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The distribution of taxable
income and fiscal benefits
in Spain: New evidence
from personal income tax
returns (2002-2011)

**David Haugh,
Clara Martinez-Toledano**

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ECONOMICS DEPARTMENT

**THE DISTRIBUTION OF TAXABLE INCOME AND FISCAL BENEFITS IN SPAIN: NEW
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By David Haugh and Clara Martinez-Toledano

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ABSTRACT/RÉSUMÉ

The distribution of the Taxable Income and Fiscal Benefits in Spain: New Evidence from Personal Income Tax Returns (2002-2011)

The personal tax system has a large influence on incentives to work, save and invest and hence growth. At the same time it is a key policy lever for income redistribution. This paper analyses how income distribution patterns changed in Spain before and after the crisis using the personal income tax samples constructed by the Spanish Institute of Fiscal Studies for the period 2002 to 2011. We find that the top and bottom of the income distribution gained the most from the boom period, and the bottom suffered proportionally more in the subsequent bust. Although Spain's average personal tax rates were above the OECD average, personal tax revenue as a share was below the OECD average. One reason for this is substantial fiscal benefits that significantly reduce total tax received by the government. We examine the distribution of the tax burden, and especially how income deciles benefit from the different fiscal benefits, namely tax exemptions, reductions and tax credits. This reveals that Spain's personal income tax system is progressive, especially for labour income, but far less so for capital income. Some fiscal benefits, notably the tax credit on maternity, are highly progressive. Other fiscal benefits, mainly exemptions and reductions, are regressive. These include the exemptions on renting and on the interest from investing in dwellings and the reduction for contributions to personal pension plans.

JEL codes: D31, H23, H24

Keywords: Income taxes, labour income, capital income, tax rates, tax expenditures, fiscal benefits, tax credit, tax exemption, tax deduction, income distribution, income inequality, households.

La Distribution du Revenu Imposable et des Avantages Fiscaux en Espagne: Nouveaux éléments grâce aux déclarations de revenus des particuliers (2002-2011)

Le système d'imposition des particuliers a une grande influence sur les incitations à travailler, à épargner et à investir et, partant, à la croissance. Dans le même temps, il s'agit d'un levier politique clé pour la redistribution des revenus. Cet article analyse comment les schémas de distribution des revenus ont changé en Espagne avant et après la crise en utilisant les échantillons d'impôt sur le revenu des personnes physiques construits par l'Institut espagnol des études fiscales pour la période 2002-2011. Nous constatons que le haut et le bas de la distribution des revenus ont le plus profité de la période d'expansion et que le bas a souffert proportionnellement plus dans la récession suivante. Bien que les taux moyens d'imposition des particuliers en Espagne soient supérieurs à la moyenne de l'OCDE, les recettes fiscales des particuliers ont été inférieures à la moyenne de l'OCDE. L'une des raisons en est les avantages fiscaux substantiels qui réduisent considérablement la taxe totale perçue par le gouvernement. Nous examinons la répartition de la charge fiscale, et particulièrement comment les déciles de revenus bénéficient des différents avantages fiscaux, à savoir les exonérations fiscales, les réductions et les crédits d'impôt. Cela révèle que le système de l'impôt sur le revenu des particuliers en Espagne est progressif, en particulier pour les revenus du travail, mais beaucoup moins pour les revenus du capital. Certains avantages fiscaux, notamment le crédit d'impôt pour maternité, sont très progressifs. Les autres avantages fiscaux, principalement les exonérations et les réductions, sont régressifs. Ceux-ci incluent les exemptions sur la location et sur les intérêts d'investir dans des logements et la réduction des cotisations aux régimes de retraite personnels.

Codes JEL: D31, H23, H24

Mots-clés: Impôt sur le revenu, revenu du travail, revenu du capital, taux d'imposition, dépenses fiscales, avantages fiscaux, crédit d'impôt, exonération fiscale, déduction fiscale, distribution des revenus, inégalité des revenus, ménages

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THE DISTRIBUTION OF TAXABLE INCOME AND FISCAL BENEFITS IN SPAIN: NEW EVIDENCE FROM PERSONAL INCOME TAX RETURNS (2002-2011)

David Haugh and Clara Martinez-Toledano¹

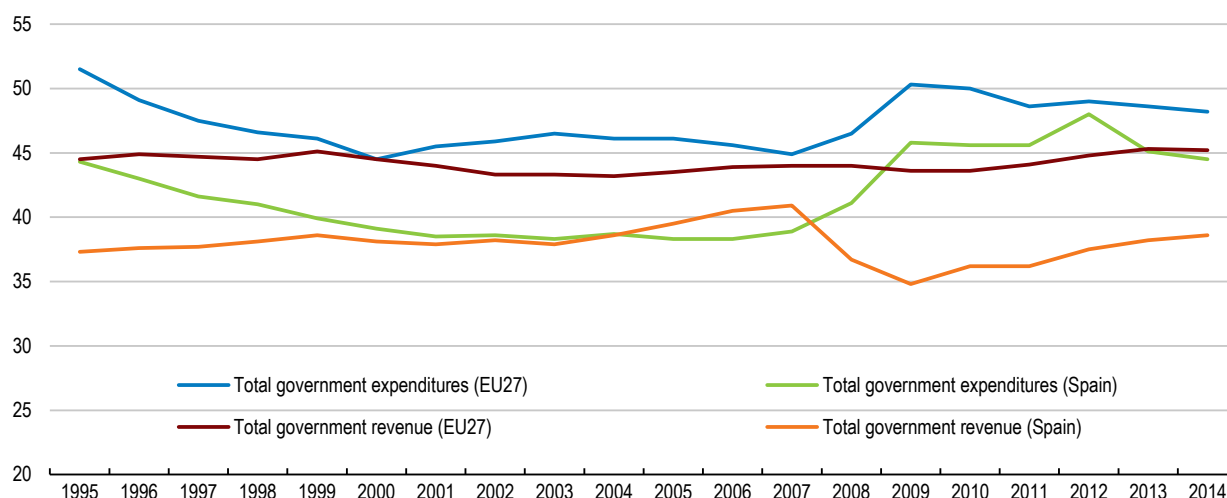
1. Introduction

1. Tax policy is a major influence on economic, social and environmental outcomes. Understanding better the distribution of incomes and the role of the tax system can help to inform better policy that promotes both growth and equity simultaneously.

2. In the past 15 years Spain has experienced a dramatic business cycle with a large construction based boom followed by a bust and large rise in unemployment and consequently inequality. This has had significant effects on public finances. Following the global financial crisis, government revenue, which had been boosted during the boom years by tax-rich growth and rising asset prices, plummeted from 40.9% to 34.8% of GDP between 2007 and 2009, and government expenditures rose from 38.9% in 2007 to a peak of nearly 48% in 2012 (figure 1). This resulted in a large budget deficit and fast rising public debt. The government responded with a substantial fiscal effort, reducing the structural fiscal deficit by around 10 percentage points of GDP between 2009 and 2014.

3. The paper starts by analysing how income inequality has changed in the wake of these events and in particular before and after the 2008 global financial crisis to gain a medium-term perspective on income inequality in Spain. This serves as a stepping-stone for studying the personal income tax system from an efficiency and redistributive point of view. For that, large personal income tax samples constructed by the Spanish Institute of Fiscal Studies (*Instituto de Estudios Fiscales*) are used for the period 2002 to 2011. The main advantage of using an administrative dataset is that it allows us to look more closely at the top part of the income distribution, which is under-represented in household survey data (EU-SILC, etc.), that is the main other alternative source for this type of analysis. This is crucial as the top part of the income distribution represents a substantial proportion of the potential tax base, due to the highly skewed distribution of market incomes towards the top end.

1. David Haugh is senior economist in the OECD Economics Department and Clara Martinez Toledano is a Ph.D. candidate at the Paris School of Economics and an intern in the OECD Economics Department at the time of writing this paper. The authors would like to thank Pierce O' Reilly, OECD Centre for Tax Policy and Administration, Robert Ford, Pierre Beynet, Aida Caldera Sanchez and other colleagues in the Economics Department as well as seminar participants at the Ministry of Finance, Madrid for helpful comments on this paper. The authors also would like to thank Paula Adamczyk for Statistical support, Veronica Humi and Sylvie Ricordeau for editorial and administrative support and Axelle Arquie for translation assistance (also from the OECD Economics Department).

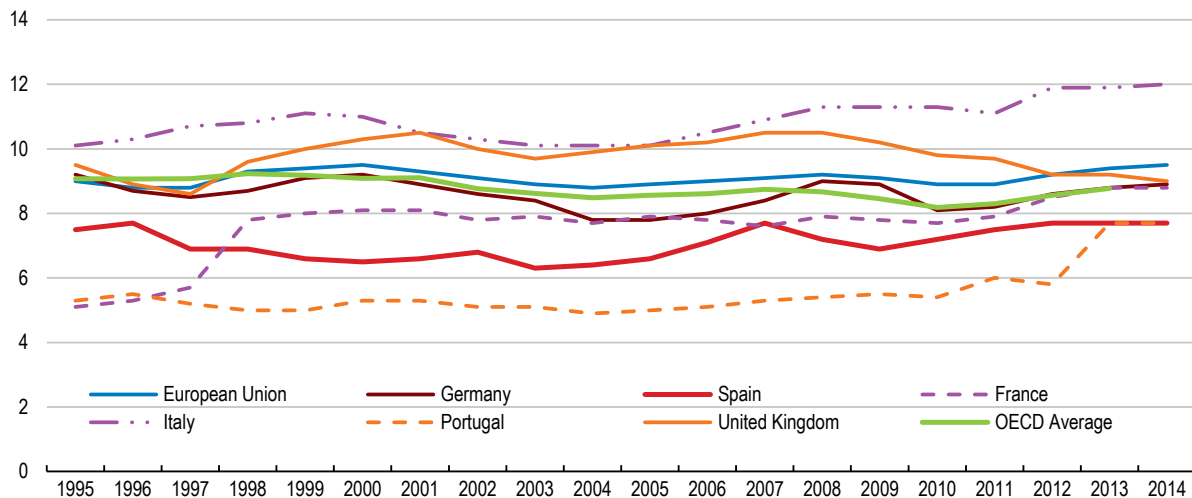
Figure 1. Total government expenditure and revenue (as a % of GDP), 1995-2014

Source: Authors' calculation using main national accounts tax aggregates from Eurostat.

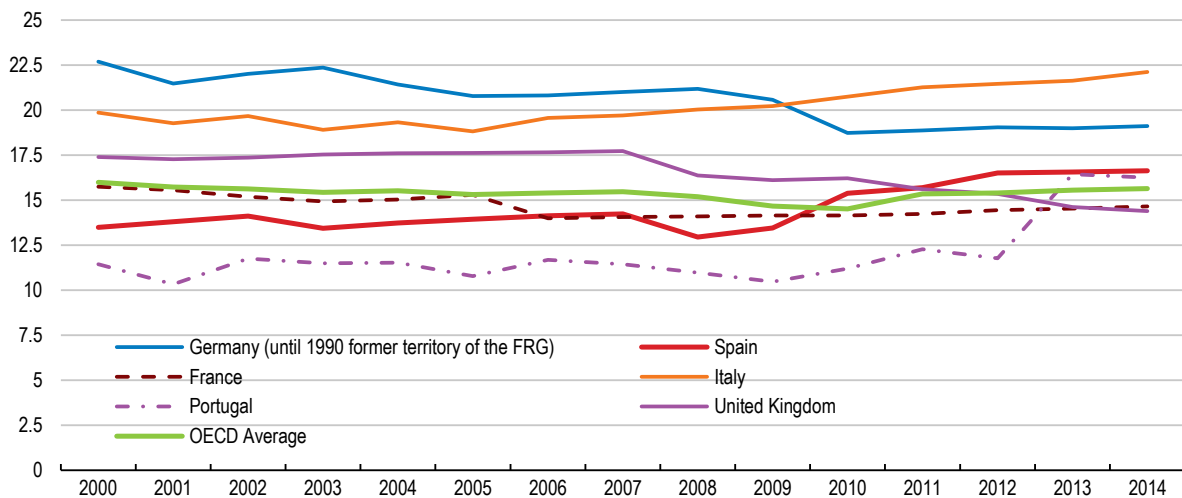
4. Alvaredo and Saez (2009) construct top income shares using tabulations from personal income tax returns for the period 1981 to 2007. The World Wealth and Income Database (WWID) include top income shares until 2012. Our shares differ from the shares in the WWID since our groups are defined relative to the number of tax returns actually filed (not the total number of adults from the Spanish census). We conduct a broader analysis by also looking at the distribution of income by region, province and gender.

5. Spain's revenue from personal income taxes as a percentage of GDP has been below the average of the EU and OECD countries over the past 15 years (Figure 2). Even at the peak of the boom in 2007, revenue in Spain (7.7% of GDP) was lower than the average of the EU (9.1% of GDP) and OECD (8.8% of GDP). This is also the case from 2010 onwards, a period when average income tax rates in Spain were above the OECD average (Figure 3).

6. There are two main reasons for this puzzling result: tax fraud and large fiscal benefits. Friedrich et al. (2013) estimate the shadow economy to be 19% of GDP in Spain in 2013, which is 0.5% above the EU 27 average (18.5%) and 6% higher than the estimated shadow economy in Germany (13% of GDP). This partly explains the mismatch between low personal income tax revenue and high marginal tax rates in Spain. Personal income fiscal benefits, as classified by the Spanish Treasury, were 16.6 billion euros in Spain in 2011, representing 23.8% of total personal income tax revenue and considerably reducing the personal tax base and tax due. This percentage has been obtained using the 2011 annual reports on fiscal benefits and tax revenue elaborated by the Ministry of Finance. It excludes the regions of Basque Country and Navarra since they do not belong to the Common Fiscal Regime and are excluded from personal income tax samples.

Figure 2. Revenue from personal income taxes (as a % of GDP), 1995-2014

Source: Authors' calculation using OECD taxation statistics for the OECD average and main national accounts tax aggregates from Eurostat for the EU27 series for the rest.

Figure 3. Average income tax rates (single person at 100% of average earnings, in %), 1995-2014

Source: Authors' calculation using OECD taxation statistics.

7. The second goal of the paper is to examine the distribution of the tax burden in Spain, taking into account which income deciles benefit from the different fiscal benefits, namely tax exemptions, reductions and tax credits, to obtain a picture of how progressive the overall personal income tax system is. This can help provide insights into where the tax base could be broadened to meet objectives such as promoting growth or closing the fiscal deficit in a way that at least does not harm equity or tax-neutrality. In particular, some fiscal benefits (for example credits for tax paid on foreign source income or deductions for business expenses) are designed to ensure tax neutrality, which is important for fostering growth.

8. There is a growing literature on the distribution of income and taxes using micro data from administrative tax records. Piketty and Saez (1998) find that top income and wage shares in the United States followed a U pattern over the course of the 20th century. Merz (2000) finds for Germany that within

occupational income inequality is far more important than across profession or even across employee, self-employed and profession boundaries. Auten and Gee (2009) study income mobility in the United States and find that around half of those in the bottom income quintile in 1996 had moved up a quintile by 2005 and that less than half of those in the top 1% in 1996 were still there in 2005.

9. A detailed analysis of the distribution of taxes and fiscal benefits as in this paper is rarer. Bo et al. (2012) document that the introduction of a dual income tax system in Norway increased inequality due to the lower tax rate on capital income relative to labour income, since capital income tends to be highly concentrated in the higher income deciles. Kennedy et al. (2015) carry out a similar analysis for Ireland. Ireland is a useful comparator as like Spain it suffered a property-linked boom and bust cycle in the 2000s, resulting in comparable fiscal, banking and unemployment problems. Both countries display many commonalities with income tax systems that are progressive overall but with the potential to broaden the tax base by reducing regressive fiscal benefits. Wulff Gobetti et al. (2016) examine Brazil and find that the tax system is only weakly progressive because of a complete tax exemption for dividend income, which is highly concentrated at the top and a large source of revenue for the richest taxpayers.

10. To our knowledge, this is the first complete analysis of the distribution of fiscal benefits for Spain using actual data from personal income tax samples rather than estimated data. The majority of papers estimate the aggregates and the distribution of fiscal benefits using microsimulation methods (see Fuenmayor and Granell, 2010 and Conde-Ruiz et al., 2015).

11. The main findings of this paper include:

- Income is highly concentrated at the top of the income distribution. The 10th decile received between 32 and 34% of total income between 2002 and 2011. According to the WWID, this level is similar to the concentration observed in other continental and Mediterranean European countries such as France, Germany, Italy, Portugal, lower than in Anglo-Saxon countries including the United States and the United Kingdom, but higher than in Scandinavian countries including Sweden, Denmark, Norway.
- The income share of the middle deciles fell during the property bubble period (2002-2007), while the share of the top and bottom deciles rose significantly. This pattern reversed in the aftermath of the housing bubble burst (2007-2011). The pattern of changes in the distribution of aggregate taxable market income is significantly affected by changes in the distribution of capital income. The top decile's share increased in the boom. In the bust, between 2007 and 2011, the capital income shares of deciles 2 to 9 slightly increased and for the bottom and top deciles decreased to levels below the pre-housing bubble period.
- Business income from self-employment accounts for the largest share of total taxable capital income. There is considerable heterogeneity in income concentration across the different categories of capital income. Whereas 85.7% of dividends accrue to the 10th decile, only 26.4% of interest and 34.7% of imputed rental income goes to the 10th decile.
- Labour income and capital income concentration are highest among men. The share of capital income in total market income is higher for women than for men at each decile and it increases the higher the income decile. This is *inter alia* because only one third of managers in Spain are women and female employment is concentrated in a limited number of occupations (OECD, 2012).

- The distribution of income is quite homogeneous for the bottom 10% to 90% across regions, but less so within the top 10%. Concentration at the top is highest in major urban areas, such as Barcelona and Madrid.
- Spain's income tax system is progressive, especially for labour income, but far less so for capital income. Fiscal benefits significantly reduce total tax received by the government. Some of these, notably the tax credit on maternity, are highly progressive. Other fiscal benefits, especially exemptions and reductions, are regressive and harm tax-neutrality i.e. they bias resource allocation decisions. These include the exemptions on owning 2nd dwellings, and for interest on investment in dwellings, and the tax credit for investing in the main residence.

2. Data and Methodology

12. We analyse the distribution of income and fiscal benefits using personal income tax samples constructed by the Spanish Institute of Fiscal Studies (*Instituto de Estudios Fiscales (IEF)*) in collaboration with the State Agency of Fiscal Administration (*Agencia Estatal de Administración Tributaria (AEAT)*). They are available for the period between 2002 and 2011 and they provide information for a large representative sample of anonymous taxpayers.

13. The available data allow us to document the distribution of market income, decomposed by income category, gender, autonomous community and province. Moreover, we can also analyse the distribution of fiscal benefits, distinguishing between tax exemptions, reductions and tax credits.

14. The income tax samples are drawn from 15 of the 17 autonomous communities of Spain, in addition to the two autonomous cities, Ceuta and Melilla. Two autonomous regions, Basque Country and Navarra, are excluded, as they do not belong to the Common Fiscal Regime (*Régimen Fiscal Común*), because they manage their income taxes directly. Combined these two regions represent about 6% and 8% of Spain in terms of population and gross domestic product, respectively.

