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1 – Introduction: Middle classes and redistribution – an everlasting story

"Too wealthy to benefit from social welfare, but wealthy enough to pay taxes?", that is what describes best recent debates on middle classes and taxation. Indeed, over the past ten years, the issue was discussed controversially. Some critiques are presenting middle-classes as the government's cash cow in terms of financing social subsidies for social underdogs while others pretend that historically the main idea of the welfare-state is not plundering but protecting the middle classes. Yet, neither the argument that middle classes would suffer a big deal from public tax burden, nor the idea of a middle class as the masterpiece of the social welfare system is new from a historical point of view. However, ideological and political instrumentalizations often make it difficult to even understand what middle classes are about. A historical analysis of fiscal debates in European countries over the last hundred years shows for instance that it is nearly impossible to get a convergent definition of what was meant by middle classes at each of the different periods and during each of the different controversies. Despite the fact that "middle classes" function mainly as an "empty political concept" enabling political parties to rally the biggest number of fellow citizens which makes it so difficult for middle classes to be described as one homogenous global concept, it is possible to portray them through their very specific characteristics depending on every national historical context. In this perspective Europe seems to be divided into four camps when it comes to the question of the relation between taxation and middle classes. Apparently it is the prevailing model of the welfare state that is determining this relation most. Indeed, the status and role of middle classes depends on the dominant welfare state model adopted within the country.

The anglo-saxon model (UK, Ireland and the US outside Europe) is a derived form of the **Beveridge system** proposing universal access to social protection, but limiting this access to the only domain of health services. The welfare system is financed by lump sum contributions (taxes) which are redistributed in form of lump sum benefits. The historical aim of this system was to eliminate poverty (William Beveridge proposed for example income maintenance to the most vulnerable) and not – as in other countries like in the Scandinavian model – to develop middle classes. In other words, the anglo-saxon model was historically not supposed to benefit to middle classes. This may be one of the reasons why middle classes do not expect very much from the anglo-saxon welfare model. They are clear about the fact that they will not benefit a big deal from the "redistribution process" and looked for other ways to ensure more social insurance like the subscription of private insurances or private pension investments. As another result middle classes turned to liberal political parties (whereas in Scandinavian countries they turned to the Labour) promising tax cuts and the possibility from benefitting of a very new form of "redistribution" which is not the "redistribution of wealth" but the "redistribution of possibilities". One may just remember the presidential campaign in the US when Barack Obama claimed: *"We cut taxes for middle class families because I believe that we do best when the middle class is doing well."* (Linn, 2012) Moreover, the "redistribution of possibilities" is completely compatible with the liberal credo (Rawls, 1993, 2001 and Dworkin, 2000) and describes the idea that the welfare state should invest more money in the prevention of social risks by creating an infrastructure and a legal framework that enables every individual (a particularly the middle class much less wealthy than the rich and much less benefiting from social subsidies as the lower class) to have the same chances to succeed in life (Warren, 2004).

The **second group** of welfare states is based on the **Scandinavian model** (Denmark, Sweden, Finland, Norway or Island). The Scandinavian welfare systems are also inspired by the Beveridge system but they stick much closer to the initial idea of universal access to social benefits for the largest number of people. This means that social benefits are not reserved to the most vulnerable categories but also for middle classes. In other terms, middle classes are certainly a main tax contributor to Scandinavian welfare policies but, on the contrary to the anglo-saxon model, they get something out for the money they paid in. At least this is what political parties are pretending. Socialist leader Olof Palme explained in 1984: "*If society's efforts are focused only on its weakest members through selective social policies largely based on 'means-tests', taxpayers come to think in terms of 'we' and 'they'. 'We', the better-off wage earners and the middle class – have to pay the state, but get nothing in return. The ground is thus prepared for the disintegration of social solidarity. (…) The point I am trying to make is that the weak members of society are best protected not by being given special treatment but by being included in programs that extend to all members of society"* (Palme in Morel, 2008). This may explain why the Scandinavian debate on "taxation and middle classes" does not present them as a net contributor but as a main beneficiary of social welfare. However, in recent years the main problem was not to justify a high level of taxation and social contributions but to guarantee a high level of social benefits and social services to largest part of the society which became very difficult to maintain due to the worldwide economic crises and the necessity of budget restrictions.

The third model, the **continental European model** (France, Germany, Austria, Belgium, Netherlands, Luxemburg), is engineered according to the principles of the "social insurance system" developed by Otto von Bismarck. The main idea of this system is that social benefits are linked to the condition of being a contributor to the social insurance. Employers and employees need to pay social contributions (depending on their revenues and benefits) before being eligible for social subsidies. Most of social transfers are made in form of so called contributive transfers such as unemployment allowances or allowances for illness. Non-contributive transfers – such as family allowances, housing allowances etc. - exist but they are less important in the global envelop. As a matter of fact, the continental European model makes it much more difficult for middle classes to get something for the tax money they pay into the system giving them the impression to be the "cash cow" of the Nation. Several reasons for this: middle classes constitute the major part of the labor force, they are rarely unemployed and seldom ill which excludes them from the main part of social transfers. Furthermore, they often find them in a kind of "double income trap" (Warren, 2004). A middle class household with two average incomes is considered of being too wealthy for receiving non-contributive transfers such as housing or family allowances. Therefore, the critics of asymmetric tax policies and insufficient benefits squeezing middle classes like a lemon are in the very center of "redistribution debates". The welfare state is accused of letting struggle middle classes by pressurizing them. The historical debates in **France** for instance are an illustrative example for this difficult relation between the welfare state and its middle classes. Indeed, from a historical perspective the very first official political movements claiming the defense of middle classes (Ruhlmann, 2001) against fiscal pressurization and abusive tax policies appeared at the beginning of the 20th century right at the same time when a large tax reform tried to establish the bases of modern welfare state in France. Form the very start middle classes have been seen as the principal sponsor of welfare policies and therefore as a victim of disproportionate taxes without getting anything for their money in exchange. Some thirty years later – during the period of the *Front populaire* led by Léon Blum – a so called *General Confederation of the middle classes* claimed that taxes would harm specifically to middle classes' purchasing power because they are supposed to contribute more in terms of taxes than they were getting back from the social insurance system in form of benefits and allowances. The situation changed hardly after World War II where the idea of a middle class "squeezed like a lemon" by an abusive public welfare system became a political evergreen and was recurrently used by mainly conservative and liberal political movements (from Poujade to the UDI). **Germany** knows a similar debate. Since the 1950s middle classes are represented in a symbolic opposition to all those categories that are benefitting most from the welfare system without having really contributed before. Especially proposals such as the aim of establishing a universal minimum income are digging the cleavage between the middle class and those who are stigmatized as "socially assisted".

The fourth model is the one of **southern European countries** (Spain, Italy, Greece and Portugal). It is closely inspired by the continental European model but has some very significant points of distinction: In southern European countries one may often find a disproportionate high number of multiple different professional insurance organisms compared to the continental European model. The system offers universal access to health care but the creation of other welfare benefits such as minimum income standards has been delayed compared to France or Austria for instance. Similar to the most recent debates in Germany, middle classes – for instance in Italy or Greece – are often described as struggling most under public taxation policy. This anti-taxation discourse is mostly linked to xenophobic discourses pretending that redistribution mechanisms are benefitting most to immigrants, poor people or other social, linguistic or regional minorities.

However, if we had to find the common point that characterizes best the relation between middle classes and public taxation policy it would be the idea that whether middle classes are benefitting or not from monetary transfers in exchange of their contribution depends basically on the historical premises of the welfare state model they are living in.

Box 1 - Social welfare systems in Europe: between Bismarck and Beveridge

Although nowadays welfare states are very different and may hardly be compared, they often have a common historical background. The process of institutionalization of welfare states began in the late 19th century in Germany where the social legislation of Otto von Bismarck gave its name to what may be considered the childhood of the modern welfare state. Some 50 years later, William Beveridge's "Report on Social Insurance and Allied Services" marked a major modernization of the idea of welfare state and made it compatible to the anglo-saxon system mainly inspired by political liberalism. In other words Bismarck and Beveridge are the main sources of modern welfare state:

The Bismarck-model: In the context of a fast progressing industrialization in the 19th century, Germany was confronted to a quickly rising social inequality and therefore to a socially and politically explosive situation. In order to pacify social conflicts the chancellor Otto von Bismarck decided to create a system of compulsory social insurance. The aim of this system was to protect the most vulnerable social categories by assuring them a minimum of income in case of unemployment. The system is composed by four strands: unemployment and health insurances, insurance in case of labour accidents and insurance in case of disability and old-age. The system is basically financed by social security contributions which are paid as well by the employer as by the employee. Social benefits are strictly "contributive" (only if someone paid into the fund, he or she has the right to claim social benefits) and proportional to the income. The administration of the welfare system is left to public or even private insurance funds. In the thirty years following the instauration of **the idea of social insurance** in Germany, other European countries adopted similar concepts (Luxembourg, Sweden, Norway, Belgium, Austria, Italy, Netherlands, France and – to a lesser extend – the United Kingdom via the *National Insurance Act* of 1911).

