Working Paper

N° 01.2017

What does it mean to be rich?

Some conceptual and empirical issues

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June • 2017

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Abstract

Over the past decade, a growing literature has shed light on the rise of inequalities at the very top of the income distribution. There is no doubt that such extreme inequalities do threaten social cohesion and that some public policies are needed in order to tackle this issue. The design of these policies requires to set some benchmarks that could serve, at least, as a guideline to promote efforts towards the reduction of inequalities. In the same way that the fight against poverty can usefully benefit from researchers' efforts to define poverty, it is arguable to think that the fight against extreme inequalities should also greatly benefit of some definition of rich people. However, very little attention has been warranted up to now to the definition of the rich in the academic literature. The purpose of the paper is to try to fill this gap. It draws on some previous definition of an affluence line and proposes some estimates for three countries (France, Ireland and the UK).

Résumé

Au cours de la dernière décennie, une abondante littérature a mis en lumière la hausse des inégalités au sommet de la distribution des revenus. Ces inégalités extrêmes menacent la cohésion sociale et certaines politiques publiques sont sans aucun doute nécessaires pour s'attaquer à cette question. La conception de ces politiques nécessite de fixer des repères qui pourraient orienter les efforts visant à réduire les inégalités. De la même manière que la lutte contre la pauvreté peut utilement bénéficier des efforts des chercheurs pour définir la pauvreté, on peut penser que la lutte contre les inégalités extrêmes devrait également profiter grandement d'une définition de la richesse. Cette question a peu suscité l'intérêt des économistes jusqu'à présent. Ce document de travail essaye de combler cette lacune. Il s'appuie sur une définition antérieure d'un seuil de richesse et propose des estimations pour trois pays (France, Irlande et Royaume-Uni).

What does it mean to be rich?
Some conceptual and empirical issues

Pierre CONCIALDI[1]

Introduction

Over the past two decades, there has been a growing literature on "top incomes"[2]. One of the main outcomes of this research is that inequalities have not only been rising quite sharply in many countries, but also that the income surplus has been outrageously captured by a very small proportion of the population. This is notably the case in the USA.

This issue was exacerbated after the financial turmoil that took place in 2007-2008. The Occupy movement and its famous slogan "We are the 99%" focused its criticism on the concentration of economic wealth among the top 1% of American people. In many European countries, the vast majority of the population do probably share the same criticism. Private debt of banks and other financial institutions was largely converted into public debt that ordinary citizens have now to pay at the expense of their working and living conditions. The issue has attracted such a growing concern that international institutions have devoted reports to this issue (IMF, 2015; Kelley, 2015; World Bank, 2016). In the public debate as well as in the economic literature, there is a growing attention to the "rich" people.

Surprisingly as it may be, despite the growing interest in these extreme inequalities, very little attention has been warranted to the definition of the rich in the academic literature. Whereas social scientists have for long devoted much effort to define poverty, the reverse is not true for rich or wealthy people. The lack of such definition favors the anomie that affects our societies. We know that there are more and more "rich" people and that they are probably getting richer, but we do not know where we exactly stand and, more important, where we possibly would like to go. This issue thus remains a black hole of public policies. One of the objectives of this paper is to try to fill this gap and to propose a definition of the rich.

However, as relevant as a concept may be, it would not be very useful for the design of any public policy if it could not translate in some measure or indicator. This is, perhaps, the most difficult task. This difficulty is not specific to this subject. For instance, although there is now some agreement among social scientists about how we should conceptually and theoretically define poverty, there is still a lot of controversy about how we should empirically measure it in order to set a poverty line. Another objective of this paper is to discuss this empirical issue and propose a method to define an affluence line[3] that could reach, we will argue, the best consensus within the society.

It is necessary to precise that we focus here on a quite narrow definition of rich people, that is people who are rich in a material or economic sense, a dimension that could be broadly defined as the control people have over material resources. This is of course a necessary condition to be part of the "club" of the rich. However, richness as poverty is a multidimensional phenomenon. Culture, social relations and symbolic power are also fundamental dimensions that should be included in a comprehensive definition. Sociologists are well aware of this reality and there is no doubt that most of them will be

1. I am most grateful to Ian Gough who took interest in this work and provided valuable comments on an earlier version of this paper.
2. Piketty's best seller *Capital in the Twenty-First Century* is probably the most prominent example of this literature.
3. Throughout this paper, we will use the term "affluence line" as most authors do when they discuss this issue.

disappointed by such an economic definition [4]. Moreover, within this narrow definition of economic richness, we will not make any difference between the various forms of economic richness. For instance, we will not make any distinction between work incomes and capital incomes. In other words, we only consider in this paper the quantitative dimension of economic richness and that may be seen also as a relatively poor approach of rich people. Finally, the more severe limitation of this paper is perhaps that it does not take into account the distribution of wealth, except by the way of monetary income flows that comes from capital.

Focusing on this narrow economic definition of richness is not, however, totally useless since it may help identifying some objectives that could inform the public debate, even though the full achievement of these goals would probably require to address much broader issues.

The paper is organized as follows. The first section of the paper briefly sets the scene and provides some historical perspective on inequalities. Sections 2 and 3 review the few existing definitions of an "affluence line" and discuss their interest as well as their limitations. Section 4 elaborates on some existing definition that should gather, we argue, a large consensus. Section 5 discusses some basic methodological issues and section 6 and 7 propose empirical estimates.

