomena mostly lasts from the cradle to college attendance, namely, for the youngest of the age group of interest in 1985-2005 and for the oldest in 1965-1985 (in the data used in Figure 10). The parental income inequality that matters is therefore that prevailing on the period 1965-1985 assuming correctly that parents have their first child when they are 30.

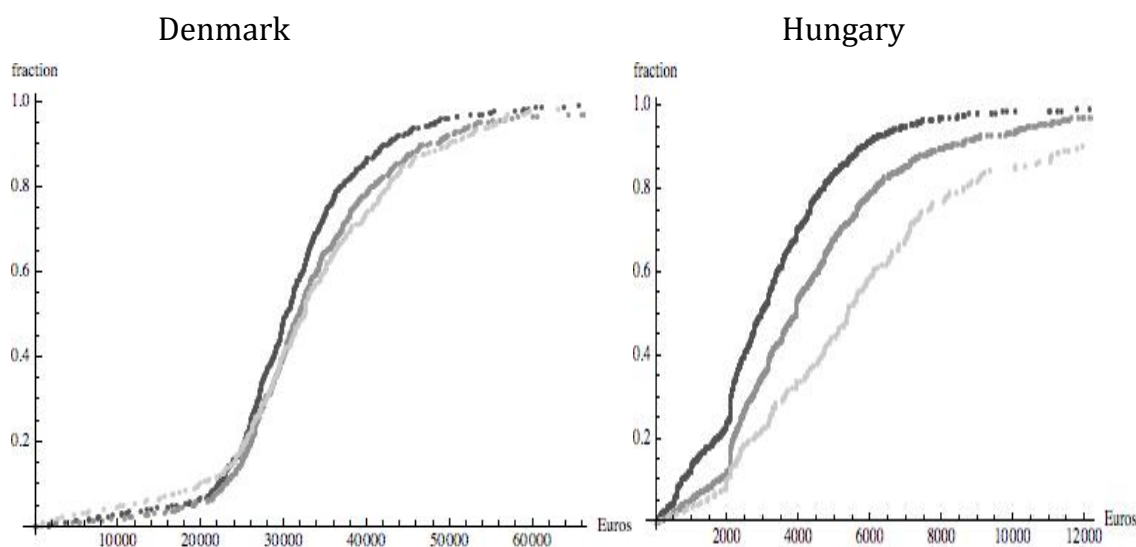
The French example (see Lefranc, Pistolesi and Trannoy (2007)) illustrates the legacy of the past in terms of inequality of opportunity. It was reduced over the period 1977-1993 solely because of the wage compression that occurred after the events of 1968. The intergenerational elasticity has been at best constant if not increasing. On the opposite one can deduce in the US example that the dramatic increase of earning inequality in the US observed in the period 1970-2010 will strongly hurt equality of

¹⁷ Mathematically, the inequality of opportunity is a function of the distribution of parental income obtained as a composite function $I(f(y_p))$ where y_p is parental income, f the intergenerational process and I the inequality of parent distribution.

opportunity in the period 2000-2040 assuming that the findings of Chetty et al. (2014b) of a more or less constant intergenerational earnings elasticity are empirically correct. Inequality of opportunity displays a strong hysteresis which does not favor political action in democratic governments because the incumbents will never see and benefit from popular recognition in this domain.

Another way to look at the distribution of results from the point of view of inequality of opportunity is to draw the distribution of outcome conditional on some feature of the parental background. Figure 11 contrasts the extent of equality of opportunity in Denmark and Hungary. The distribution of earnings of male offspring conditional on a stark description of the educational advantage of the family background (primary, secondary and tertiary education) reveals that in Denmark the cumulated probability to obtain any income are quite close. The curves are almost mixed-up except in the upper part of the income distribution, meaning that even in Denmark for getting a high-paid job, it is better to have grown up in a family with a high educational capital. The Hungarian case does not need to be inspected for a long time to realize that the Hungarian situation is at the opposite of the Danish one. The chance to end up with an annual earning of at most €4,000 is only about 30% when parents have tertiary education. It culminates at 70% in the case when the parents have only accomplished primary education. There is a gulf in the Hungarian offspring prospects depending on the background luck, while they are roughly similar in Denmark. We have described Europe as a continent of depressed inequality of outcomes. Regarding equality of opportunity, a divided Europe should be a rather adequate description of the reality as Figure 10 already illustrates.

Figure 11. Distribution of chances to get an annual earning (male) according to three different parental educations (primary, secondary, tertiary education). Source Roemer Trannoy 2014