15. In contrast to Piketty and Saez (2003) and Saez and Zucman (2014), our unit of analysis is the individual unit aged 20 or above,² rather than the tax unit. Splitting the data into individual units has the advantage of increasing comparability across units. For instance, individuals in a couple with income at the 90th percentile are not as well off as an individual with the same level of income. Since in personal income tax returns the reporting unit is the tax unit, we need to transform the data into an individual unit. A tax unit in Spain is defined as a married couple (with or without dependent children aged less than 18 or aged more than 18 if they are disabled) living together, or a single adult (with or without dependent children aged less than 18 or aged more than 18 if they are disabled). Hence, we only need to transform the units for which the tax return has been jointly made by a married couple. For each of these units we split the joint tax returns into two separate individual returns. We assign half of the jointly reported capital income to each member of the couple. For 2011, for instance, this operation converts 19.38 million tax units into 23.07 million individual units in the population aged 20 or above.³

16. The first aim of this work is to analyse the distribution of personal taxable income in Spain as a stepping-stone for studying the personal income tax system from an efficiency and redistributive point of

2. We focus on individuals aged 20 or above in order to be able to compare our results with other studies. Nonetheless, there are very few filers under 20 so that there results are almost the same.

3. Note that we only split capital income equally among the couple but not labour income. In Spain the personal income tax is designed in such a way almost no couple has incentives to file jointly when both generate taxable labour income.

view. A key advantage of using administrative tax data over household survey data (EU-SILC etc.), that is the main other alternative source for this type of analysis is that it has better coverage at the top-end of the income distribution, where a large part of the potential tax base is. Another related advantage is that income tax samples are made representative of the population of taxpayers using stratified random sampling. The Spanish income tax samples are built using three levels of stratification: the province (the 46 of the Common Fiscal Regime, the autonomous cities of Ceuta and Melilla and an additional group of non-residents that are subject to Spanish tax by article 10 of Law 35/2006); the income level (12 brackets); and the type of tax return (individual or joint). Besides, income tax data also have a high precision relative to survey data, because they do not suffer from sampling issues and rely on solid information sources such as employee payroll data and bank records.

17. Income tax samples do not include those individuals with no income subject to the tax. In 2011, for instance, the proportion of individual units in personal income tax returns was 66% of the total population aged 20 or above. Hence, it is important to keep in mind that throughout our analysis we only focus on the population of filers, which excludes approximately 33% of the population who have either no income or a very low income. This non-coverage is a limitation for the study of income inequality we carry out in the first part since we are not able to analyse the bottom of the distribution.⁴ Nonetheless, it is only a minor limitation for the second part of our analysis where we investigate the Spanish personal income tax system, since due to the low level of income of the bottom groups in aggregate, they represent only a very small part of the potential tax base.

18. The available evidence suggests tax evasion might likely upward bias progressivity in Spain because evasion in the total tax base is increasing as we move towards the top of the income distribution (Torregrosa, 2015). Even though tax evasion has decreased in the last 20 years in Spain, it is still a non-negligible part of income. Domínguez et al. (2013) calculate under-reporting of non-wage incomes as 40-55% in 2008. This is the only available evidence on personal income tax evasion for our period of analysis; however, there is more evidence about previous years. In terms of the total income tax base, Esteller (2011) obtains an average compliance estimate of 80% for the period 1993-2000. Torregrosa (2015) also estimates under-assessment of incomes in tax returns, including non-filing, legal undervaluation and under-reporting by filers and finds around 42% personal income tax evasion in 1982 for the total tax base, and ranging from 27% in wages to around 70-80% for other income sources.

3. What do tax returns tell us about income inequality?

19. We first look at the evolution of the distribution of market income, labour and capital income during the housing boom and the subsequent financial crisis (Section 3.1). We then examine the distribution of capital income by categories (Section 3.2). Subsequently, we study the distribution of income by gender (Section 3.3). Finally, we analyse the distribution of income by autonomous community and province (Section 3.4). The analysis of section 3.1 is on the years 2002, 2007 and 2011 and of sections 3.2 to 3.4 for 2011, the most recent year for which data on tax returns is available.

4. There is an ongoing paper being written by Alvaredo and Martínez-Toledano (2017) in which they impute the bottom of the distribution using the four waves of the Survey of Household Finances elaborated by the Bank of Spain

3.1 *The distribution of taxable market income before and after the housing bubble*

20. Taxable market income consists of labour earnings, taxable capital income, which includes business income from self-employment⁵, real rental income, interest, dividends, other unincorporated business income, imputed rental income and other financial income;⁶ and net capital gains.⁷

21. Aggregate taxable market income rose from 296.6 to 475.3 billion euros (60%) between 2002 and 2011. This increase mainly took place between 2002 and 2007. The rise in total taxable market income between 2002 and 2011 is largely due to labour income, which grew 62.7% during that period. Total taxable capital income, both excluding and including capital gains and losses, decreased after the burst of the housing bubble. Nonetheless, it also grew between 2002 and 2011, by 31.2 and 27.8%, respectively.

22. During the property bubble period (2002-2007), the income share of the middle deciles fell, while the share of the top and bottom deciles rose significantly (Table 1). However, in the aftermath of the housing bubble burst (2007-2011) this pattern reversed. As can be observed by looking at the S90/S10 and S80/S20 ratios polarisation decreased slightly between 2002 and 2007. With the onset of the crisis polarisation increased sharply to above pre-boom levels. Similar to Ireland (Kennedy et al., 2015), the bottom 8 deciles share approximately 50% of total income, with the other 50% of income going to the top 2 deciles.

23. The income shares that we obtain using income tax samples are comparable to other sources and countries.⁸ For instance, in 2011 the top 10% income share using tabulated data from personal income taxes is 32.9% (WWID) and 34.9% using the Survey of Household Finances (Martínez-Toledano 2017), very similar to the 32.3% that we obtain. According to the WWID, this level is similar to the concentration in other European countries (i.e. France, Germany, Italy, Portugal, etc.), lower than in Anglo-Saxon countries (i.e. United States, United Kingdom, etc.), but higher than in Scandinavian countries.

5. Note that business income from self-employment is a mixed income, that is, it includes both labour and capital income of self-employees. Since the micro-files do not allow us to disentangle the labour component from the capital component, we have decided to include this category in our definition of capital income. Results when splitting business income into 30% capital income and 70% labour income are very similar to our benchmark results and are included in our Data Appendix.

6. For a more detailed explanation of each of the components of taxable capital income see section 3.2.

7. Net capital gains include net income obtained from selling or transferring Spanish Treasury bills, investment funds and other financial assets; income from life insurance and life annuities; net gains of entities in the income allocation system; net capital gains not obtained from transferring assets (i.e. lottery and prize gains, subsidies to refurbish the main residence, etc.) and net capital gains obtained from transferring assets (i.e. tax deferral because of reinvestment, net capital gains from previous years, etc.). For the year 2002 income tax samples do not distinguish net capital gains obtained from selling or transferring Spanish Treasury bills and other financial assets and income from life insurance and life annuities, from capital income. Hence, we include these capital gains as part of capital income and not as part of net capital gains.

8. Note that one has to be very careful when comparing different sources that estimate income shares since they can use different methodologies and definitions of income.

24. We have also carried out some sensitivity tests of our series by including the sample of non-filers⁹ into our calculations and by using tax units instead of individual units. We find that the overall impact on our income distribution results is very small.

25. Breaking down the income shares further, the distribution of labour income, the main source of earnings for most people, is uneven (Table 2). Total labour income increased by 62.7% between 2002 and 2011 and this rise mainly took place between 2002 and 2007, when total labour income rose by 50.5%. Consistent with strong growth of low-skilled jobs associated with the construction activity, the results show that the benefits of growing labour income were widely enjoyed in the boom. The share of labour income across groups remained stable or slightly increased for deciles 1 to 8 between 2002 and 2007, at the expense of a decrease for deciles 9 and 10. However, the fallout from the crisis was more heavily felt by those at the bottom of the income distribution. Between 2007 and 2011 the share of deciles 1 to 5 slightly decreased and of deciles 6 to 10 increased.

Table 1. The distribution of taxable market income in Spain including net capital gains (2002-2011)

	Per cent		
	2002	2007	2011
Decile 1	1.6	2.0	1.3
Decile 2	3.6	3.5	3.3
Decile 3	4.5	4.4	4.4
Decile 4	5.5	5.4	5.4
Decile 5	6.6	6.5	6.6
Decile 6	7.9	7.8	8.1
Decile 7	9.5	9.4	9.9
Decile 8	11.9	11.8	12.4
Decile 9	16.1	15.6	16.3
Decile 10 (Top 10%)	32.8	33.6	32.3
of which: Top 5%	22.0	23.0	21.5
of which: Top 1%	8.8	9.9	8.7
of which: Top 0.1%	2.6	3.4	2.8
of which: Top 0.01%	0.8	1.0	1.0
S90/S10	20.8	17.0	25.9
S80/S20	9.5	8.9	10.7
Total (in billion euros)	296.6	472.9	475.3

Source: Authors' calculation using tax returns samples from the Institute of Fiscal Studies, Spain.

9. The Spanish Institute of Fiscal Studies also constructs a representative sample of non-filers, that is, those individuals whose income is not large enough to be subject to the personal income tax. The sample includes information on their labour income.

Table 2. The distribution of taxable labour income in Spain (2002-2011)

	Per cent		
	2002	2007	2011
Decile 1	1.3	1.3	1.1
Decile 2	3.3	3.3	3.0
Decile 3	4.4	4.4	4.3
Decile 4	5.4	5.5	5.4
Decile 5	6.8	6.8	6.7
Decile 6	8.3	8.4	8.4
Decile 7	10.1	10.1	10.3
Decile 8	12.7	12.8	13.2
Decile 9	17.4	17.1	17.4
Decile 10 (Top 10%)	30.2	30.1	30.3
of which: Top 5%	18.9	19.0	19.0
of which: Top 1%	6.1	6.4	6.3
of which: Top 0.1%	1.4	1.7	1.6
of which: Top 0.01%	0.4	0.5	0.5
Total (in billion euros)	244.3	367.7	397.5

Source: Authors' calculation using tax returns samples from the Institute of Fiscal Studies, Spain.

26. The pattern of changes in the distribution of aggregate taxable market income is significantly affected by changes in capital income. Capital income is highly concentrated at the top end of the distribution (Table 3). Capital income accounts for around 9 to 24% of total market income for deciles 1 to 10. The share dramatically increases to above 35% for the top 1% and to above 48% for the top 0.1 and 0.01%. The top decile's share increased in the boom. In the bust between 2007 and 2011, capital income shares of deciles 2 to 9 slightly increased and for the bottom and top deciles decreased to levels below the pre-housing bubble period, from 1.5 to 0.8% and from 45.4 to 43.1%, respectively. Nevertheless, the decrease in decile 10's share in the bust was driven by the top 5% and not by the very top of the distribution, whose share of capital income continued increasing during that period of time, suggesting the very rich earn capital income from sources less prone to downturns and/or have more diversified capital income sources.

Table 3. The distribution of taxable capital income in Spain excluding capital gains and losses (2002-2011)

	Per cent		
	2002	2007	2011
Decile 1	1.2	1.5	0.8
Decile 2	4.7	4.5	4.9
Decile 3	4.9	5.0	5.2
Decile 4	5.9	5.6	5.9
Decile 5	6.0	5.8	6.4
Decile 6	6.5	6.0	6.5
Decile 7	7.2	7.3	7.8
Decile 8	8.9	8.5	8.6
Decile 9	10.8	10.4	10.8
Decile 10 (Top 10%)	43.8	45.4	43.1
of which: Top 5%	34.9	36.7	34.7
of which: Top 1%	20.0	22.0	20.5
of which: Top 0.1%	7.4	9.3	8.9
of which: Top 0.01%	2.1	3.0	3.5
Total (in billion euros)	52.3	70.5	66.8

Source: Authors' calculation using tax returns samples from the Institute of Fiscal Studies, Spain.

27. Capital income is significantly more volatile over the business cycle than labour income. The share of capital income including capital gains and losses in the aggregate (i.e. all units) increased from 20% in 2002 to 22% in 2007, with a large drop to 16% in 2011 after the burst of the housing bubble and the sharp fall in stock markets worldwide. This volatility is largely driven by capital gains, which increased by 292% between 2002 and 2007 (from EUR billion 8.8 to EUR billion 34.6) and decreased by 68% between 2007 and 2011 (from EUR billion 34.6 to EUR billion 11.0). The distribution of capital gains is also quite volatile, especially at the top. For instance, the top 0.1% share of capital gains increased from 5.9 to 10.1% during the boom and decreased to 9.3% in 2011 (Table 4). This high volatility is related to the lumpy nature of realised capital gains, which depend on stock price variations.

Table 4. The distribution of capital gains in Spain (2002-2011)

Per cent

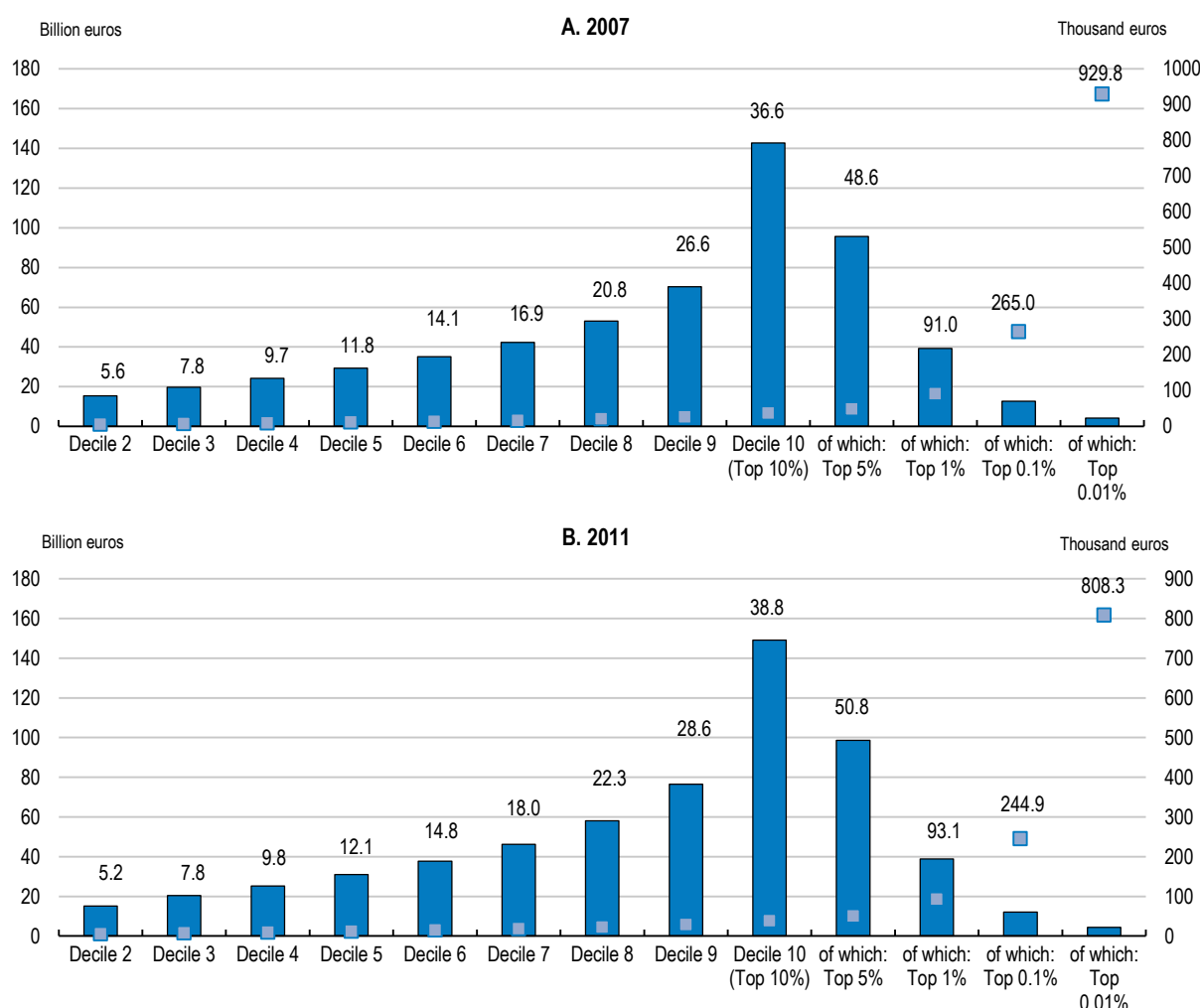
	2002	2007	2011
Decile 1	10.3	9.5	9.9
Decile 2	4.6	3.9	5.0
Decile 3	3.8	3.4	4.6
Decile 4	4.6	3.8	4.6
Decile 5	4.9	4.5	5.3
Decile 6	6.3	5.0	5.6
Decile 7	6.1	6.3	6.5
Decile 8	9.4	7.7	7.0
Decile 9	10.0	9.7	10.5
Decile 10 (Top 10%)	40.0	46.3	41.1
of which: Top 5%	32.3	37.9	32.9
of which: Top 1%	18.0	22.7	20.5
of which: Top 0.1%	5.9	10.1	9.3
of which: Top 0.01%	1.4	1.2	3.2
Total (in billion euros)	8.8	34.6	11.0

Source: Authors' calculation using tax returns samples from the Institute of Fiscal Studies, Spain.

28. The degree of market income concentration can also be analysed by looking at the income thresholds between each decile. For deciles 1 to 8 the absolute differences in thresholds are relatively minor. However, within the top 10%, the thresholds increase significantly (Figure 4). In 2011, the threshold for the top 5% was EUR 50 800 and EUR 93 100 for the top 1%. This is similar pattern for Ireland (Kennedy et al., 2015) although the income thresholds are higher in Ireland for the corresponding deciles from 2 through to 10. For example, for decile 7 the threshold is EUR 18 000 in Spain and EUR 41 000 in Ireland for a similar period (2011 vs 2012) and for decile 10, EUR 38 800 and EUR 73 000 for Spain and Ireland respectively. For the top 1% the threshold is still lower in Spain, EUR 93 100 versus EUR 192 000 in Ireland. Beyond the top 1% the jumps are extraordinary in Spain to EUR 244 900 for the top 0.1%, with an enormous jump to EUR 808,300 for the top 0.01%. This is the same case in Ireland, where the threshold for the top 0.1% is EUR 550 667 and for the top 0.01%, EUR 1 502 974 in 2012.¹⁰ Hence, for understanding income concentration in general, and in Spain in particular, it is crucial to analyse the very top of the distribution. If we compare years 2007 and 2011, we find that all thresholds up to the top 1% have increased, but for the top 0.1 and 0.01% they have decreased.

10. The top 0.1 and 0.01 thresholds for Ireland are not referenced directly in Kennedy et al. (2015), but were obtained as part of the research.

Figure 4. The distribution of market income and bottom thresholds in Spain, 2007 (top panel) and 2011 (bottom panel)



Note: Market income excludes is measured in billion euros (left axis) and bottom thresholds for each decile in thousand euros (right axis). Net capital gains are excluded for the computation of income deciles and thresholds.

