Social Observatory of "la Caixa"

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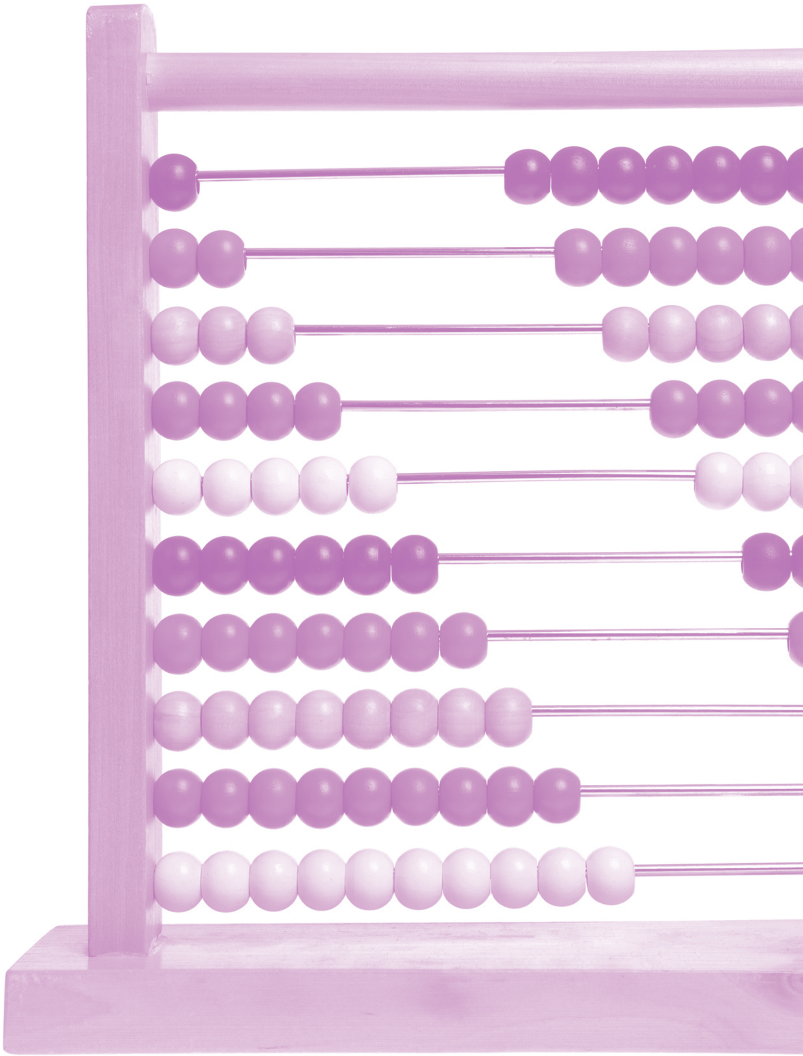
Report technical document:

The redistributive effects of social benefits and taxes: a review of the current situation



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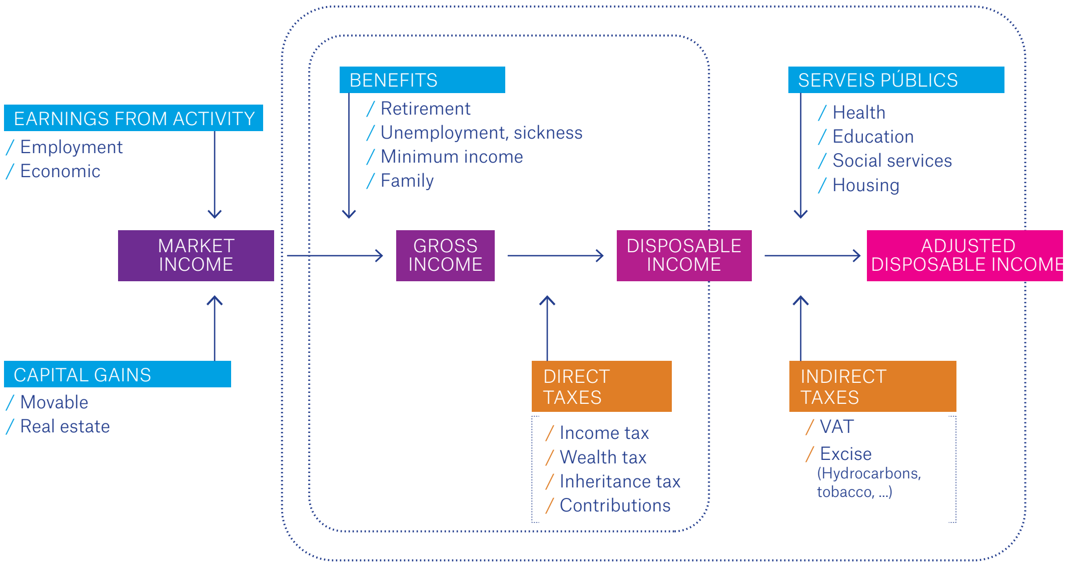
1 Introduction

The disposable income that households can allocate to consumption and savings in the developed economies has several components. The first is market income (salaries and earnings from economic activities of any of its members), the second is all the state benefits (retirement pension, survivor's pension, unemployment benefit, family allowance, minimum income benefits, etc.) which, when added to market income, yield what is known as gross income or income before taxes. Household disposable income is the result of subtracting from this gross income all direct taxes to be paid by the members of the household (personal income tax, social contributions, wealth tax and inheritance tax). Lastly, if we want disposable income to incorporate a broader concept of welfare we can add to this disposable income state benefits in kind and subtract from it indirect taxes such as VAT and the excise taxes households pay through consumption. This last concept of income is called adjusted disposable income.