The Beveridge-model: Mandated by the government to harmonize de British social protection system, William Beveridge proposes **a unique system of universal access to social benefits** and social assistance. Beveridge abandons the idea of a social insurance and advocates instead a generalization and standardization of social benefits. The system is financed by lump-sum contributions leading to lump-sum benefits. The declared aim of this system is to fight poverty efficiently by granting for instance a source of revenue (income maintenance) to unemployed people. Moreover the system foresees a universal access to health and medical care for the poorest and for all those people who are financially incapable to contract with a private insurance company. The administration of the system is dealt with by public administration and not by private or public insurance funds as in the case of the Bismarck-model.

The Danish economist Gosta Esping-Andersen takes into consideration the evolving nature of welfare-states and distinguishes basically three categories: the social-democratic welfare system, the conservative corporatist welfare system ant the liberal welfare system. Esping-Andersen approaches the subject through a gradual analysis of the level of penetration of welfare institutions and welfare services in society. In this perspective liberal systems, even if they have a universal vocation according to their Beveridgian roots, limit their efforts in social policies and do not develop the necessary mechanisms to go beyond the idea of assisting the most vulnerable. Conservative-corporatist systems have focused their efforts on professional corporations. They do not seek the reduction of inequalities in the first place, but the conservation of statuses. The principal aim of the social democratic model is to guarantee and assure social cohesion and the homogeneity of a very large middle class by means of universal lump-sum redistribution. In this kind of system, the protection of the middle class constitutes the very reason of welfare-state. The work of Paul Pierson is directly inspired by the modelisation of Esping-Andersen but focusses on the political facet of welfare states. Pierson is particularly interested by ideological cleavages, institutional reforms and the social welfare policies.

Political and institutional specificities of welfare systems (Esping-Andersen and Paul Pierson)

Model	Conservative corporatist	Liberal	Social-democrat
Geographical situation	Continental-european	Anglo-saxon	Scandinavian
Historical reference	Bismarck	Beveridge	Beveridge
Objectifs	Protect against "social risks"	Fight against poverty and unemployment	Minimum revenu for everyone, equal redistribution of wealth
Conditions of access to welfare services/benefits	Employment, social status	Level of poverty	Citizenship, place of residence
Operating principle	Contributive	Selective	Universal
Technique	Social insurance	Targetting aid/assistance	Maintain of revenus
Type of benefits/services	Proportionnal	Means tested	Lump-sum
Funding	Social cotisations	Taxes	Taxes
Administration	Insurance funds, social partners (trade unions)	Centralized administration; social policies are part of governmental politics	Centralized administration; social politics are under authority of local, regional and national administrations
Political and ideological support to the idea of welfare state	High	Middle	High
Need to adjust social reforms	High	Middle	Middle
Aims of social reforms	Reducing costs by adjusting the system	Reducing costs by liberalization	Reducing cost by rationalizing procedures
Cleavages	No negociation or negociations with social partners	Neoliberal clivage	Obligation to find a consensus with social partners

Source: Palier (1997, p. 154) and Pierson (2001, p. 455).

2 – Description of the study

The purpose of this study is to assess how income redistribution does affect middle class households by calculating the balance between, on the one hand, the taxes and social contributions those households have to pay and, on the other, what they receive as social transfers. The research question here is whether middle class households benefit more or less from income redistribution than lower and upper class households.

Let us define the two following quantities:

$$TAX\ RATE = \frac{Taxes\ and\ social\ insurance\ contributions}{Income}$$

$$TRANSFER\ RATE = \frac{Social\ transfers}{Income}$$

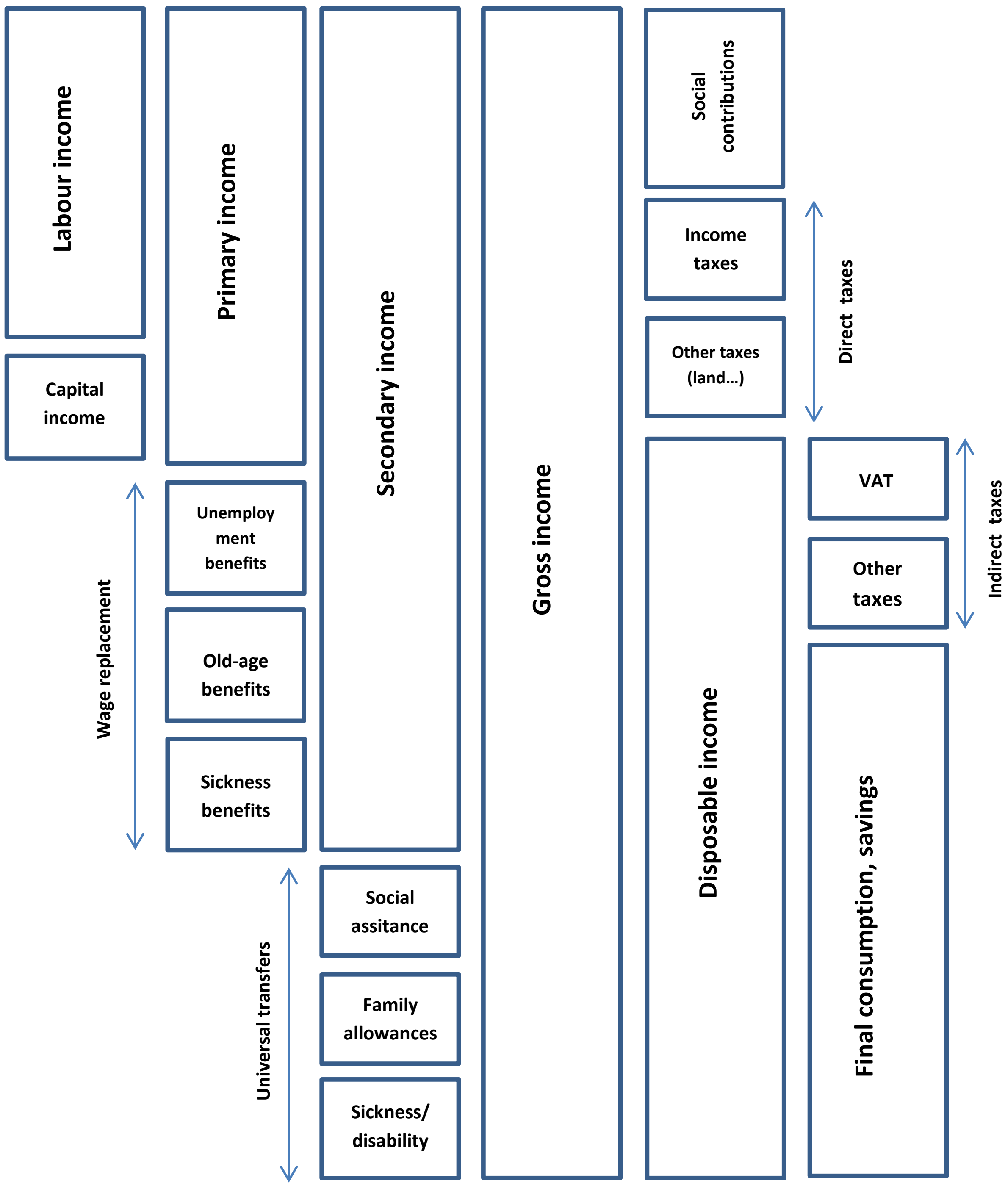
Actually, these two definitions raise several methodological questions: what is the target population (total population, working population only...)? What is the unit of analysis (household or individual)? Which taxes, social contributions, incomes components, and social transfers shall we take into account? How to estimate these quantities: shall we consider the mean of all the individual rates or a total rate for the overall population?

In this study, we decided to work at household level. There are several reasons driving this decision. First of all, income components and expenditures (rents, food, childcare, car...) are generally made at household level. In addition, the amounts of taxes and social transfers are generally calculated by public administrations at household level. For example, let's take a couple where the woman works and the husband is inactive. If taxes and contributions were calculated at individual level, though he is inactive, the husband would have to pay taxes. By calculating income and taxes at household level, then the whole income of the household is taken into account.

There are also many income concepts according to the main source of income (labour, capital, social transfers, family allowances…). The next figure shows the main sources of household income as used in the economic literature.

Disposable income = labour income + capital income + wage replacement + universal social transfers – direct taxes – social contributions

Figure 1: typology of income by source



There are several ways possible to calculate household tax and transfer rates. For instance, the tax rate can be calculated using the household gross income in the denominator and the transfer rate using the disposable income. However, academic literature does not always use this definition: for instance Landais, Piketty and Saez (2011) calculate rates based on the primary income. This approach is explained by them focusing on active-occupied people only (wage replacement incomes are excluded).

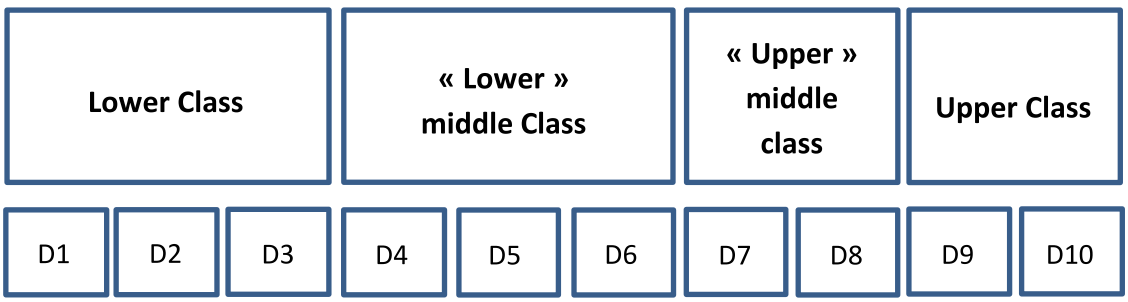
In this study, we have chosen to calculate both tax and transfer rates using the **household disposable income** in the denominator. This way, cross-country comparisons are made possible. This choice is driven by practical considerations, as the LIS data do not provide information on household gross income for all the countries. For instance, France's income data are already out of employer and employee social contributions. The same problem occurs with the Italian data. Thus, the LIS data make not possible working on gross income. As a result, in order to compare one country to another in a meaningful way, our analysis must be based on the total household disposable income. This concept is a closer measure to household well-being.