1. Where do we come from? A brief historical overview

Facing the extreme global inequalities of the world today, there is no need for any academic definition or concept to talk about it. There are obviously very poor and extremely rich people all around the planet. The picture is not new. Over the course of the human history, one can easily see that similar situations have been a key characteristic of most human societies all around the world. A radical change has taken place, however, since the industrial revolution. Up to the beginning of the 19th century, the growth of the global output was in line with the growth of the population, with a stagnation of the GDP per capita. Per capita income then started to increase between 1820 and 1950, by just under 1% per year, and this growth further accelerated in the aftermath of the Second World War (Figure 1).

Figure 1. Worl GDP per capita (Annual real growth rate, %)

1-1820	0.0
1820-1950	0.9
1950-2015	2.0
1950-1980	*2.6*
1980-2015	*1.4*

Source: Maddison up to 2008 [5].
Author's update for the period 2008-2015.

This radical change soon raised renewed concern about distributional issues. This may be illustrated in various ways. From an economic point of view, the issue was raised in the 19th century by many economists, including the British economist John Stuart Mill. In

4. *Cf*. the work of two French sociologists, Monique Pinçon-Charlot and Michel Pinçon. The research of these two scholars is focused on the wealthiest families and the super-rich.
5. The Maddison-Project, http://www.ggdc.net/maddison/maddison-project/home.htm, 2013 version.

his *Principles of Political Economy* published in 1848, Mill wrote for instance that "it is only in the backward countries of the world that increased production is still an important object: in those most advanced, what is economically needed is a better distribution [6]".

A century later, in the aftermath of WWII, the acceleration of growth also rapidly exacerbated this distributional issue and the question came at the forefront of the political agenda in many countries. In 1964, the US president Lyndon Johnson launched the American War on Poverty. In the mid-60s, the French government created an official institution (CERC [7]) in order to analyze the distribution of productivity gains among the various stakeholders (shareholders, employees, clients, suppliers, …). In the mid-1970s, the mission of this institution was renewed to explicitly analyze inequalities and the distribution of incomes. In the UK, the creation of The Royal Commission on the Distribution of Income and Wealth in the mid-1970s shared the same objective (Stanford, 1980).

These few examples show that when a society is getting rapidly richer, there is a clear consciousness of a need for a better distribution, from both an economic and social point of view.

Few people, if any, would probably deny that our world has thus become richer over the past two centuries. Richer, we would say, in an "absolute" sense. This requires some clarification. Social scientists working on income inequalities are well aware of the long standing controversy on "relative" *vs* "absolute" poverty. As we have briefly argued earlier, poverty must be considered as a relative concept insofar as it has to take into account two fundamental dimensions, space and time (Concialdi, 1997). As stated by Atkinson (1988), "The term 'absolute' can scarcely be used in the same sense as in the physical sciences". In other words, poverty cannot be considered as an absolute concept that would make sense in the same way everywhere and at any time. Poverty can only be considered as absolute if we disregard one of those two dimensions [8].

The same is true for richness. If we disregard the dimension of space and consider the situation of the world as if all human beings were embarked in the same boat – that is as if all incomes were equally distributed – we may come to some absolute measure of richness as we did in Figure 1. In this absolute – but quite hypothetical – sense, we can say that the world has become richer.

Whether this increase in global output per capita has translated in increased well-being for the population of the planet as a whole – and in what proportion – is another and rather different issue. As pointed out by Milanovic (2011), we face today almost certainly the highest level of relative, and certainly absolute, global inequality at any point in human history. Perhaps more important, the composition of global inequality has changed from being driven two centuries ago by income differences within countries ("class" differences) to income differences between countries ("locational"). For these two reasons, we can be quite sure that global welfare did not increase in the same proportions as the World GDP per capita did. Today, as well as two centuries ago, a better distribution can still make a significant contribution to welfare and the definition of an affluence line may help taking that direction.

6. The full sentence argues for restraining the population ("…a better distribution, of which one indispensable means is a stricter restraint on population"). Mill is often presented as the "father" of the Wage Fund theory according to which there is a fixed amount of capital available to pay for the costs of production and the wages necessary to sustain workers. Therefore Mill's solution to increasing the wage rate above subsistence level is to control the growth of the population. The Wage Fund doctrine has been much criticized and the general acceptance of the theory lost ground.
7. Centre d'études des revenus et des coûts.
8. Some advocates of absolute empirical poverty lines, for instance Bourguignon and Morrisson (2002), clearly disregard the dimension of time. As they write: "The poverty lines are then taken to be constant over time".

2. Statistical definitions and their limitations

The literature on top incomes usually focuses on people above a given percentile of the income distribution (the top x% of the distribution). The smallest the x, the highest the probability that people above this percentile are rich. Considering the top 1% has become in this respect a widely popular – if not totally accepted – definition of "rich" people. This way of analyzing rich people is useful to study the concentration of incomes (or wealth) and its variations over time. However, it does not provide any definition of rich people as such and it also misses the possibility that the rich might well be a changing proportion of the population, which is also an important issue.

To overcome this limitation, some authors use an income threshold, whether absolute or relative, to define rich people. An absolute threshold is generally set at such a high level that there would be no dispute – at least among ordinary citizens – on the fact that people above this threshold may be considered as rich in the common sense [9].