Figure 1. **Components of the different concepts of income**

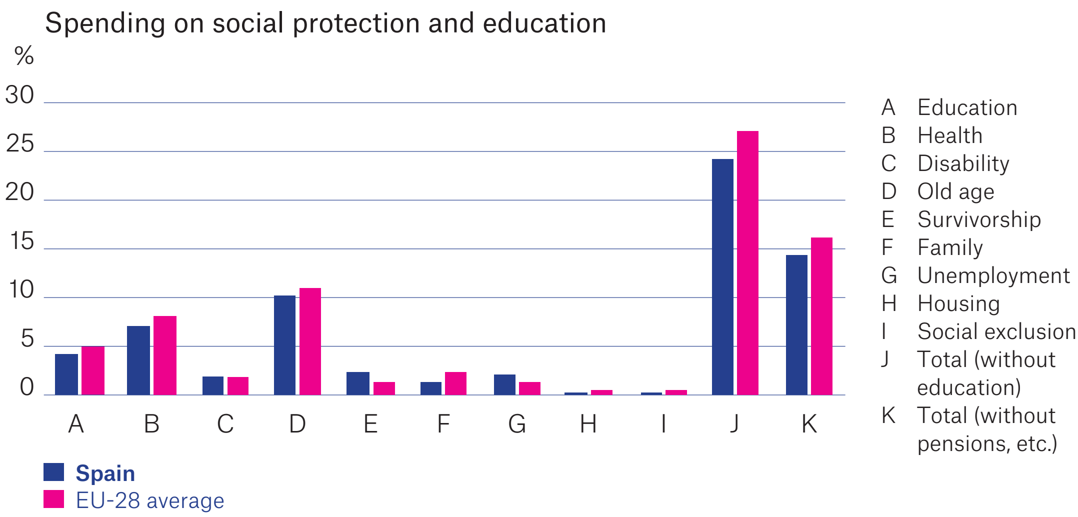


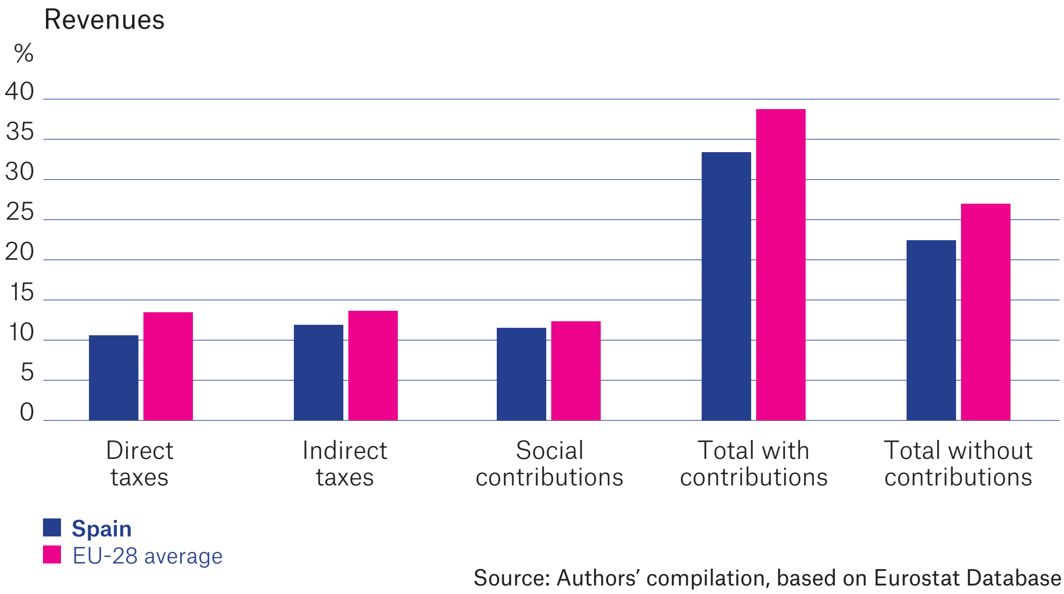
Source: Authors' compilation

Several reports and studies have shown how one of the main causes of the greater magnitude of inequality in Spain is the lower capacity of public policies to reduce the inequalities that arise in market income. Any attempt to explain inequality in this country must therefore involve identifying which instruments within that tax and transfer system have an equalising effect on income and which do not.

Figure 2 presents an initial summary of the economic importance of each redistributive element in comparison with the EU-28 average. The most sizable social protection expenditures in Spain, as in other European countries, are those devoted to old age, health and education, which represent 10%, 7% and 4% of the GDP respectively. The sum of these three expenditures is somewhat below the EU-28 average. Spain stands out for making a smaller budgetary outlay than other countries on social protection for families, housing and social protection and a slightly larger one on unemployment and survivorship. As regards the relative importance of revenues, Spain is conspicuous for collecting less than the average of the eurozone and the EU-28. The gap stands at 6.4 percentage points less in taxes and social contributions, of which 3.7 points correspond to direct and indirect taxes.

Figure 2. **Significance of each redistributive instrument in 2016, as % of GDP**





Source: Authors' compilation, based on Eurostat Database (Social Protection, Public Expenditure on Education), European Commission, Data on Taxation. Data on education correspond to 2015.

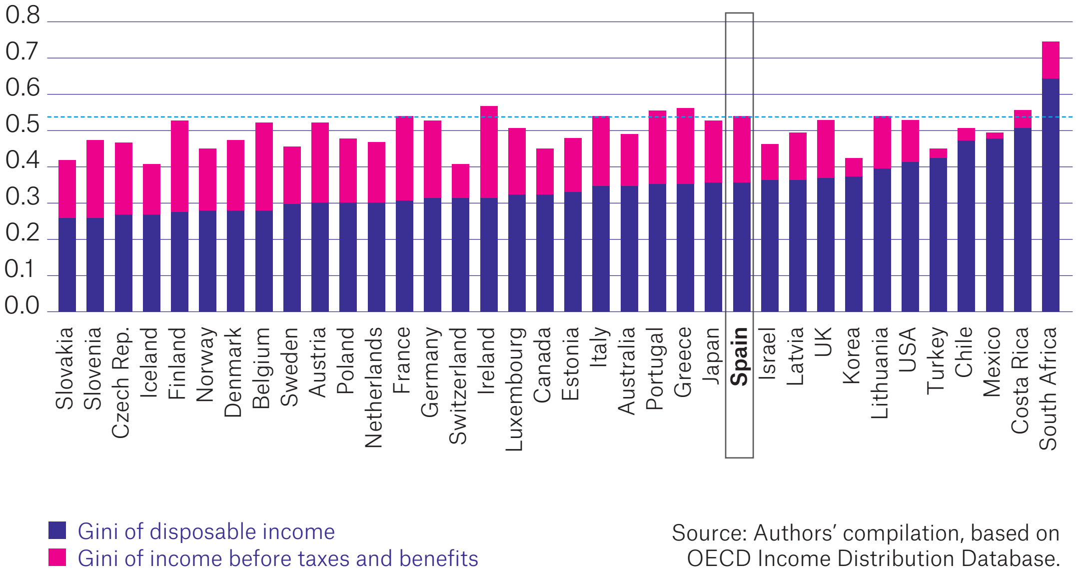
The main purpose of this report is to review the various categories that make up this system, define to what extent they help or hinder the redistribution of income, and go over the principal trends in this effect. To this end we review the main studies that have sought to identify the remedial effect of each instrument with regard to inequality. The structure of the report is as follows. First, we review the main trends in income distribution, focusing briefly on some of the factors that explain their evolution. Second, we analyse the redistributive capacity of cash benefits. Third, we do the same analysis with social benefits in kind. In the fourth section we summarise the available evidence regarding the redistributive effect of the main taxes paid by households. The report concludes with a brief account of the findings reached.