Another key question concerns the definition of middle class households. Actually, there is no consensus on how to define the middle class. Yet, this concept has often been over-used in the media, though it reflects dimensions that are somewhat different. One possible approach is based on the type of profession: basically, the middle class comprise the self-employed, intermediate professions and the clerks. However, this profession-based definition is flawed in the sense that the household disposable income may be very different within a profession: for instance, can a self-employee with an income of 1000 EUR be regarded as part of the middle class?

An alternative is to define middle class households using income rather than profession or education (Pressman, 2006 and 2010; Bigot et al., 2012). For instance, middle class households are defined as having an income[1] between 70 and 150% of the median income. In this study, we adopt the typology proposed in Bigot (2008):

- Lower class households belong to the first three income deciles D1, D2 and D3
- Middle class households belong to the income deciles D4 to D8, with « lower » middle class households in D4, D5 and D6 and « upper » middle class households in D7 and D8,
- Upper class households belong to the two top deciles D9 and D10.

Figure 2: definition of income classes



[1] In this study, in order to take into account differences in household size and composition, thereby making income levels comparable, the household disposable income was divided by the square root of the household size ("equivalised" disposable income"). The square root of the household size is called the "LIS equivalence scale" and is used in many publications dealing with income poverty and inequality across Europe (e.g. the OECD reference publication "*Growing Unequal? Income Distribution and Poverty in OECD Countries*"

In the following, we'll compare the shares of taxes and social insurance contributions paid by the households in the European countries, and balance them with the amounts of social transfers that are received by the households. If the balance is negative, then the households could be regarded as contributors to the social protection system, otherwise they are beneficiaries.

Most of our calculations used the Luxembourg Income Study (LIS) database, which provide comparable and detailed data on income for a wide range of countries. The next table describes the main data sources used by country and income component. Though the LIS data were suitable in most cases, we also had to rely on alternative sources when necessary.

Table 1: Data sources by country and income component

	Direct taxes			Indirect taxes	Social transfers		
	Total	Income taxes	Employee social insurance contributions		Total	Non-contributory transfers	Contributory transfers
South Africa	LIS	-	-	-	LIS	LIS	LIS
Germany	LIS	LIS	LIS	-	LIS	LIS	LIS
Australia	-	LIS	-	-	LIS	LIS	LIS
Brazil	LIS	LIS	LIS	-	LIS	LIS	LIS
Canada	LIS	LIS	LIS	-	LIS	LIS	LIS
Denmark	LIS	LIS	LIS	-	LIS	LIS	LIS
United States	LIS	LIS	LIS	-	LIS	LIS	LIS
Finland	LIS	LIS	LIS	EUROMOD ***	LIS	LIS	LIS
France	Own calculations	LIS	INSEE*	EUROMOD***	LIS	LIS	LIS
Ireland	LIS	LIS	LIS	EUROMOD***	LIS	LIS	LIS
Israel	LIS	LIS	LIS	-	LIS	LIS	LIS
Italy	LIS	LIS	LIS	EUROMOD***	LIS	LIS	LIS
Norway	LIS	LIS	LIS	-	LIS	-	-
United Kingdom	Office for National Statistics**	Office for National Statistics**	Office for National Statistics**	EUROMOD***	LIS	LIS	LIS
Sweden	LIS	LIS	LIS	EUROMOD***	LIS	-	-
Switzerland	LIS	LIS	LIS	-	LIS	LIS	LIS

* Employee social insurance contributions are not available for France. Data from France's National Statistical Institute (INSEE) have been used instead.

** Contrary to the other countries, direct taxes for United Kingdom include both income and community taxes. To make UK data comparable with those for the other countries, we have used the data provided by the Office for National Statistics: http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm%3A77-240166

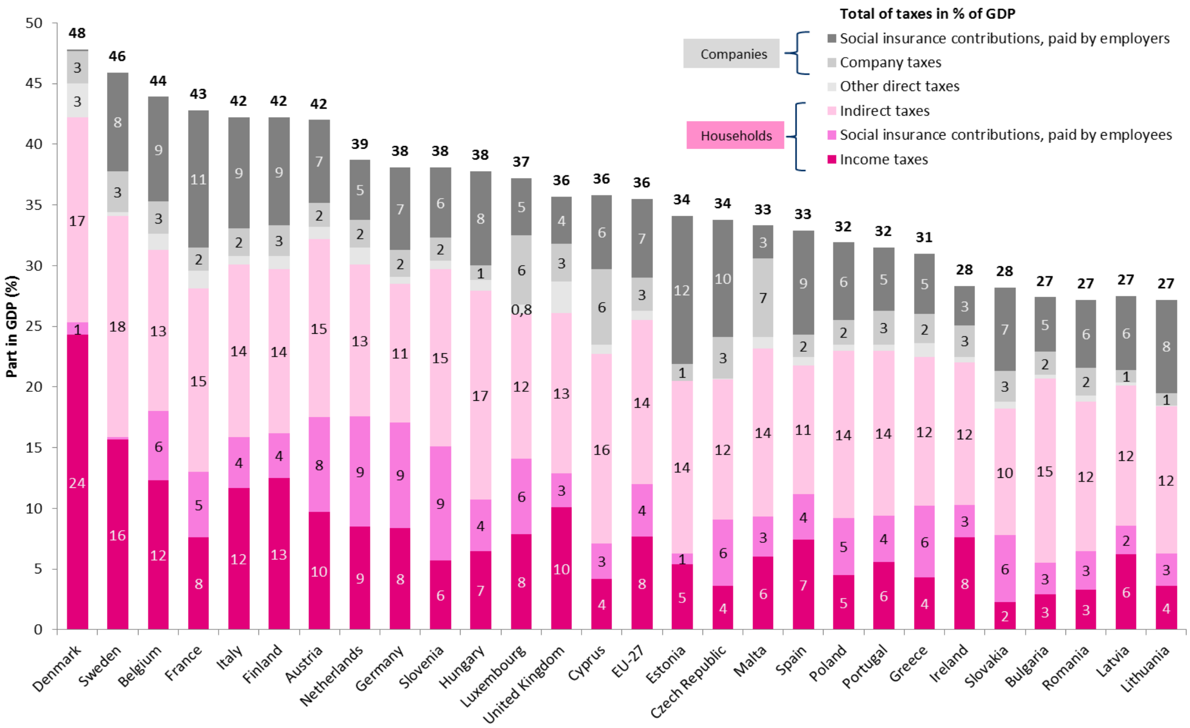
*** Indirect taxes are not available in the LIS database. Therefore, we have used the results from the EUROMOD working paper, *Distribution and decomposition of Disposable Income*, April 2011.

3 – The share of taxes and social insurance contributions in the European countries

Taxes (both direct and indirect) and social insurance contributions account for 36% of the GDP in the EU-27 countries. The proportion is comparatively higher in Denmark (48%), Sweden (46%) and Belgium (44%), while it is barely lower in Austria (42%), Italy (42%) and Finland (42%).

The picture is rather specific in France, as businesses contribute relatively more there than in the other European countries: their contribution in taxes accounts for 13% of the country's GDP, while the share is 10% on average in the other EU-27 countries. Similarly, social insurance contributions represent 11% of France's GDP, versus 7% in the rest of the EU-27. The French tax system is also featured by an income tax rate which is pretty low: accounting for 8% of the GDP, it lies at the same level as the EU average, yet it is much lower than in many northern European countries (Denmark, 24%, Sweden, 16%, Finland 13%, Belgium, 12%). This proportion is similar to the one that is observed in the Anglo-Saxon countries (United Kingdom, 10%, Ireland, 8%) or in Luxembourg, and is barely higher than in the southern and eastern European countries (Malta 6%, Greece, 4%, Cyprus, 4%, Latvia, 6%, Estonia, 5%). Besides, income direct taxation in France puts twice a lower burden on households than the VAT (8% of GDP for direct income taxes and 15% for the VAT).

Figure 3: Share (in % of GDP) of taxes and social insurance contributions in the European countries



Source: Authors' calculations based on Eurostat, *Taxation trends in the European Union*, edition 2012.