Relative thresholds usually mimic the definition of standard monetary poverty lines by setting a threshold at a given distance from median income: people are considered rich if their income is above x times the median income. For instance, Franzini *et al*. (2016) define affluent, rich and super-rich as people whose incomes are respectively above 3 times, 5 times or 10 times the median income. Similarly, where asset wealth is concerned, Atkinson (2006) identifies as rich anyone who owns assets above a given threshold that is a multiple of the average income [10]. This is going a (little) step further into some definition since it relates the definition of rich people to the actual income distribution and, consequently, implicitly acknowledges the fact that this relationship might be a key feature of some definition of rich people. In the same vein, Danziger *et al*. (1989) define the rich "as persons living in families with income exceeding nine times their poverty lines".

Whether absolute or relative, all these definitions share the same limitation: they do not provide any rationale for the definition of these thresholds. Therefore, the empirical line which is defined is purely conventional and is open to never-ended debates. To try to overcome this problem, some authors have proposed – and argued for – normative definitions.

3. Normative definitions: bringing people together

As far as we know, two authors have proposed to define an affluence line. These proposals share some common characteristics – in particular concerning the need for some kind of justice – but they rely on rather different rationales.

Some forty years ago, Jan Drewnowski (1978) proposed to define an affluence line. According to Drewnowski, "The main reasons for introducing the concept of the affluence line are: "(1) Scarcities which constitute limits to development, (2) Social justice, (3) Societal deterioration which is brought about by affluence." These arguments largely echo the challenges that were attracting growing concern among international organizations at that time [11]. And there is no doubt that these challenges should still today deserve close attention. In order to cope with these issues, Drewnowski defines an affluence line as "the level above which consumption need not and should not rise"; this affluence line should be based, Drewnowski argues, "on absolute standards for needs satisfaction". Hence the conclusion: "Just as it is possible establish minimum standard levels of all these needs which would be acceptable as a basis for a poverty line, for an individual or family it is

9. A popular example is to be found in the Forbes magazine that publishes each year the famous "World's billionaires list". It also calculates the cost of a basket of goods and services necessary to "live extremely well" and the related index, The Cost of Living Extremely Well Index (CLEWI).
10. See Atkinson (2006). Atkinson proposes the following thresholds: people are rich if they own assets worth at least 30 times the average country income. Super-rich and mega-rich are people whose assets are worth respectively 30 x 30 (900) times or 30 x 30 x 30 (2700) times the average income.
11. Drewnowski has been intimately involved in the "Social indicators movement".

also possible to establish full satisfaction standard levels of these needs which would constitute the affluence line for individuals and families." In other words, Drewnowski proposes to establish minimum and maximum standards of need satisfaction which could serve as a basis for the definition of public policies in order to cope with the three main challenges that he identifies.

However, Drewnowski did not propose any guideline to empirically set these two benchmarks. As far as we know, no attempt has been made since then in that empirical direction. The recent book by Kate Raworth, *Doughnut economics*, does in some way echo Drewnowski's preoccupations. In Raworth's book, the social foundation is the inner ring of the doughnut: it represents the minimum of sufficient resources necessary to lead a good life and can be compared with the minimum standard of need satisfaction proposed by Drewnowski. The outer ring of the doughnut consists of the Earth's environmental limits. It defines, *de facto*, an upper limit of need satisfaction; however, this limit is not based on social standards of full satisfaction of needs but on ecological limits.

The second normative approach of an affluence line was developed much more recently by Medeiros (2006). It is mainly an economic one. This author defines the rich in relation to the poor using a redistributive criterion. The affluence line is defined as "the value that delimitates the aggregated income required to eradicate poverty by the way of transfers from the rich to the poor". The rationale for this definition is based on a moral argument: because "poverty is morally unacceptable…there should be complete aversion to it". Empirically, the methodology relies on the standard view that utility declines as income raises [12]. Consequently, this provides an argument for eradicating poverty by the way of transfers that should occur from the richest individual to the poorest one, going step by step: "When the level of resources of the richest individual reaches the level of the second richest individual, both start transferring equal amounts of resources to the poorest, the same occurs to the following individuals as their level of resources are reached." And so on up to the point where the resources necessary to eradicate poverty have been transferred from the richest individuals to the poorest ones. At this point, "the original income of the last richest individual included in the transfer process will be the value of the affluence line, above which, with the same income, all the originally richest individuals will be found".

There is no doubt that there are strong moral arguments in favor of this definition of an affluence line, even though some economists do not seem to be convinced [13]. Doyal and Gough (1991) made a significant contribution to this debate by arguing for a right to minimal need-satisfaction. Analyzing the logical but rather complex relationship between rights and duties within a community, Doyal and Gough argue that it would be inconsistent to ascribe duties to individuals and "not to help them attain the minimal wherewithal to do just that". There is thus, as they state, a right to minimal need-satisfaction. As Doyal and Gough put it, "the link between severe need and entitlement is a powerful one supported by both reason and feeling". In the following section, we propose a quite close but slightly different logical argument.

4. Individuals and society: a logical argument

The individual and the society are mutually dependent: this comes as a truism for most social scientists. It is not so the case if we consider mainstream economics where the relationship between individuals and the society is often overlooked, either because there is no society or because society is just some kind of byproduct of market arrangements

12. "The individual well-being generated by additional amounts of resources decreases as the volume of such resources increases" (Medeiros, 2006).
13. Briefly reviewing the definitions of rich people, Franzini ***et al***. (2016) state that "The choice of making the definition of richness dependent on poverty is not very convincing". It is a pity, however, that the authors do not bother to explain why such a definition is "not convincing".

that are driven by purely individualistic interests. This position has been vividly criticized by Trygve Haavelmo when he received in 1989 the “Bank of Sweden Prize in Economic Sciences in the memory of Alfred Nobel”, the so called “Nobel Prize”(see box).