2 Trends in inequality in Spain

One of the most deep-rooted problems of social structure in Spain is the size of the income gap among households and individuals. Spain is currently one of the EU countries where there is most inequality, with levels exceeded only by a small group of countries with lower per-capita income. This feature is not exclusive to recent times, although the intensity and length of the latest economic crisis have been decisive for the indicators to rise more than in other countries and reach the highest values in the last four decades. In the subsequent stage of recovery of economic activity and employment, these indicators have shown some reluctance to fall, which seems to indicate that inequality in Spain possesses a significant structural component.

The structural inequality of this country has tended to be attributed to two key factors: the unique nature of the Spanish labour market, with high levels of unemployment and high job insecurity, and the weakness of the redistributive capacity of the tax and social benefit system. As Figure 3 shows, inequality measured in terms of the Gini index (the values of which range from 0, maximum equality, to 1, minimum equality) before the tax and transfer system comes into play is not very different from that of other high-income countries, whereas when it is measured using disposable income Spain is one of the European countries where these differences are largest. It would appear to be imperative, then, to relate changes in inequality to changes in the redistributive capacity of benefits and taxes.

Figure 3. **Inequality of primary income (before taxes and benefits) and disposable income (after taxes and benefits), 2016**



Source: Authors' compilation, based on OECD Income Distribution Database.

Over the last decade there has been a notable increase in studies on long-term trends in inequality in several countries. In the case of Spain, reconstructing these trends is more complicated. Although considerable progress has been made in the development of household databases, comparisons of income distribution over time remain subject to frequent methodological disruptions. The only possibilities we have of studying inequality in the long term are those afforded by the various Household Budget Surveys (*Encuestas de Presupuestos Familiares* or EPF) that have been conducted periodically since the early 1970s.

BOX 1. **WHICH VARIABLE IS USED TO MEASURE INEQUALITY?**

Although in most high-income countries inequality is measured by taking as the reference the distribution of income among households or individuals, the debate as to which variable is most appropriate for measuring inequality is far from being settled. The two most frequently used variables are household income and expenditure. Opting for one or another variable can affect both the estimated levels of inequality and its structure. The main advantages of using expenditure are:

- **Its greater stability, as it shows less fluctuation than income**
- **Greater statistical availability in the long term**
- **Less underestimation than in the case of income**

The option of expenditure is not problem-free, as it is complex to differentiate whether a low observed level corresponds to particular preferences or a real shortage of resources, quite apart from the difficulties encountered in the surveys in dealing with problems of "seasonal" consumption patterns (greater expenditure at certain times) and determining the right flow of consumption provided by durable goods (cars, furniture, household appliances, etc.). Furthermore, using income offers a richer analysis, as it makes it possible to analyse the components of households' sources of income and have access to comparable international databases. However, it is prone to the problems of the possible temporariness of earnings, the abovementioned underestimation of declared income, and the poor quality, in general, of information on the income of the poorest and the richest households.

Table 1. **Differences in income levels of the 10% with the highest income, the 10% with the lowest income and the median of the population**

	D9/D1	D9/D5	D5/D1
1973	3.98	1.95	2.04
1980	4.18	1.97	2.12
1990	3.72	1.89	1.97
1996	3.87	1.97	1.97
2007	3.66	1.80	2.03
2017	4.09	1.86	2.20

D9: income level above which one belongs to the 10% of the population with the highest income.

D5: income level that divides the population into two equal halves.

D1: income level below which one belongs to the 10% of the population with the lowest income.

Source: Authors' compilation, based on Household Budget Survey (1973, 1980 and 1990: baseline survey; 1996: continuous survey; 2007 and 2017: new survey)

In the face of these limitations, it is difficult to paint a picture of long-term inequality in the same terms as the countries mentioned, although it is possible, with all due caution, to try to synthesise these trends. Table 1 shows this evolution using a simple indicator in the form of the gap between percentiles. The advantage of working with this type of inequality measure is that it allows us to identify in which part of the distribution – low, middle or high income – the main long-term changes have occurred. Generally speaking, in recent decades changes in the area between middle income and the lowest income have had most influence in explaining inequality, throughout almost the entire period studied.

BOX 2. **HOW ARE HOUSEHOLDS WITH DIFFERENT SIZES AND NEEDS COMPARED?**

Although the aim is usually to measure personal income distribution, most information on this variable refers to the household as a whole. Many incomes are pooled and are the result of the activity or mutual support of all members of the household. Consequently, the disposable cash income of households is taken as the initial reference variable.

In order to make homogeneous comparisons between heterogeneous households, household income must be corrected taking into account the saving in expenditure that results from several members living together in the same home, together with different needs or their specific characteristics. To this end equivalence scales are set that allow a more accurate estimate of income than that reached by simply dividing by the number of members. In the European Union widespread use is made of the scale that assigns a value of unity to the first adult, 0.5 to all other adults and 0.3 to children. The income of the household is divided by the corresponding scale in order to obtain the equivalent income per adult.

Based on Table 1 and a synthesis of various studies, it is possible to summarise the known evidence on the behaviour of inequality in the following stages:

- // Minor changes in inequality in the 1970s. The intense economic crisis of that period did not give rise to a large increase in inequality. Even though unemployment grew rapidly, its effect on inequality was offset in part by the notable increase in wages and the late development of the basic instruments of the welfare state, including the implementation of a much more ambitious system of progressive taxation.

- // Notable reduction in inequality in the 1980s. The economic recovery in that decade, especially in the second half, brought unemployment down, although not below 15%, and caused a rise in wages. The growth in social spending in the second half of the decade was particularly significant. Inequality diminished in a period when in most OECD countries the opposite process was beginning.

- // Stability in income distribution in the period before the crisis. After something of an upturn in inequality in the first half of the 1990s as a result of a brief but intense period of recession, inequality indicators remained very stable in spite of the lengthy economic boom. The growth in economic activity and above all the reduction in unemployment, which fell to below 8%, were not reflected in an improvement in inequality indicators.

- // Growth in inequality during the crisis. The sharp rise in unemployment to over 25%, the widening of the wage gap when the construction industry collapsed and the cuts in redistributive policies caused inequality to increase very notably in Spain during the economic crisis, and to do so, moreover, faster than in most European countries.

- // Moderate reduction in inequality during the recovery stage. The data corresponding to the most recent stage show a slow reduction in inequality, despite the fall in unemployment and the reactivation of the economy. The main inequality indicators have fallen, but much more slowly than the speed with which they rose during the crisis.

3 Redistributive effects of cash benefits

In most high-income countries, the principal redistributive effect of public intervention originates from the cash benefits received by households. In the case of Spain, the available evidence can be summed up in the statement that the system of taxes and benefits is one of the least effective in redistributing household income in the whole of the European Union. Two of its main characteristics are the considerable redistributive importance of contributive pensions and the equalising role of income tax, which although still significant has lessened in the wake of the tax reforms of the 1990s and the early years of this century. For its part, the guaranteed income safety net – non-contributive benefits – is much weaker than in other European countries.