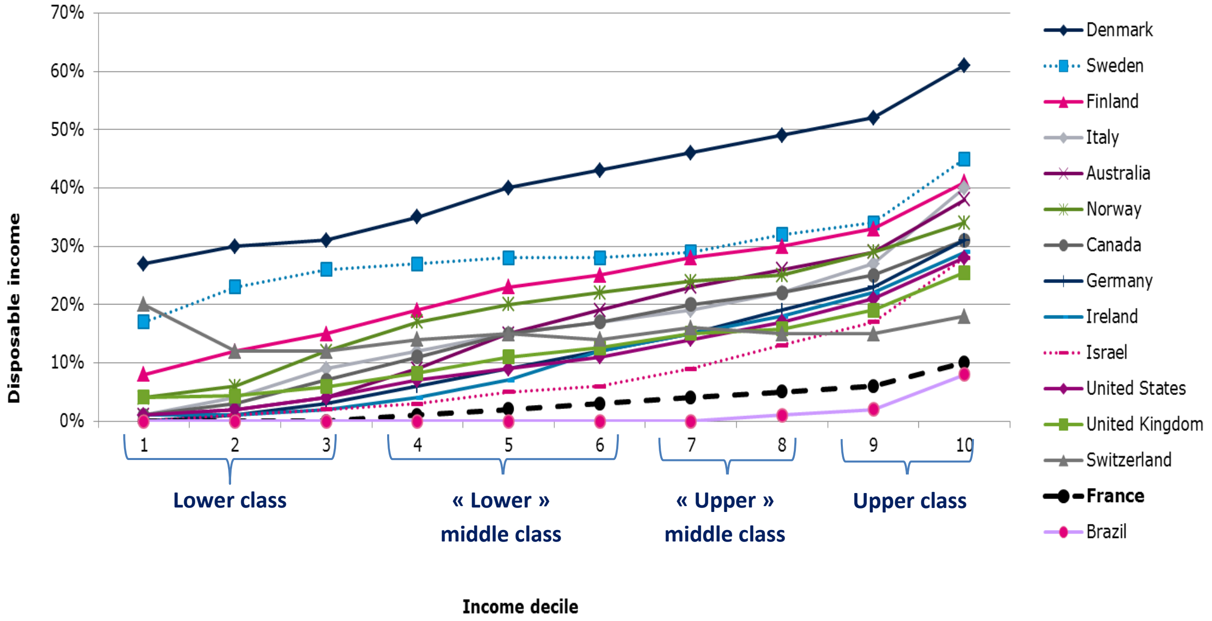
In all the countries under study, income taxes appear definitely progressive, that is, the tax rate increases as the taxable base amount increases. However, the rate applied to households varies from one country to another:

- In Denmark, the income tax rate is pretty high, even compared to the other Scandinavian countries (Sweden, Finland and Norway) where the rate is also high and progressive.
- The majority of the other countries, including Anglo-Saxon countries (Australia, Canada, United States, Ireland and United Kingdom) and some continental countries (Italy, Germany),

have rates that are lower than in the Nordic countries, yet they are still progressive (from 0-5% in the first income decile to 25-40% in the last decile)

- Switzerland distinguishes itself by having a rate which is almost flat (about 15% of household disposable income for all households)
- France and Brazil apply income tax rates which are lower and less progressive, ranging from 0% for lower-class households to 10% for upper-class ones.

Figure 4: Share (%) of income taxes in disposable income, by country and income decile



Source: Authors' calculations based on Luxembourg Income Study data.

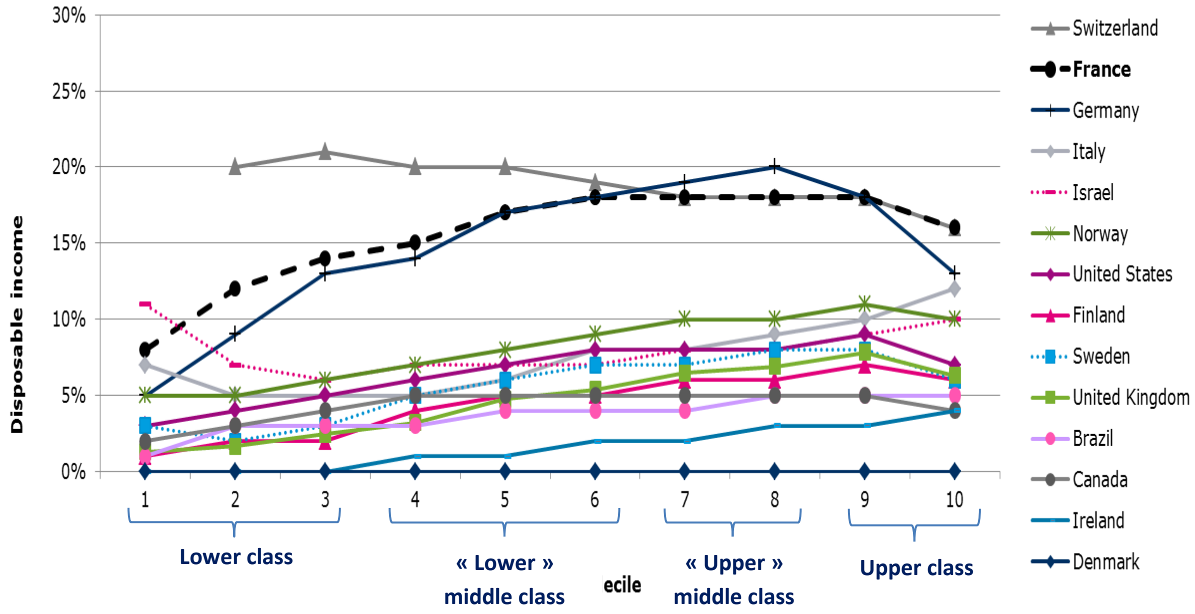
Contrary to other countries, income taxation in France put lower a burden on middle class households : for "lower" middle class households (D4+D5+D6), income taxes account for 2% of households' equivalised disposable income, while the shares are 11% in the United Kingdom and 39% in Denmark. With regard to "upper" middle class households (i.e. D7+D8), the share of income taxes in household income is 6%, while it amounts to 15% in the United Kingdom and 48% in Denmark. The share among the households in the top decile is 10%, barely greater than the share (6%) observed for "upper" middle class households. Thus, income taxation in France appears weakly progressive.

In addition, both the employees and the self-employed must pay social insurance contributions in order to financially support the social security system. Looking at the next figure, three main groups of countries can be distinguished according to the share of social insurance contributions paid by the households:

- In Denmark and Sweden, employee social insurance contributions are nearly zero. In these countries, social contributions are low because social protection is mostly financed by the Government through tax payments, in line with the universal Beveridge model (see Box 1).

- In most of the countries (Italy, Israel, Norway, Finland, United States, Canada, United Kingdom, Ireland and Brazil), social contributions are low and slightly progressive. However, in some of these countries, especially the "Anglo-Saxon" countries (UK and Ireland), private insurance companies are increasingly involved in the financing of social protection (pension, sickness, disability…). Private insurance premiums are regarded by households as mandatory expenditures, yet they are not considered as transfers. This can explain the seemingly low shares of social insurance contributions observed in certain countries.
- In France, Germany and Switzerland, social insurance contributions are important. This is in line with the Bismarck insurance-based model.

Figure 5: Share (%) of employee and self-employed social insurance contributions in household disposable income, by country and income decile



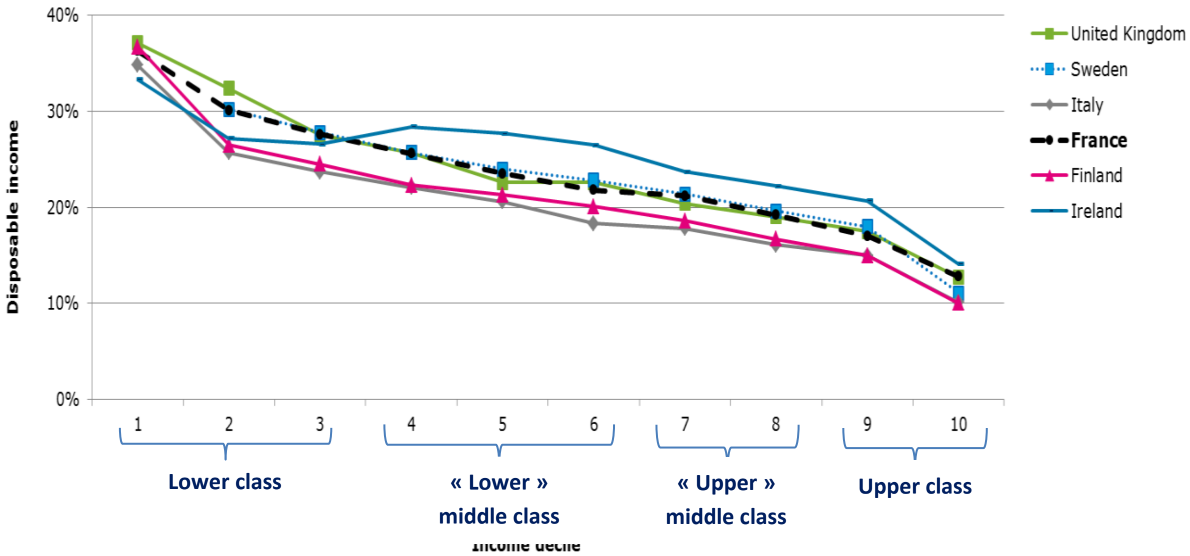
Source: Authors' calculations based on Luxembourg Income Study data.

4 – The importance of indirect taxes

Indirect taxes are paid by households at every stages of their consumption: VAT, taxes on alcohol, cigarettes, customs… Although indirect taxes are paid by businesses, consumption prices are adjusted for them. Therefore, they are paid by households ultimately.