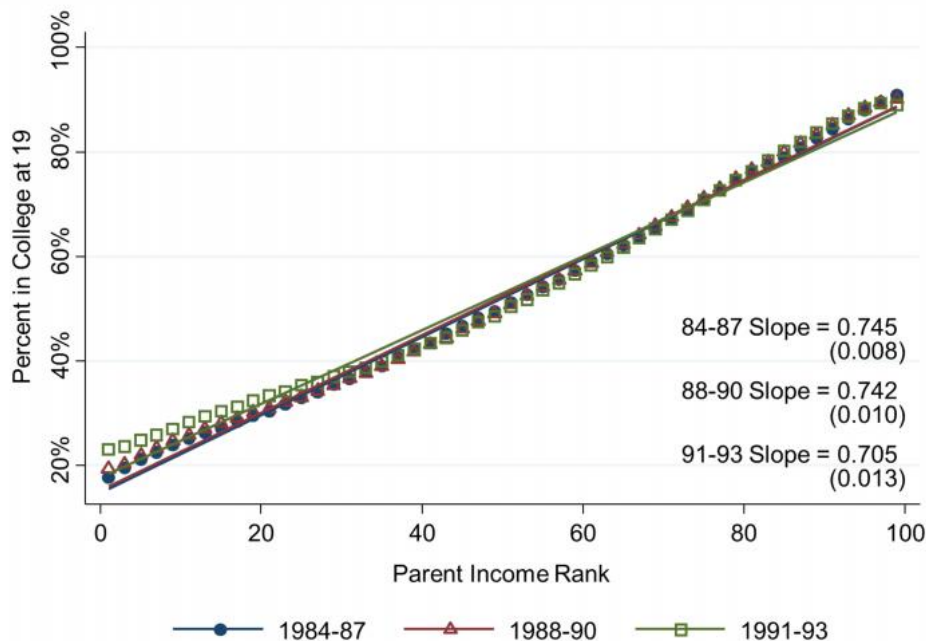


Obviously, it is rather crude to condition the outcome of offspring only on parental education. Björklund, Jantti and Roemer (2012) provide a fine-grained typology (1152 types), which partitions the sample made of 35% of Swedish men born between 1955 and 1967 into types based upon parental income quartile group (four groups), parental education group (three groups), family structure/type (two groups), number of siblings (three groups), IQ quartile groups (four groups), body mass index (BMI) quartile group at age 18 (four groups). The outcome is an average of pre-fisc income over 7 years (age group: 32-38). 'Social' circumstances account for between 15.3% and 18.7% of the overall Gini between the descendant generations. In the counterfactual situation where the only factors of inequality would be these social circumstances, the Gini coefficient would attain a modest value of 0.043 for the oldest cohort! The contribution of IQ represents about 12% of the overall Gini. (16% for cognitive and non-cognitive skills)

The great Gatsby curve is not a causal relationship and mainly describes an association. The studies (see Corak 2013 for a review) looking at causal linkages point out in various directions. First much of the variation in children's outcomes emerges before they enter into the labor market. This suggests that there is a positive correlation between high return to schooling and lower intergenerational earnings mobility. In the US the college education attendance is an archetypic example of unequal opportunities (see figure 12). If there were equal opportunity according to Roemer's definition of equal opportunity, the probability of attendance conditioned to family background should be equal. However at the eve of the last decade of the 20th century the hope of good prospects for offspring of a low income background were rather bleak (see Figure 12). About one third of children of the parents of the first quintile can hope to attend college. The figure for the last percentile was about 90%. However there are many causes that can impact educational achievement. Chetty et al. (2014a) step in starting to identify the main factors by exploiting the substantial variation of income mobility that exists across the US metropolitan areas. Indeed the big surprise is that the US exhibits a very large dispersion of income mobility, some towns such as Salt Lake City, Boston, San Francisco, San Diego, or even New York or Los Angeles have rates of mobility comparable to European levels while southern cities such as Atlanta or Charlottesville have lower rates of mobility than any developed country for which data are available. The two main factors that affect children when they grow up are racial segregation and family structure, measured by the fraction of single parents in the area. These both factors do not matter purely through their impact at the individual level. Offspring of a poor white family with two parents will also bear the negative consequences of living in segregated communities with many single parents. High levels of social capital indices at the community level are also positively associated with upward mobility. All this said, even in the Nordic countries, the top income earners seem to resist equalizing opportunity policy. Everywhere, the elite finds a way to overcome egalitarian policies and to pass on its advantages to the next generation (see

Bjorklund, Roine and Waldenstrom (2012) to cite just one example).

Figure 12. College Attendance Rates vs. Parent Income Rank by Cohort. Source Chetty, Hendren, Kline and Saez (2014a)



c) Attitudes to inequality

If Americans see the inequality pattern with rose-color glasses, good for them even if this is a disturbing state of affairs for some economists. Alesina Di Tella and Mc Cullock (2004) for instance found that inequality reduces reported subjective well-being among Europeans but not Americans. The authors suggested greater (perceived) social mobility in the US as one potential explanation of this difference. A systematic bias in the perception of reality is difficult to be analyzed with simple tools of rational choice and needs to be understood with the help of other social scientists (see the use of cognitive dissonance by Benabou and Tirole (2006)). Take for example the POUM hypothesis formulated by Bénabou and Ok (2001). The “prospect of upward mobility” hypothesis is the idea that those with lower incomes are not strong advocates of redistributive policies because of the belief that they, or at least their children, are likely to climb up the income ladder. In other words, the American Dream is a reason why US citizens have been willing to tolerate a good deal more inequality of outcomes than citizens of European countries. The POUM hypothesis could have had an empirical validation in the nineteenth century and even in the first half of the twentieth century, in the light of Piketty-Saez’s comparison of European and American inequality. Wealth concentration was lower in the US up to the sixties and income inequality was of the same magnitude. So we can speculate that the intergenerational transmission of inequality was somewhat lower or at least not greater in the US than in continental Europe up to the sixties.

Indeed, according to Aaronson and Mazumdar's estimations, the intergenerational earnings elasticity was below 0.4 from 1940 to 1980 before exceeding 0.5 afterwards. So why do Americans fail to realize that upward mobility has been reduced? After all, Grosfeld and Senik (2010) find that Poles changed their minds after 1996. Before that date, inequality and well-being satisfaction went hand in hand whereas the correlation became negative afterwards. This finding may be brought closer from the observation that Poland was on a slightly negative inequality trend in the first decade of this century (see Figure 9a). Kuklinski et al. (2003) find that providing (accurate) information on the demographic composition of welfare recipients and the share of the federal budget dedicated to welfare payments has no effect on respondents' preferences, despite the fact that their initial beliefs are largely incorrect. Or maybe it is the other way round. Instead of choosing their bliss social policy on the basis of informed knowledge, individuals choose their social beliefs that support their political prejudice. As been emphasized nicely by Bénabou and Tirole (2006)¹⁸ *"Ethnographic studies of the working and middle classes reveal that people do not come to views as dispassionate statisticians. On the contrary, they constantly struggle with the cognitive dissonance required to maintain and pass on to their children the view that hard work and good deeds will ultimately bring a better life, in spite that life may not always be that fair"*. Indeed, according to the randomized survey experiments of Kuziemko, Saez and Stancheva (2014) most social preferences about redistribution policies are hard to move through manipulation of the information given to the subjects. Or another reason would be that their concept of fairness is just different from equality of outcomes. It is here that it is important to focus on normative social preferences as done for instance by a recent study by Almås, Cappelen and Tungodden (2015). Using identical economic environments and a spectator design¹⁹, they indeed find much higher inequality acceptance in the US than in Norway. However, they do not find that Americans are more meritocratic than Norwegians or that Americans put more weight to efficiency than Norwegians. This suggests that less support for redistribution in the US than in Scandinavia does not reflect a greater concern for merit or efficiency, but rather greater acceptance for inequality caused by luck.