Pensions

One common finding of the studies that have analysed the effect of the various components of the benefit and tax system on inequality is that pensions are the main equalising instrument of income differences in Spain. Although a priori a distribution system is not aimed explicitly at redistribution, there are several channels through which an income gap moderating effect of this sort occurs.

One of these channels is the redistribution that occurs between different generations of workers. Given that today's pensions are not funded through past individual contributions but present ones, improvements in income and wage levels from generation to generation automatically result in a transfer of income from present generations of workers to past ones. Up until the crisis, each generation had a higher average wage in real terms than the previous generation. As a result of the cycle change, however, in the last generation to reach the labour market this situation did not occur.

The main redistributive effect happens, in any event, through redistribution from higher wage earners to those who have lower wages and shorter contribution periods. The existence of minimum and maximum pensions helps, by definition, to narrow the gap between the income received in the period of retirement and that received during the years worked. In 2019, 11.9% of pensioners received the maximum pension and more than 5% of the total expenditure on pensions was allocated to the minimums complement.

In general, all the elements that determine the amounts of pensions may affect their redistributive capacity. These elements include decisions regarding pension revaluation and the method for determining the regulatory base of the pension, which takes the last years worked as its reference. Furthermore, there are two types of pensions, with different effects on income distribution: contributive, which are generated as a right on the basis of previous contributions, and non-contributive, intended for those who do not have access to the first sort and lack sufficient economic resources, funded through state subsidies, which clearly benefit lower-income households.

BOX 3. **PROGRESSIVITY AND REDISTRIBUTION**

The effect of a benefit on inequality depends on its progressivity (to what extent it is concentrated in lower-income segments), its dimension or the level of expenditure incurred, and the degree of reordering (how households or individuals are repositioned on the income scale after receiving the benefit). In order to analyse progressivity we can use charts that show the proportional part of the expenditure on a benefit that is received by households according to their level of income, comparing this with how the income is distributed.

In order to make comparisons of progressivity among different types of benefits in the same system or different systems in different countries we need a comprehensive progressivity indicator. The most widely known is that proposed by Kakwani, which, along with that of Suits, is the most frequently used method for measuring the progressivity of a tax and can also be used to measure the progressivity of a benefit. The index is defined as the difference between the concentration index of the total expenditure on the benefit and the Gini index of the income distribution without the benefit.

In order to analyse the dimension of benefits we measure their relative weight within household income, or in other words, the average effective rate of the benefit, which is yielded by calculating the average for all the individuals or households of the ratio between the total amount of the transfers received and the income before receiving the benefit. Comparisons between Spain and other high-income European countries tend to show that whereas the degree of progressivity of the system of benefits as a whole is fairly similar, in terms of dimension Spanish benefits are much lower, which explains their smaller redistributive effect.

Available estimates show that, due to the characteristics described and the volume of expenditure and beneficiaries, pensions are the main benefit that serves to offset inequality in Spain, with contributive benefits having a much greater effect than non-contributive ones. Generally speaking, in almost all EU countries, the redistributive effect of cash benefits other than pensions is of little significance, and this impact is particularly small in Spain. Data show that it is in countries with lower poverty rates and inequality indicators – above all the Nordic countries – where benefits other than pensions have a larger effect on inequality. In contrast, the Mediterranean model of social protection has been characterised by letting most of the responsibility for correcting income inequalities among households rest on the pension system.

This greater redistributive effect of pensions was not only sustained during the crisis but gathered strength owing to the stability of their amounts and the drop in other incomes. This process has contributed to an unquestionable improvement in the position of older people in the income distribution over the last four decades. The traditional problems of the shift away from pensions of middle-income segments, the low protective intensity of some pensions such as those for survivorship, or intermittent work histories in some segments, have gradually been corrected over time and this improvement was intensified during the crisis. Older people went from being the most vulnerable age group at the beginning of the 1990s to being the age group with the best situation in relation to the poverty line in the present day.

In addition to the aspects mentioned above there are two more redistributive elements that have attracted the interest of researchers:

- One important element for the analysis of inequality is the effect pensions have on equality between regions. Although the legislation does not establish any type of territorial determination of amounts, considerable differences exist in the average pension of each autonomous community. The explanations offered regarding this fact coincide in two fundamental reasons, one economic and the other institutional. The first arises basically as a result of the marked heterogeneity in patterns of specialisation in different areas of the country, which leads to different contribution bases and amounts in different regions. Secondly, the Spanish Social Security system has traditionally had a high level of fragmentation, due to the maintenance for decades of a system of special regulations accompanying the general regulations. Given the existence of very different levels of protection depending on the regulatory system, this regional diversity causes pension amounts to differ considerably in each area.

- Another significant dimension in the redistributive effect of pensions is the persistence of a large gender gap. Although this gap has narrowed, the average pension of women is almost a third smaller than that of men. Its improvement depends on the evolution of minimum pensions and the quantities of survivor's pensions and, above all, on the working conditions that cause their contributory histories to be less complete.

Unemployment benefits

Unemployment benefits can amount to a large proportion of the wage that would be earned if the beneficiary were working. If designed in such a way as to favour especially lower-income workers, they may help to reduce inequality in income distribution. The way this form of protection is defined, there is no explicit link between contributions paid and the likelihood of being unemployed; rather, these contributions depend on each worker's wage. In practice, workers with lower wages and higher risk of unemployment tend to receive larger benefits in relative terms in comparison with individuals with higher contributions.

As in the case of pensions, there are also institutional elements that condition the redistributive effect of unemployment benefits. One key element is the switch to the welfare mode of protection when the right to unemployment insurance is exhausted. The use of this mode has grown in recent years, as a consequence of the increase in long-term unemployment. The result of this is a growing differentiation depending on the type of protection received, which reproduces the inequalities inherent in the labour market in the field of redistributive policies. Furthermore, as in the case of pensions, redistribution also has a sectoral and geographical component. The likelihood of being unemployed is considerably higher in some industries than in others and the incidence of unemployment is very uneven between areas.

Comparative studies of the impact of unemployment benefits on inequality point to a greater magnitude of this effect in Spain. This is due to their weight in the total expenditure on benefits, owing to the persistence of much higher unemployment rates than in other European countries.

Studies that analyse the redistributive effect of different benefits agree in identifying unemployment benefits as having the second largest impact on income distribution, after pensions, although at a considerable distance. This effect rose during the crisis owing to the increased weight of transfers of this type in the income of households with unemployed members.

In the long term, there are three features that define this redistributive effect:

// The first is its markedly counter-cyclical nature, with an effect that tends to be more intense in periods of economic recession, although some studies cast doubt on this link. High turnover in the labour market leads to a large number of transitions between situations of employment and unemployment, even in stages of economic acceleration. This makes for a high frequency of entry into the protection system.