Taking as a starting point the fact that individuals *need* society – at least as much as society needs individuals – it is possible to derive a set of logical arguments from this statement. First, it implies that one major goal of individuals living in a society should be to preserve the existence of this society: this is a necessary condition for the existence, and even the survival of individuals. This in turn also logically implies that all members of the society should be able to participate in the society, at least at a minimal necessary level. Otherwise there would not be something that could be called a society: some members would be excluded and this would one day or another threaten the existence of the society and, consequently, the existence of individuals.

The logical conclusion is that any society should enable its members to participate in social life and, concretely, to have the necessary minimal resources to have the capability to participate in society. Given the fact that, at any point of time, resources available in the society to satisfy needs are limited, their distribution should therefore be bounded by two thresholds. The lowest limit is the amount of resources minimally needed for any individual to participate in society, and the upper limit is the affluence line, that is the amount of resources above which any extra resource “captured” by some individuals would, *de facto*, prevent other members from minimally participating in society.

In order to avoid some possible misinterpretation of this argument, two points deserve some clarification. First, defining an affluence line does not imply any moral judgment about rich people so defined and, second, neither does it imply any consideration about the desirable society in which we would like to live.

Identifying rich people in the way we propose here is intended to serve as a benchmark, or a guide for designing some public policies. It does not say anything about the justice

Box

Trygve Haavelmo on economic theory

In his Nobel Prize lecture, Trygve Haavelmo raises a potentially disturbing question that all scientists should – at least one day in their lives – ask to themselves. The question is: “Econometrics a useful instrument for economic policy? Fortunately in this case, the short answer is yes, “econometrics can be useful”. But this possibility “depends on good economic theory” and, unfortunately here, “existing theories are not good enough”. Why is it so? Because economic theory starts “by studying the behaviour of the individual” and then tries “to construct a model of the economic society in its totality by a so-called process of aggregation”. “This is actually beginning at the wrong end”, says Haavelmo. It is interesting here to fully quote the considerations upon which Haavelmo bases his statement.

“In the world today there are more than five billion people. If they should try to live without being members of some society, I suppose most of them would be dead in a few weeks. There is of course the old moral question of whether the individuals are there for the sake of society, or vice versa. I think the question is meaningless in the world we live in today. Putting it in a somewhat demagogic way I would say that *without society there would be practically no individuals, and without individuals there would of course not be any human society*. This observation has nothing whatever to do with any thoughts in the direction of a totalitarian view as opposed to an individualistic view. [1]”

1. Our emphasis.

Source: Haavelmo Trygve, “Econometrics and the Welfare State”, Lecture to the memory of Alfred Nobel, 1989.

or fairness of the income distribution, nor does it imply that rich people so defined should be necessary blamed. To answer these questions, it would be necessary to investigate the way in which resources have been acquired and, also, the way rich people do spend their resources. For instance, if the wage scale for defining the salary of civil servants allowed for salaries that are above the "affluent line", people receiving such high salaries could not be blamed for this situation. This would just be a sign that there is some contradiction in the way society is organized. Conversely, one can imagine situations where people – whether rich or not – have acquired their resources by illegal means and this would obviously be immoral. On the expenditure side, some rich people may voluntary decide to "redistribute" their resources so as to contribute to a fairer society or, what seems to be *de facto* more the case in the actual world, to spend these resources in order to maintain their power over the rest of the population. To sum it up, we cannot directly conclude about the just nature of these situations only by considering the situation of individuals within the income distribution and the fact that they may be considered as rich.

Another important point is that the definition of an affluence line derives from a purely logical argument. This has nothing to do with any conception of what the society should be and on which rules, institutions and values it should be based. This issue is first and foremost a matter of political choice. For instance, devising an affluence line does not imply that the society *should* absolutely set a cap on incomes. To be honest with the reader, that is indeed the preference of the author. But this is a matter of individual preference and some other people may reject this point of view for various reasons.

Whatever the preferences that we may have as citizens, this would not make an affluence line meaningless. At least, an affluence line may help to evaluate the current state of our societies. At a global level, for instance, the extreme inequalities that we observe today do clearly show that there is no something as a global society. This will not come as a surprise. An affluence line may usefully fuel the debate on this issue and, hopefully we think, alert on the potential collapse of this global society.

At a national level where the concept of society does mostly make sense today, the same conclusions can be drawn. Any citizen is perfectly free to reject our definition of an affluence line. But doing so, this would logically imply rejecting also the necessity of society and implicitly advocating for some form of secession from the society. There is in fact growing evidence that these centripetal forces are gaining influence. The development of gated communities, the large-scale use of fiscal heavens to individually escape the basic participation into some form of public purse, are some examples of these forces.

The affluence line is therefore conceived to answer the following question: "If we were to enable all members of the society to participate in it and to meet theirs basic needs, what could be the maximum income? To what extent could we afford some kind of inequality?". The affluence line is a tool that is intended to inform the public debate on these issues and not to impose any political option nor, in particular, a specific way to redistribute incomes. What might be confusing is the way the affluence line is empirically computed, starting from the richest individual and going step by step to the least rich individual just above the affluence line. We do think, as Medeiros, that this methodology is the most relevant one.

To sum it up, there are strong ethical arguments to support the relevance of the question and hence the hypothetical situation ("If we were to enable all members of the society to participate in it"). And, second, we also think that the methodology proposed by Medeiros is the most relevant one to answer this question.