Indirect taxes are, by definition, proportional to household consumption expenditures. They are often assumed to be equally distributed among the households. However, this assumption does not hold in practice. The reason is that modest households usually dedicate most of their income to consumption, while better-off households have resources enough to save part of it. Thus, the share of total disposable income which is spent on consumption, called « propensity to consume », is higher among modest households. Consequently, the wealthier a household is, the lower the share of indirect taxes in household's disposable income is. This regressive effect is well-known (STATEC, 2013), and is observed in the six countries for which data are available.

Figure 6: Share (%) of indirect taxes in household disposable income, by country and income decile



Source: Authors' calculations using the figures from the micro-simulation model EUROMOD (see references)

The shares of indirect taxes by income deciles are similar from one country to another. They lie around 35% for the first income decile, around 25% for the "lower" middle class, 20% for the "upper" middle class and then around 10-15% among high income households.

Table 2: burden of income taxes, social contributions and indirect taxes on middle class households

	Income taxes	Social contributions	Indirect taxes
Germany	medium	high	
Australia	medium		
Brazil	low	low	
Canada	medium	medium	
Denmark	very high	zero	
United States	medium	medium	
Finland	high	medium	medium
France	low	high	medium
Ireland	medium	low	medium
Israel	low	medium	
Italy	medium	medium	medium
Norway	high	medium	
United Kingdom	medium	medium	medium
Sweden	high	Medium	medium
Switzerland	medium	High	

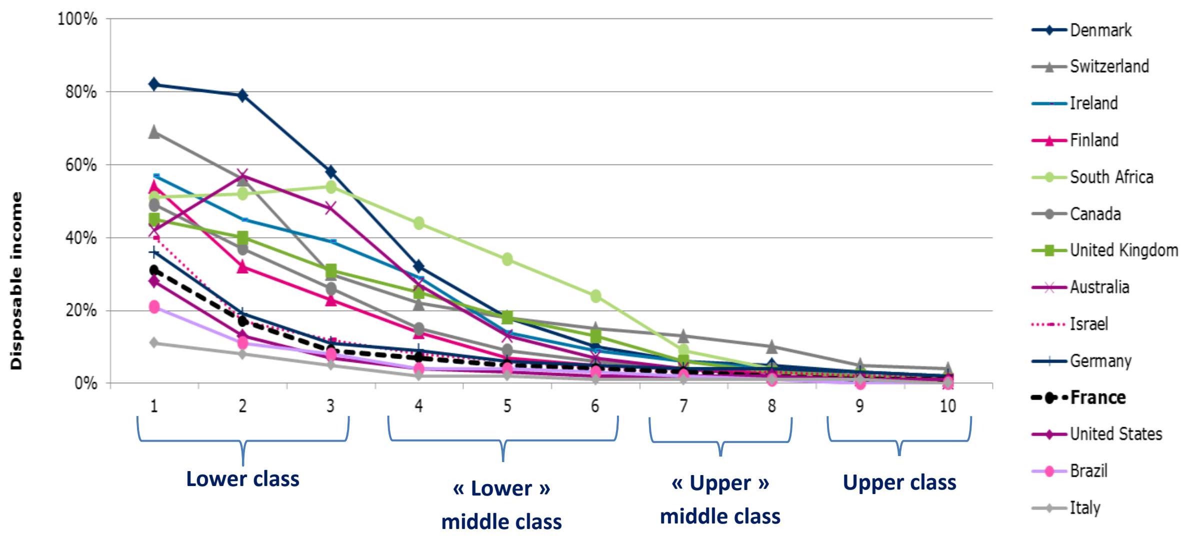
Source: Authors' calculations based on Luxembourg Income Study data.

5 – The redistributive effect of social transfers

Most of the developed countries have put in place advanced social protection systems in order to protect their people against social exclusion, risk, vulnerability, hunger or poverty. Households may receive social transfers in addition to their other sources of income. Social transfers happen to be contributory, in the sense the recipient is required to pay for them through premiums, or not. The former correspond to the Bismarck-type model, while the latter refer to the "Beveredgian" countries, mainly the Scandinavian countries, where social protection is financed through tax payments (Box 1).

With regard to the share of non-contributory transfers[2], the highest values are 82% in Denmark, 69% in Switzerland, 57% in Ireland and 49% in Canada. On the other hand, France appears to be less redistributive than the other countries, especially towards middle class households (11th out of 15). This is especially the case with "lower" middle class households: in France, social transfers account for 5% of their total disposable income, while the share is 19% in the United Kingdom. This result is well-known and can be explained by different social protection systems in these two countries. In Anglo-Saxon countries (e.g., United Kingdom and Ireland), non-contributory transfers are important and primarily target poor people, in accordance to the Beveridge model. On the other hand, countries such as France and Germany have their social protection systems rely more on social insurance contributions paid by the employers and the employees.

Figure 7: Share (%) of non-contributory transfers in household disposable income, by country and income decile



Source: Authors' calculations based on Luxembourg Income Study data.

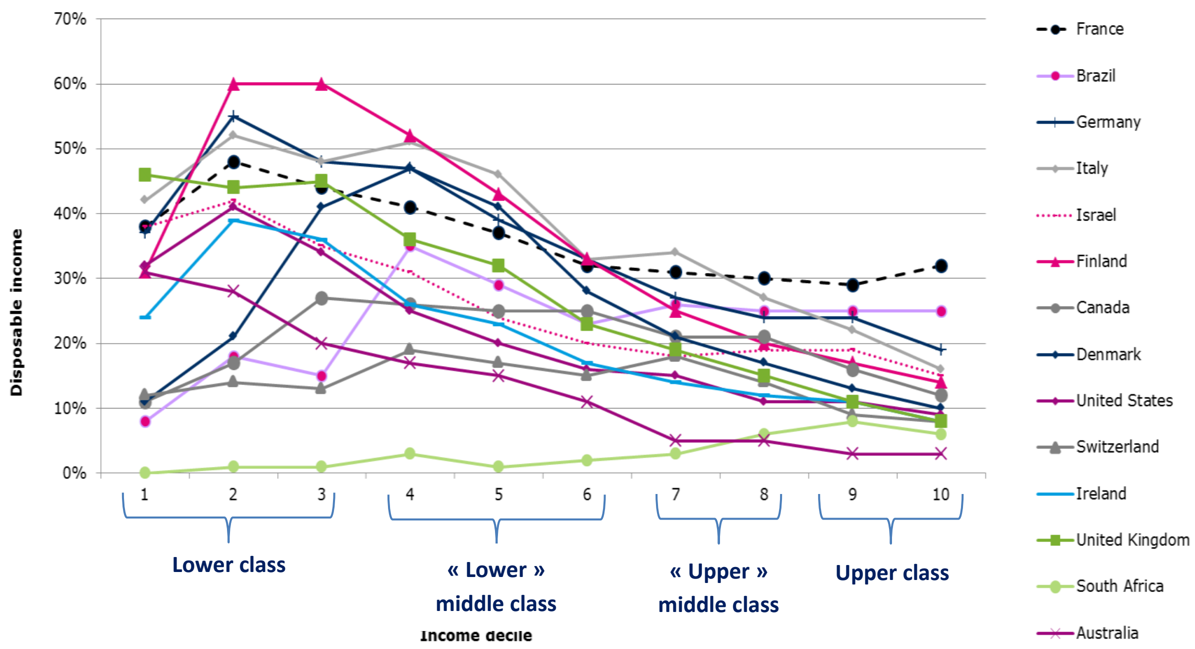
Looking at contributory transfers, on the contrary, they are important in France, and benefit to middle-class households: France is at the first place in terms of contributive transfers to the upper middle-

[2] In this study, we consider as « non-contributory transfers » minimum social assistance, housing and family-related allowances as well as sickness benefits. However, this distinction is not always clear-cut, as some of these transfers (e.g., family-related allowances) are also subject to employee contributions in certain countries.

class, ex-aequo with Italy. France distinguishes itself when we consider the top income distribution: high income households receive 30% of their income from contributive transfers, which is much higher a share than in all the other countries under study.

A specific feature of the insurance-based system is that it benefits to all the persons who have been employed, no matter they are modest or better-off. On the one hand, pensions and unemployment benefits increase the share of social transfers in total disposable income among low-income households. On the other, as pensions and unemployment benefits are proportional to income, they also benefit to middle and upper class households.

Figure 8: Share (%) of contributory transfers in household disposable income, by country and income decile



Source: Authors' calculations based on Luxembourg Income Study data.

Table 3: Social transfers received by middle class households

	Contributory transfers	Non contributory transfers
South Africa	very low	high
Germany	High	low
Australia	Low	medium
Brazil	Medium	low
Canada	Medium	low
Denmark	High	medium
United States	Low	low
Finland	High	low
France	High	low
Ireland	Low	medium
Israel	Medium	low
Italy	High	low
United Kingdom	Medium	medium
Switzerland	Low	medium

Source: Authors' calculations based on Luxembourg Income Study data.