// Studies indicate a certain moderation of the redistributive effect since the 1990s as a result of containment in the expansion of the system. This effect is strongly conditioned by the trend in the coverage rate (proportion of unemployed people who receive benefit). Whereas this rate rose between 2001 and 2010, from 58% to 78%, it dropped to 55% in 2016, the lowest level in recent decades, and had risen again to above 60% by 2019.

// Thirdly, parallel to the shift that has been occurring from the contributive to the welfare mode, the redistributive effect of these benefits has been diminishing. The rise in long-term unemployment caused an increase in the weight of the allowance, the system's trend in recent decades towards a welfare focus thus being intensified.

Income guarantee benefits

Another significant instrument for offsetting inequality in contemporary welfare states is the benefits that make up the last economic safety net. They affect above all lower-income households and are fundamental for reducing poverty. By definition very progressive benefits, they may also be an important instrument for reducing inequality in the distribution of disposable income.

Although the basic goal of these benefits is to reduce poverty, in recent years they have undergone major transformations to address other objectives, such as encouraging labour participation. Another factor for change has been the emergence of new social needs, linked primarily to demographic changes, such as immigration and changes in types of households, and work-related changes, such as the increase in low-wage workers and long-term unemployment. During the crisis, needs grew at the same time as the restrictions on available resources for funding benefits became tighter, making it more difficult for them to effectively cover the overall goal of reducing poverty.

The system of income guarantee benefits in Spain includes some features that are found nowhere else in comparable environments. Unlike in most European countries, there is no last economic safety net as such that covers different segments and regions across the board. The current system is the sum of very diverse benefits that were introduced gradually with a wide variety of aims and purposes. The result is a complex mosaic of benefits that offer different levels of protection by population groups and areas. The amounts of the various benefits that make up this last safety net are also very meagre in comparison with the poverty line and fall far short of the European average.

In this context, the effects of these benefits on inequality can be expected to be weaker than the other two benefits referred to above. There is widespread agreement that this effect is indeed very small, owing to the limited influence it has on the average income of Spanish households. Studies also coincide in finding that the progressivity of these benefits is very high. One of the conclusions most frequently reached by researchers who have analysed the redistributive impact of various social benefits over the last few decades confirm, in fact, the notable progressivity of this type of benefit as an outstanding feature.

Probably the most controversial of all the benefits that go to make up the income guarantee system are the minimum income schemes of each of Spain's autonomous communities. Although they represent only a small part of the system (approximately 6% of total expenditure) they are often at the centre of the debate on welfare benefits, as they are the only benefits of a non-specific nature that afford protection against the general risk of poverty and because of their completely decentralised nature. These characteristics have given rise to a number of studies that have sought to evaluate their effects on inequality. The main conclusions that can be drawn from this empirical research are:

- Persistence of major inequalities with regard to adequacy (match between the amounts of the benefits in each region and the poverty line) and coverage (percentage of households below a threshold for necessity who receive the benefits) in each area. Whereas in some communities this coverage is in excess of 100% when we take as the reference variable the number of households without income, in others the ratio falls short of 10%. Differences are also huge in the adequacy offered. Although most communities show low or very low adequacy indicators in a European context, some regions stand around the top of the European ranking (Basque Country and Navarre).

// The main problem, however, in terms of inter-regional equity, is not so much the unequal coverage of needs but rather the fact that in some communities the amounts provided are well below the poverty line.

Family benefits

In most European countries, family benefits play a significant role not only in child protection but also in the reduction of inequality and, above all, in the improvement of households located towards the bottom of the income distribution. The most widespread model is that of universal benefits, usually funded through general taxation, although in some countries through social contributions. At present, only seven EU countries do not possess some sort of universal benefit per child, basically southern European and some eastern European countries. It is these countries that have the worst indicators of economic vulnerability for households with children.

Family benefits in Spain represent a major anomaly with regard to the model and the average amount in European countries. The child benefit paid by Social Security can be described as abnormally low in a comparative context, both when we relate it to the country's standard of living and in comparison with the benefits available in countries with a lower level of income. The ratio between the level of the benefit and average income is the lowest in the 28 countries of the European Union.

Studies that have analysed the effects of these benefits on income distribution draw the following conclusions:

// The effect of family benefits on income distribution in Spain is very small. Despite the large number of benefits of this type that reach families (more than a million) the small amount of money involved makes its effect on inequality almost imperceptible.

// The joint effect of all cash benefits on child poverty is the smallest in the European Union.

// The redistributive effect of the allowance for descendants in income tax is much greater than that of child benefit. However, it is not a refundable deduction and as such has no effect on the disposable income of economically vulnerable households with children.

4 Redistributive impact of benefits in kind

The greater weight of cash benefits within social spending as a whole in almost all countries has caused most studies on redistribution through welfare state benefits to concentrate more on this sort, as opposed to benefits in kind. Nevertheless, traditionally some of the latter – education and healthcare in particular – have had a great capacity to encourage higher levels of equality in any society.

Some studies which have focused on comparative analysis in an attempt to determine the effect this type of expenditure has on income distribution have found that inequality is reduced by nearly 20% thanks to social spending other than cash benefits. The expenditures of this sort that have most impact on income distribution are, by far, education and especially healthcare. In terms of the Gini index, healthcare accounts for 11 of these 20 percentage points of reduction, while education is responsible for another 7 percentage points in the decrease in this index, with a particularly notable effect in Anglo-Saxon countries.

Other types of spending on social welfare services, such as care of the elderly and long-term care, have a far smaller impact than the two mentioned above. It seems clear, therefore, that healthcare and public education generate a significant redistributive effect, which should be added to that caused by taxes and transfers in order to reflect more completely the overall redistributive effect of public intervention.

In the case of Spain, the redistributive effect of these expenses has been studied considerably less than the impact of cash benefits on income distribution. Here we review those studies that have examined the effects of spending on health and education, which are the most important functions of expenditure after pensions and, in some years, interest payments on public debt. They are also key expenditures for promoting equal opportunities and social and income mobility.

BOX 4. **HOW ARE EXPENDITURES IN KIND ALLOCATED TO HOUSEHOLDS?**

The study of the way in which spending in kind affects the income distribution is commonly known as expenditure incidence analysis. In order to evaluate this effect we need to identify the beneficiaries of each type of expenditure and follow a set of allocation criteria. It is usually assumed that the only households whose situation improves are the direct beneficiaries. This procedure ignores the possibility of the expenditure benefiting other agents. Educational spending also benefits publishers of schoolbooks, for example, and an increase in health services also benefits the pharmaceutical industry. Educational spending has a positive impact on society as a whole in the form of greater productivity, and similarly health spending enhances workers' performance. In practice, however, it is very complicated to quantify these effects. As a result, expenditure incidence studies usually assume that the total benefits of an expenditure for the economy as a whole are equal to the volume of that expenditure and only evaluate the gains of the direct beneficiaries.