5. Devising an empirical affluence line: basic methodological choices

Based on the above arguments, we propose to define an affluence line in the following way: the affluence line represents the level of the maximum income above which all extra incomes would be transferred to the rest of the population in order to enable all members of the society to fully participate in it.

In order to empirically devise an affluence line, we need to set a benchmark that represents the minimum income necessary to participate in the society, what we will call the "need-satisfaction line" (NSL). We also need a database with incomes comparable with this benchmark.

The first point is obviously a crucial point: the higher the benchmark (NSL), the lower the affluence line (AL), and conversely. Since empirical estimates may be quite sensitive to this choice, it is important to argue about the relevance of the benchmark used to assess what is actually needed to participate in the society. As discussed above, there is no consensus today about any empirical poverty line. In his article, Medeiros uses an arbitrary threshold which is the value of the 33th percentile of the population in ascending order of per capita household income. Any such reference is opened to some kind of never-ended criticism.

Reference budgets based on the Minimum Income Standard (MIS) methodology developed over the past ten years offer a much better alternative to such arbitrary benchmark. There are two reasons for this. First, the aim of reference budgets is explicitly to calculate the minimum budget necessary to fully participate in the society. It therefore fits exactly our goal. Second, reference budgets bring together the expertise of the citizens and the codified knowledge of experts. We will not discuss here the various advantages of this methodology and its conceptual foundations [14]. The key point is that reference budgets are grounded on some process of social validation. This is not to say that reference budgets do perfectly match all the conditions to set such a minimum budget and there is probably some room to empirically strengthen this methodology. But there is no doubt that reference budgets are the best – or the least bad – estimate that we can get today to empirically devise some minimum budget to participate in the society.

The second question is to which concept of income we should compare reference budgets. This in turn raises some other issues. The income concept which is directly comparable with the reference budgets is the households' disposable income. To be more precise, this disposable income is a monetary one and does not include the social transfers in kind that go to households (health, education for instance). Since the size of these in kind transfers may vary across countries, this means that the affluence lines based on reference budgets (or any other purely monetary indicator) will partly reflect these differences.

Another issue which is often overlooked in the literature is related to the accuracy of income data. Income data based on surveys underestimate the actual incomes – and consequently the standard of living – of households. The reason for this is twofold. First, these survey data do not take into account imputed rents and, second, they do not fully cover all incomes received by the households for various reasons (under-reporting, errors, fraud,…). Comparing these survey data with reference budgets that are supposed to exactly and fully measure the actual incomes of households can therefore be misleading [15].

This difficulty is much more acute in international comparisons, since the underestimation of incomes in households' surveys varies greatly across countries (figure 2). Compared with national accounts' figures, the average equivalent disposable income taken from

14. See Concialdi (2014).
15. For a full discussion of this issue, see Concialdi (2002).

households' surveys ranges from around 40% in Romania to 90% in Sweden. For the three countries considered in this paper, however, differences are very small.

We propose here to take into account part of this discrepancy between survey data and macroeconomic estimates in a "conservative" way, that is in a way that will minimize the gap between minimum reference budgets and actual incomes and, consequently, maximize the affluence line. Concretely, we have increased all households' incomes below the NSL by the same percentage corresponding to the average estimated share of imputed rents in households' incomes [16].

Another important methodological issue is related to the comparison of households with different needs. The per capita income used by Medeiros does not make any adjustment for these differences in needs. This methodological choice does not take into account economies of scale within households and, more generally, it does not accurately capture the actual living conditions of people.

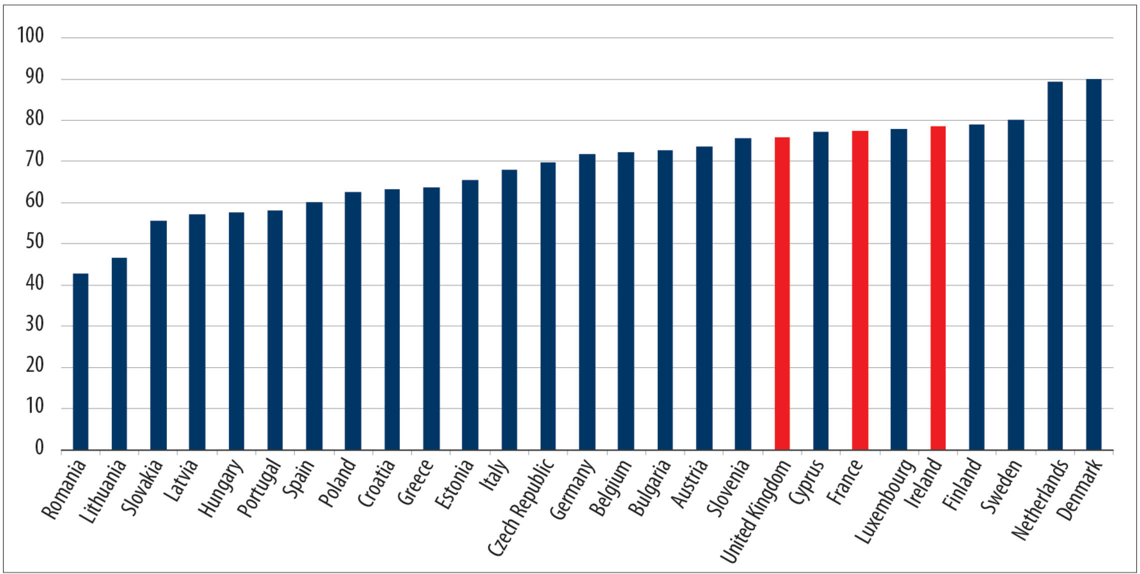
In the economic literature, this issue is dealt with by using average equivalence scales. The methodology of reference budgets is different since these budgets are established directly for various family types; one of the main outcomes of this kind of research is, precisely, to assess the relevance of average equivalence scales for low income households. For instance, French reference budgets show that the average equivalence scale overestimates the needs of couples without children whereas it underestimates the needs of lone parents. It is therefore not straightforward to compare these reference budgets with the distribution of equivalent incomes computed with average equivalence scales in the surveys. Our choice was to take as a benchmark the reference budget for a single person in working age and to compare this benchmark with the distribution of equivalent disposable incomes computed with an average equivalence scale. In the case of France, this methodological choice underestimates a little bit the NSL and consequently also the overall amount of transfers [17]. There is therefore a small upward bias in the estimation of the affluence line.