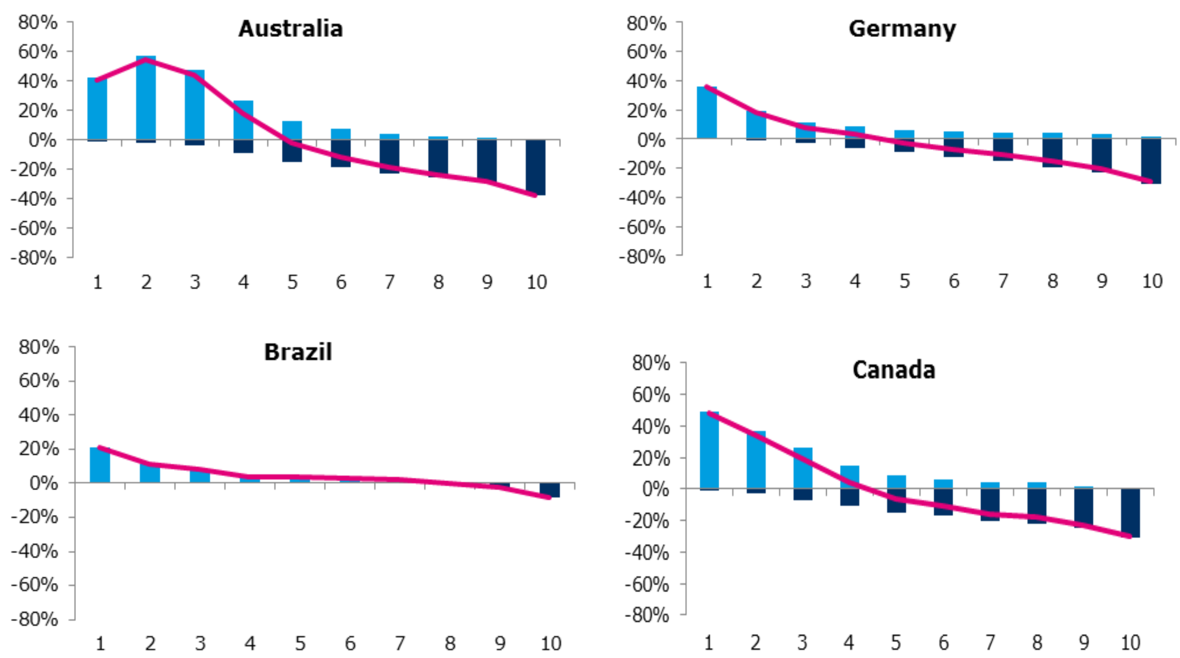
6 – Balance between taxes and social transfers: Who contributes? Who benefits?

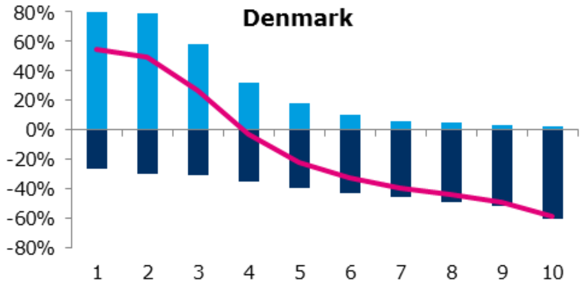
In the section, in order to assess whether a social protection system has a redistributive impact on income distribution, we calculate the difference between what households receive as social transfers and the amount of taxes and social insurance contributions paid. This difference is calculated by income decile and expressed as a percentage of the household disposable income. When this difference is negative then the household benefits from the social protection system, while it is a positive contributor otherwise.

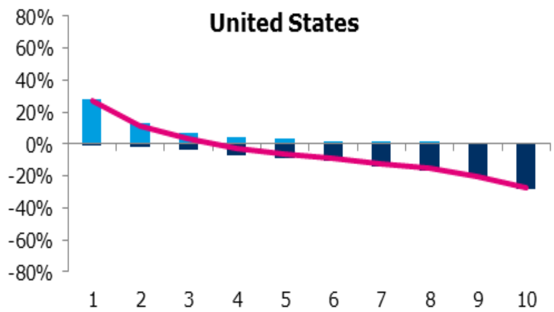
When we base our calculations only on income direct taxes and non-contributory transfers, then Denmark (114 % points net balance, from +55% to -59%), Finland (86 points, from +46% to -40%), Germany (65 points, from +36% to -29%), Ireland (84 points, from +56% to -28%) and Australia (79 points, from +41% to -38%) appear to be the most "redistributive" countries, in the sense that the households in the upper deciles contribute through income taxes to the income of those in the lower deciles. As its social protection system is mainly financed through employee and employers contributions, France appears a less "redistributive" country (40 points, from +31% to -9%).

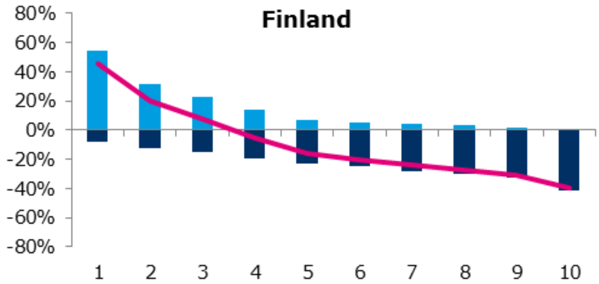
In most of the countries under study (Germany, Australia, Canada, Ireland, Israel, United Kingdom, Switzerland), « lower » middle class households benefit from income redistribution, while « upper » middle class households are, on average, positive contributors.

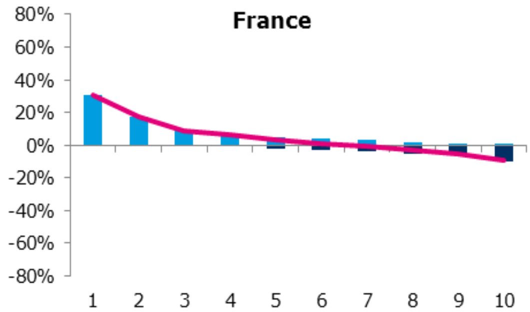
Figure 9: Difference (% of household total disposable income) between the social transfers received (non-contributory transfers) and the income taxes paid by the households, by country and income decile