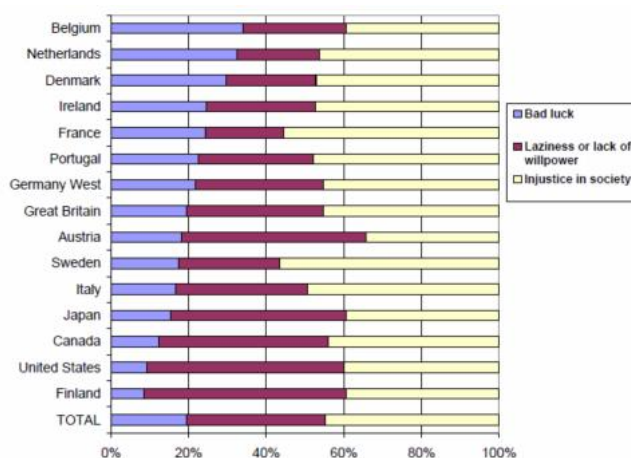
Normative preferences, attitudes or opinions about inequality should be distinguished from comparative statements where the individual is part of the distribution (see Clark and D'Ambrosio (2014)). Here we are focusing on the former in relation to fairness issues which can be elicited through direct questioning, experimental approaches or

¹⁸ The Benabou-Tirole model allows for two equilibria, one of the American type with low taxes and welfare state and one of the European type with high taxes and generous welfare state. Thanks to the work of Piketty and Saez we have now understood that during the period 1930-1970, the American equilibrium was in fact of the European type. The US switched from the European type equilibrium to the American type one on the eve of the eighties. Can we calibrate the Benabou-Tirole model to exhibit the external parameters that cause that switch? It is an open but daunting question.

¹⁹ In the experiment, there are two kinds of subjects, the workers and the spectators. The workers are recruited through an online market place (mturk) and the spectators are representative samples of the US and Norwegian population. The spectators are asked about the compensation scheme of the workers.

inference from observed behaviors. Yaari and Bar-Hillel were the first to use questionnaires, (1984), Frohlich and Oppenheimer (1992) the first to use experiments in the fields of social justice. In the wake of these two pioneered studies, there has been a burgeoning literature which is surveyed by Gaertner and Schokkaert (2012). It appears that there is large agreement among subjects all around the world about the prerequisites of equality of opportunity. People should be held responsible for at least something in the process generating their income. Obviously, people may disagree about the extent to which they should be held responsible. The failure to take into account this normative background for instance in the questionnaire sent to subjects by Kuziemko et al (2014) may explain their difficulty to elicit preferences over a full domain of parameters. Indeed the US opinions as expressed in the World Value Survey are clearly different from the average European one but the main information is the heterogeneity among the countries of the European Union. The difference between Finland and Denmark is especially telling since they appear quite close both from the point of view of income inequality and income mobility (see Figure 10). France is the country for which effort seems to play the least important role according to respondents. This may be related to the quite low level of income mobility (See Figure 10 and the difference with Germany). It may cast light on the role played by France in the last episode of the Greek drama. According to the French press, the responsibility played by the Greeks in the crisis is limited, which is not the view of the Finnish or German media, not to mention politicians. Managing a social welfare state at a European level may be quite challenging in view of the difference in social representations across the people of Europe. At least it can explain the difference in the size of the welfare state (See Alesina, Glaezer, and Sacerdote (2001), Alesina-Glaeser (2004)). France’s social expenditures are also the highest of the Union in proportion of the GDP.

Figure 13: Beliefs in the role of luck, effort and social injustice in bad economic outcomes. Source Lefranc Pistolesi Trannoy 2009



Source : World Values Survey (1990). Answers to the question : "Why are there people living in need ?". Authors' computations excluding the following answers : It is an inevitable part of modern progress; None of theses; Don't know.

Still, a lot of Europeans have the feeling that luck and unfairness are pervasive in their real life and it may be unclear whether this feeling is the result of a greater sensitivity to inequality or a greater injustice in situations that are not detected by actual data so far. With respect to the US, the first answer seems to be favored.

d) Well-being and the size of the welfare state

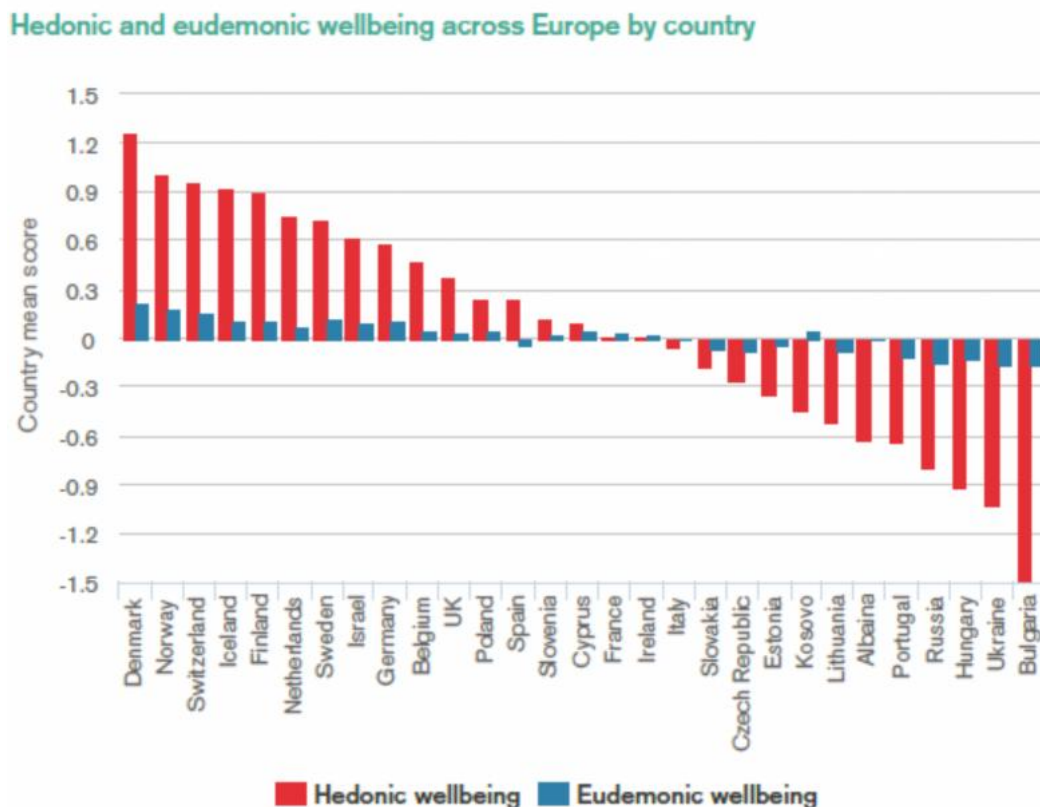
There have been thousands of studies on cross-country comparison of well-being and it is difficult to pick one of them. I chose the one done by the ESS because of their expertise in handling surveys across Europe and because the results are recent. We should keep in mind that people have been surveyed during the current crisis and that the results may reflect its impact and not the long-standing level of life satisfaction (Ireland, Portugal). The distinction between happiness and eudomenia well-being does not seem to matter much since the country ranking is remarkably similar for both notions.