Source: Authors' calculation using tax returns samples from the Institute of Fiscal Studies, Spain.

3.2 The distribution of taxable capital income excluding capital gains and losses by category

29. Taxable capital income excluding capital gains and losses is composed of business income from self-employment, real rental income, interest, dividends, other unincorporated business income, imputed rental income and other financial income. It is important to remark that income generated from the main residence, life insurance, investments and pension funds is not subject to the personal income tax.

30. Business income from self-employment¹¹ accounts for the largest share of total taxable capital income (35.1%), followed by real rental income¹² (23.5%), interest¹³ (20.0%), dividends¹⁴ (10.2%), other

11. Business income from self-employment is net of exemptions.

unincorporated business income¹⁵ (6.3%) and imputed rental income¹⁶ (4.4%). Other financial income,¹⁷ accounts for the smallest share of total taxable capital income (0.6%).

31. There is considerable heterogeneity in income concentration across the different categories of capital income (Table 5). Whereas 85.7% of dividends and 57.4% of other financial income accrue to the 10th decile, only 34.7% of interest and 26.4% of imputed rental income goes to the 10th decile. The high concentration of capital income in the 10th decile is due to the top decile owning a very high share of wealth, approximately 60% in 2011 (Martínez-Toledano, 2017).

32. There is a significant jump in concentration between deciles 9 and 10 for all categories (Table 5). The largest share for decile 9 is attained with real rental income (14.6%) and the lowest share with dividends (5.3%).

33. The shares of sub-categories of capital income are generally increasing with income decile. Business income from self-employment is an exception, since the shares of deciles 2 to 9 are pretty similar (Figure 5). This is consistent with the high share of low productivity, locally focused micro firms in Spain (Gonzalez Pandiella, 2014).

34. There are some categories of capital income for which the share of decile 1 is negative. This is the case for business income from self-employment and other unincorporated business income. This indicates that many filers that experience losses belong to the bottom of the distribution of total taxable capital income.¹⁸

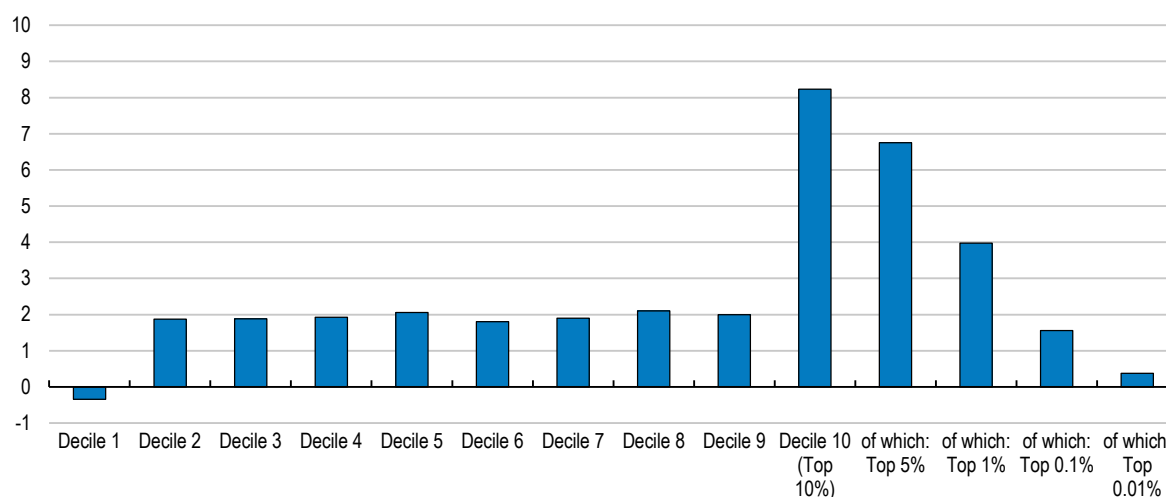
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- 12. Real rental income consists of all the income generated from renting a property net of operating costs (i.e. maintenance costs, utilities, etc.).
 - 13. Interest that is subject to the personal income tax is that generated from bank accounts (checking accounts and deposits) and fixed-income securities, except for Spanish Treasury bills, which are exempted
 - 14. The income category “Dividends” includes on top of dividends, all returns on shareholders’ equity. Some dividends and returns on equity are exempted up to EUR 1 500. This exemption was in place between 2007 and 2014. Since 1st January 2015 this exemption is no longer in place.
 - 15. Other unincorporated business income includes capital income generated by entities under the income allocation system (i.e. civil societies, joint ownerships, inheritances not yet vested, etc.). It needs to be declared by the members, partners or inheritors of the entities. The income generated by these entities is subject to the personal income tax but not to the corporate tax.
 - 16. The imputed rent that is subject to the tax consists of a 1.1% or 2% of the cadastral value of the property, depending on whether the cadastral values have been revised after January 1st 1994 or not. Main residences are exempted from the personal income tax.
 - 17. Other financial income includes income from renting some properties (i.e. businesses, mines, etc.); income from providing technical assistance, from intellectual and industrial property, from the release of image rights and from owned capital outside an economic activity; imputations for belonging to groups of economic interests or temporal union of companies; imputed income under the regime of international fiscal transparency, for the release of image rights or for participating in investment funds.
 - 18. Most studies that analyse income inequality tend to only focus on individuals without capital income losses. We have decided not to disregard these individuals in order to understand to which decile of the income distribution these filers belong.

Table 5. The distribution of taxable capital income categories in Spain, 2011

Per cent

	Self-employment business income	Real rental income	Interest	Dividends	Other unincorporated business income	Imputed rental income	Other financial income
Decile 1	-1.5	1.4	4.3	0.5	-2.6	5.7	1.6
Decile 2	8.0	2.0	5.0	0.5	4.5	6.5	2.0
Decile 3	8.0	2.5	5.5	0.5	5.3	6.2	2.2
Decile 4	8.2	3.6	6.7	0.8	6.3	7.4	3.0
Decile 5	8.8	5.1	6.8	0.9	5.7	7.4	3.6
Decile 6	7.7	8.2	6.5	1.5	8.2	7.6	4.2
Decile 7	8.1	8.4	8.3	1.7	10.8	9.8	8.0
Decile 8	9.0	9.7	9.4	.5	8.3	10.0	6.6
Decile 9	8.5	14.6	12.8	5.3	10.7	13.0	11.3
Decile 10 (Top 10%)	35.2	46.5	34.7	85.7	42.9	26.4	57.4
of which: Top 5%	28.8	34.7	25.4	79.8	35.2	17.1	50.2
of which: Top 1%	17.0	16.0	12.6	64.8	18.9	6.4	35.7
of which: Top 0.1%	6.7	3.5	4.7	42.0	6.1	1.2	12.5
of which: Top 0.01%	1.6	1.0	1.5	22.4	1.0	0.2	6.0
Total (in billion euros)	23.4	15.7	13.3	6.8	4.2	2.9	0.4

Source: Authors' calculation using tax returns samples from the Institute of Fiscal Studies, Spain.

Figure 5. The distribution of business income in Spain, 2011 (in billion euros)

Source: Authors' calculation using tax returns samples from the Institute of Fiscal Studies, Spain.

3.3 The distribution of income by gender

35. Gains in female educational attainment have contributed to a worldwide increase in women's participation in the labour force in recent decades, so helping narrow the employment gender gap in most countries. Nevertheless, considerable gaps do remain in working hours, in conditions of employment, occupations and sectors; and consequently in income (OECD, 2012).

36. In line with most countries, the distribution of market income is more concentrated at the top for men than for women in Spain (Table 6). Whereas the top 10% of men receive 33.2% of market income, the top 10% of women receive 30.9%. The differences are more significant at the very top. For instance, the top 0.1% share for men is 3.1% and 2.2% for women. Consequently, the income of women is more concentrated in deciles 1 to 9 than for men.

Table 6. The distribution of market, labour and capital income by gender, 2011

Per cent

	Market income including net capital gains		Labour income		Capital income		Net capital gains	
	Men	Women	Men	Women	Men	Women	Men	Women
Decile 1	1.2	1.3	1.0	1.1	1.2	0.4	8.0	11.5
Decile 2	3.2	3.5	2.9	3.2	5.1	4.8	4.4	5.8
Decile 3	4.3	4.6	4.1	4.5	5.3	5.2	4.1	5.0
Decile 4	5.4	5.6	5.3	5.6	5.9	5.9	4.1	4.9
Decile 5	6.7	6.8	6.8	6.9	6.1	6.5	4.6	5.2
Decile 6	8.1	82.0	8.4	8.5	6.5	6.8	5.4	6.9
Decile 7	9.8	9.9	10.5	10.4	6.5	7.9	5.9	6.0
Decile 8	12.2	12.5	13.0	13.3	8.4	9.0	6.9	7.7
Decile 9	16.0	16.7	16.9	17.8	10.7	11.8	10.3	10.5
Decile 10 (Top 10%)	33.2	30.9	31.0	28.9	44.3	41.7	46.2	36.5
of which: Top 5%	22.4	20.0	19.9	17.2	35.6	34.1	38.4	28.3
of which: Top 1%	9.4	7.5	7.0	5.0	21.5	19.8	25.7	15.5
of which: Top 0.1%	3.1	2.2	1.9	0.9	9.5	8.4	12.3	6.2
of which: Top 0.01%	1.1	0.8	0.7	0.2	3.3	3.6	4.9	1.5
Total (in billion euros)	256.0	219.3	216.0	181.5	34.5	32.3	5.5	5.5

Source: Authors' calculation using tax returns samples from the Institute of Fiscal Studies, Spain.

37. Breaking down these distribution changes further, we observe that the labour income of men is also more concentrated in decile 10 than for women. This is *inter alia* because only one third of managers in Spain are women and female employment is concentrated in a limited number of occupations (OECD, 2012).

38. Men also concentrate more capital income in the top decile. This is consistent with men having a higher propensity to own a small enterprise and therefore having more business income. In fact, in 2011 67% of the registered self-employed with the Social Security were men (*Subdirección General de la Economía Social, del Trabajo Autónomo y de la Responsabilidad Social de las Empresas*, 2011). By contrast, among men capital income is more concentrated in deciles 1 to 3 than for women. There are several reasons that might explain this finding. Firstly, women at the bottom of the income distribution have more business income losses than men (Table 7). Second, even though women in deciles 1 to 3 receive more interest, dividends, imputed rental income and other financial income, they receive less real rental income, which is the most important source of income after business income.

Table 7. The distribution of capital income by categories and gender, 2011

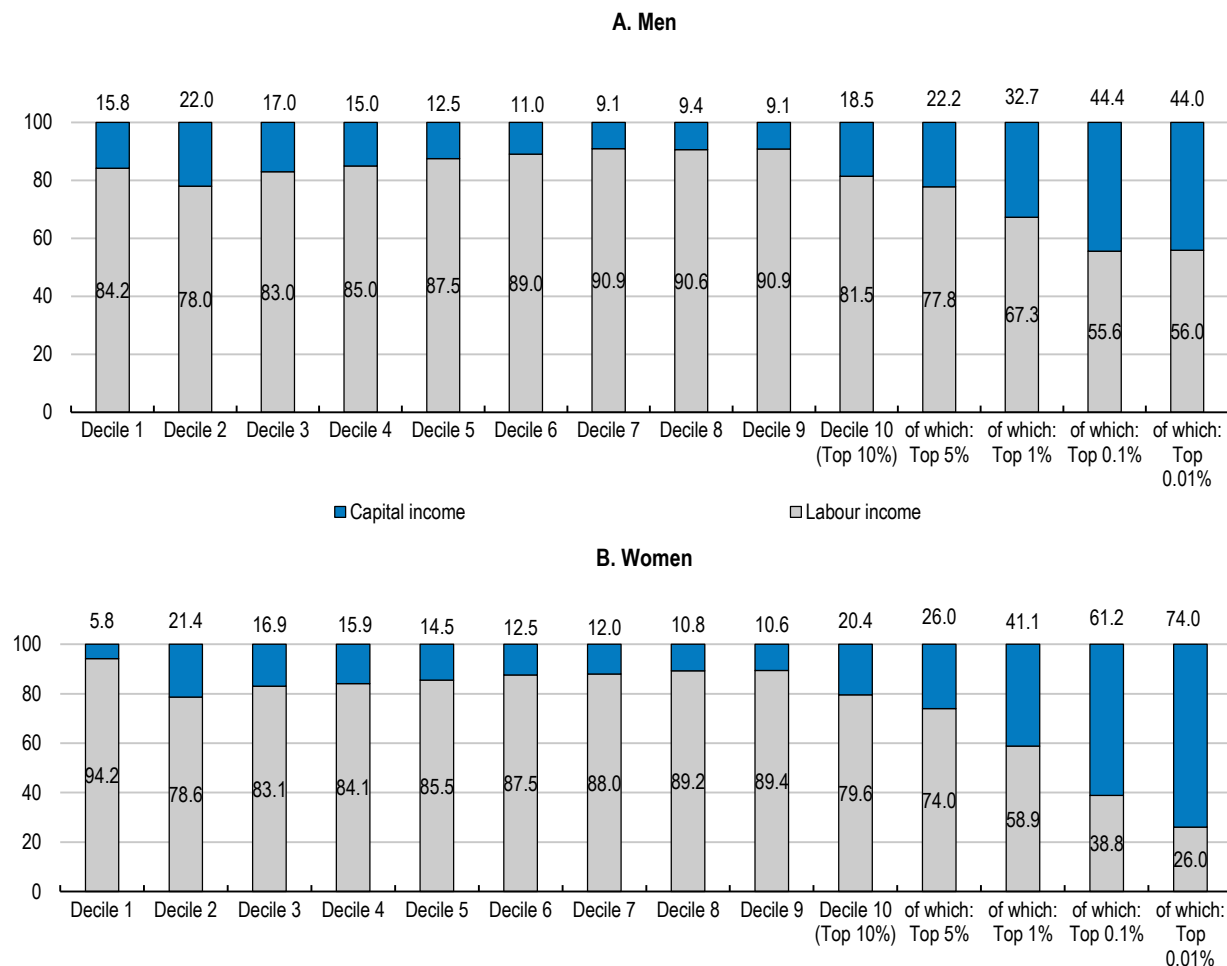
Per cent

	Business income		Real rental income		Interest		Dividends		Income allocation system		Imputed rental income		Other financial income	
	M	W	M	W	M	W	M	W	M	W	M	W	M	W
Decile 1	0.4	-3.9	1.4	1.3	3.8	4.7	0.4	0.6	-2.0	-3.3	5.2	6.1	1.2	2.0
Decile 2	8.2	8.4	2.0	1.9	4.4	5.3	0.4	0.7	4.4	4.2	6.0	6.5	1.2	2.0
Decile 3	7.8	8.8	2.6	2.4	5.4	5.4	0.4	0.7	5.5	5.8	6.4	6.3	3.2	2.4
Decile 4	8.1	9.0	3.6	3.2	6.1	7.1	0.7	0.8	7.2	6.2	7.2	7.3	2.4	3.1
Decile 5	7.6	9.5	5.2	4.4	6.0	7.5	1.1	1.2	7.3	5.6	7.2	7.5	3.5	4.1
Decile 6	7.6	8.9	6.1	6.2	6.3	6.9	1.0	1.4	10.3	6.4	7.8	7.6	2.8	5.1
Decile 7	6.8	9.2	7.6	7.9	7.2	8.0	1.2	2.0	7.1	9.9	8.8	9.2	6.8	6.7
Decile 8	8.0	8.1	10.9	10.3	10.8	10.3	1.9	3.7	7.7	8.0	10.0	11.8	5.7	10.2
Decile 9	9.1	10.5	14.3	14.5	12.3	12.8	6.6	4.2	10.2	13.2	13.2	12.8	12.4	11.7
Decile 10 (Top 10%)	36.4	31.5	46.3	47.8	37.7	32.1	86.3	84.8	42.3	43.9	28.2	25.0	61.0	52.7
of which: Top 5%	30.2	26.0	32.3	38.1	27.2	24.2	80.5	78.9	35.3	34.8	17.9	16.6	53.4	48.9
of which: Top 1%	18.0	14.5	14.1	19.0	14.1	11.6	65.5	64.2	19.0	19.2	6.5	6.5	34.1	37.3
of which: Top 0.1%	7.5	5.2	2.4	5.0	5.3	4.3	41.2	43.3	6.0	5.8	1.2	1.2	12.6	13.1
of which: Top 0.01%	1.8	1.1	0.2	1.8	1.6	1.4	20.1	25.2	0.4	1.3	0.2	0.2	5.3	6.4
Total (in billion euros)	13.8	9.6	6.6	9.1	6.4	7.0	3.8	3.0	2.3	1.9	1.3	1.6	0.2	0.2

Source: Authors' calculation using tax returns samples from the Institute of Fiscal Studies, Spain.

39. The differences across gender are more pronounced when we look at the composition of market income for each decile. The share of capital income in total market income is higher for women than for men at each decile and it increases the higher the decile of income (Figure 6). For instance, 44% and 74% of the market income of those in the top 0.01% is from capital for men and women respectively.

Figure 6. The composition of market income by gender and decile for men (upper panel) and women (bottom panel) in Spain, 2011



Source: Authors' calculation using tax returns samples from the Institute of Fiscal Studies, Spain

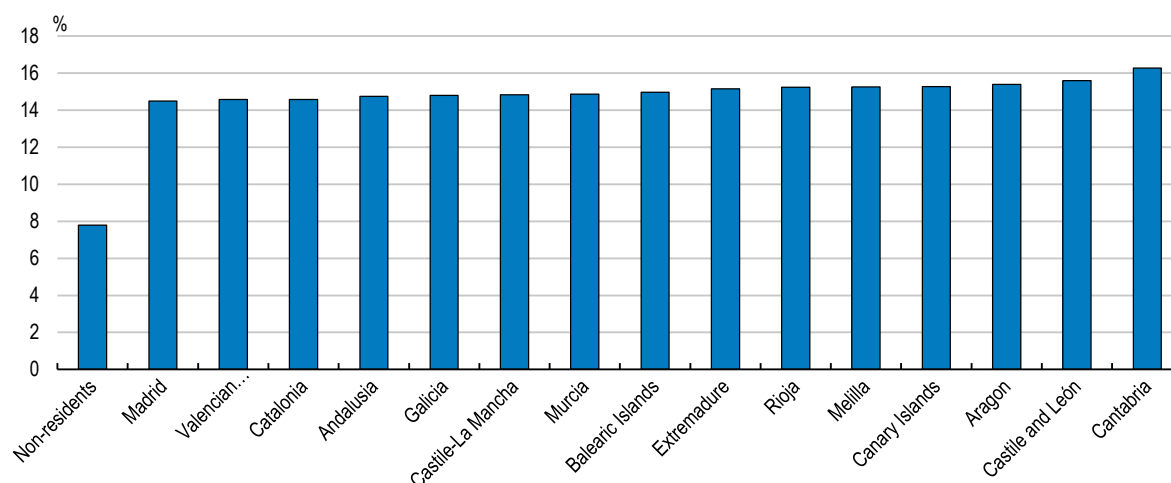
3.4 The distribution of market income by autonomous community and province

40. Substantial research has compared levels of income inequality and poverty across OECD countries (OECD, 2011a). However, national averages may hide significant within-country differences in the distribution of incomes. These spatial disparities matter for policy. At given levels of national poverty, a country where poverty is highly concentrated in a few depressed areas will require a far more targeted policy than a country where poverty is spread equally over its territory.