Step 1: In order to evaluate the effect of each expenditure on the income of the direct beneficiaries we need allocation criteria. The first step is to classify each expenditure according to its nature and the type of beneficiary who receives it.

Step 2: The benefit allocated to each household is calculated by dividing the total expenditure by the number of beneficiaries, and that income is allocated to each household. A straightforward example would be educational spending by educational levels. Allocation is more complicated in the case of spending that is consumed simultaneously by the whole population, such as defence or justice.

Step 3: Once the expenditures are allocated, the incidence of the public spending can be measured as the difference between the inequality without the allocated expenditure and the inequality that occurs once the expenditure has been allocated to the households.

Redistributive effects of health spending

The most important of benefits in kind in the area of social welfare is health spending. The universal nature of a large part of its services in many high-income countries enables low-income individuals to access it without having to shoulder the costs of private healthcare, while members of higher-income households tend to make more use of the latter channel of access. Moreover, a universal service tends to be used more by lower-income individuals because their need is also greater. This means that if this cost is considered as part of household income it has a large redistributive effect.

Under a series of assumptions it is possible to allocate health spending individually to households, on the basis of health service consumer profiles. All studies that have evaluated the redistributive impact of this type of expenditure in Spain show that its overall effect is clearly redistributive and greater than that of other social benefits in kind, with a very large impact on the first two income deciles. Furthermore, this effect has increased over time, at least until the economic crisis. The few studies that have been conducted on the incidence of this expenditure since then show a reduction of the redistributive effect and the progressivity of health spending as a consequence of the drop in economic activity and the budget cuts this gave rise to.

Some studies have sought to identify which components of health spending are more progressive and which contribute more to reduce inequality. The most progressive items are those corresponding most of all to primary care, and also emergency services. Up until the crisis, pharmaceutical spending was the most progressive item, but the legislative reforms that were introduced took a higher toll on low-income households.

In addition to those focusing on redistributive impact, several studies have assessed other aspects related to inequality and health spending:

// One topic frequently addressed in these evaluations is whether or not there is some relationship between effective access to health services and the income level of the users. Although coverage has been universal for decades – except when it was decided to exclude certain user profiles from the system – access is not equal by income levels. Several empirical studies show that in Spain, as in other European countries, people who live in households with higher than average income use, with equal need, more specialist care services and preventive services than those who live in lower-income households. The latter make more use of general practitioners, emergency services and hospital admissions.

// Cost-sharing mechanisms aimed at rationalising demand have redistributive implications. The fact that they have a greater impact on users with more serious health problems and that the prevalence of such problems is higher among lower-income households results in a negative redistributive effect.

// There continues to be a correlation between users' socioeconomic situation and the time it takes to access health services. This form of inequality, especially in access to specialist and hospital services, affects lower-income households more negatively.

Redistributive effects of educational spending

Spending on education is the most important expenditure in reducing problems related to unequal opportunities. The lack of educational mobility between generations is a manifestation of inequality that not only affects those who suffer it, by being unable to aspire to better future positions in the labour market, but also limits the improvement of productivity and the economic growth of a country. This loss of efficiency is added to the costs for a society of permanently concentrating income in a small segment of the population that benefits from the relational advantages associated with social status.

Educational spending also affects inequality in income distribution directly. As in the case of healthcare, if the consumption of public educational services can be added as an extension to income, it seems clear that if the distribution of this expenditure is more equitable than the income distribution it will have an undeniably positive redistributive effect. The situation in the OECD countries, according to the few comparative studies that are available, is that educational spending acts as a mechanism for offsetting inequality in household income distribution, albeit with a smaller impact than healthcare spending.

Studies on the redistributive effect of educational spending in Spain confirm its redistributive nature. Moreover, as in the case of health spending, this effect has improved in recent decades. The few studies that have been conducted since the beginning of the economic crisis do not seem to indicate that the downturn caused a clear reduction of this effect, although with some differences depending on the type of expenditure. This last outcome matches others that have been published on the effects of the crisis on the educational system, which show that despite the cuts there was no substantial change in the system's results. The level of young people's skills did not worsen, the dropout rate fell, and net school enrolment rates improved at all levels. The reasons for this apparent paradox are to be found in the very depth of the crisis itself, with youth unemployment rates standing above 50% over several quarters. The impact of unemployment, encouraging entry into the educational system, was so intense that it outweighed the negative effect of the cuts.

There is also evidence on the redistributive effects and the progressivity of different types of educational spending. Spending on the various levels of public sector schooling yields more benefit for lower-income households. The opposite happens, however, with charter schools. No reduction in inequality is forthcoming either from spending on university education, which for decades has been concentrated in households in the higher income deciles. Lastly, spending on scholarships and grants also shows a higher concentration in high-income brackets.

In addition to studies on the redistributive incidence of expenditure, there is an extensive literature for Spain on outcome differences in relation to unequal resources. From it we can draw the following conclusions:

- // Indicators of educational skills show that the relationship between inequalities prior to the educational system and skill levels is less significant than in other countries. However, some low-income groups, such as a large part of the immigrant population, continue to be strongly affected by very low attainment in terms of skills acquired.

- // Problems of early school leaving continue to show a clear correlation with household income levels. Moreover, this correlation increased during the crisis. Dropping out without the basic school leaving certificate is not a neutral phenomenon in distributive terms, but rather reflects inequalities of income, gender, area of residence, and nationality.

5 Redistributive effects of taxes

In all OECD countries the effect of taxes on income distribution is less than that of social benefits. In none of this group of countries does the impact of taxes amount to more than a third of that exerted by cash benefits. However, this is not to say that the fiscal side of public finance does not continue to play an important role in narrowing the income gap between households. Although tax systems have tended for the most part to simplify the different categories and fix lower rates, taxation – especially personal income tax – still plays a leading role as an instrument for offsetting inequality.

On the other hand, all studies also agree that there is a clear tendency towards the loss of the redistributive capacity of taxation. It is increasingly complex to guarantee this capacity in the face of disappearing trade barriers, accelerating technological change, growing capital mobility and indeed the changes taking place in the different taxes themselves, with cuts in rates, the widespread use of different treatment for different sources of income and increasing consumption taxation.

These limits also affect the redistributive capacity of the tax system in Spain. The reforms introduced as of the mid 1990s have gradually reduced the proportional nature of taxation in Spain, observed in various studies for previous decades, which was based above all on the progressivity and redistributive capacity of income tax, a factor capable of offsetting the regressive effect of other taxes. Cuts in rates and the streamlining of taxes have jeopardised not only the aim of increasing progressivity but also the much less ambitious one of maintaining the proportionality of taxation as a whole. In a long process of change characterised by the virtual disappearance or reduction of other taxes, such as wealth tax and inheritance tax, and the regressivity of indirect taxation, the redistributive capacity of the tax system rests almost exclusively on personal income tax.