The main methodological choices may be summarized as follows:

- the minimum income necessary to participate in the society is the reference budget for a single person of working age;
- this minimum income is compared with the actual distribution of equivalent incomes to calculate the amount of transfers necessary to raise all people at least to this minimum;
- we deduct form this amount of transfers an estimate of the imputed rent "perceived" by people below the NSL;
- we finally calculate the affluence line as the income to which the richest individuals should be capped in order to collect the necessary transfers.

16. In national accounts, the imputed rent is mainly captured in the households' operating surplus (for "pure" households, excluding the operating surplus of self-employed). In France, the households' net operating surplus represents a little less than 10% (8.4% in 2015) of the households' net disposable income. For all countries under review, we have increased the incomes of all households below the NSL by 10%. This share may vary from one country to another. However, these variations would not substantially alter our results.
17. If we consider all the family types covered by the French research on reference budgets, the gap would be 1.6% to 2.7% higher with the equivalence scales taken from reference budgets than with the average equivalence scale.

Figure 2. Average equivalised disposable income in SILC surveys as a % of average equivalised disposable income in national accounts (year 2011)



Source : Eurostat, author's calculations.

6. A macroeconomic view

A first and quite simple question is whether a society can actually satisfy the basic needs of its population. We propose here estimates for France.

Taking as a norm the reference budget published by the ONPES (2015) for a single, it is possible to estimate the minimum national income necessary to satisfy the minimum needs of all the French population and, consequently, the macroeconomic surplus that would be left if this goal were met. For the year 2013, a little less than 60% (58%) of total households' income would be necessary to satisfy the minimum needs of all French households. The macroeconomic surplus would be around 40% (42%). So the answer is yes: France can satisfy the minimum needs of its population to enable all people to fully participate in the society.

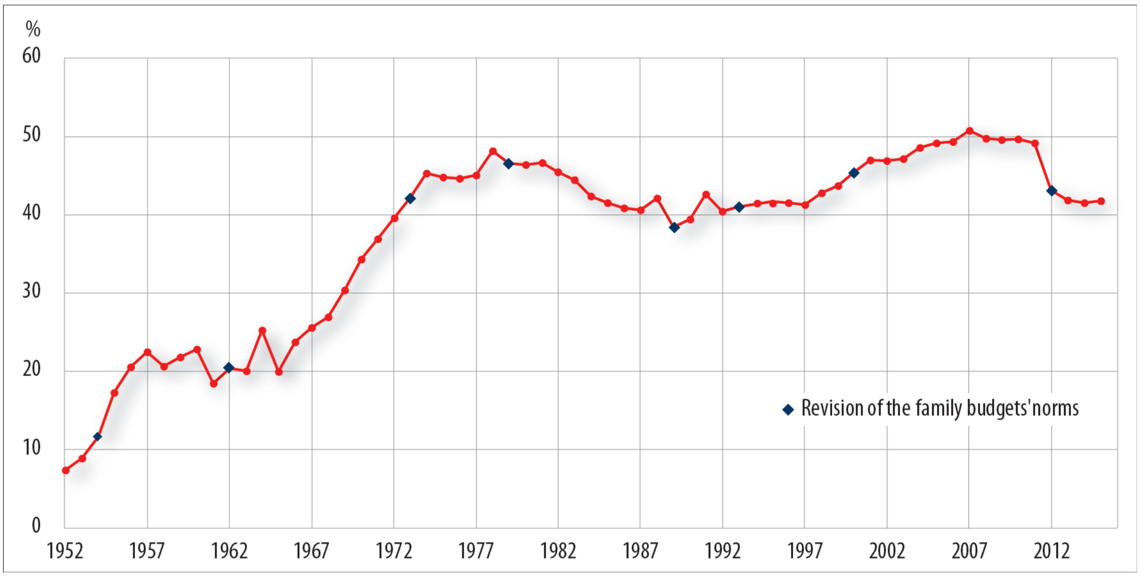
In the case of France, it is possible to take a long term view of this indicator. Before the ONPES set about drafting its own reference budgets, there were already another similar indicator in France, namely the budgets per family type developed by the French National Union of Family Associations (UNAF) over the past 60 years (since 1952). The objective of these budgets is similar to the one set by the ONPES since it offers a "decent life minimum" benchmark for different family types. The methodology, however, is different since it relies – when they exist – on the stock of existing norms and standards.