Taken at face value, the general picture (See Figure 14) is that the most affluent and competitive countries in Europe (see also Figure 15) are also those where people are happier. The award goes to Denmark but the nominees are the Nordic countries with Switzerland and the Netherlands being close followers. It is impossible to also miss the fact that these countries are also the least unequal and the most mobile (see Figure 10).

At the other extreme, Eastern and some Mediterranean countries (Portugal) perform poorly. Inequality and heritability of economic advantages across dynasties reach comparatively high levels in all these countries. Bulgarians are the least happy of the league and it might be corroborated by the most recent demographic projection of the UN for 2050. The population decline in that country would be the steepest (28% from 7.2 to 5.2 million inhabitants) and it is really a staggering figure. On the other hand, the Scandinavian countries and Switzerland are the countries with the rosier projection (increase of 28% in Norway, 21% in Sweden, 21% in Switzerland). It may be thought that if people are happier they should be inclined to reproduce and to attract people from other countries. To date, the relationship between migration and happiness is relatively unexplored in the literature, and in particular the economics literature (See Simpson 2011).

However we should avoid introducing causality statement. What can be said is that economic performance and social performance in terms of well-being seem to go along. There are good news and bad news there. Commonicity is good news in the sense that economic performance is not against social performance. The bad news is that the lagging countries should act on all grounds at once. There is no magic solution to go climb the happiness (Cantril) ladder.

Figure 14. Hedonic and eudemonic wellbeing across Europe by country; Source ESS 2012-2013



Data source: ESS Round 6 (2012/13). Design weights applied.

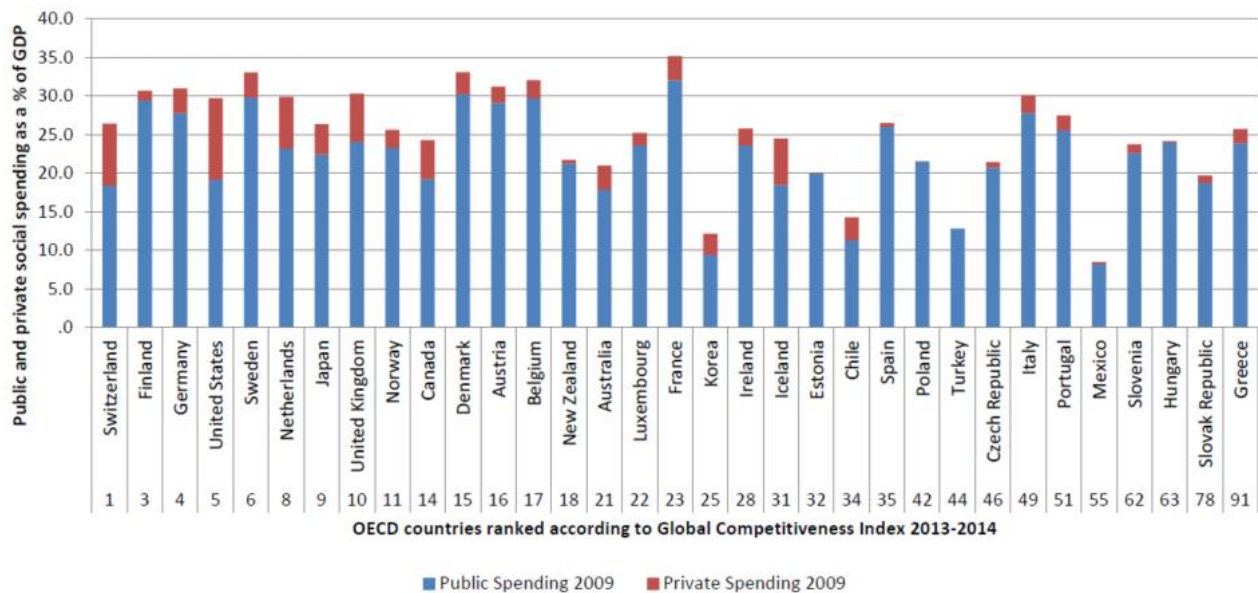
A somewhat curse of large countries can be detected. Big European countries (Germany, UK, Poland, Spain, France, Italy in this order) stood in the middle. It is also relatively true for the US which, according to the Gallup World Poll, ranks ninth after the Scandinavian countries, Canada, The Netherlands, Switzerland, and New Zealand. The quite high level of inequality and income heritability do not seem to alter much the well-being of Americans, showing by contrast that they are rather indifferent to these issues. All in all, scale effects cannot be detected in terms of life satisfaction. Two factors may explain this state of affairs. First, large countries are more heterogeneous and people in general trust more their alike²⁰. It indeed turns to be that trust is an important determinant of life satisfaction. Second, political problems in big countries may be harder to solve. Or put it differently, we need more gifted politicians to cope with problems – including problems linked to a greater heterogeneity – in a big country than in a small country. Indeed the correlation between average satisfaction with life and democratic performance is very

²⁰ On inter-area data for US see Alesina and La Ferrara (2000). At the experimental level Harvard students are less likely to behave in a trusting and trustworthy way towards members of other nationalities or ethnic groups (Glaeser et al, 2000).

high (0.79). It is bad news for the Eurozone in view of the mismanagement of the Euro crisis.