41. Spanish income tax samples provide information about region and province of residence for each filer. Hence, we can analyse the distribution of income at the region and province level. The distribution of income at the bottom is quite homogeneous across regions, with around 15% of total income going to the

bottom 40% (Figure 7). Madrid is the region with the lowest share (14%) going to this group and Ceuta with the highest (16%). Non-residents are the only exception since they only have 8%.

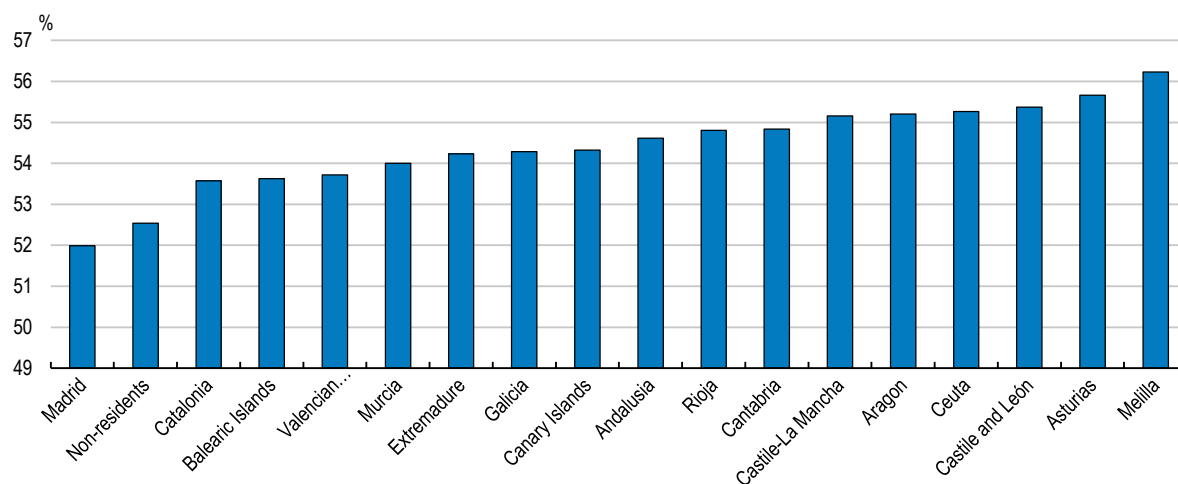
Figure 7. The income share of the bottom 40% by region in Spain, 2011



Note: Basque Country and Navarra, are excluded, as they do not belong to the Common Fiscal Regime (*Régimen Fiscal Común*).

Source: Authors' calculation using tax returns samples from the Institute of Fiscal Studies, Spain.

Figure 8. The income share of the top 60-10% by region in Spain, 2011



Note: Basque Country and Navarra, are excluded, as they do not belong to the Common Fiscal Regime (*Régimen Fiscal Común*).

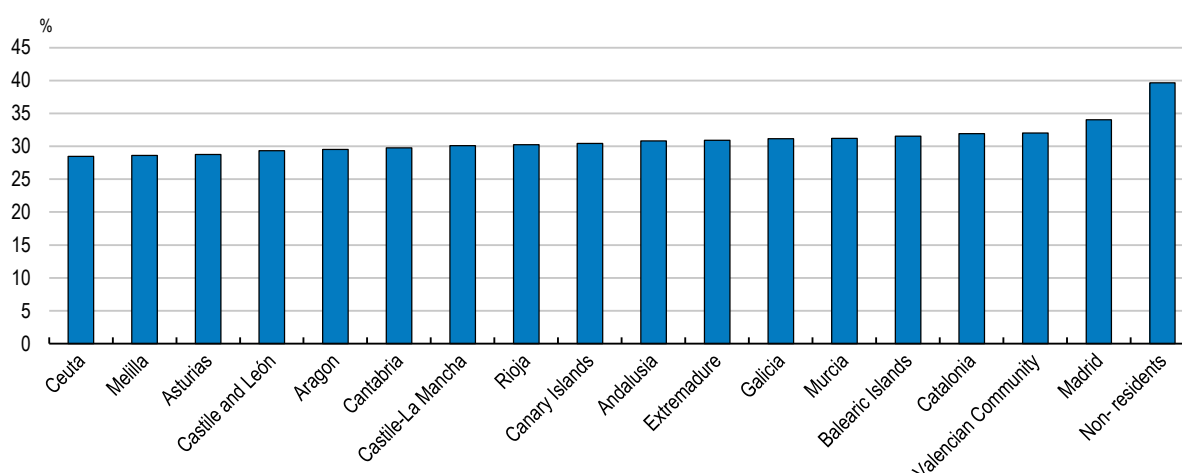
Source: Authors' calculation using tax returns samples from the Institute of Fiscal Studies, Spain.

42. The distribution of income at the top 60-10% is slightly less homogeneous than at the bottom but also quite similar across regions. It ranges between the share of 52% in Madrid and the share of 56% of Melilla (Figure 8).

43. In contrast, the distribution of income for the top 10% is less homogeneous across regions (Figure 9). Income tends to be concentrated in the top in regions containing large urban areas. The

concentration is lowest in Ceuta, Melilla and Asturias, with a share around 28% and highest for non-residents (40%), Madrid (34%), Valencian Community and Catalonia (32%). These regional differences become more pronounced as we move further up the income distribution. The share of income at the top 0.1% ranges between 1 and 4%, which means that concentration in Extremadura and Castile-La Mancha, the least concentrated regions, is three times lower than in Madrid, the most concentrated region (Figure 10). The share of the top 0.1% in Madrid (3.7%) is strikingly high since the second most concentrated region is Catalonia with a share of 2.7%. One important reason is that there are significant differences across regions in wealth and inheritance tax rates, with Madrid having a zero wealth tax rate and a very low inheritance tax rate as compared to other regions such as Andalusia, Asturias and Murcia that have higher tax rates. Hence, wealthy individuals have incentives to declare their main residence in Madrid in order to pay lower wealth and inheritance taxes.

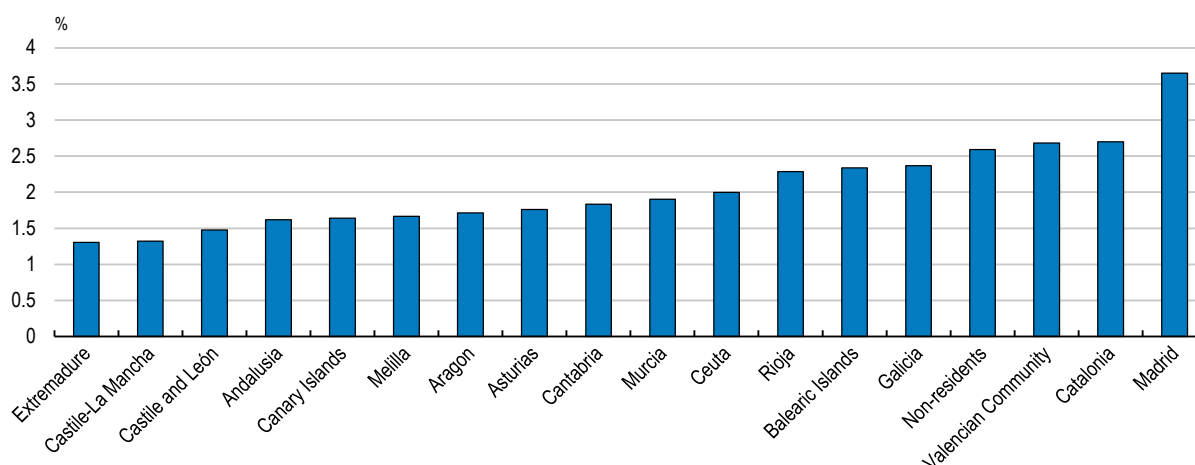
Figure 9. The income share of the top 10% by region in Spain, 2011



Note: Basque Country and Navarra, are excluded, as they do not belong to the Common Fiscal Regime (*Régimen Fiscal Común*).

Source: Authors' calculation using tax returns samples from the Institute of Fiscal Studies, Spain

Figure 10. The income share of the top 0.1% by region in Spain, 2011

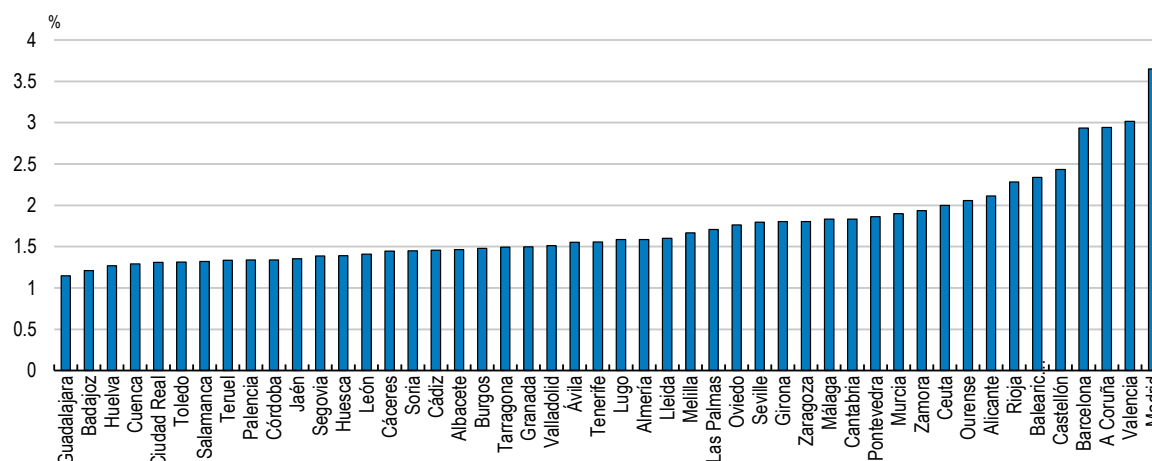


Note: Basque Country and Navarra, are excluded, as they do not belong to the Common Fiscal Regime (*Régimen Fiscal Común*).

Source: Authors' calculation using tax returns samples from the Institute of Fiscal Studies, Spain

44. Breaking down these distributional changes further at the province level, the most significant differences also happen at the top. Whereas 3.7% of income goes to the top 0.1% in Madrid, in Guadalajara only 1.1% goes to the top 0.1% (Figure 11). In contrast, differences at the bottom are less pronounced, with Palencia having the largest share of income going to the bottom 40% (16.3%) and Granada the lowest (13.9%) (Figure 12).

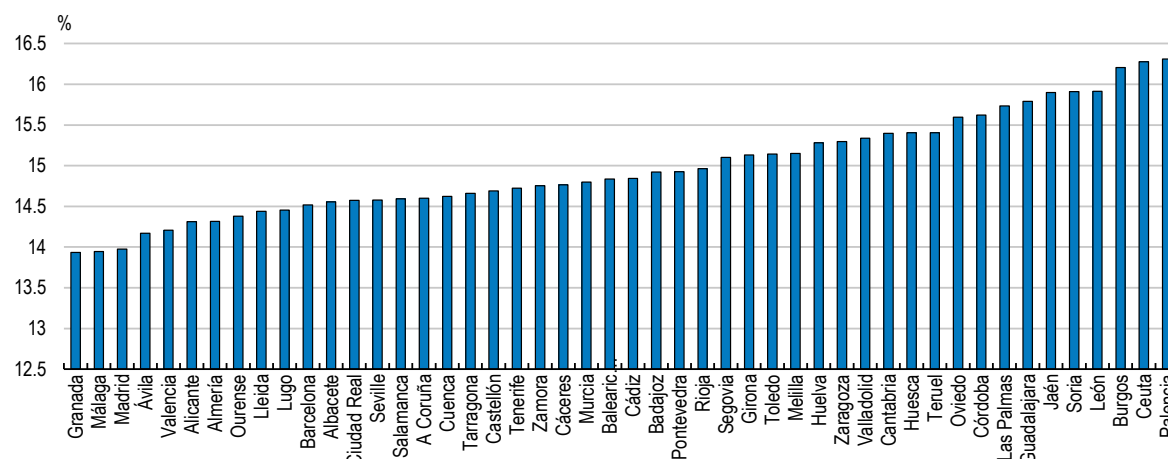
Figure 11. The income share of the top 0.1% by province in Spain, 2011



Note: Basque Country and Navarra, are excluded, as they do not belong to the Common Fiscal Regime (*Régimen Fiscal Común*).

Source: Authors' calculation using tax returns samples from the Institute of Fiscal Studies, Spain.

Figure 12. The income share of the bottom 40% by province in Spain, 2011



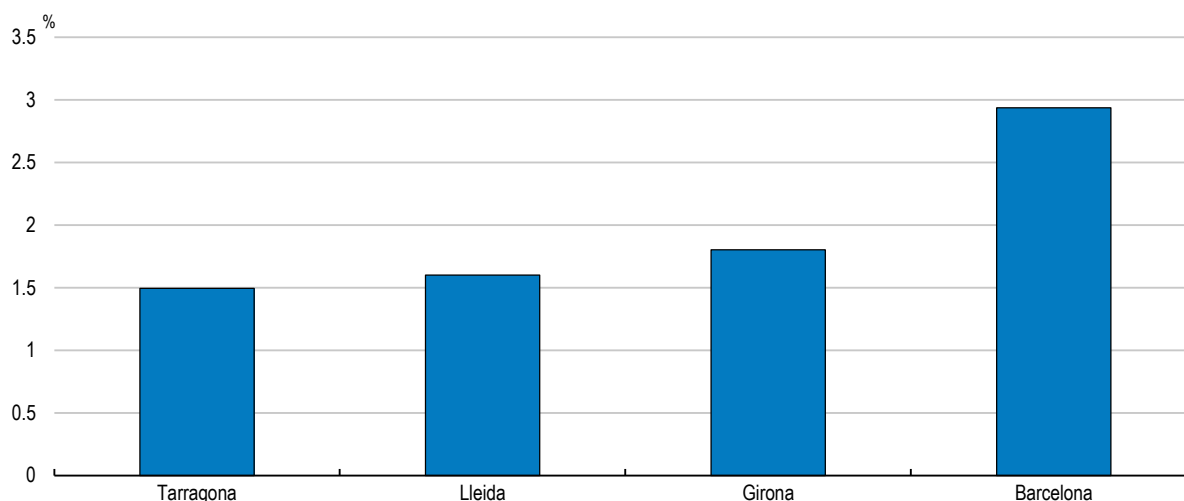
Note: Basque Country and Navarra, are excluded, as they do not belong to the Common Fiscal Regime (*Régimen Fiscal Común*).

Source: Authors' calculation using tax returns samples from the Institute of Fiscal Studies, Spain.

45. Each region is composed of several provinces. The share of income of the top 0.1% can vary markedly across provinces that belong to the same autonomous region. For instance, within each of the Catalan, Galician and Valencian regions the share of income going to the top 0.1% in the province with

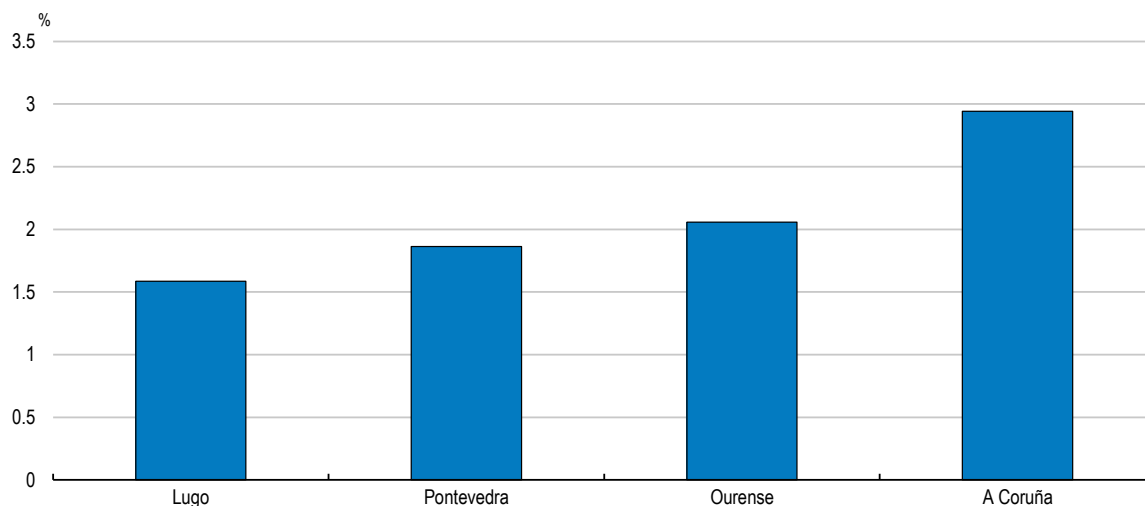
the highest share is double that of the province with the lowest share going to the top 0.1% (Figures 13, 14 and 15). Within other regions differences are less pronounced, such as Castilla and León, where the province of Zamora has the highest concentration at the top 0.1% (1.9% of income), compared to Salamanca (1.3%) with the lowest share (Figure 16). Within Andalusia, the intra-regional differences are also smaller, with the provinces of Málaga and Seville having the highest shares of income going to the top 0.1% (1.8%) and Huelva having the lowest share of income received by the top 0.1% (1.2%) (Figure 17).

Figure 13. The income share of the top 0.1% in Catalonia, 2011

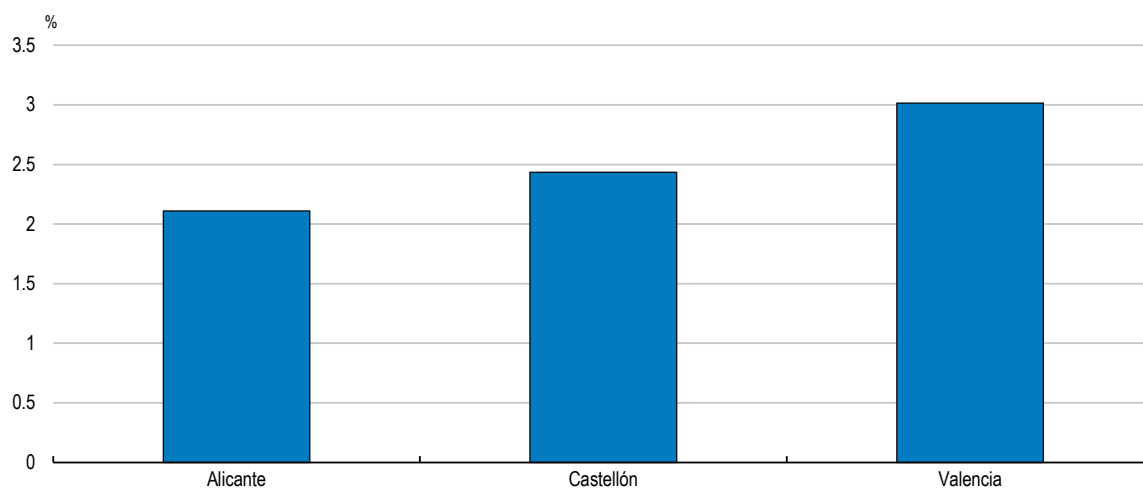


Source: Authors' calculation using tax returns samples from the Institute of Fiscal Studies, Spain.