Taking the reference budget of the ONPES as a benchmark for the year 2013, we estimated the same budgets for the period 1952-2015 using the UNAF budgets as a proxy for variations in the ONPES budget. The figures obtained are obviously rough estimates which are mostly useful to analyze the variations of this macroeconomic indicator more than its absolute levels.

As can be seen from the figure below, the macroeconomic surplus has been fluctuating over the past 40 years within a quite narrow interval: between 40% and 50% of the households' disposable income. Before that period, however, the picture was rather different. The macroeconomic surplus increased rapidly between the mid 60s and the mid 70s, and it was quite low in the aftermath of WWII.

This last result should not come as a surprise and is coherent with estimates produced in the early 1950s by some researchers. These estimates are based on the minimum budgets discussed at that time between employers and employees in order to define a minimum wage. Taking these budgets as a standard, some researchers calculated that nearly all the national income would have been necessary in 1953 in order to satisfy the minimum needs of the French population (Malignac, 1950; Sauvy & Malignac, 1954). In other words, the French society could hardly "afford" much inequality at that time.

Figure 3. An estimate of the macroeconomic surplus (as a % of households' gross disposable income)



7. Estimates of an affluence line for France, Ireland and the UK

Using the reference budgets produced in France, Ireland and the UK with the MIS methodology, we propose here some estimates of the affluence line in each of these countries. These estimates are based on the methodological choices described above. In each country, the reference budgets have been compared with the distribution of households' equivalent disposable incomes, using the Eurostat database which provides some details for the bottom as well as for the top of the income distribution. We computed two sets of results, excluding or including an estimation of the imputed rent going to low income households below the NSL (Figure 4). The detailed calculations for France are provided in Annex.

The first line of the table gives the relative value of the NSL as a % of the average disposable income. The second line is an estimation of the transfer necessary to raise all the population at least to the level of the NSL: we call it the "needs gap". It is expressed as a percentage of the total households' disposable income. The rest of the table provides estimates of the affluence line that are expressed:

- as a percentile of the income distribution (equivalent disposable income);
- as a multiple of the median equivalent income;
- in absolute terms (again as the value of the corresponding equivalent disposable income)

Concerning the "needs gap", results for France and Ireland are very close: around 6% of total disposable income with no imputed rent and between 4.1% and 4.6% if we include an estimation of the imputed rent. Results for the UK are at least 2 points higher: 8.7%

Figure 4. Estimates of an affluence line in France, Ireland and the UK (2015)

	No imputed rent			Including imputed rent		
	France	Ireland	UK	France	Ireland	UK
NSL as a % of mean income	72.1	68.3	73.2	72.1	68.3	73.2
"Needs' gap" as a % of total households' income	6.3	6.0	8.7	4.1	4.6	6.6
Affluence line						
Percentile of the income distribution	P93-P94	P91-P92	P90	P96-P97	P93-P94	P93-P94
Multiple of median equivalent disposable income	2.24	2.01	1.99	2.78	2.23	2.27
Annual equivalent disposable income (€)	48 000	43 500	41 800	59 500	48 500	47 500

Source : Eurostat, Reference budgets and author's calculations.

and 6.6% of total disposable income respectively without and with imputed rents. By contrast, estimates of the affluence line are close for Ireland and the UK whereas the results for France are somewhat higher than for these two countries.

In the case of France, these results are coherent with those of the surveys that directly ask people their own view about "what does it mean to be rich?" [18].

Many reasons can explain the differences observed across countries and some of these reasons may compensate each other. It is therefore not so easy to disentangle all these combined effects. Comparing France to each of the two other countries helps understand how these combined effects work and explain the differences across countries.

France and Ireland – In relative terms, the value of the NSL is higher in France than in Ireland. So we should expect that the needs gap would also be higher. This is not the case because the share of disposable incomes going to the lowest incomes (bottom 20,

Figure 5. Share of households' total disposable income (%)

	France	Ireland	UK
TOP 5	15.6	14.2	16.0
TOP 10	24.6	23.3	25.2
BOTTOM 10	3.7	3.4	2.8
BOTTOM 20	9.0	8.5	7.7
BOTTOM 30	15.3	14.5	13.6
BOTTOM 40	22.5	21.5	20.4

Source : Eurostat.
Lecture : in France, the top 5% of the income distribution receive 15.6% of total disposable income, that is approximately the same share as the bottom 30% (15.3%).

18. IFOP, « Les Français et la richesse en France », February 2013. In the survey, people were asked the following question: "According to you, above which monthly income do you consider a person to be rich?". For a single, the average answer was 6 500 €. This must be considered as a pre-tax income. Since there is no withholding tax in France, people do not have a clear idea of after-tax incomes, especially for high incomes. For a single, a 6 500 € monthly pre-tax income (75 000 € a year) would approximately translate in a 60 000 € annual disposable income, a result which is quite close to our estimate if we take into account imputed rents.

30 or 40) is lower in Ireland than in France (Figure 5). To fill the needs gap thus requires a somewhat higher transfer. At the top of the income distribution, the concentration of incomes is stronger in France than in Ireland. Both factors explain why the affluence line is set at a higher level in France than in Ireland.

France and the UK – In relative terms, the value of the NSL is very close in both countries. If the needs gap is much higher in the UK, this is mainly because the share of disposable incomes going to the lowest incomes is far lower. This is in fact the main factor explaining why the affluence line is much lower in the UK than in France. A somewhat higher concentration of incomes at the top of the distribution in the UK does not compensate for this effect.