The quite remarkable ranking of Poland should be noticed. Poland was the only European country to go through the Great Recession without a drop in annual GDP and we have noted a slight downward move of inequality level in recent years.

Figure 15 Size of the welfare state and competitiveness of the country. Source OECD. Retrieved from Vandenbrouck and Vanhercke 2014.



Now, if the size of the welfare state and particularly of the social welfare state were a key-determinant of life satisfaction, then France²¹ should come first according to data collected in Figure 15. Venhooven (2000) found no association between the welfare state and the degree of well-being. Before throwing away either happiness studies or the welfare state two caveats are in order. The first refers to habituation and the second to rivalry. It may be the case that well-being went up when welfare state or some measures of welfare state were introduced. However progressively people get used to it and then it makes little difference. If the tax system is globally progressive, welfare state increases the well-being of many to the expense of some. However, this is true if people do not have a reference group. Happiness studies show that individual life satisfaction increases to the extent that the gap between the individual income and the reference group income widens. If the reference group of poor people is only composed of poor people, the levelling-up of the situation of all deserving people will not improve their well-being satisfaction. However it is doubtful whether we should base our reflection on

²¹ Cultural dimensions also explain the responses to happiness questions. Claudia Senik has documented the case of the French collective depression (Senik (2014)).

the evolution of the welfare state on this kind of feelings. For one can guess that the loss in well-being will be huge, if we threaten people to give up some part of the welfare state. It is reminiscent of the deviation that exists between the willingness to accept and the willingness to pay.

Partial Conclusion

Summing up the finding so far, one can answer our main question with some piece of empirical evidence. Europe is special because of the low level of inequality of outcome compared with other industrialized countries. The speed of convergence up to the Great Recession among European countries in terms of the powerfulness of the redistributive tax and transfer instruments was also quite striking. However the results also reveal a deep division between countries which have been able to sustain a high level of social mobility and the others. In terms of equality of opportunity or happiness, Europe is very heterogeneous. These results, specifically in Northern Europe, could not have been obtained if people in Europe did not care about inequality. This social concern is also reflected in the importance of the field in Europe.

5. Europe is at the forefront of research on many topics

Some empirical evidence is provided by the affiliation of the chapter authors of the three volumes of the *Handbook of Income distribution* edited by Atkinson and Bourguignon which constitutes an invaluable source of information. 60 percent of authors report an affiliation in a European University. 50 percent of the papers submitted or accepted at the *Journal of Economic Inequality* were written by scholars of European Universities.

Nobody has forgotten the contribution of European economists to the methodological issues raised by the measurement of inequality with the initial impulse given at the end of the sixties by Antony Atkinson, Serge-Christophe Kolm and Amartya Sen (who at that time worked in the UK) followed by the decomposition of inequality indices with the work of François Bourguignon, Frank Cowell and Tony Shorrocks etc.

More recently, the issues of fairness and distributive justice have received a lot of attention from European economists with leading propositions formulated by Marc Fleurbaey and François Maniquet (Fleurbaey (2008), Fleurbaey and Maniquet (2011a and b)), the inventive experimental approach to social justice of the NHH team (Cappelen et al. 2007; Almas et al. 2010; Cappelen et al 2013), just to give a few examples.

The contribution of European economists on empirical issues cannot be dismissed too and Anthony Atkinson, well before it became fashionable, did a lot to expand our knowledge of income distribution for the UK and elsewhere. Thomas Piketty was a pioneer in the 90s on focusing his research on the upper tail of the distribution and to realize that the share of the top 1 percent was a good “sufficient statistics” in many cases

and in particular in the study of wealth inequality. His work with Emmanuel Saez (Piketty and Saez (2003)) has received widespread media and web attention. It may be not by chance that the booming of the pre-tax income share of top 1 percent (from 9.0 percent in 1970 to 22.4 percent by 2012) or the surge of the wealth share of top 0.1 percent (from 8 percent in the mid-1970s to 22 percent in 2012) was brought into full view of the economics profession by French economists working in the US and in France (Saez and Zucman (2014)). Anthony Atkinson did a great deal to extend the focus of this research all over the world and the construction of the World top income data base is really a European initiative which is supported by institutions on both sides of the Atlantic.

Another field where European economists are on the top of the list is the study of happiness which is connected to welfare, although, as it has been argued previously, should not be mixed up with it. Even if happiness studies started with Easterlin's paradox, they became very popular with the works of David Blanchflower, Andrew Clark, Bruno Frey, John Layard, Andrew Oswald, and many others, at the intersection of economics and psychology. As noted by Clarck and D'Ambrosio (2014) three of the four top-cited articles published in the *Economic Journal* over the past 20 years have the word happiness in their title. Britain remembers that it was the homeland of Jeremy Bentham.

So there is a lot of expertise on the field of inequality and welfare in Europe but still they are some domains where the US took the lead. The most important one is the understanding the process of how social inequality deepens "natural inequality" in childhood and teenage years with the impressive center at the University of Chicago around James Heckman, the *Center for Economics of Human Development*.²² There is no analogue in Europe to understand the fabric of inequality of opportunity. Once again, one can detect an influence of the society on the research priority at a country level. The phantom of the American dream continues to haunt the minds of American economists. In the same vein one can point out "the Equality of Opportunity Project" of Emmanuel Saez and Raj Chetty, a research study conducted by Harvard University and the University of California at Berkeley using big data.²³

In a nutshell, it is maybe possible to describe the research forces in the Transatlantic world in saying that American economists might have produced deeper understanding of the process of inequality linked to education and the labor market, while European economists took the lead in measuring and collecting data and about how to interpret it in a normative way. But obviously this kind of statement should be qualified.