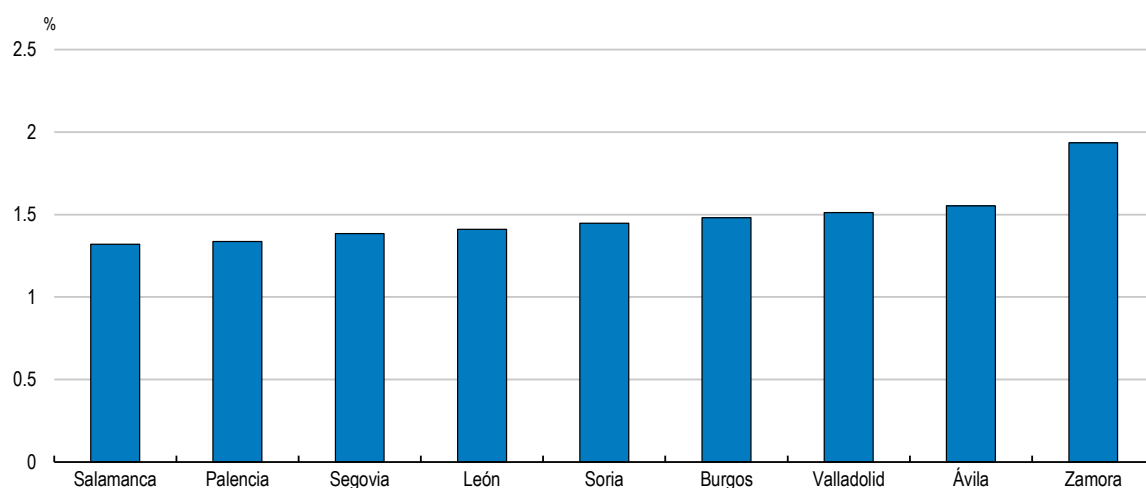
Figure 14. The income share of the top 0.1% in Galicia, 2011



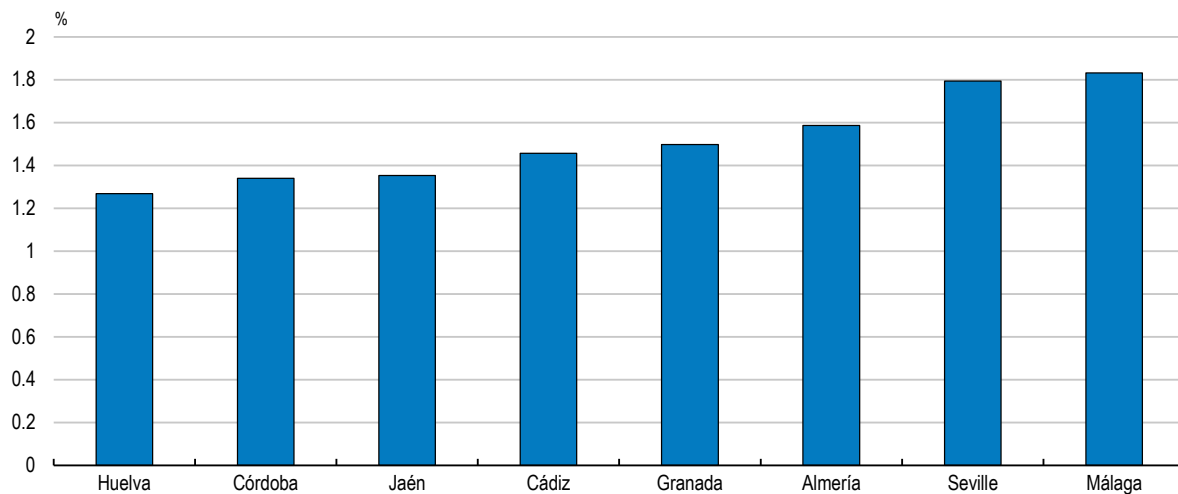
Source: Authors' calculation using tax returns samples from the Institute of Fiscal Studies, Spain.

Figure 15. The income share of the top 0.1% in Valencian Community, 2011

Source: Authors' calculation using tax returns samples from the Institute of Fiscal Studies, Spain.

Figure 16. The income share of the top 0.1% in Castille and León, 2011

Source: Authors' calculation using tax returns samples from the Institute of Fiscal Studies, Spain.

Figure 17. The composition income share of the top 0.1% in Andalusia, 2011

Source: Authors' calculation using tax returns samples from the Institute of Fiscal Studies, Spain.

46. Even though there are not significant differences in income concentration levels across regions (except for the very top), total average income as well as income thresholds along the distribution considerably differ from one region to another (Table 8). Average income in Madrid (EUR 26 929) is the highest and it nearly doubles average income in Extremadura (EUR 14 726), the region with the lowest average income. In line with this result, income thresholds are larger both at the bottom and the top in regions with higher average income.

Table 8. Average income and thresholds by region, 2011

Gross income groups	Decile 1	Decile 2	Decile 3	Decile 4	Decile 5	Decile 6	Decile 7	Decile 8	Decile 9	Decile 10 (Top 10%)	of which: Top 5%	of which: Top 1%	of which: Top 0.1%	of which: Top 0.01%	Average income (in euros)
Madrid	-5482130	6859	9960	12933	15939	19497	23576	29247	36329	49849	67072	133890	440959	1570123	26929
Ceuta	-61488	7273	10263	12864	16166	19494	22562	27407	34817	43702	55933	94243	295189	700169	24107
Catalonia	-3755837	6080	9076	11607	14464	17799	21304	25911	32155	43035	58102	109302	290464	920374	23279
Melilla	-119335	6097	9101	11723	15127	18373	21787	26385	34514	43805	53306	94137	242673	533692	22996
Non-residents	-16315	1008	4175	7227	10716	14733	18465	23607	31819	45673	68147	142202	335131	730900	21870
Balearic Islands	-491709	5661	8650	10891	13233	15826	19170	22835	29039	39193	52947	95524	234601	742632	20899
Cantabria	-448171	5475	8481	10500	12694	15276	18045	22152	27965	37420	47455	82854	194496	621180	19607
Asturias	-930153	5257	8452	10782	13091	15668	18434	22221	27636	36964	46383	78765	176415	540700	19438
Aragon	-565496	5628	8379	10342	12735	15565	18605	22871	28396	37500	48262	83997	196974	495575	19892
Rioja	-244053	5354	7959	9976	12237	14852	17798	21615	27371	36546	45760	81539	206772	624270	19183
Canary Islands	-396047	5289	7720	9689	11717	14013	16874	20674	26825	36420	47038	82133	193644	474681	18670
Castile and Leon	-430056	5260	7742	9583	11592	14141	16979	20610	26290	35415	44547	76650	162787	380726	18198
Valencian Community	-2195514	4747	7116	9032	10998	13278	16141	19931	25597	35404	45810	82397	202789	688263	18111
Galicia	-337165	4689	7360	9143	11153	13464	16147	19803	25244	34944	44326	78767	187523	583047	17825
Murcia	-1616945	4672	7036	8823	10637	12695	15308	18826	24202	34201	43707	77765	171279	489793	17179
Andalusia	-8198250	4498	6622	8494	10228	12255	14917	18425	24014	33766	42800	73366	155329	407744	16608
C. La Mancha	-865753	4618	6577	8512	10146	12259	14993	18422	23806	33406	42056	70287	140368	315595	16376
Extremadure	-333554	4262	5966	7528	9083	10740	13111	16040	21141	30620	38782	66710	123440	282926	14726

Source: Authors' calculation using tax returns samples from the Institute of Fiscal Studies, Spain.

4. How redistributive is the Personal Income Tax System?

46. In this section we analyse the distribution of personal income fiscal benefits in order to better understand the incidence of taxation. Firstly, we explain the structure of the Spanish personal income tax system. Secondly, we document the distribution of fiscal benefits in 2011 using the classification of the annual Report on Fiscal Benefits elaborated by the Spanish Treasury. Thirdly, we broaden the classification of fiscal benefits of the Treasury and carry out a very detailed analysis of the distribution of exemptions, reductions and tax credits. Finally, we analyse the impact of taxation by comparing on the one hand, the distribution of the taxable base after exemptions and reductions and on the other hand, the distribution of tax liabilities before and after tax credits.

4.1 Structure of the Spanish Personal Income Tax System

47. Personal income tax in Spain, known as *Impuesto sobre la renta de las personas físicas (IRPF)*, is nearly 38% of government revenues (AEAT, 2013). It is levied by national and regional governments and it is collected by the *Agencia Estatal de Administración Tributaria*, which is the bureau responsible for collecting taxes at the national level. A single national rate applies per taxation band for the whole national portion of the income tax. Tax rates on the regional portion vary from region-to-region with Madrid having the lowest and Catalonia the highest (*Ministerio de Hacienda, 2016*). Besides, taxable income is divided into general income, including mainly labour and movable capital income, real estate and business income and net capital gains; and savings income, which comprises other movable capital income (i.e. income from deposits, fixed-income securities, etc.) and other net capital gains.

48. As in most personal income tax systems, some amounts are subtracted from actual income to determine a declared income before the rate is applied. These reductions are technically known as fiscal benefits and include exemptions and reductions. Another fiscal benefit is tax credits. In contrast to exemptions and reductions, which reduce taxable income, credits reduce taxes due directly, euro for euro. After determining the total amount of tax due, the euro value of the credits for which the filer is eligible is subtracted from the tax liability. This makes credits particularly valuable. Fiscal benefits alter the horizontal and vertical equity of the basic tax system by favouring particular groups or activities. However it should be noted that some fiscal benefits are put in place to increase tax neutrality (i.e. reduce distortions to resource allocation decisions and thereby promote growth) that would otherwise arise, for example the exemption for contributions to social security, without which there would be double taxation of this income.

49. The structure of the personal income tax system in Spain, from the taxable base to the final tax due considering the different types of fiscal benefits, can be summarized as follows:

a) Gross declared income after exemptions

- **General Taxable Base (*Base imponible General*):** Labour income + Movable capital income + Real estate income + Business income – Labour income exemptions – Movable capital income exemptions – Real estate exemptions + Net capital gains
- **Savings Taxable Base (*Base imponible del Ahorro*):** Other movable capital income – Other movable capital income exemptions + Other net capital gains

b) After reductions

- **Net General Taxable Base (*Base Liquidable General*):** General Taxable Base – Reductions on the General Taxable Base

- **Net Savings Taxable Base (*Base Liquidable del Ahorro*):** Savings Taxable Base – Reductions on the Savings Taxable Base
- **State Tax Due (*Cuota Íntegra Estatal*):** Net General Taxable Base*State Tax Rate on the Net General Taxable Base + Net Savings Taxable base* State Tax Rate on the Net Savings Taxable Base
- **Autonomous Tax Due (*Cuota Íntegra Autonómica*):** Net General Taxable Base*Autonomous Tax Rate on the Net General Taxable Base + Net Savings Taxable base* Autonomous Tax Rate on the Net Savings Taxable Base

c) After tax credits

- **State Net Tax Due (*Cuota líquida estatal*):** State Tax Due – First Group of State Tax Credits
- **Autonomous Net Tax Due (*Cuota líquida autonómica*):** Autonomous Tax Due – First Group of Autonomous Tax Credits
- **Increased Net Tax Due (*Cuota líquida incrementada*):** Autonomous Net Tax Due – Second Group of Autonomous Tax Credits + State Net Tax Due – Second Group of State Tax Credits Revisar formula
- **Resulting Net Tax Due (*Cuota Resultante de la Autoliquidación*):** Increased Net Tax Due – Third Group of Tax Credits
- **Differential Net Tax Due (*Cuota diferencial*):** Resulting Net Tax Due – Fourth Group of Tax Credits
- **Resulting Differential Net Tax Due (*Resultado de la Declaración*):** Differential Net Tax Due – Fifth Group of Tax Credits

4.2 The distribution of fiscal benefits under the classification of the Spanish Treasury

50. The Spanish Treasury has since 1996 published an annual *Report on Fiscal Benefits* in which it estimates using mainly micro-simulation methods, the total tax loss due to fiscal benefits for each tax instrument. In 2011 total fiscal benefits amounted to 24.8% of personal income tax revenue according to the estimations of the Treasury. The few studies analysing fiscal benefits use this report of the Ministry as a benchmark,¹⁹ so that we will also start by analysing tax credits using the classification of fiscal benefits of the Treasury. We only compare our results for tax credits with the estimations of the Ministry since the data available for exemptions and reductions in income tax samples are before tax rates are applied.

51. Table 8 shows the classification of tax credits that the Treasury considers in the 2011 Report on Fiscal Benefits. Aggregates estimated by the Treasury differ from the true aggregates recorded in the Statistical database BADESPE²⁰ and hence, from the aggregates of personal income tax samples, which are

19. See, for instance, Conde-Ruiz et al. (2015).

20. The Economic database of the Spanish Public Sector (BADESPE) was created by the Institute of Fiscal Studies in order to make accessible the most relevant economic information about public sector activity

constructed based on BADESPE. For instance, whereas estimated reductions in the tax due amounted to 8.6% of personal income tax revenue in 2011, true reductions in the tax due represent approximately 8.8% of personal income tax revenue.²¹

Table 8. Comparison of personal income tax credits aggregates, 2011 (in billion euros)

	Ministry report (2011)	Personal income tax samples (2011)	BADESPE
Reductions in the tax due	5.7452	5.8596	5.7500
Investment in main residence	2.9284	4.2382	4.0894
Reparations of main residence	1.0336	0.0717	0.0871
Rent of main residence	0.1845	-	-
Economic activities	0.0077	0.0104	0.0123
Sale of body goods produced in Canary Islands	0.0010	0.0024	0.0019
Reserves of investment in Canary Islands	0.0128	0.0171	0.0182
Donations	0.0670	0.1965	0.1978
Historical buildings	0.0002	0.0003	0.0004
Income generated in Ceuta and Melilla	0.0496	0.1304	0.0648
Savings account-enterprise	0.0006	0.0005	0.0007
Labour income or economic activities	0.4871	0.4057	0.4072
Fiscal compensation for some movable capital income	0.0214	0.0066	0.0841
Maternity	0.9515	0.7798	0.7862

Source: 2011 Report on Fiscal Benefits, BADESPE and authors' calculation using tax returns samples from the Institute of Fiscal Studies, Spain.

52. Table 9 presents the distribution of main tax credits, in terms of budget loss, of the Treasury classification. The most important tax credit is the reduction for investing in main residence, which amounts to EUR 4.2 billion and benefits the middle of the distribution the most, but also considerably the top and the bottom. The reductions for maternity and for labour income or economic activities are more progressive, contrary to the tax credit for donations which benefits mostly the last two deciles.

21. Note that some fiscal benefits estimated in the annual report of the Treasury are neither included in the database BADESPE and nor in personal income tax samples.

Table 9. Distribution of main tax credits over gross income using the Treasury classification, 2011

Per cent

	Investment in main residence	Maternity	Labour income or economic activities	Donations
Decile 1	0.1	0.5	0.0	0.0
Decile 2	0.3	0.3	0.1	0.0
Decile 3	0.6	0.3	0.1	0.0
Decile 4	0.9	0.3	0.6	0.0
Decile 5	1.3	0.3	0.6	0.0
Decile 6	1.3	0.3	0.1	0.0
Decile 7	1.3	0.2	0.0	0.0
Decile 8	1.1	0.1	0.0	0.0
Decile 9	1.0	0.2	0.0	0.1
Decile 10 (Top 10%)	0.9	0.1	0.0	0.1
of which: Top 5%	0.7	0.1	0.0	0.1
of which: Top 1%	0.3	0.0	0.0	0.1
of which: Top 0.1%	0.1	0.0	0.0	0.1
of which: Top 0.01%	0.0	0.0	0.0	0.1
Total (in billion euros)	4.2	0.8	0.41	0.2

Source: Authors' calculation using tax returns samples from the Institute of Fiscal Studies, Spain.

4.3 *The distribution of fiscal benefits using a broader classification*

53. The high-quality content of personal income tax samples allows us to broaden the classification of personal income tax fiscal benefits used by the Treasury. Hence, using a broader classification, in this section we carry out a detailed analysis of the distribution of exemptions, reductions and tax credits.²²

4.3.1 *The distribution of tax exemptions*

54. We consider as exemptions the amounts that are subtracted from declared income to arrive to the taxable base (*Base imponible*). There are exemptions on labour, movable capital and real estate income, which belong to the general base, and on other movable capital that belongs to the savings base. Exemptions are the second most important type of fiscal benefit after tax credits in terms of revenue loss, they amount to EUR 3.15²³ billion and account for 29% of total fiscal benefits.

55. The exemption of labour income is the largest (EUR 2.9 billion), followed by the exemption of social security contributions (EUR 0.2 billion). The other important exemptions are on renting and owning a dwelling excluding main residence (EUR 0.04 and 0.03 billion, respectively), on interest from investing in real estate (EUR 0.01 billion) and on some specific labour income (EUR 0.001 billion).

56. Tax exemptions benefit more middle and upper deciles, since the proportion of exemptions over total income is increasing with income (Table 8). For instance, whereas decile 1 has 0.1% of its total

22. We also use a broader classification than the one used in OECD (2010).

23. Note that this figure has been obtained after having applied the distribution of average effective tax rates (general part). See Figure 19.

income exempted, deciles 7, 8 and 9 have 0.9, 0.8 and 0.7% of their total income exempted, respectively. This pattern becomes more extreme in the upper of the distribution, since the top 0.1 and 0.01% have 10 and 29.7% of their income exempted.

Table 10. The distribution of total and main tax exemptions over gross income including capital gains in Spain, 2011

Per cent

	Total	On labour income ¹	On social security contributions ²	On renting a dwelling excluding main residence ³	On dwellings excluding main residence ⁴	On interests of investing in dwellings ⁵	On some specific labour income ⁶
Decile 1	0.10	0.10	0.00	0.00	0.00	0.00	0.00
Decile 2	0.10	0.10	0.01	0.00	0.00	0.00	0.00
Decile 3	0.30	0.30	0.02	0.00	0.00	0.00	0.00
Decile 4	0.60	0.50	0.03	0.00	0.00	0.00	0.00
Decile 5	0.80	0.70	0.04	0.00	0.00	0.00	0.00
Decile 6	0.90	0.80	0.05	0.00	0.00	0.00	0.00
Decile 7	0.90	0.80	0.05	0.00	0.00	0.00	0.00
Decile 8	0.80	0.80	0.05	0.00	0.00	0.00	0.00
Decile 9	0.70	0.70	0.04	0.00	0.00	0.00	0.00
Decile 10 (Top 10%)	0.50	0.50	0.03	0.00	0.00	0.00	0.00
of which: Top 5%	0.90	0.80	0.05	0.00	0.00	0.00	0.00
of which: Top 1%	2.70	2.50	0.15	0.00	0.00	0.01	0.00
of which: Top 0.1%	10.00	9.20	0.54	0.10	0.10	0.04	0.00
of which: Top 0.01%	29.70	27.10	1.61	0.30	0.30	0.12	0.00
Total (in billion euros)	3.150	2.870	0.170	0.040	0.030	0.012	0.001

Note: The following notes identify the articles and sections of tax laws that correspond to the tax exemptions, reductions and tax credits identified in the table.