Concluding remarks

No politician would claim that poverty is a good thing for the society and that governments should not eradicate it. But very few – at least at the present time – would also claim that excessive affluence does harm the society. However, as we have tried to demonstrate in this paper, both issues are linked. Our estimates of an affluence line provide some benchmark to deal with these issues.

Whatever the precision of our figures, it is obvious that some salaries are well above our estimated affluence lines. This is first of all true for most civil servants working in international organizations and also, for national members of the Parliament in most EU countries. Since these people do explicitly work for the sake of the society, this points to a quite serious contradiction.

This is the more so in the private sector for executive and management jobs who can most of the time expect a sizeable six-figure salary. Not to mention the CEOs who run as millionaires. All these people can be considered as rich, or super-rich. In our view, these extreme salaries are a clear sign of the dysfunctions of our societies.

What can be done? Tony Atkinson answered this question in his last book, bringing sound arguments in favor of various proposals (Atkinson, 2015). His main ones include, at the bottom of the income distribution, a living wage that is at least 20% higher than the national UK minimum wage and upgraded universal benefits. At the top, Atkinson advocates for a far more progressive taxation and a code of practice for pay above the minimum. These are certainly some of the core issues that should deserve close attention in the near future, at least if we want to bring all members of the society together.

To end this paper, we would like to mention two directions for future research. A first axis would be to investigate the way in which both incomes and wealth could be taken into account in order to define a comprehensive affluence line. One approach would be to convert households' wealth into income flows as it has been proposed a few decades ago (Weisbrod & Hansen, 1968). The main difficulty here would probably be an empirical one because this necessitates a database that would give both incomes and wealth at the household level.

Another axis would be to explore the conceptual foundations and the empirical problems associated with the definition of some international or global affluence line. We can draw here on the theoretical work of Doyal and Gough (1991) who have defined a universal and hierarchical model of needs. Again, the empirical work would probably be the most difficult task to achieve.

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ANNEX
Calculation of the affluence line for France

In order to estimate an affluence line, we need first a benchmark to set the minimum income necessary to participate in society and, second, the distribution of disposable incomes across households.

As we have argued, the most appropriate benchmark is the reference budget derived from the MIS methodology. The level of the estimated affluence line also depends on the concentration of incomes at both extremes of the income distribution. As we have seen when comparing France with the UK, although the level of the benchmark is very close in the two countries – as a % of the average income – there are quite important differences in the levels of the affluence line. And these differences reflect differences in the concentration of the income distribution.

The Eurostat database provides the distribution of the income distribution for all EU countries with various indicators:

- The share of equivalent income received by each decile;
- The limit of equivalent income for each decile.

These indicators are available for each percentile of the income distribution for the lowest and highest incomes (P1 to P5 and P95 to P99), for the deciles and the quartiles.

The needs gap is the total amount of hypothetical transfers from the rich to the poor that would be necessary to raise all the population at least to the NSL. It may be expressed as a percentage of the total households' disposable income.

We compute the needs gap in four steps:

- The reference budget is expressed as a % of the average income. This is the needs satisfaction line (NSL). For a working age single, the NSL is equal to 72.1% of the average income in France.
- The income share of each percentile gives the average income for this percentile expressed as a percentage of the average income in France.
- Deducting the NSL from this average gives the needs gap for each person in each percentile.
- The sum of the weighted gaps – where there is a gap – gives the total needs gap expressed as a percentage of total households' income.

The main advantage of this method is its simplicity. One of its drawback is that it underestimates a little the needs gap of the top percentile that would receive positive transfers (P30-P40 in the case of France). Within this population, some people are below the NSL and other above. There is therefore some compensation when we take the average income to estimate the needs gap. These calculations will be refined in a future work. The following table presents the details of the calculations for France.

NSL=0.721	Population share (%) (1)	Income share (%) (2)	'Average income' (3)=(2)/(1)	Needs gap	
				Average (4)=(3)-NSL	Weighted (5)=(4)*(1)
P00-P01	1	0.1	0.10	-0.621	-0.621
P01-P02	1	0.3	0.30	-0.421	-0.421
P02-P03	1	0.3	0.30	-0.421	-0.421
P03-P04	1	0.4	0.40	-0.321	-0.321
P04-P05	1	0.4	0.40	-0.321	-0.321
P05-P10	5	2.2	0.44	-0.281	-1.403
P10-P20	10	5.3	0.53	-0.191	-1.905
P20-P25	5	3.0	0.60	-0.121	-0.603
P25-P30	5	3.3	0.66	-0.061	-0.303
P30-P40	10	7.2	0.72	-0.001	-0.005
P40-P50	10	8.1	0.81	0.089	0.895
P50-P60	10	9.1	0.91	0.189	1.895
P60-P70	10	10.2	1.02	0.299	2.995
P70-P75	5	5.5	1.10	0.379	1.897
P75-P80	5	6.1	1.22	0.499	2.497
P80-P90	10	13.9	1.39	0.669	6.695
P90-P94	4	7.0	1.75	1.029	4.118
P94-P95	1	2.0	2.00	1.279	1.279
P95-P96	1	2.1	2.10	1.379	1.379
P96-P97	1	2.3	2.30	1.579	1.579
P97-P98	1	2.6	2.60	1.879	1.879
P98-P99	1	3.1	3.10	2.379	2.379
P99-P100	1	5.5	5.50	4.779	4.779

Note: calculations without any imputed rent.

The sum of the weighted gaps – where these are negative (in blue) – is equal to 6.32 % of total households' income. Refining the calculation for the P30-P40 population would approximately increase the needs gap by 0.2 percentage points.

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