²² <https://heckman.uchicago.edu/page/about-cehd>

²³ <http://www.equality-of-opportunity.org/>

Without understanding the causes, social scientists cannot propose remedies to enhance equality of opportunity. The social and legal contexts are different on both sides of the Atlantic. It is not because Americans will understand the process generating inequality of opportunity in their country that automatically the solutions can be transposed to this side of the Atlantic. There is quite a broad political support in Western democracies (even among people who are more inclined to support equality of outcome) for fighting inequality of opportunity due to differences in initial background. Now, the way how to proceed does not appear to be simple and in particular it is not clear that it can be achieved on a large scale without lowering inequalities among the previous generation.

In the best interest of citizens of each European nation, we advocate the launching of a network of economists and other social scientists to understand the fabric of equality of opportunity at the European scale. This is *our first research proposal*. This encompasses many theoretical and empirical specific issues. For instance, although most normative theory suggests that people should only be held morally responsible for factors within individual control, economic experiments have shown that most people also view inequalities due to talent as fair despite the fact that talent to a large degree is the result of a genetic lottery. Understanding this discrepancy between normative theory and what people actually think could be important for understanding what drives support for different welfare policies.

6. Data are improving but remain largely incomplete when looking at more specific issues

Data in Europe on income and wealth distributions are improving rapidly but are still insufficient to cope with the study of poverty and inequality of opportunity.

We have already mentioned the remarkable effort to build the World top incomes data basis²⁴ managed by Facundo Alvaredo, Anthony Atkinson, Thomas Piketty and Emmanuel Saez and which gathered more than 30 researchers all around the world.

Another remarkable enterprise supported by both institutions in Europe and the US is the Luxemburg Income Study which helps to build a data archive and research center dedicated to cross-national analysis. LIS is home to two databases, the Luxemburg Income Study Database, and the Luxemburg Wealth Study Database.²⁵

We should also talk about the European Survey of Income and Living Condition (EU-SILC) and European Community Household Panel (ECHP) to assess earnings inequality in

²⁴ The World Top Incomes Database, <http://topincomes.g-mond.parisschoolofeconomics.eu/>

²⁵ <http://www.lisdatacenter.org/about-lis/>

Europe from 1994 to 2009. The ECHP is a survey of 15 countries in the European Union from 1994 up to 2001. The EU-SILC is a collection of timely and comparable multidimensional micro data covering EU countries, starting in 2004 and ending in 2009, for a total of six waves. These surveys share many features, which makes it possible to harmonize the variables of interest. One advantage of these data is that they provide information for an overall period of 15 years within which we can observe a total of 12 European countries: Austria, Belgium, Germany, Denmark, Spain, Finland, France, Greece, Ireland, Italy, Portugal and the United Kingdom

However, when looking at equality of opportunity, the lack of good data is widespread, except in Nordic countries where inequalities, including those linked to initial background, have been a social and political issue for a very long time. One can say that there is a kind of paradox: In countries where the concern is high regarding inequality, we have good data, and to some extent, inequalities and inequalities of opportunity are low, while it is the opposite in countries where the social concern for inequality is weak. So we have good data for countries where the issue is almost fixed. A point should be raised about the fact that in most data basis, measures of cognitive skills (such as IQ) and of non-cognitive skills are missing. This hampers good identification of the impact of the social background on the destiny of offspring.

Nevertheless, the lack of good knowledge of the bottom part of the distribution is likely to be the most important handicap for our understanding of the evolution of inequality and poverty.²⁶ And yet, the poorest persons in society should be those with the highest social welfare weight. For many reasons, the surveys are missing either the people or the income of the people in the bottom segment of the distribution. Typically, people consume more than their income in the first decile but respondents are quite shy when answering about their incomes.

To fill the gap, I propose to build up a European Panel dedicated to the study of the dynamics of poverty, to study how people get out of poverty. People will not be asked to report income but only consumption as well as health problems (mental and physical), housing conditions, employment, family conditions and social relations. This is our *second research proposal*.

7. Inequality and Welfare as transversal issues.

The most interesting and important issues are at the intersections of several topics. Here are some examples of themes that are in a sense worldwide (see below for more specific European themes), but that are also meaningful in the European context.

²⁶ For instance, the *Economic and Social Developments in Europe*, (<http://ec.europa.eu/social/main.jsp?catId=738&langId=en&pubId=7684>), in spite of being a useful source of interesting analyses on poverty, uses the EU-SILC data basis which is not sufficiently oversampled on the bottom part of the distribution.

Gender inequality: We are more and more understanding the levers for promoting gender inequality. Nordic countries and the Netherlands are the high performers²⁷ whereas most Mediterranean and eastern countries do not perform very well. Cultural barriers are here important.

Inequality and global warming: It is far from obvious that coordination between national states will avoid the bad scenario of an increase in temperature of 2 °C or more and more frequent extreme episodes. The consequences in terms of distribution of welfare are not fully understood.

Inequality and migration: It is likely that Europe will remain a continent of immigration. The societies that have not developed specific institutions to level the playing field will not be immune to an increase in inequality. Even in societies that are really concerned with equality of opportunity, immigration may result in higher inequality for a while. The full process of integration, and how it interferes with the existing institutions and generates new inequalities, needs to be further studied. By the way, there is a strong link between the migration issue and the sustainability of the nationwide welfare state (see below). For instance, two thirds of the increase in poverty in Belgium in recent years has been attributed to the migrants.

Inequality and growth. The genuine question is to know whether less inequality impedes a faster growth. The empirical answer at the continental scale is no. The per capita growth rates in Western Europe and in the US have been the same since 1970 and up to the Great Recession. The common wisdom nowadays is that policies enhancing EOP are good for growth and this consensus extends to the case of reducing outcome inequality at least in the US case (See the recent policy reports of the IMF and OECD). One possible mechanism could be that equality increases trust which again increases growth, creating a possible causal link between equality and growth.

Inequality and ageing. What are the consequences of ageing on inequality? Maybe a better formulation would be: What would be the redistributive consequences of a longer life cycle? What would be the redistributive consequences of a retirement age increasing with productivity?

Inequality and borrowing: A small bunch of papers investigate the causal links between the increase in inequality and increase in borrowing in the case of the US economy before the crisis. This issue can be raised as well in a few European countries.