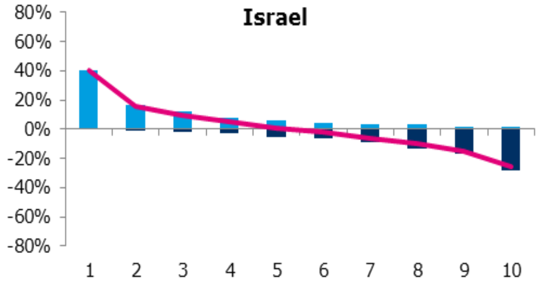

Denmark
80%
60%
40%
20%
0%
-20%
-40%
-60%
-80%
1 2 3 4 5 6 7 8 9 10

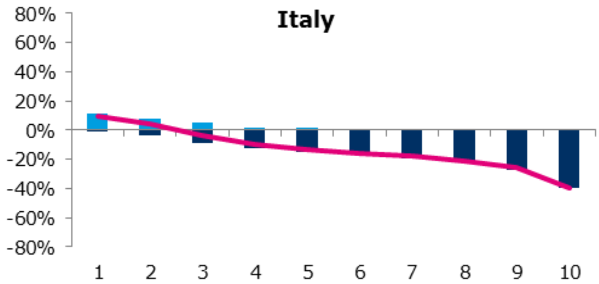

United States
80%
60%
40%
20%
0%
-20%
-40%
-60%
-80%
1 2 3 4 5 6 7 8 9 10

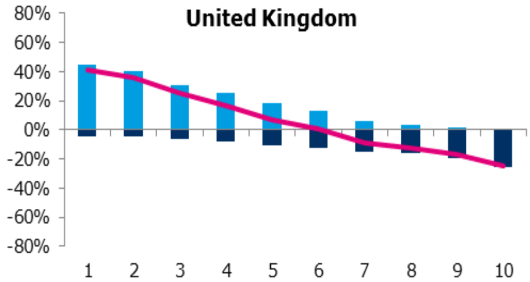

Finland
80%
60%
40%
20%
0%
-20%
-40%
-60%
-80%
1 2 3 4 5 6 7 8 9 10

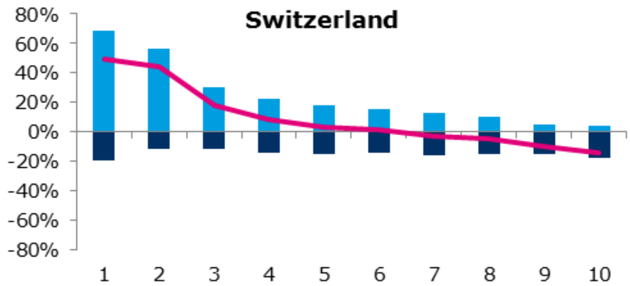

France
80%
60%
40%
20%
0%
-20%
-40%
-60%
-80%
1 2 3 4 5 6 7 8 9 10

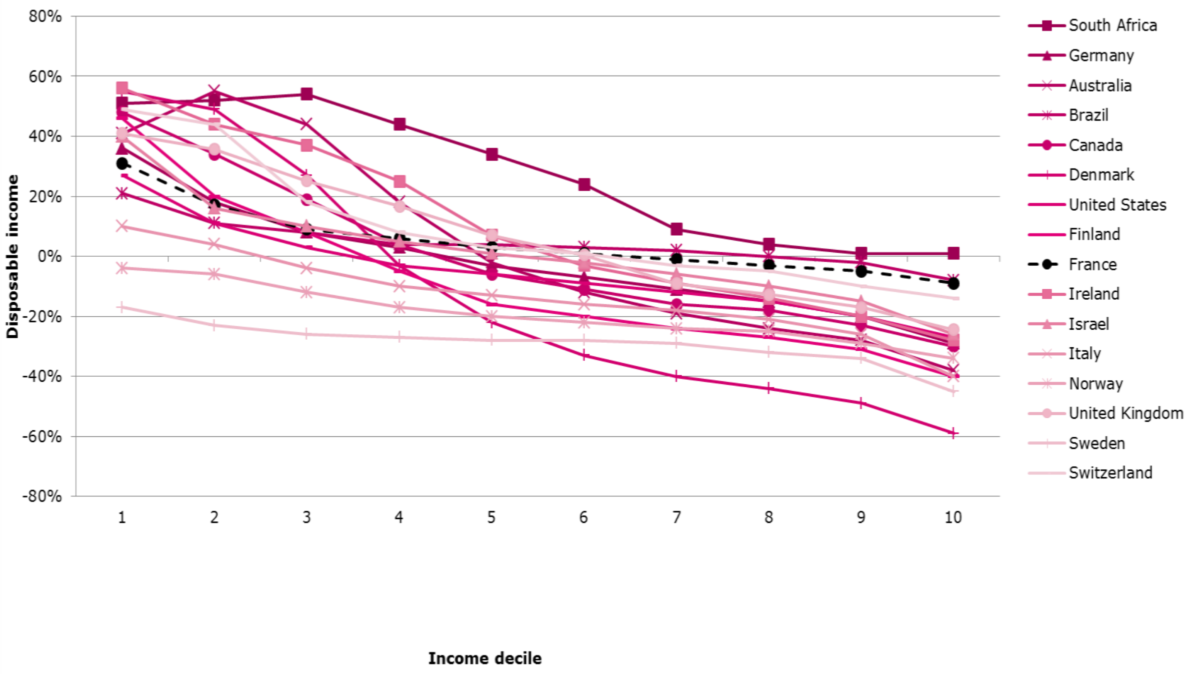

Ireland
80%
60%
40%
20%
0%
-20%
-40%
-60%
-80%
1 2 3 4 5 6 7 8 9 10


Israel
80%
60%
40%
20%
0%
-20%
-40%
-60%
-80%
1 2 3 4 5 6 7 8 9 10


Italy
80%
60%
40%
20%
0%
-20%
-40%
-60%
-80%
1 2 3 4 5 6 7 8 9 10


United Kingdom
80%
60%
40%
20%
0%
-20%
-40%
-60%
-80%
1 2 3 4 5 6 7 8 9 10

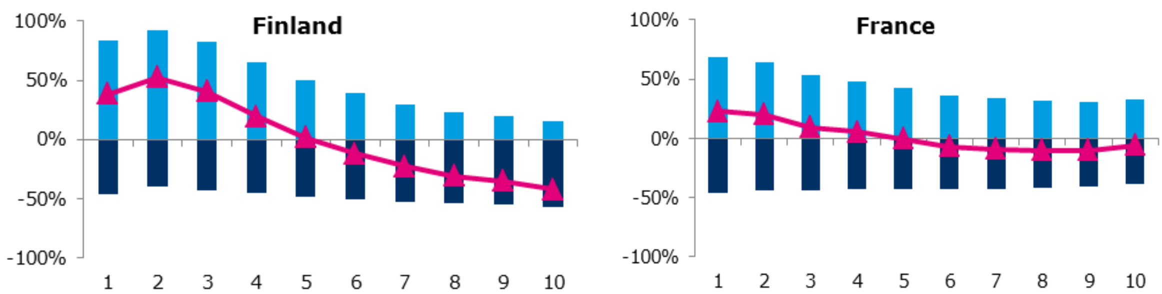

Switzerland
80%
60%
40%
20%
0%
-20%
-40%
-60%
-80%
1 2 3 4 5 6 7 8 9 10

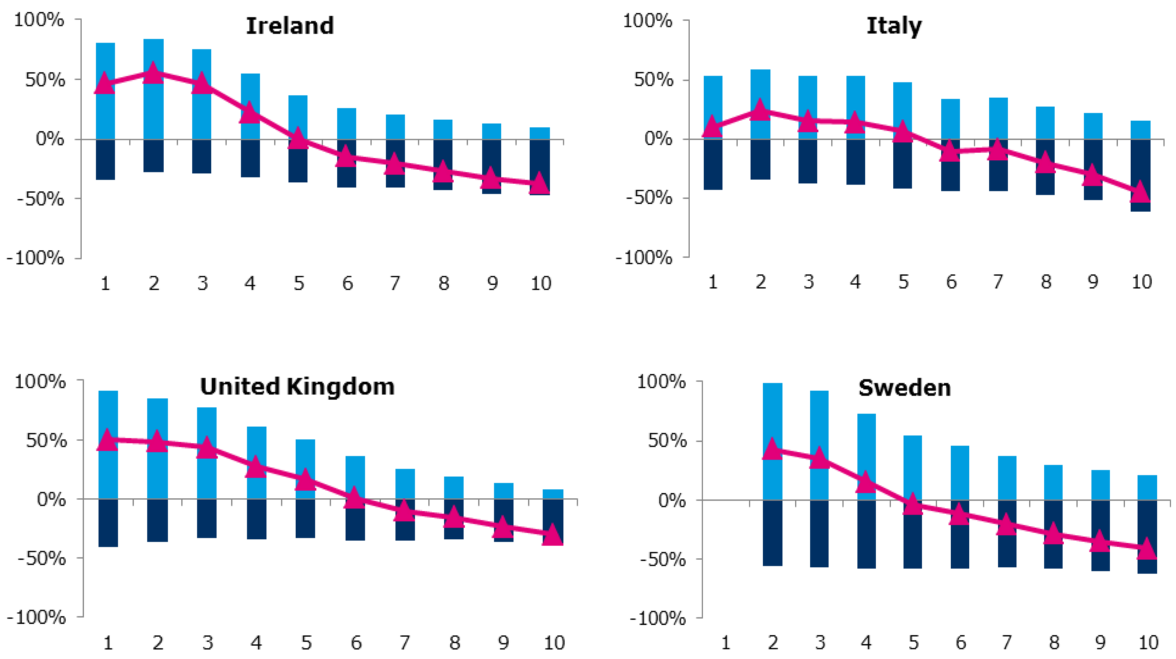


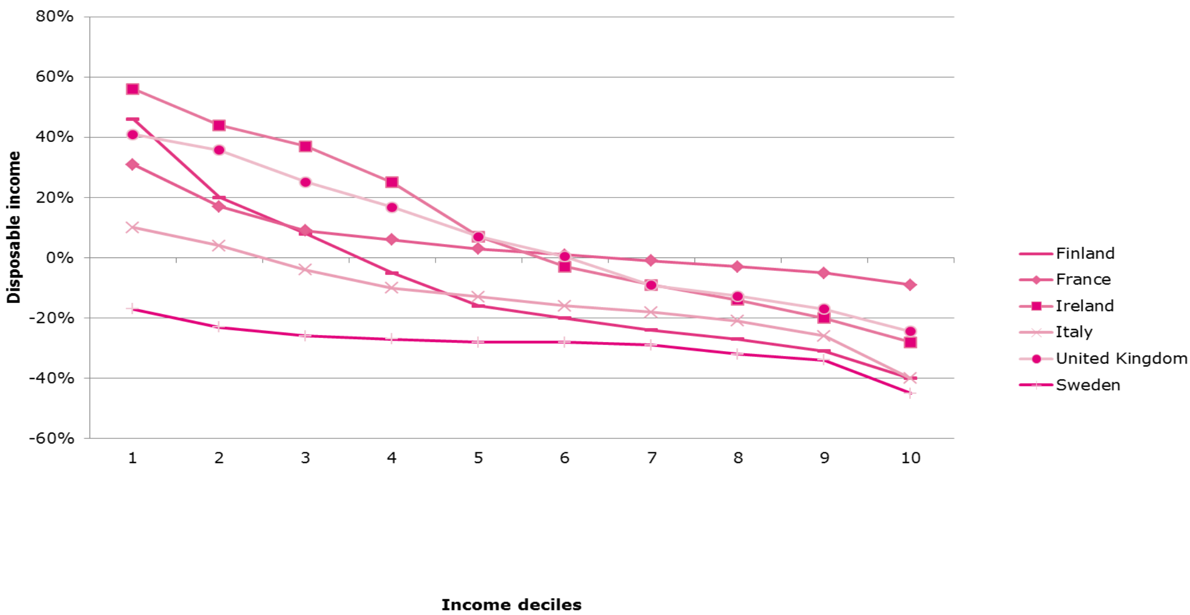
Source: Authors' calculations based on Luxembourg Income Study data.

The picture is somewhat similar when, on the one side, we also take into account indirect taxes and social contributions and, on the other, we consider both contributory and non-contributory transfers. As an exception, the impact on income distribution in France appears significant, making it even regressive as low income households contribute more (in proportion to their disposable income) than high income households. This is mainly caused by the regressive effect of the VAT, while income taxation is not progressive enough to compensate for this.

Figure 10: Difference (% of household total disposable income) between the social transfers received (both contributory non-contributory transfers) and the taxes (direct and indirect) and social insurance contributions paid by the households, by country and income decile







Source: Authors' calculations based on Luxembourg Income Study data.