1. Reducción por obtención de rendimientos del trabajo (artículo 20 de la Ley del Impuesto): Cuantía aplicable con carácter general (Partida 17).
2. Cotizaciones a la Seguridad Social o a mutualidades generales obligatorias de funcionarios, deducciones por derechos pasivos y cotizaciones a los colegios de huérfanos o entidades similares (Partida 10).
3. Inmuebles arrendados o cedidos a terceros y constitución o cesión de derechos o facultades de uso o disfrute sobre los mismos: Reducción por arrendamiento de inmuebles destinados a vivienda (artículo 23.2 de la Ley del Impuesto) (Partida 76).
4. Inmuebles arrendados o cedidos a terceros y constitución o cesión de derechos o facultades de uso o disfrute sobre los mismos: Otros gastos fiscalmente deducibles (Partida 74).
5. Inmuebles arrendados o cedidos a terceros y constitución o cesión de derechos o facultades de uso o disfrute sobre los mismos: Gastos deducibles: Intereses de los capitales invertidos en la adquisición o mejora del inmueble y gastos de reparación y conservación del mismo (Partida 72).
6. Reducciones (artículo 18, apartados 2 y 3, y disposiciones transitorias 11.^a y 12.^a de la Ley del Impuesto (Partida 8).

Source: Authors' calculation using tax returns samples from the Institute of Fiscal Studies, Spain

4.3.2 The distribution of reductions

57. We define reductions as the quantities that are subtracted from the taxable base before calculating the tax due (*Cuota Íntegra*) by each filer. They amount to EUR 1.2 billion,²⁴ which represents 11% of total fiscal benefits. There are reductions on the general and on the savings taxable base. The most important reductions are the one obtained by filling jointly in the general base (EUR 1.04 billion) and the savings base (EUR 0.18 billion). Other important reductions are on contributions to welfare systems (EUR 0.03 billion), on negative taxable bases between 2007 and 2010 (EUR 0.02 billion) and on alimonies and annual child support payments (EUR 0.001 billion).

58. The distribution of total reductions also benefits more middle and upper deciles but the differences between the bottom and the top are not as marked as in the case of exemptions (Table 11).

Table 11. The distribution of total and main reductions over gross income including capital gains in Spain, 2011
Per cent

	Total	For filing jointly (General Base) ¹	For contributions to welfare systems ²	For alimonies and annual child support payments ³	For filing jointly (Savings Base) ⁴	For having a negative general net taxable base between 2007 and 2010 ⁵
Decile 1	0.02	0.02	0.02	0.0	0.00	0.00
Decile 2	0.05	0.04	0.02	0.0	0.00	0.00
Decile 3	0.13	0.11	0.04	0.0	0.00	0.00
Decile 4	0.22	0.18	0.05	0.0	0.00	0.00
Decile 5	0.30	0.26	0.06	0.0	0.00	0.00
Decile 6	0.34	0.29	0.06	0.0	0.00	0.00
Decile 7	0.34	0.29	0.05	0.0	0.00	0.00
Decile 8	0.32	0.28	0.04	0.0	0.00	0.00
Decile 9	0.29	0.25	0.03	0.0	0.00	0.00
Decile 10 (Top 10%)	0.21	0.18	0.02	0.0	0.00	0.00
of which: Top 5%	0.35	0.30	0.03	0.0	0.00	0.00
of which: Top 1%	1.05	0.90	0.07	0.0	0.01	0.00
of which: Top 0.1%	3.90	3.32	0.22	0.1	0.05	0.00
of which: Top 0.01%	11.51	9.81	0.62	0.3	0.15	0.00
Total (in billion euros)	1.220	1.040	0.180	0.030	0.020	0.001

Note: The following notes identify the articles and sections of tax laws that correspond to the tax exemptions, reductions and tax credits identified in the table.

1. Reducciones de la base imponible general: Por tributación conjunta (Partida 610).

2. Reducciones de la base imponible general: Por aportaciones y contribuciones a sistemas de previsión social (régimen general) (Partida 611).

3. Reducciones de la base imponible general: Por pensiones compensatorias y anualidades por alimentos (Partida 615).

4. Reducciones de la base del ahorro: Reducción por tributación conjunta (Partida 621).

5. Compensación (si la base liquidable general es positiva y hasta el límite máximo de su importe): Bases liquidables generales negativas de 2007 a 2010 (Partida 619).

Source: Authors' calculation using tax returns samples from the Institute of Fiscal Studies, Spain

24. Note that this figure has been obtained after having applied the distribution of average effective tax rates (general and savings part). See Figure 19

4.3.3 *The distribution of tax credits*

59. Credits are directly subtracted from the tax due (*Cuota Íntegra*). They account for 6% of total fiscal benefits and they can be classed into five groups according to the structure of the Spanish personal income tax system. The first group are all quantities that are subtracted from tax due to obtain the net tax due (*Cuota líquida*). The second group consists of all tax credits that are applied to the net tax due to arrive to the increased net tax due (*Cuota líquida incrementada*). The third group is composed of all quantities subtracted from the increased net tax due to get net tax due (*Cuota resultante de la autoliquidación*). The fourth group are all credits applied to the resulting net tax due to arrive to the differential net tax due (*Cuota diferencial*). Finally, the fifth group is composed of credits subtracted from the differential net tax due that lead to the resulting differential net tax due (*Resultado de la declaración*).

60. The distribution of total tax credits is much more progressive than the distribution of exemptions and reductions. Tax credits benefit middle deciles the most. The largest tax credit belongs to the first group and it is the one obtained by investing in main residence, which is applied to both the state and the autonomous tax due. The rest of tax credits also mostly benefit middle deciles except for the tax credit on maternity, which is fully progressive and benefits the bottom deciles; and the tax credit for double international taxation for income taxed abroad, which is generally applied to the very top of the income distribution, and therefore regressive.

Table 12. The distribution of total and main tax credits over gross income including capital gains in Spain, 2011

Per cent

	Total	For investing in main residence (Autonomous) ¹	For investing in main residence (State) ²	For maternity ³	For purchase of main residence ⁴	For some autonomous regions ⁵	For labour income or economic activities ⁶	For renting main residence (State) ⁷	For renting main residence (Autonomous) ⁸	For double international taxation for income obtained and taxed abroad ⁹
Decile 1	0.17	0.02	0.02	0.43	0.00	0.00	0.02	0.00	0.00	0.00
Decile 2	0.62	0.16	0.15	0.25	0.01	0.03	0.14	0.02	0.02	0.00
Decile 3	0.96	0.28	0.28	0.25	0.05	0.07	0.12	0.04	0.04	0.00
Decile 4	1.87	0.44	0.44	0.31	0.09	0.12	0.55	0.07	0.07	0.00
Decile 5	2.48	0.62	0.61	0.32	0.14	0.20	0.60	0.10	0.10	0.00
Decile 6	2.06	0.66	0.65	0.25	0.17	0.20	0.06	0.11	0.11	0.00
Decile 7	1.89	0.64	0.62	0.19	0.16	0.17	0.01	0.09	0.09	0.00
Decile 8	1.55	0.57	0.56	0.15	0.14	0.10	0.00	0.04	0.04	0.01
Decile 9	1.30	0.51	0.50	0.15	0.13	0.07	0.00	0.00	0.00	0.00
Decile 10 (Top 10%)	0.92	0.30	0.29	0.06	0.07	0.02	0.00	0.00	0.00	0.07
of which: Top 5%	0.82	0.24	0.23	0.05	0.06	0.02	0.00	0.00	0.00	0.10
of which: Top 1%	0.67	0.11	0.11	0.01	0.02	0.01	0.00	0.00	0.00	0.22
of which: Top 0.1%	0.78	0.03	0.03	0.00	0.01	0.01	0.00	0.00	0.00	0.52
of which: Top 0.01%	1.00	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.83
Total (in billion euros)	6.6	2.1	2.1	0.8	0.5	0.4	0.4	0.2	0.2	0.1

Note: The following notes identify the articles and sections of tax laws that correspond to the tax exemptions, reductions and tax credits identified in the table.

1. Deducción por inversión en vivienda habitual: Parte autonómica (Partida 701).
2. Deducción por inversión en vivienda habitual: Parte estatal (Partida 700).
3. Deducción por maternidad (Partida 756).
4. Compensaciones fiscales: Por deducción en adquisición de vivienda habitual, para viviendas adquiridas antes del 20-01-2006 (Partida 738).
5. Suma de deducciones autonómicas (Partida 717).
6. Por obtención de rendimientos del trabajo o de actividades económicas (Partida 735).
7. Por alquiler de la vivienda habitual: Parte estatal (Partida 716). 8. Por alquiler de la vivienda habitual: Parte autonómica (Partida 772).
9. Por doble imposición internacional, por razón de las rentas obtenidas y gravadas en el extranjero (Partida 734).

Source: Authors' calculation using tax returns samples from the Institute of Fiscal Studies, Spain

4.4 *The distribution of the different bases and total effective tax rates*

61. Comparing the distribution of the different tax bases and liabilities is an alternative way to analyse the incidence of the taxation burden. Tax exemptions before applying tax rates are progressive and significantly alter the distribution of income between market income and the taxable base (Table 13). However, progressivity is non-linear since the proportion of taxable income over gross income jumps from 30.2% in decile 1 to 61.1% in decile 2. The share of taxable income increases smoothly with income for the rest of deciles above decile 2. It is notable that for the top 0.1 and top 0.01%, taxable income is larger than gross income.

62. Reductions also considerably change the distribution of income between the taxable base and net taxable base after reductions, especially at the bottom of the distribution. The proportion of taxable income in decile 1 relative to income before reductions decreases by almost 75%. Once again, there is a non-linearity between deciles 1 and 2, since the proportion of net taxable income over gross income is 7.7% for decile 1 and 46% for decile 2. The very top of the distribution still has a larger share of taxable income after reductions than gross income.

Table 13. Comparison of the distribution of taxable base and net taxable base over gross income including capital gains in Spain, 2011

Per cent

	Market income including capital gains	% change	Taxable base (after tax exemptions)	% change	Net taxable base (after reductions)
Decile 1	100	-69.8	30.2	-74.5	7.7
Decile 2	100	-38.9	61.1	-24.8	46.0
Decile 3	100	-32.8	67.2	-14.4	57.5
Decile 4	100	-27.5	72.5	-10.8	64.7
Decile 5	100	-23.0	77.0	-7.5	71.3
Decile 6	100	-19.9	80.1	-5.4	75.7
Decile 7	100	-18.1	81.9	-4.0	78.6
Decile 8	100	-16.6	83.4	-2.6	81.3
Decile 9	100	-14.7	85.3	-2.1	83.5
Decile 10 (Top 10%)	100	-9.5	90.5	-2.7	88.1
of which: Top 5%	100	-7.8	92.2	-2.8	89.6
of which: Top 1%	100	-3.6	96.4	-2.3	94.1
of which: Top 0.1%	100	6.2	106.2	-1.0	105.2
of which: Top 0.01%	100	18.2	118.2	-0.3	117.8
Total (in billion euros)	475.3		392.0		372.9

Source: Authors' calculation using tax returns samples from the Institute of Fiscal Studies, Spain

63. The same type of analysis can be carried out by looking at the distribution of tax liabilities before and after tax credits. The tax due, that is, tax liabilities before any tax credit had been applied, ranges from 0.2% of gross income for decile 1 to 35.5% of gross income for the top 0.01% (Table 14). The first group of tax credits benefits deciles 2 to 7 the most. Before applying the second group of tax credits to the tax due, some credits are added, for instance, if filers have benefited from them in previous years, leading to

the increased net tax due. These tax credits are mostly added to the bottom of the distribution since the percentage change between the net tax due and the increased net tax due is 22, and it is lower than 1.5 for the rest of deciles. The second group of tax credits benefits mostly the bottom but also the very top of the distribution. For the top 0.01% and decile 2, the tax due decreases by 2.4% and 31.7%, respectively, relative to the increased net tax due.

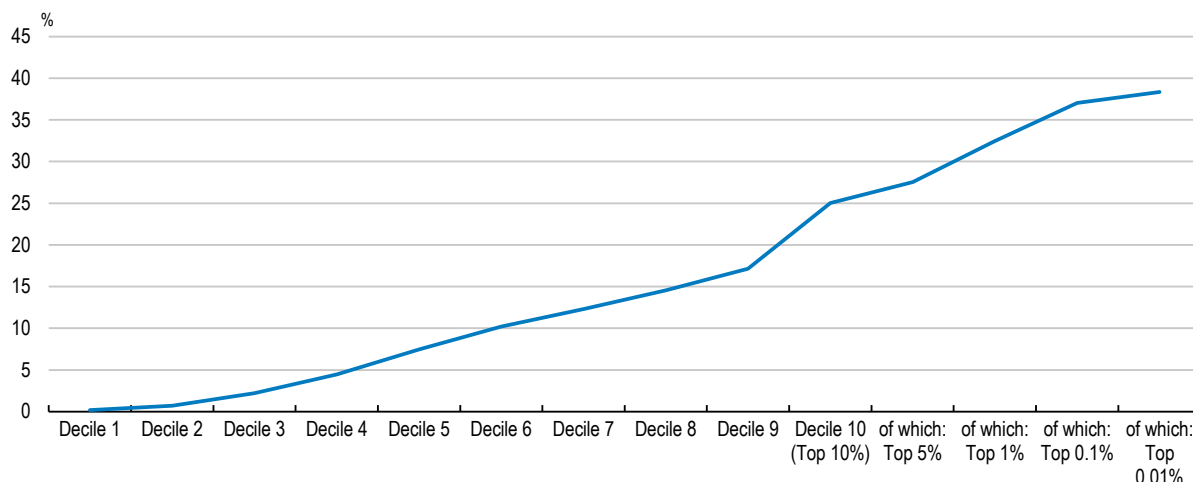
Table 14. Comparison of the distribution of the tax due, net tax due, increased net tax due and resulting net tax due over gross income including capital gains in Spain

Per cent

	Tax due (after tax rates)	% change	Net tax due (after the 1st group of tax credits)	% change	Increased net tax due (after adding some tax credits)	% change	Resulting net tax due (after the 2nd group of tax credits)
Decile 1	0.2	-11.0	0.1	22.4	0.2	-14.2	0.1
Decile 2	0.7	-29.4	0.5	1.3	0.5	-31.7	0.3
Decile 3	2.2	-24.0	1.6	0.2	1.7	-10.7	1.5
Decile 4	4.4	-20.3	3.5	0.0	3.5	-18.6	2.8
Decile 5	7.3	-20.3	5.8	0.1	5.8	-13.0	5.1
Decile 6	10.0	-17.2	8.3	0.1	8.3	-3.0	8.1
Decile 7	12.1	-13.9	10.4	0.2	10.4	-1.8	10.3
Decile 8	14.4	-9.7	13.0	0.1	13.0	-1.2	12.8
Decile 9	16.9	-7.0	15.7	0.3	15.7	-0.9	15.6
Decile 10 (Top 10%)	24.3	-3.1	23.5	0.1	23.5	-0.7	23.4
of which: Top 5%	26.6	-2.3	25.9	0.0	26.0	-0.8	25.8
of which: Top 1%	30.7	-1.3	30.3	0.0	30.3	-0.9	30.0
of which: Top 0.1%	34.1	-0.7	33.9	0.0	33.9	-1.6	33.4
of which: Top 0.01%	35.5	-0.4	35.4	0.0	35.4	-2.4	34.5
Total (in billion euros)	72.4		67.2		67.3		66.2

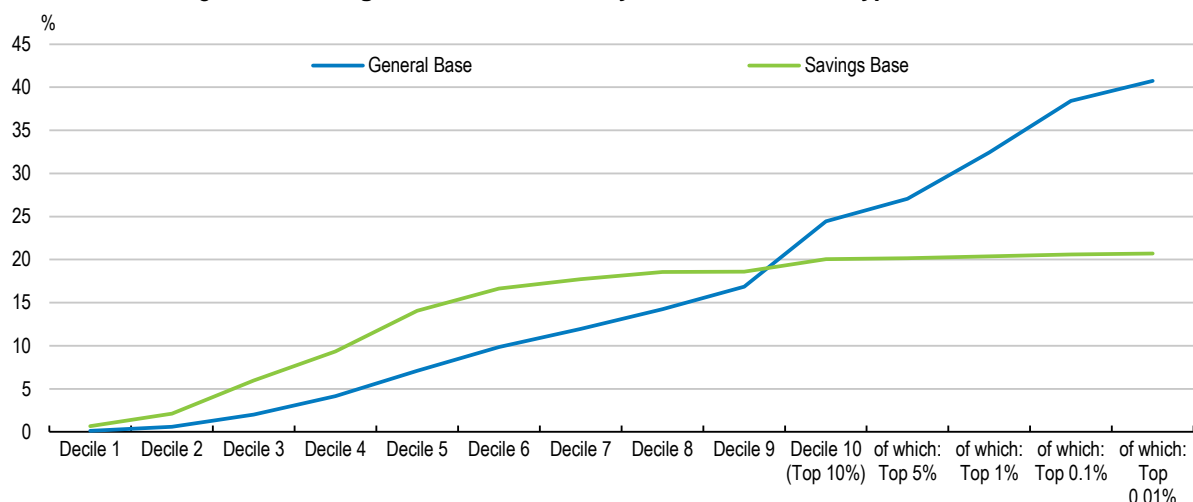
Source: Authors' calculation using tax returns samples from the Institute of Fiscal Studies, Spain

64. Finally, the progressivity of the personal income tax system can also be analysed by looking at average effective tax rates, that is, the income tax paid as a percentage of gross income. The average effective tax rate (excluding tax credits) is progressive and ranges from 0.2% in the first decile and 7.5% in the fifth decile to 25% in the tenth decile (Figure 18). At the top 0.1 and 0.01% these rates rise to 37% and 38.3%, respectively.

Figure 18. Average effective tax rates by income decile, 2011

Source: Authors' calculation using tax returns samples from the Institute of Fiscal Studies, Spain

65. Spain in common with many European countries has a dual tax system with two different tax bases with different tax brackets and rates. The average effective tax rate for the general base (excluding tax credits) is progressive and ranges from 0.1% in the first income decile, 7.1% in the fifth income decile to 24.4% in the tenth income decile (Figure 15). At the top 0.1 and 0.01% income groups, this rate rises to 38.4% and 40.7%, respectively. In contrast, the savings base is much less progressive and ranges from 0.7% in decile 1 to 20.7% in decile 10. The lower progressivity is driven mainly by the fact that rates barely change along the distribution (in 2011 they ranged from 19% until 21%), contrary to what happens with average effective tax rates in the general base.