Inequality and technical progress: There is quite a consensus that the ICT revolution has had adverse effects in terms of inequality in the sense that it has disproportionately increased the opportunities and therefore the market income of college graduates, that

²⁷ <http://eige.europa.eu/gender-statistics/gender-equality-index/2012/>

is, those who have been trained to be able to stock, understand and benefit from information. Will the next scientific revolution (to be less dependent on fossil energy) be more neutral in distributional terms?

Inequality and globalization: It is an old issue that needs to be revisited, too. To some extent, as long as Asia becomes richer, the downward pressure for low-skilled wage in the developed world will become less strong and maybe it will open the way to a more equal distribution of the productivity gains in the firm in the old industrialized countries. However globalization cannot be reduced to the free-trade dimension. The other dimension is the fact that production factors and particularly, capital and skilled labor are freer to go from one zone to another. The consequences of factor moves on economic inequalities are still to be fully understood.

Inequality and Social insurance Although from a policy perspective it is often hard to distinguish the social insurance motive from the redistributive motive, studying the role of risk preferences in explaining welfare policies and the relationship between risk preferences and social preferences could be part of a fruitful research agenda as well.

On all these subjects, broadly speaking, we have data, we have models but generally we lack good calibrated models, particularly at the macroeconomic level.

8. Cutting edge research issues

I see four issues that are not settled, the fourth one being quite new.

First, in the wake of Thomas Piketty's latest book, "Capital in the 21st century", the role of the wealth distribution on the increase of inequalities has been addressed by many scholars. Piketty challenges the previous view that the increase in inequalities in the US was mainly due to the increasing returns of college graduates while the returns of other qualifications had suffered from different causes (adverse technical progress, trade liberalization, immigration of low-skilled workers). Not all economists agree with Piketty's demonstration and this issue should remain on the research agenda.

Second, the increasing gulf between the CEOs pay in large companies and the earnings of other employees remains puzzling. Some economists (Gabaix and Landier 2008, 2014) argue that it simply reflects the increasing size of the companies and the increasing risk associated with bad decisions from managers. Other economists as Anthony Atkinson (2015) argue that it comes from the change in social norms. Clearly more research in this direction is needed.

Third, the digitalization of many services to consumer (sometimes depicted as "uberization") raises new challenges. A growing part of the labor force may become self-employed, and their social protection may be reduced with respect to a world of homogeneous employees. The empirical evidence here is not straightforward since the evolution of the labor market points in the US and in the UK towards two divergent

directions. There is the fear that this disintermediation reorients market forces in a way that is more inequality prone. This research program can be viewed as an outgrowing of the linkage between technical progress and inequality.

Fourth, the happiness literature, and more specifically John Layard, draws the attention on the fact that most of the worst unhappiness is caused by mental disorders, especially depression and schizophrenia. According to John Layard “Roughly 25% of us experience serious mental illness during our lives, and about 15% experience major depression”.

More importantly, there is much evidence on the correlation between different dimensions of deprivation during younger age and outcomes later in life, and that social deprivation correlates with both personality features and with mental health later in life. Here, I see an important missing relationship between equality of opportunity and mental disorders that opens possible new vistas for research.

In particular, for people of working age, mental or emotional health problems may lead an individual to leave his job, to be fired or to make him difficult to get out of unemployment. His saving or borrowing decisions may be inappropriate and as long as he has to take care of children, this can be detrimental to their development. Addiction can go along with mental health problems and affected persons can even plunge into extreme poverty and become homeless. *As long as a person can switch from an economic and social status to a lower status because of mental health problems, or involves someone else to follow a downward path (mainly children), mental health problems appeal some action from the public authorities.* The gist of the argument is about the bad dynamics with potential externalities entailed by mental health problems. Social policy can be preventive or curative but any adequate public expenditure in that domain should have a high social return. It will not replace any other existing public policy, activation of the labor market, social benefits and so on. I will view all these actions as complementary not as substitutes. I do not claim that there should be a trade-off between any mental health public policy and other existing public policies, even if an efficient mental health policy may lead to save money on other social programs.

For children, taking care of mental health problems is their parents' responsibility and if they do not care, social policy has to compensate for parents' deficiencies. It is a direct consequence of an equality of opportunity policy, whereas for adults, it is a different inspiration to some extent. It can be termed a “standing-up policy”, to help people to cope with the difficulties of life in a complex and competitive society. Not all people are well-equipped, and some may be severely handicapped on that matter. Ronald Dworkin (1981b) would have probably supported such a policy since it can be viewed as a lack of internal resources of a specific kind that should be compensated by external resources. By the way, following this line of reasoning will lead to include retirees into the social program improving mental health. A research program on what could be the goals and the ways to build up a standing-up policy is our *third research proposal*.

9. Issues more specific to Europe

Two issues seem to be more specific to Europe as an emerging fiscal federation. On the one hand, mobility of capital and labor result from country differences in tax regimes and are induced by the fact that tax matters remain the symbol of national sovereignty and on the other hand, mobility undermines this tax sovereignty.

A) Tax competition on capital

Capital is more mobile than labor and the concern is about the impact of capital mobility on the possibility to tax capital, in the first place. Tax competition seems to have induced a race to the bottom, both in statutory and effective tax rates. Corporate tax rates are indeed higher in the US than in most European countries. There is a concern that it will be more difficult to tax capital at the national level, unless more coordination or harmonization is effectively implemented.

B) The sustainability of the nationwide welfare state in the Eurozone.

The second issue is more specific to the Eurozone and is related to the sustainability of the nationwide welfare state. It is under threat both from an internal and external perspective. The internal challenge with all welfare systems is that they are vulnerable to mistakes. Two common mistakes are related to false positives and false negatives: respectively, giving support to those who do not deserve it and not giving support to those who do. A fundamental question in the design of welfare policies, then, is to determine how one should make the trade-off between false positives and false negatives. This is challenging as even individuals who may agree about what is fair may disagree about this tradeoff. External shocks such as migration and globalization, technical progress and macroeconomic downturns may change voter minds about the divide between those who deserve and those who do not. This will then affect the perception of the false positives and false negatives and then undermine the welfare state, if, for some reasons, it does not adapt to the changing mood.