7 – Conclusion

According to this study, income redistribution schemes based on taxes and social contributions on the one hand and social transfers on the other appear to be "redistributive" in most of the European countries, which means that households having high income contribute to the income of those having lower resources. However, the intensity of the redistribution varies from one country to another: basically, northern European countries, in line with the Beveridge "universal" approach are more redistributive than southern countries, where social protection is mainly financed by employers and employee social insurance contributions.

Notwithstanding all this, this study remains incomplete, as some key income components are not covered, such as community taxes, employer social insurance contributions (which are known to be important in certain countries – e.g. France) and social transfers in kind. The share of social transfers in kind, for instance free access to health and education, in household income may be significant, yet estimating them in a comparable way across countries is still a challenge for statisticians and economists.

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Annexes

Table 1 – Income tax rate (%), by country and equivalised income decile

	Lower class			Lower middle class			Upper middle class		Upper class	
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Denmark	27%	30%	31%	35%	40%	43%	46%	49%	52%	61%
Sweden	17%	23%	26%	27%	28%	28%	29%	32%	34%	45%
Finland	8%	12%	15%	19%	23%	25%	28%	30%	33%	41%
Italy	1%	4%	9%	12%	15%	17%	19%	22%	27%	40%
Australia	1%	2%	4%	9%	15%	19%	23%	26%	29%	38%
Norway	4%	6%	12%	17%	20%	22%	24%	25%	29%	34%
Canada	1%	3%	7%	11%	15%	17%	20%	22%	25%	31%
Germany	0%	1%	3%	6%	9%	12%	15%	19%	23%	31%
Ireland	1%	1%	2%	4%	7%	12%	15%	18%	22%	29%
Israel	0%	1%	2%	3%	5%	6%	9%	13%	17%	28%
United States	1%	2%	4%	7%	9%	11%	14%	17%	21%	28%
United Kingdom	4%	4%	6%	8%	11%	13%	15%	16%	19%	26%
Switzerland	20%	12%	12%	14%	15%	14%	16%	15%	15%	18%
France	0%	0%	0%	1%	2%	3%	4%	5%	6%	10%
Brazil	0%	0%	0%	0%	0%	0%	0%	1%	2%	8%

Source: Authors' calculations based on Luxembourg Income Study data.

Table 2 – Share of employee social contribution in household disposable income (%), by country and equivalised income decile

	Lower class			Lower middle class			Upper middle class		Upper class	
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Switzerland	.	20%	21%	20%	20%	19%	18%	18%	18%	16%
France	8%	12%	14%	15%	17%	18%	18%	18%	18%	16%
Germany	5%	9%	13%	14%	17%	18%	19%	20%	18%	13%
Italy	7%	5%	5%	5%	6%	8%	8%	9%	10%	12%
Israel	11%	7%	6%	7%	7%	7%	8%	8%	9%	10%
Norway	5%	5%	6%	7%	8%	9%	10%	10%	11%	10%
United States	3%	4%	5%	6%	7%	8%	8%	8%	9%	7%
Finland	1%	2%	2%	4%	5%	5%	6%	6%	7%	6%
Sweden	3%	2%	3%	5%	6%	7%	7%	8%	8%	6%
United Kingdom	1%	2%	2%	3%	5%	5%	6%	7%	8%	6%
Brazil	1%	3%	3%	3%	4%	4%	4%	5%	5%	5%
Canada	2%	3%	4%	5%	5%	5%	5%	5%	5%	4%
Ireland	0%	0%	0%	1%	1%	2%	2%	3%	3%	4%
Denmark	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Source: Authors' calculations based on Luxembourg Income Study data.

Table 3 - Share of indirect taxes in household disposable income (%), by country and equivalised income decile

	Lower class			Lower middle class			Upper middle class		Upper class	
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
United Kingdom	37%	32%	28%	26%	23%	23%	20%	19%	18%	13%
Sweden		30%	28%	26%	24%	23%	21%	20%	18%	11%
Italy	35%	26%	24%	22%	21%	18%	18%	16%	15%	10%
France	36%	30%	28%	26%	24%	22%	21%	19%	17%	13%
Finland	37%	27%	25%	22%	21%	20%	19%	17%	15%	10%
Ireland	33%	27%	27%	28%	28%	27%	24%	22%	21%	14%

Source: Authors' calculations based on Luxembourg Income Study data.

Table 4 – Share of income taxes and social insurance contributions in household disposable income (%), by country and equivalised income decile

	Lower class			Lower middle class			Upper middle class		Upper class	
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Finland	46%	40%	43%	45%	48%	51%	53%	54%	55%	57%
France	46%	44%	44%	43%	43%	43%	43%	42%	41%	39%
Ireland	34%	28%	29%	32%	37%	41%	41%	43%	46%	47%
Sweden		56%	57%	58%	58%	58%	57%	59%	60%	62%
United Kingdom	41%	37%	33%	34%	34%	35%	35%	35%	37%	38%
Italy	43%	35%	38%	39%	42%	44%	44%	47%	52%	61%

Source: Authors' calculations based on Luxembourg Income Study data.

Table 5 – Share of non-contributory social transfers (%) in household disposable income, by country and equivalised income decile

	Lower class			Lower middle class			Upper middle class		Upper class	
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Denmark	82%	79%	58%	32%	18%	10%	6%	5%	3%	2%
Switzerland	69%	56%	30%	22%	18%	15%	13%	10%	5%	4%
Ireland	57%	45%	39%	29%	14%	9%	6%	4%	2%	1%
Finland	54%	32%	23%	14%	7%	5%	4%	3%	2%	1%
South Africa	51%	52%	54%	44%	34%	24%	9%	4%	1%	1%
Canada	49%	37%	26%	15%	9%	6%	4%	4%	2%	1%
UnitedKingdom	45%	40%	31%	25%	18%	13%	6%	3%	2%	1%
Australia	42%	57%	48%	27%	13%	7%	4%	2%	1%	0%
Israel	40%	17%	12%	8%	6%	4%	3%	3%	2%	2%
Germany	36%	19%	11%	9%	6%	5%	4%	4%	3%	2%
France	31%	17%	9%	7%	5%	4%	3%	2%	1%	1%
United States	28%	13%	7%	4%	3%	2%	2%	2%	1%	1%
Brazil	21%	11%	8%	4%	4%	3%	2%	1%	0%	0%
Italy	11%	8%	5%	2%	2%	1%	1%	1%	1%	0%

Source: Authors' calculations based on Luxembourg Income Study data.

Table 6 – Share of contributory social transfers (%) in household disposable income, by country and equivalised income decile

	Lower class			Lower middle class			Upper middle class		Upper class	
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
France	38%	48%	44%	41%	37%	32%	31%	30%	29%	32%
Brazil	8%	18%	15%	35%	29%	23%	26%	25%	25%	25%
Germany	37%	55%	48%	47%	39%	33%	27%	24%	24%	19%
Italy	42%	52%	48%	51%	46%	33%	34%	27%	22%	16%
Israel	38%	42%	35%	31%	24%	20%	18%	19%	19%	15%
Finland	31%	60%	60%	52%	43%	33%	25%	20%	17%	14%
Canada	11%	17%	27%	26%	25%	25%	21%	21%	16%	12%
Denmark	11%	21%	41%	47%	41%	28%	21%	17%	13%	10%
United States	32%	41%	34%	25%	20%	16%	15%	11%	11%	9%
Switzerland	12%	14%	13%	19%	17%	15%	18%	14%	9%	8%
Ireland	24%	39%	36%	26%	23%	17%	14%	12%	11%	8%
United Kingdom	46%	44%	45%	36%	32%	23%	19%	15%	11%	8%
South Africa	0%	1%	1%	3%	1%	2%	3%	6%	8%	6%
Australia	31%	28%	20%	17%	15%	11%	5%	5%	3%	3%

Source: Authors' calculations based on Luxembourg Income Study data.

Table 7 – Share of all social transfers (%) in household disposable income, by country and equivalised income decile

	Lower class			Lower middle class			Upper middle class		Upper class	
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Denmark	93%	100%	99%	79%	59%	38%	27%	22%	17%	13%
United Kingdom	91%	85%	77%	61%	50%	36%	25%	19%	13%	8%
Sweden	85%	99%	92%	73%	54%	46%	37%	30%	25%	21%
Finland	84%	92%	83%	65%	50%	39%	30%	23%	20%	15%
Switzerland	82%	69%	43%	40%	35%	30%	30%	25%	15%	11%
Ireland	81%	84%	75%	55%	37%	26%	20%	16%	13%	10%
Israel	78%	59%	47%	39%	29%	24%	21%	22%	21%	17%
Australia	74%	85%	68%	44%	28%	18%	10%	7%	5%	3%
Germany	73%	74%	59%	56%	44%	39%	32%	28%	27%	21%
France	69%	64%	53%	48%	42%	36%	34%	32%	31%	33%
Norway	62%	83%	77%	64%	49%	39%	33%	27%	22%	12%
United States	61%	54%	41%	29%	23%	19%	16%	13%	12%	10%
Canada	59%	54%	53%	41%	34%	31%	26%	25%	18%	13%
Italy	53%	59%	53%	53%	48%	34%	35%	27%	22%	16%
South Africa	52%	52%	55%	47%	35%	26%	11%	10%	9%	6%
Brazil	29%	29%	23%	39%	33%	26%	27%	25%	26%	25%

Source: Authors' calculations based on Luxembourg Income Study data.