Figure 19. Average effective tax rates by income decile and type of base, 2011

Source: Authors' calculation using tax returns samples from the Institute of Fiscal Studies, Spain

Conclusion

66. In this paper we carry out an analysis of income and inequality and taxation in Spain and find that income is highly concentrated at the top of the income distribution. Spain conforms with a 80/20 rule that

50% of income goes to the bottom 80% of the income distribution with the remaining 50% going to the top 20%. The income share of the middle deciles fell during the property bubble period (2002-2007), while the share of the top and bottom deciles rose significantly. This pattern reversed in the aftermath of the housing bubble burst (2007-2011).

67. Breaking down the distribution of income further, we obtain that there is considerable heterogeneity in income concentration across the different categories of capital income. Whereas 85.7% of dividends accrue to the 10th decile, only 26.4% of interest and 34.7% of imputed rental income goes to the 10th decile.

68. Labour income and capital income concentration are highest among men. Besides, the share of capital income in total market income is higher for women than for men at each decile and it increases the higher the decile of income. When analysing the income distribution across regions, we find that it is quite homogeneous for the bottom 90%, but less so for the top 10%, being highest in major urban areas, such as Barcelona and Madrid.

69. Our analysis suggests that Spain's personal income tax system is progressive, especially for labour income, but far less so for capital income. Fiscal benefits also significantly reduce total tax received by the government. Some of these, notably tax credits such as the tax credit on maternity, are progressive. Other fiscal benefits, mainly exemptions and reductions, are regressive. These include the exemptions on renting and on the interest from investing in dwellings, and on social contributions; the reduction for contributions to personal pension plans, and the tax credit for investing in the primary residence. The exemption for social contributions is designed to improve tax neutrality. The remaining regressive fiscal benefits are all still in place, except for the tax credit for investing in the primary residence, for which a transitory regime has been implemented and only taxpayers having purchased dwellings before 2013 can still benefit from it.

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APPENDIX

Tables and Figures

Table A1. The distribution of taxable market income in Spain, 2002-2011

	excluding net capital gains									including net capital gains								
	as a % of total taxable market income			total (in billion euros)			bottom thresholds (in thousands euros)			top thresholds (in thousands euros)			as a % of total taxable market income			in billion euros		
	2002	2007	2011	2002	2007	2011	2002	2007	2011	2002	2007	2011	2002	2007	2011	2002	2007	2011
Decile 1	1.3%	1.4%	1.0%	3.9	6.0	4.9	-48978.4	-28311.8	-8198.2	4.3	5.6	5.2	1.6%	2.0%	1.3%	4.8	9.3	5.9
Decile 2	3.5%	3.5%	3.2%	10.5	15.4	15.1	4.3	5.6	5.2	6.0	7.8	7.8	3.6%	3.5%	3.3%	10.9	16.7	15.6
Decile 3	4.5%	4.5%	4.4%	13.4	19.7	20.4	6.0	7.8	7.8	7.4	9.7	9.8	4.5%	4.4%	4.4%	13.7	20.9	20.9
Decile 4	5.5%	5.5%	5.4%	16.4	24.2	25.2	7.4	9.7	9.8	9.0	11.8	12.1	5.5%	5.4%	5.4%	16.8	25.6	25.7
Decile 5	6.7%	6.7%	6.7%	19.7	29.3	30.9	9.0	11.8	12.1	10.8	14.1	14.8	6.6%	6.5%	6.6%	20.2	30.8	31.5
Decile 6	7.9%	8.0%	8.1%	23.6	35.0	37.8	10.8	14.1	14.8	12.9	16.9	18.0	7.9%	7.8%	8.1%	24.1	36.7	38.4
Decile 7	9.6%	9.7%	10.0%	28.4	42.3	46.2	12.9	16.9	18.0	15.8	20.8	22.3	9.5%	9.4%	9.9%	29.0	44.5	46.9
Decile 8	12.0%	12.1%	12.5%	35.7	53.1	58.1	15.8	20.8	22.3	20.5	26.6	28.6	11.9%	11.8%	12.4%	36.5	55.8	58.9
Decile 9	16.3%	16.0%	16.5%	48.3	70.3	76.5	20.5	26.6	28.6	28.7	36.6	38.8	16.1%	15.6%	16.3%	49.1	73.7	77.7
Decile 10 (Top 10%)	32.6%	32.6%	32.1%	96.8	142.8	149.2	28.7	36.6	38.8	37.9	48.6	50.8	32.8%	33.6%	32.3%	100.3	158.8	153.7
of which: Top 5%	21.7%	21.8%	21.2%	64.4	95.7	98.7	37.9	48.6	50.8	71.6	91.0	93.1	22.0%	23.0%	21.5%	67.2	108.8	102.3
of which: Top 1%	8.6%	8.9%	8.4%	25.4	39.2	38.9	71.6	91.0	93.1	192.4	264.9	244.9	8.8%	9.9%	8.7%	27.0	47.0	41.2
of which: Top 0.1%	2.5%	2.9%	2.6%	7.4	12.7	12.2	192.4	265.0	244.9	619.0	926.2	808.2	2.6%	3.4%	2.8%	7.9	16.2	13.2
of which: Top 0.01%	0.7%	0.9%	0.9%	2.2	4.1	4.4	619.2	929.8	808.3	8887.9	36296.6	96218.9	0.8%	1.0%	1.0%	2.3	4.5	4.7
S90/S10	24.7	23.7	30.7										20.8	17.0	25.9			
S80/S20	10.1	10.0	11.3										9.5	8.9	10.7			
Total (in % and billion euros)	100%	100%	100%	296.6	438.2	464.3							100%	100%	100%	305.4	472.9	475.3

Note: All shares are computed using total market income excluding net capital gains in rankings.

Table A2. The distribution of taxable labour and capital income in Spain, 2002-2011

	Labour income									Capital income																							
	as a % of total labor income in billion euros as a % of market income									excluding net capital gains					including net capital gains							capital gains											
										as a % of total capital income (excluding net capital gains)					in billion euros		as a % of market income (by deciles)			as a % of total capital income				in billion euros			as a % of total net capital gains					in billion euros	
																				(including net capital gains)													
	2002	2007	2011	2002	2007	2011	2002	2007	2011	2002	2007	2011	2002	2007	2011	2002	2007	2011	2002	2007	2011	2002	2007	2011	2002	2007	2011	2002	2007	2011			
Decile 1	1.3%	1.3%	1.1%	3.3	5.0	4.3	83.8%	82.3%	88.8%	1.2%	1.5%	0.8%	0.6	1.1	0.5	16.2%	17.7%	11.2%	2.5%	4.2%	2.1%	1.5	4.4	1.6	10.3%	9.5%	9.9%	0.9	3.3	1.1			
Decile 2	3.3%	3.3%	3.0%	8.1	12.2	11.8	76.8%	79.5%	78.2%	4.7%	4.5%	4.9%	2.4	3.2	3.3	23.2%	20.5%	21.8%	4.6%	4.3%	4.9%	2.8	4.5	3.8	4.6%	3.9%	5.0%	0.4	1.3	0.6			
Decile 3	4.4%	4.4%	4.3%	10.8	16.2	17.0	80.8%	82.3%	83.1%	4.9%	5.0%	5.2%	2.6	3.5	3.4	19.2%	17.7%	16.9%	4.7%	4.4%	5.1%	2.9	4.7	3.9	3.8%	3.4%	4.6%	0.3	1.2	0.5			
Decile 4	5.4%	5.5%	5.4%	13.3	20.3	21.3	81.1%	83.7%	84.5%	5.9%	5.6%	5.9%	3.1	3.9	3.9	18.9%	16.3%	15.5%	5.7%	5.0%	5.7%	3.5	5.3	4.4	4.6%	3.8%	4.6%	0.4	1.3	0.5			
Decile 5	6.8%	6.8%	6.7%	16.6	25.2	26.6	84.0%	86.0%	86.1%	6.0%	5.8%	6.4%	3.2	4.1	4.3	16.0%	14.0%	13.9%	5.9%	5.4%	6.3%	3.6	5.7	4.9	4.9%	4.5%	5.3%	0.4	1.5	0.6			
Decile 6	8.3%	8.4%	8.4%	20.2	30.8	33.4	85.7%	87.9%	88.5%	6.5%	6.0%	6.5%	3.4	4.3	4.3	14.3%	12.1%	11.5%	6.4%	5.7%	6.4%	3.9	6.0	5.0	6.3%	5.0%	5.6%	0.6	1.7	0.6			
Decile 7	10.1%	10.1%	10.3%	24.6	37.2	41.0	86.7%	87.8%	88.7%	7.2%	7.3%	7.8%	3.8	5.2	5.2	13.3%	12.2%	11.3%	7.1%	7.0%	7.6%	4.3	7.3	5.9	6.1%	6.3%	6.5%	0.5	2.2	0.7			
Decile 8	12.7%	12.8%	13.2%	31.0	47.1	52.4	86.9%	88.7%	90.2%	8.9%	8.5%	8.6%	4.7	6.0	5.7	13.1%	11.3%	9.8%	9.0%	8.2%	8.3%	5.5	8.6	6.5	9.4%	7.7%	7.0%	0.8	2.7	0.8			
Decile 9	17.4%	17.1%	17.4%	42.6	63.0	69.3	88.3%	89.6%	90.6%	10.8%	10.4%	10.8%	5.7	7.3	7.2	11.7%	10.4%	9.4%	10.7%	10.1%	10.8%	6.5	10.7	8.4	10.0%	9.7%	10.5%	0.9	3.4	1.2			
Decile 10 (Top 10%)	30.2%	30.1%	30.3%	73.8	110.7	120.4	76.3%	77.6%	80.7%	43.8%	45.4%	43.1%	22.9	32.0	28.8	23.7%	22.4%	19.3%	43.3%	45.7%	42.8%	26.5	48.1	33.3	40.0%	46.3%	41.1%	3.5	16.0	4.5			
of which: Top 5%	18.9%	19.0%	19.0%	46.1	69.8	75.5	71.7%	73.0%	76.5%	34.9%	36.7%	34.7%	18.2	25.9	23.2	28.3%	27.0%	23.5%	34.5%	37.1%	34.5%	21.1	39.0	26.8	32.3%	37.9%	32.9%	2.9	13.1	3.6			
of which: Top 1%	6.1%	6.4%	6.3%	15.0	23.7	25.2	58.9%	60.5%	64.8%	20.0%	22.0%	20.5%	10.5	15.5	13.7	41.1%	39.5%	35.2%	19.7%	22.2%	20.5%	12.1	23.3	16.0	18.0%	22.7%	20.5%	1.6	7.8	2.3			
of which: Top 0.1%	1.4%	1.7%	1.6%	3.5	6.2	6.2	47.3%	48.6%	51.2%	7.4%	9.3%	8.9%	3.9	6.5	5.9	52.7%	51.4%	48.8%	7.2%	9.5%	9.0%	4.4	10.0	7.0	5.9%	10.1%	9.3%	0.5	3.5	1.0			
of which: Top 0.01%	0.4%	0.5%	0.5%	1.1	2.0	2.0	49.5%	48.0%	46.6%	2.1%	3.0%	3.5%	1.1	2.1	2.3	50.5%	52.0%	53.4%	2.0%	2.4%	3.5%	1.2	2.6	2.7	1.4%	1.2%	3.2%	0.1	0.4	0.3			
Total (in % and billion euros)	100%	100%	100%	244.3	367.7	397.5				100%	100%	100%	52.3	70.5	66.8				100%	100%	100%	61.1	105.2	77.8	100%	100%	100%	8.8	34.6	11.0			

Note: All shares are computed using total market income excluding net capital gains in rankings.

Table A3. The distribution of taxable capital income categories in Spain, 2011

	Total capital income		Interest		Dividends		Other financial income		Imputed rental income		Real rental income		Business income from self-employment		Other unincorporated business income	
	as a % of capital income by category	in billion euros	as a % of capital income by category	in billion euros	as a % of capital income by category	in billion euros	as a % of capital income by category	in billion euros	as a % of capital income by category	in billion euros	as a % of capital income by category	in billion euros	as a % of capital income by category	in billion euros	as a % of capital income by category	in billion euros
Decile 1	0.8%	0.5	4.3%	0.6	0.5%	0.0	1.6%	0.0	5.7%	0.2	1.4%	0.2	-1.5%	-0.3	-2.6%	-0.1
Decile 2	4.9%	3.3	5.0%	0.7	0.5%	0.0	2.0%	0.0	6.5%	0.2	2.0%	0.3	8.0%	1.9	4.5%	0.2
Decile 3	5.2%	3.4	5.5%	0.7	0.5%	0.0	2.2%	0.0	6.2%	0.2	2.5%	0.4	8.0%	1.9	5.3%	0.2
Decile 4	5.9%	3.9	6.7%	0.9	0.8%	0.1	3.0%	0.0	7.4%	0.2	3.6%	0.6	8.2%	1.9	6.3%	0.3
Decile 5	6.4%	4.3	6.8%	0.9	0.9%	0.1	3.6%	0.0	7.4%	0.2	5.1%	0.8	8.8%	2.1	5.7%	0.2
Decile 6	6.5%	4.3	6.5%	0.9	1.5%	0.1	4.2%	0.0	7.6%	0.2	6.3%	1.0	7.7%	1.8	8.2%	0.3
Decile 7	7.8%	5.2	8.3%	1.1	1.7%	0.1	8.0%	0.0	9.8%	0.3	8.4%	1.3	8.1%	1.9	10.8%	0.5
Decile 8	8.6%	5.7	9.4%	1.3	2.5%	0.2	6.6%	0.0	10.0%	0.3	9.7%	1.5	9.0%	2.1	8.3%	0.3
Decile 9	10.8%	7.2	12.8%	1.7	5.3%	0.4	11.3%	0.0	13.0%	0.4	14.6%	2.3	8.5%	2.0	10.7%	0.5
Decile 10 (Top 10%)	43.1%	28.8	34.7%	4.6	85.7%	5.8	57.4%	0.2	26.4%	0.8	46.5%	7.3	35.2%	8.2	42.9%	1.8
of which: Top 5%	34.7%	23.2	25.4%	3.4	79.8%	5.4	50.2%	0.2	17.1%	0.5	34.7%	5.4	28.8%	6.8	35.2%	1.5
of which: Top 1%	20.5%	13.7	12.6%	1.7	64.8%	4.4	35.7%	0.1	6.4%	0.2	16.0%	2.5	17.0%	4.0	18.9%	0.8
of which: Top 0.1%	8.9%	5.9	4.7%	0.6	42.0%	2.9	12.5%	0.0	1.2%	0.0	3.5%	0.5	6.7%	1.6	6.1%	0.3
of which: Top 0.01%	3.5%	2.3	1.5%	0.2	22.4%	1.5	6.0%	0.0	0.2%	0.0	1.0%	0.2	1.6%	0.4	1.0%	0.0
Total (in % and billion euros)	100%	66.8	100%	13.3	100%	6.8	100%	0.4	100%	2.9	100%	15.7	100%	23.4	100%	4.2

Note: All shares are computed using total market income excluding net capital gains in rankings.

Table A4. The distribution of taxable market, labour and capital income including net capital gains by gender in Spain, 2011

	Market income (including net capital gains)				Market income (excluding net capital gains)				Labour income								Capital income								Capital gains			
	Men		Women		Men		Women		Men		Women		Men		Women		Men		Women		Men		Women		Men		Women	
	as a % of total market income		in billion euros		as a % of total market income		in billion euros		as a % of total labour income		in billion euros		as a % of market income (by deciles)		as a % of total capital income (excluding net capital gains)		in billion euros		as a % of market income (by deciles)		as a % of total capital income (excluding net capital gains)		in billion euros		as a % of total capital income (excluding net capital gains)		in billion euros	
Decile 1	1.2%	1.3%	3.1	2.9	1.1%	1.0%	2.7	2.2	1.0%	1.1%	2.3	2.1	84.2%	94.2%	1.2%	0.4%	0.4	0.1	15.8%	5.8%	8.0%	11.5%	0.4	0.6	4.4%	5.8%	0.2	0.3
Decile 2	3.2%	3.5%	8.2	7.6	3.2%	3.4%	7.9	7.3	2.9%	3.2%	6.2	5.7	78.0%	78.6%	5.1%	4.8%	1.7	1.6	22.0%	21.4%	4.4%	5.8%	0.2	0.3	4.1%	5.0%	0.2	0.3
Decile 3	4.3%	4.6%	11.0	10.2	4.3%	4.6%	10.7	9.9	4.1%	4.5%	8.9	8.2	83.0%	83.1%	5.3%	5.2%	1.8	1.7	17.0%	16.9%	4.1%	5.0%	0.2	0.3	4.1%	4.9%	0.2	0.3
Decile 4	5.4%	5.6%	13.8	12.3	5.4%	5.6%	13.5	12.0	5.3%	5.6%	11.5	10.1	85.0%	84.1%	5.9%	5.9%	2.0	1.9	15.0%	15.9%	4.1%	4.9%	0.2	0.3	4.6%	5.2%	0.3	0.3
Decile 5	6.7%	6.8%	17.1	14.8	6.7%	6.8%	16.8	14.5	6.8%	6.9%	14.7	12.4	87.5%	85.5%	6.1%	6.5%	2.1	2.1	12.5%	14.5%	5.4%	6.9%	0.3	0.4	5.9%	6.0%	0.3	0.3
Decile 6	8.1%	8.2%	20.7	17.9	8.2%	8.2%	20.4	17.5	8.4%	8.5%	18.2	15.4	89.0%	87.5%	6.5%	6.8%	2.2	2.2	11.0%	12.5%	5.4%	6.9%	0.3	0.4	6.9%	7.7%	0.4	0.4
Decile 7	9.8%	9.9%	25.2	21.8	9.9%	10.0%	24.9	21.4	10.5%	10.4%	22.6	18.9	90.9%	88.0%	6.5%	7.9%	2.3	2.6	9.1%	12.0%	5.9%	6.0%	0.3	0.3	10.3%	10.5%	0.6	0.6
Decile 8	12.2%	12.5%	31.3	27.4	12.3%	12.6%	30.9	27.0	13.0%	13.3%	28.0	24.1	90.6%	89.2%	8.4%	9.0%	2.9	2.9	9.4%	10.8%	6.9%	7.7%	0.4	0.4	10.3%	10.5%	0.6	0.6
Decile 9	16.0%	16.7%	40.8	36.6	16.1%	16.9%	40.3	36.0	16.9%	17.8%	36.6	32.2	90.9%	89.4%	10.7%	11.8%	3.7	3.8	9.1%	10.6%	10.3%	10.5%	0.6	0.6	10.3%	10.5%	0.6	0.6
Decile 10 (Top 10%)	33.2%	30.9%	84.9	67.9	32.9%	30.8%	82.3	65.9	31.0%	28.9%	67.1	52.4	81.5%	79.6%	44.3%	41.7%	15.3	13.5	18.5%	20.4%	46.2%	36.5%	2.5	2.0	4.9%	1.5%	0.3	0.1
of which: Top 5%	22.4%	20.0%	57.4	43.8	22.1%	19.8%	55.3	42.3	19.9%	17.2%	43.0	31.3	77.8%	74.0%	35.6%	34.1%	12.3	11.0	22.2%	26.0%	38.4%	28.3%	2.1	1.6	25.7%	15.5%	1.4	0.9
of which: Top 1%	9.4%	7.5%	24.0	16.4	9.0%	7.3%	22.6	15.5	7.0%	5.0%	15.2	9.1	67.3%	58.9%	21.5%	19.8%	7.4	6.4	32.7%	41.1%	25.7%	15.5%	1.4	0.9	12.3%	6.2%	0.7	0.3
of which: Top 0.1%	3.1%	2.2%	8.0	4.8	2.9%	2.1%	7.4	4.4	1.9%	0.9%	4.1	1.7	55.6%	38.8%	9.5%	8.4%	3.3	2.7	44.4%	61.2%	12.3%	6.2%	0.7	0.3	4.9%	1.5%	0.3	0.1
of which: Top 0.01%	1.1%	0.8%	2.9	1.7	1.0%	0.7%	2.6	1.6	0.7%	0.2%	1.5	0.4	56.0%	26.0%	3.3%	3.6%	1.2	1.2	44.0%	74.0%	4.9%	1.5%	0.3	0.1				
Total (in % and billion euros)	100%	100%	256.0	219.3	100%	100%	250.4	213.8	100%	100%	216.0	181.5			100%	100%	34.5	32.3			100%	100%	5.5	5.5				