Many economists believe that it is good to ease migration of labor within the Eurozone to help countries that have been hurt by an asymmetric shock. A more unified labor market seems desirable but at the same time this raises the question of the sustainability of the welfare state designed at the national level. Hans Werner Sinn (2003) was right in pointing out this issue as threatening the European construction well ahead. Migration of labor undermines the funding of social security systems, specifically pay as you go systems in emigrating countries, if some countries should become emigration countries forever. Mobility of capital and labor call for redesigning tax policies and welfare institutions on a broader scale than the national one. Otherwise, there will be adverse consequences in terms of inequality and social insurance in emigrating countries. A pan-European welfare state (at least for some branches) should be thought as a natural evolution to cope with these issues.

But the scope of the problem should not be limited to within-Europe problems. The problem can be restated more generally between Europe and other economic zones. More specifically, the US is part of the problem and strengthened transatlantic links through the Transatlantic Treaty should make the problem more acute. If many European entrepreneurs, in particular in the high-tech industry, are going to the US to benefit from a more business-oriented climate and lower taxes, then the European income distribution will be censored to the right with a lower share of the cake for the top 1 percent who will be in the US! Any change of the US attitude vis-à-vis the tolerance to inequality and in particular to the top income share may have dramatic influence on the sustainability of the welfare state on the European continent.

This second issue calls for specific research and funding at the European level. It is our *fourth research proposal*.

10. Conclusion

We have covered a lot of ground. We have surveyed the recent economic literature on inequality and welfare with some glimpse on the contribution of other social sciences. We can now answer the question raised in the title of this essay.

Yes, Europe has a specific relationship with equality that may not be shared widely all across the world. It may be called some kind of inequality aversion, a term coined 45 years ago by Anthony Atkinson. This is witnessed by the common interest in equality all around Europe and reflected by the rather low level of inequality over the continent. The convergence of the degree of redistribution among member states before the Great Recession is also telling.

Europe is also special because the issue of inequality and welfare is also specific to each country. The Nordic countries and the Netherlands have achieved a low degree of inequality and a high level of income mobility. The challenge for Europe would be to manage to coach the Southern countries so that they catch up with the Northern countries, both in terms of standard of living and distributional achievements. Such an agenda cannot be reached through massive transfers from the North to the South because indeed Northern countries did not achieve their social performance with the help of massive transfers from abroad (see Barth, Moene, and Willumsen (2014) for an interpretation of the Scandinavian model). The convergence process will be a long-term process involving a gradual change of institutions and social preferences. What has been neglected in the research agenda at least by economists, however, is that institutions also shape preferences. An important question, then, is to understand how institutions may change preferences. For Hungary to converge to the Danish template, it will take 30 or 40 years. The issue of convergence should be at the heart of any social policy meant at the continent scale. By the way, it is far from obvious that belonging to the same monetary zone is going to speed up the convergence process. We have also noted the curse of big states in terms of social achievements. Denmark, with a small and

relatively homogenous population, may not be a template for large demographically diverse countries, like France or Italy.

We have identified five areas where further research would help European policy makers.

- 1) A network of researchers in economics and social sciences to understand the fabric of equality of opportunity
- 2) The building up of panel data specific to study the dynamics of poverty, how people are getting in, how people are getting out.
- 3) To prepare the ground for a standing-up policy to fight poverty and promote equal opportunities
- 4) To look at the sustainability of nation welfare states in an environment where capital and labor are mobile
- 5) The issue of the convergence of Southern societies to the social model of Northern societies.

Let me end up with a more general remark regarding the respective place of growth and inequality and welfare on the political agenda on both sides of the Atlantic. Robert Lucas and other macroeconomists have expressed the view that growth is the best way to improve the situation of the poor and of the middle class. They were clearly right in a world growing at a fast rate as we experienced during all the twentieth century (except war periods). That said, if the grim predictions of Robert Gordon are correct about the slowing down of the rate of growth for the most advanced economies, raising social welfare through a policy addressing distributional issues may come at the top of the political agenda more quickly than we can imagine. In addition to that, among the headwinds listed by Gordon we have to face to reach a faster growth, inequality was one of them.

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Appendix A : Retrieving information on marginal utility of income from labor elasticity data and neuroscience.

Let us consider the least concave numerical representation of preferences on consumption c and labor l belonging to $[0, l^*]$ which are assumed to be separable.

$$U(c, l) = u(c) - v(l) \text{ with } u \text{ concave and } v \text{ convex.}$$

The budget constraint satisfies $c = l - t$ with t a lump sum tax. The wage rate has been normalized to 1.

The parameter of interest is the curvature of u' the marginal utility of income. We want to show that the elasticity of the labor supply e with respect to the lump sum tax (an income effect) can help to retrieve some information about u' under the assumption that this elasticity is constant. That is we can recover information on marginal utility of income from labor market supply of individuals.

By definition

$$e = \delta l / \delta t \cdot t / l$$

Using the FOC

$$u'(l - t) - v'(l) = 0$$

$$\text{We get } e = - \frac{u''(l-t)}{v''(l)} \cdot t / l$$

Assume that this elasticity is constant for all l and equal to a . It may be not constant but it is an assumption that can be tested.

Then $-u''(l-t) = bv''(l)l$ is true for any l with $b=a/t$. We deduce

$$- \int_{x=0}^{x=l} u''(x - t) dx = b \int_{x=0}^{x=l} v''(x) x dx + K$$

By integrating by part the integral of the RHS

$$u'(c) = b (v(l) - v'(l)l + K') \text{ which can be checked to be a solution of } e = a \text{ for any } l.$$

Therefore the marginal utility of income can be expressed as a function of the work disutility function.

Now I would like to observe that l is between 0 and l^* and it is natural to set up $v(0)=0$. Moreover l is a "pain" for which the neuroscientists are quite close to obtain physiologist

measures. We should be able in a foreseen future to calibrate function v' on a group of subjects with the same productivity and the same type of job by increasing step by step the number of hours of work up to the physiological maximum. If at the same time, we are able to observe the elasticity values for this group of people, we will be able to retrieve heterogeneous preferences and their least concave utility representing for this group of people. It will be a beautiful example of research mixing both standard microeconomic theory, psychology and neuroscience.