Personal income tax

Taxes on personal income are, in almost all countries, the type of tax that has most impact on income distribution. The structure of tax rates, which are lower for lower incomes than for higher incomes, causes the income gap among households and individuals to be narrower after they are applied. Traditionally, these characteristics have served to defend that in order to achieve a more equal income distribution a more progressive tax system is needed, resulting in these taxes, which are expected to be progressive, having more weight within the tax system than indirect taxes, which are usually regressive or less progressive.

In any event, comparative studies find that the redistributive effect of these taxes is determined more by their size (revenue) than by their progressivity. In fact, those countries that have higher taxation tend to show lower levels of progressivity, probably because in those countries where the tax burden is lower, increasing the progressivity of the tax may have lower efficiency costs.

In the case of Spain, all studies, without exception, confirm the inequality-reducing effect of personal income tax. Those studies that analyse the redistributive effect of taxes as a whole show that it is this tax that almost singlehandedly manages to reduce the income gap among households and individuals. Simulations of the combined effect of cash benefits and taxation reveal that it is the second instrument with most capacity to correct inequality, after contributive pensions.

The studies also reflect that, as has happened in neighbouring countries, the redistributive capacity of the tax has lessened over time. In the period identified as that of the greatest reduction in inequality in Spain, the 1980s, the evidence points towards personal income tax as one of the determining factors of the narrowing of the income gap among Spanish households. There appears to be no doubt about the progressivity and the redistributive effect of the model of personal income tax that was implemented after the tax reform at the end of the 1970s. The progressivity of the tax increased during the following decade.

The available literature also shows, however, that this progressivity has remained largely unchanged since the late 1980s, while a series of reforms has reduced the rates of this tax, ultimately resulting in the erosion of its redistributive impact. Parallel to this, its complexity was increased without the counterbalance of greater redistributive gains. In this way, the reforms of the tax at the end of the 1990s and the beginning of the following decade shared a sizable collection cost and a reduction in the redistributive capacity of the tax. Only the extraordinary rises in income tax rates at the height of the crisis were able to reverse this downward trend in the redistributive capacity of the tax. However, they were soon repealed.

Several studies have examined specific elements of the tax that constrain its redistributive capacity. Their main findings are as follows:

- Although changes in the rate of the tax are important for determining its redistributive impact, the joint effect of tax deductions and reductions in the tax base is more so. There are some ongoing regressive elements in the design of the latter, such as the treatment given to pension schemes and the deduction for double taxation of dividends.

// Progress should be made towards correcting some current elements of the tax that cause greater inequality, such as the lack of neutrality in the treatment of different sources of income. Although Spanish income tax is similar in this unequal treatment to that of other European countries, earned income, which is easier to tax, bears a higher tax burden than capital income (80% of the average income tax base comes from earned income).

// Recent estimates reveal marked inequality in fraud by sources of income. Some studies have found a large pocket of tax evasion in capital gains, with compliance in this source of income standing below 40%. Another major focal point of fraud is income from property, while the self-employed and professionals also register high levels of non-compliance. Furthermore, the literature shows that tax fraud is distributed unequally not only by sources but also by levels of income.

Value-added tax

In almost all EU countries, indirect taxes have gained in importance in recent years within total revenue. This trend has been endorsed by the European institutions through various documents and reports, and by some researchers, who advocate a greater presence of indirect taxation as they consider it to be less negative for economic growth than the direct sort. It should also be borne in mind that in the face of the difficulty of increasing the tax burden, levies are increasingly imposed on those taxable items that are easiest to control, such as consumption and earned income.

Studies that analyse the redistributive effects of VAT from a comparative perspective reveal its regressive nature when its impact is measured as a percentage of household income. These studies also confirm that the effect is proportional or even slightly progressive in some countries when it is measured as a percentage of household expenditure. The effect on income is usually more significant, especially when the object of the analysis is the immediate impact of the tax, and also when considering the overall effect of taxation as a whole.

The most controversial issue is the effect that reduced rates of this tax have on equality. Several reports show that reductions aimed at helping lower-income households, such as those affecting food or energy, proportionally benefit the poor. However, this effect does not yield a positive redistributive effect: higher-income households gain more in aggregate terms than those with lower income. Moreover, reduced rates on activities of a social or cultural nature, or generally not for redistribution purposes, benefit higher-bracket households more. Some of these reductions are aimed at promoting certain industries rather than pursuing redistribution goals.

In the case of Spain, the late introduction of the tax in comparison with neighbouring countries has meant that estimates of the redistributive effects of VAT cover a relatively short period. The structure of the tax, however, has not been substantially modified in recent decades, albeit with certain changes in rates and in the lists of goods that are exempt or eligible for reduced rates. Studies that have analysed this impact confirm the existence of a clearly regressive effect on the distribution of income and a slightly progressive one on that of expenditure.

Reforms of this tax over the last decade have attracted the attention of researchers interested in quantifying its redistributive effect. In 2010 the standard rate was increased by two percentage points and the reduced rate by one point. Two years later both rates were raised again, the first by three percentage points and the second by two. Subsequently, in 2015, a different rate was applied to some goods. The studies that have evaluated the impact of these reforms show that in general they accentuated the regressivity of the tax.

Another aspect that has also been analysed as a factor of inequality is the high level of fraud associated with this tax. Although the figures do not appear to be any higher than those of other countries, some studies estimate VAT fraud levels in Spain at around 20%. Given the settlement system of the tax and the tendency to raise reduced rates, which is paradoxical considering that the fewer rates there are to apply the more efficient the tax is, this profusion of rates increases complexity and paves the way for evasive behaviour. These deficiencies lead several studies to conclude that the profusion of differentiated rates implies losses of efficiency and evasion, and does not serve to offset inequality.

Other taxes

Although the bulk of revenue is concentrated in the taxes reviewed above, there are other types of taxes in the system that can also affect income distribution and have been analysed in the literature.

// **Social contributions.** Although in some countries – usually those with a less developed tax system – social contributions account for a large part of public sector revenues, the overall effect found in comparative studies is a very small impact on inequality, generally showing a slightly regressive effect. This lack of redistributive capacity tends to be conditioned in several countries by the existence of a ceiling to contribution bases. In countries where this ceiling does not exist, the effect of contributions is redistributive. However, when evaluating their overall regressive effect it is important to bear in mind that social contributions are the source of funding for the main redistributive element in all countries, namely pensions.

// In the case of Spain, empirical studies confirm their negative effect on income distribution. The existence of ceilings exacerbates this regressivity. Two features that also emerge from the comparative evidence are that in Spain social contributions account for over two percentage points more of total public sector revenues than the average for EU countries and that the effect of social contributions is more regressive than in most European countries.

// **Wealth taxes.** Wealth taxes have been removed in almost all EU countries on the grounds that they are a form of "over-taxation" applicable to accumulated assets already encumbered through other forms of taxation. In the case of Spain, wealth tax was formally suspended in 2008, reinstated in 2011 and subsequently renewed on a yearly basis, but to varying degrees in some autonomous communities. Those studies that have estimated its redistributive impact, highly conditioned by the scant revenue it yields, mostly employing microsimulation techniques, find that the potential redistributive capacity of the tax in the short term is limited, but that nevertheless it has a certain impact in the long term. This effect is hampered, in any event, by low levels of compliance and certain exemptions, such as those concerning family businesses, main residences and combined income and wealth thresholds.

// Unlike wealth tax, inheritance tax continues to form part of the range of taxes in most high-income countries. However, its contribution to total revenue is very limited, in most countries falling short of 0.5% of the GDP. Studies that have evaluated its redistributive impact in Spain show that this tax helps to reduce inequality in the distribution of wealth, although very moderately. They also highlight the presence of considerable equity problems in its functioning, such as the existence of excessive rates for certain forms of wealth, major regional inequalities and again problems of tax evasion and avoidance.

// **Excise taxes.** The purpose of excise taxes is seldom specifically to redistribute or indeed to raise revenue in any country, but rather to moderate consumption of certain goods. Like other consumption taxes, although their payment does not differ according to the consumer's income, they are designed in such a way that a priori their effect on income distribution is regressive, although in the case of certain taxes this effect will depend on the propensity of each income level to consume.

// Comparative studies confirm that these taxes are regressive. Studies focusing on Spain, whether they analyse excise taxes specifically or the whole spectrum of benefits and taxes, likewise confirm this finding.

6 Conclusions

1. Spain is one of the EU countries with most inequality in the distribution of household income. The gap, however, is much narrower when we compare inequality of market income. This divergence reveals that one of the main reasons for such high levels of inequality is the lower capacity of the tax and benefit system to reduce the inequalities that occur in the distribution of primary income.

2. Although it is not easy to paint an accurate picture of the evolution of inequality in Spain in recent decades, available sources give us grounds to assert that the trend has been uneven. The main progress made towards reducing it and converging to EU standards took place in the 1980s, as a result of the dynamism of the economy, and in particular the development of social benefits and progressive taxation. In the long economic boom that lasted until the beginning of the crisis, inequality did not diminish significantly, owing to the existence of a large percentage of low-wage jobs and the absence of improvements in redistributive policies. With the crisis, indicators rose to very high levels and in the subsequent period of recovery inequality decreased very slowly in comparison with the revival of employment, the large number of contracts linked to low wages and the insufficiency of hours worked impeding the economic upturn from resulting in major improvements in distribution.

3. Within the system of taxes and benefits, in all high-income countries, and especially in Spain, pensions are the instrument with the largest redistributive effect. Furthermore, this effect has increased over time, causing people over the age of 65 to become the age group with least economic vulnerability. This fact should be taken into account in the debate on the viability of the pension system, given that changes aimed at guaranteeing its sustainability might affect redistribution. There are some factors that constrain this redistributive capacity, such as regional inequalities derived from the traditional system of social security schemes and the persistence of a large gender gap.

4. Unemployment benefits are the second type of benefit with most effect on income distribution. Its redistributive impact is greater in Spain than in other countries, mostly due to the fact that there is more unemployment. This effect grew during the crisis but has been waning in the long run, basically due to the fall in the coverage rate over time and the increasing importance of the welfare mode, with lower protective intensity than the contributory mode.

5. The redistributive capacity of the benefits that make up the last economic safety net – the income guarantee system – is limited and weaker than in other countries, owing to problems of coverage of the vulnerable population and the small amounts paid. Unlike in neighbouring countries, there is no last economic safety net that covers different segments and regions across the board. There is a complex mosaic of benefits with glaring protection gaps, different levels of protection depending on the type of benefit that is applicable, and major regional differences in protection against the general risk of poverty.

6. Again in clear contrast with the situation in those European countries with more robust welfare states, family benefits in Spain have very little effect on income redistribution. Policies of economic support for households with children have basically focused on the treatment given to the family in income tax. These policies have no effect on lower-income households with children, which receive clearly insufficient protection – the weakest protective intensity in the EU-28 – from the system of child benefit.

7. Health spending in Spain has a clearly redistributive effect, the largest of social benefits in kind. Moreover, this positive impact on inequality has improved in recent decades, although during the crisis the cuts made in some areas, such as pharmaceutical expenditure, have diminished its progressivity. However, some elements persist that condition this redistributive capacity. This is the case of, among other problems, greater use of certain services by higher-income households, the negative effect of cost-sharing mechanisms and inequality in waiting time depending on income.

8. The overall effect of spending on education in Spain is redistributive, although less so than that of health expenditure. Furthermore, this capacity has increased with the passing of time, in spite of the restrictions imposed by the economic crisis. However, not all spending is progressive; spending on charter schools, university education and scholarships and grants are not. Some significant problems affecting the system, such as early school leaving, are closely connected to inequalities of origin.

9. There is a broad consensus that in high-income countries the redistributive effect of taxes is significantly smaller than that of social benefits, and moreover that it is diminishing over time. Changes in the international economic context and the predominant trend in taxation systems themselves have introduced increasingly severe restrictions on the effective functioning of taxes in the sphere of redistribution. This is not to say that they have ceased to play an important role in reducing inequality.

10. Income tax in Spain displays a stronger redistributive effect than other instruments of the system of taxes and benefits, with the exception of pensions, being the only tax, aside from a very modest effect exerted by wealth tax, to reduce inequality. However, this effect has decreased over time, as has happened in other countries, due to the process of reduction of marginal rates and flattening of tariffs, which has eroded its redistributive capacity owing to loss of revenue. There are also features of its design that constrain this effect, such as the regressive nature of some deductions and reductions, unequal treatment of earned income and capital gains, and also unequal opportunity of tax fraud, both by levels and by sources of income.

11. Spain is no exception to the rule whereby indirect taxation is gaining more and more importance within public revenue as a whole, which affects the redistributive capacity of the tax system. VAT is seen to be a clearly regressive tax when we analyse the changes it brings about in household income. Furthermore, the reforms over the last decade have reinforced its regressive nature, which is added to high levels of tax avoidance and evasion.

12. Evidence is also forthcoming of the effects of other types of taxation. The effect of social contributions on income distribution is notably negative, and larger than that observed in other countries. Wealth taxes contribute little to redistribution and are very limited by low levels of compliance, certain exemptions, regional inequalities and problems of tax evasion and avoidance. Lastly, although with minor impact, excise taxes are regressive.

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