Table A5. The distribution of taxable capital income categories by gender in Spain, 2011

	Total capital income				Interest				Dividends				Other financial income				Imputed rental income				Real rental income				Business income				Income allocation system			
	as a % of capital income by category		in billion euros		as a % of capital income by category		in billion euros		as a % of capital income by category		in billion euros		as a % of capital income by category		in billion euros		as a % of capital income by category		in billion euros		as a % of capital income by category		in billion euros		as a % of capital income by category		in billion euros		as a % of capital income by category		in billion euros	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Decile 1	1.2%	0.4%	0.4	0.1	3.8%	4.7%	0.2	0.3	0.4%	0.6%	0.0	0.0	1.2%	2.0%	0.0	0.0	5.2%	6.1%	0.1	0.1	1.4%	1.3%	0.1	0.1	0.4%	-3.9%	0.1	-0.4	-2.0%	-3.3%	0.0	-0.1
Decile 2	5.1%	4.8%	1.7	1.6	4.4%	5.3%	0.3	0.4	0.4%	0.7%	0.0	0.0	1.2%	2.0%	0.0	0.0	6.0%	6.5%	0.1	0.1	2.0%	1.9%	0.1	0.2	8.2%	8.4%	1.1	0.8	4.4%	4.2%	0.1	0.1
Decile 3	5.3%	5.2%	1.8	1.7	5.4%	5.4%	0.3	0.4	0.4%	0.7%	0.0	0.0	3.2%	2.4%	0.0	0.0	6.4%	6.3%	0.1	0.1	2.6%	2.4%	0.2	0.2	7.8%	8.8%	1.1	0.8	5.5%	5.8%	0.1	0.1
Decile 4	5.9%	5.9%	2.0	1.9	6.1%	7.1%	0.4	0.5	0.7%	0.8%	0.0	0.0	2.4%	3.1%	0.0	0.0	7.2%	7.3%	0.1	0.1	3.6%	3.2%	0.2	0.3	8.1%	9.0%	1.1	0.9	7.2%	6.2%	0.2	0.1
Decile 5	6.1%	6.5%	2.1	2.1	6.0%	7.5%	0.4	0.5	1.1%	1.2%	0.0	0.0	3.5%	4.1%	0.0	0.0	7.2%	7.5%	0.1	0.1	5.2%	4.4%	0.3	0.4	7.6%	9.5%	1.1	0.9	7.3%	5.6%	0.2	0.1
Decile 6	6.5%	6.8%	2.2	2.2	6.3%	6.9%	0.4	0.5	1.0%	1.4%	0.0	0.0	2.8%	5.1%	0.0	0.0	7.8%	7.6%	0.1	0.1	6.1%	6.2%	0.4	0.6	7.6%	8.9%	1.0	0.9	10.3%	6.4%	0.2	0.1
Decile 7	6.5%	7.9%	2.3	2.6	7.2%	8.0%	0.5	0.6	1.2%	2.0%	0.0	0.1	6.8%	6.7%	0.0	0.0	8.8%	9.2%	0.1	0.1	7.6%	7.9%	0.5	0.7	6.8%	9.2%	0.9	0.9	7.1%	9.9%	0.2	0.2
Decile 8	8.4%	9.0%	2.9	2.9	10.8%	10.3%	0.7	0.7	1.9%	3.7%	0.1	0.1	5.7%	10.2%	0.0	0.0	10.0%	11.8%	0.1	0.2	10.9%	10.3%	0.7	0.9	8.0%	8.1%	1.1	0.8	7.7%	8.0%	0.2	0.2
Decile 9	10.7%	11.8%	3.7	3.8	12.3%	12.8%	0.8	0.9	6.6%	4.2%	0.2	0.1	12.4%	11.7%	0.0	0.0	13.2%	12.8%	0.2	0.2	14.3%	14.5%	1.0	1.3	9.1%	10.5%	1.3	1.0	10.2%	13.2%	0.2	0.3
Decile 10 (Top 10%)	44.3%	41.7%	15.3	13.5	37.7%	32.1%	2.4	2.2	86.3%	84.8%	3.3	2.5	61.0%	52.7%	0.1	0.1	28.2%	25.0%	0.4	0.4	46.3%	47.8%	3.1	4.3	36.4%	31.5%	5.0	3.0	42.3%	43.9%	1.0	0.8
of which: Top 5%	35.6%	34.1%	12.3	11.0	27.2%	24.2%	1.7	1.7	80.5%	78.9%	3.1	2.4	53.4%	48.9%	0.1	0.1	17.9%	16.6%	0.2	0.3	32.3%	38.1%	2.1	3.4	30.2%	26.0%	4.2	2.5	35.3%	34.8%	0.8	0.7
of which: Top 1%	21.5%	19.8%	7.4	6.4	14.1%	11.6%	0.9	0.8	65.5%	64.2%	2.5	1.9	34.1%	37.3%	0.1	0.1	6.5%	6.5%	0.1	0.1	14.1%	19.0%	0.9	1.7	18.0%	14.5%	2.5	1.4	19.0%	19.2%	0.4	0.4
of which: Top 0.1%	9.5%	8.4%	3.3	2.7	5.3%	4.3%	0.3	0.3	41.2%	43.3%	1.6	1.3	12.6%	13.1%	0.0	0.0	1.2%	1.2%	0.0	0.0	2.4%	5.0%	0.2	0.5	7.5%	5.2%	1.0	0.5	6.0%	5.8%	0.1	0.1
of which: Top 0.01%	3.3%	3.6%	1.2	1.2	1.6%	1.4%	0.1	0.1	20.1%	25.2%	0.8	0.8	5.3%	6.4%	0.0	0.0	0.2%	0.2%	0.0	0.0	0.2%	1.8%	0.0	0.2	1.8%	1.1%	0.2	0.1	0.4%	1.3%	0.0	0.0
Total (in % and billion euros)	100%	100%	34.5	32.3	100%	100%	6.4	7.0	100%	100%	3.8	3.0	100%	100%	0.2	0.2	100%	100%	1.3	1.6	100%	100%	6.6	9.1	100%	100%	13.8	9.6	100%	100%	2.3	1.9

Note: All shares are computed using total market income excluding capital gains in rankings.

Table A6. The distribution of taxable income by autonomous community in Spain, 2011

	Andalusia		Aragon		Asturias		Balearic Islands		Canary Islands		Cantabria		Castile and León		Castile-La Mancha		Catalonia	
	as a % of capital income by category	in billion euros	as a % of capital income by category	in billion euros	as a % of capital income by category	in billion euros	as a % of capital income by category	in billion euros	as a % of capital income by category	in billion euros	as a % of capital income by category	in billion euros	as a % of capital income by category	in billion euros	as a % of capital income by category	in billion euros	as a % of capital income by category	in billion euros
Decile 1	1.0%	0.7	1.2%	0.2	0.9%	0.1	1.0%	0.1	1.3%	0.2	1.1%	0.1	1.1%	0.3	1.0%	0.2	1.2%	1.1
Decile 2	3.4%	2.3	3.5%	0.6	3.6%	0.5	3.5%	0.4	3.5%	0.6	3.6%	0.2	3.6%	1.0	3.5%	0.6	3.3%	3.1
Decile 3	4.6%	3.0	4.7%	0.8	4.9%	0.6	4.6%	0.5	4.7%	0.8	4.8%	0.3	4.8%	1.3	4.6%	0.9	4.4%	4.1
Decile 4	5.6%	3.7	5.8%	0.9	6.1%	0.8	5.8%	0.6	5.7%	1.0	5.9%	0.4	5.8%	1.6	5.7%	1.0	5.6%	5.2
Decile 5	6.7%	4.5	7.1%	1.2	7.3%	0.9	6.9%	0.8	6.9%	1.2	7.1%	0.5	7.0%	1.9	6.8%	1.3	6.9%	6.5
Decile 6	8.1%	5.4	8.6%	1.4	8.8%	1.1	8.3%	0.9	8.3%	1.4	8.5%	0.6	8.5%	2.3	8.3%	1.5	8.4%	7.8
Decile 7	10.0%	6.6	10.4%	1.7	10.4%	1.3	10.0%	1.1	10.0%	1.7	10.2%	0.7	10.3%	2.8	10.2%	1.9	10.1%	9.4
Decile 8	12.6%	8.4	12.8%	2.1	12.7%	1.6	12.3%	1.4	12.5%	2.1	12.6%	0.8	12.8%	3.5	12.8%	2.4	12.4%	11.5
Decile 9	17.1%	11.4	16.4%	2.7	16.4%	2.1	16.1%	1.8	16.7%	2.8	16.5%	1.1	16.7%	4.6	17.1%	3.2	15.8%	14.8
Decile 10 (Top 10%)	30.8%	20.5	29.5%	4.8	28.7%	3.6	31.5%	3.5	30.4%	5.1	29.8%	2.0	29.3%	8.0	30.1%	5.6	31.9%	29.8
of which: Top 5%	19.5%	12.9	18.9%	3.1	18.2%	2.3	20.8%	2.3	19.6%	3.3	19.1%	1.3	18.6%	5.1	18.8%	3.5	21.4%	20.0
of which: Top 1%	6.7%	4.4	6.7%	1.1	6.5%	0.8	8.0%	0.9	6.9%	1.2	6.9%	0.5	6.3%	1.7	6.3%	1.2	8.5%	8.0
of which: Top 0.1%	1.6%	1.1	1.7%	0.3	1.8%	0.2	2.3%	0.3	1.6%	0.3	1.8%	0.1	1.5%	0.4	1.3%	0.2	2.7%	2.5
of which: Top 0.01%	0.4%	0.3	0.5%	0.1	0.6%	0.1	0.9%	0.1	0.4%	0.1	0.5%	0.0	0.4%	0.1	0.3%	0.1	1.0%	0.9
Bottom 40%	14.6%	9.7	15.3%	2.5	15.6%	2.0	14.8%	1.6	15.2%	2.6	15.4%	1.0	15.3%	4.2	14.8%	2.7	14.5%	13.5
Top 60-10%	54.6%	36.3	55.2%	9.0	55.7%	7.0	53.6%	5.9	54.3%	9.1	54.8%	3.6	55.4%	15.2	55.2%	10.2	53.6%	50.0
Total (in % and billion euros)	100.0%	66.5	100.0%	16.3	100.0%	12.6	100.0%	11.0	100.0%	16.8	100.0%	6.6	100.0%	27.4	100.0%	18.5	100.0%	93.3

	Valencian Community		Extremadure		Galicia		Madrid		Murcia		Rioja		Ceuta		Melilla		Non-residents	
	as a % of capital income by category	in billion euros	as a % of capital income by category	in billion euros	as a % of capital income by category	in billion euros	as a % of capital income by category	in billion euros	as a % of capital income by category	in billion euros	as a % of capital income by category	in billion euros	as a % of capital income by category	in billion euros	as a % of capital income by category	in billion euros	as a % of capital income by category	in billion euros
Decile 1	1.0%	0.5	1.1%	0.1	0.8%	0.2	1.2%	1.2	1.1%	0.1	1.1%	0.0	1.8%	0.0	1.5%	0.0	-0.1%	0.0
Decile 2	3.3%	1.6	3.6%	0.3	3.4%	0.9	3.2%	3.0	3.4%	0.4	3.5%	0.1	3.6%	0.0	3.4%	0.0	1.2%	0.0
Decile 3	4.5%	2.1	4.6%	0.4	4.7%	1.2	4.2%	4.0	4.7%	0.6	4.7%	0.2	4.8%	0.0	4.5%	0.0	2.6%	0.0
Decile 4	5.5%	2.6	5.7%	0.5	5.7%	1.5	5.4%	5.1	5.7%	0.7	5.8%	0.2	6.0%	0.0	5.8%	0.0	4.1%	0.0
Decile 5	6.7%	3.1	6.7%	0.6	6.9%	1.8	6.6%	6.3	6.8%	0.8	7.1%	0.3	7.4%	0.1	7.3%	0.1	5.8%	0.0
Decile 6	8.1%	3.8	8.1%	0.7	8.3%	2.2	7.9%	7.6	8.1%	1.0	8.5%	0.3	8.7%	0.1	8.7%	0.1	7.5%	0.0
Decile 7	9.9%	4.7	9.8%	0.9	10.0%	2.7	9.7%	9.2	9.9%	1.2	10.2%	0.4	10.2%	0.1	10.4%	0.1	9.6%	0.0
Decile 8	12.5%	5.9	12.4%	1.1	12.5%	3.3	12.2%	11.6	12.4%	1.5	12.6%	0.5	12.9%	0.1	13.1%	0.1	12.6%	0.0
Decile 9	16.6%	7.8	17.2%	1.5	16.5%	4.4	15.6%	15.0	16.8%	2.0	16.3%	0.6	16.1%	0.1	16.7%	0.1	17.1%	0.0
Decile 10 (Top 10%)	32.0%	15.1	30.9%	2.7	31.1%	8.2	34.0%	32.5	31.2%	3.8	30.2%	1.1	28.5%	0.2	28.6%	0.2	39.7%	0.0
of which: Top 5%	21.1%	9.9	19.3%	1.7	20.2%	5.3	23.4%	22.4	20.0%	2.4	19.6%	0.7	18.3%	0.2	18.3%	0.1	27.4%	0.0
of which: Top 1%	8.2%	3.9	6.4%	0.6	7.6%	2.0	10.4%	9.9	7.3%	0.9	7.5%	0.3	6.9%	0.1	6.7%	0.0	10.7%	0.0
of which: Top 0.1%	2.7%	1.3	1.3%	0.1	2.4%	0.6	3.7%	3.5	1.9%	0.2	2.3%	0.1	2.0%	0.0	1.7%	0.0	2.6%	0.0
of which: Top 0.01%	1.2%	0.6	0.3%	0.0	1.0%	0.3	1.3%	1.2	0.6%	0.1	0.8%	0.0	0.5%	0.0	0.4%	0.0	1.0%	0.0
Bottom 40%	14.3%	6.7	14.9%	1.3	14.6%	3.9	14.0%	13.4	14.8%	1.8	15.0%	0.6	16.3%	0.1	15.1%	0.1	7.8%	0.0
Top 60-10%	53.7%	25.3	54.2%	4.7	54.3%	14.4	52.0%	49.7	54.0%	6.5	54.8%	2.0	55.3%	0.5	56.2%	0.4	52.5%	0.0
Total (in % and billion euros)	100.0%	47.2	100.0%	8.7	100.0%	26.5		95.6	100.0%	12.1	100.0%	3.7	100.0%	0.8	100.0%	0.7	100.0%	0.1

Note: All shares are computed using total market income excluding capital gains in rankings.

Table A7. The distribution of taxable income by province in Spain, 2011

	Andalusia										Aragon		Asturias	Balearic Islands		Canarias		Cantabria		
	Almeria	Cádiz	Córdoba	Granada	Huelva	Jaén	Málaga	Seville	Huesca	Teruel	Zaragoza	Oviedo	Balearic Islands	Las Palmas	Tenerife	Cantabria				
Decile 1	0.8%	0.0	0.9%	0.1	1.4%	0.1	0.9%	0.1	1.2%	0.0	1.4%	0.1	0.6%	0.1	1.1%	0.2	1.1%	0.0	1.3%	
Decile 2	3.3%	0.2	3.4%	0.3	3.7%	0.2	3.2%	0.2	3.6%	0.1	3.8%	0.2	3.2%	0.4	3.4%	0.6	3.6%	0.1	3.6%	
Decile 3	4.6%	0.2	4.7%	0.5	4.8%	0.3	4.4%	0.3	4.7%	0.2	4.8%	0.3	4.5%	0.5	4.5%	0.8	4.8%	0.1	4.8%	
Decile 4	5.7%	0.3	5.9%	0.6	5.7%	0.4	5.5%	0.4	5.8%	0.2	5.9%	0.3	5.6%	0.7	5.5%	0.9	5.9%	0.1	5.7%	
Decile 5	6.8%	0.3	7.1%	0.7	6.7%	0.4	6.5%	0.5	6.9%	0.3	6.9%	0.4	6.8%	0.8	6.7%	1.1	7.1%	0.2	7.0%	
Decile 6	8.2%	0.4	8.5%	0.8	8.0%	0.5	8.0%	0.6	8.2%	0.3	8.0%	0.4	8.3%	1.0	8.1%	1.4	8.7%	0.2	8.5%	
Decile 7	9.8%	0.5	10.2%	1.0	9.8%	0.6	10.0%	0.7	10.0%	0.4	9.6%	0.5	10.1%	1.2	10.0%	1.7	10.5%	0.3	10.3%	
Decile 8	12.5%	0.6	12.7%	1.2	12.3%	0.8	12.8%	1.0	12.7%	0.5	12.2%	0.6	12.8%	1.5	12.8%	2.1	13.0%	0.3	12.8%	
Decile 9	17.3%	0.8	17.0%	1.6	16.9%	1.1	17.5%	1.3	17.1%	0.7	16.7%	0.9	16.9%	2.1	16.9%	2.8	16.6%	0.4	16.7%	
Decile 10 (Top 10%)	31.1%	1.5	29.7%	2.9	30.7%	2.0	31.2%	2.3	30.0%	1.2	30.6%	1.6	31.1%	3.8	31.0%	5.2	28.6%	0.7	29.3%	
of which: Top 5%	19.6%	0.9	18.5%	1.8	19.2%	1.2	19.6%	1.5	18.6%	0.7	19.1%	1.0	19.8%	2.4	19.8%	3.3	17.9%	0.4	18.4%	
of which: Top 1%	6.8%	0.3	6.2%	0.6	6.4%	0.4	6.5%	0.5	6.0%	0.2	6.3%	0.3	7.0%	0.9	7.0%	1.2	6.1%	0.1	6.1%	
of which: Top 0.1%	1.6%	0.1	1.5%	0.1	1.3%	0.1	1.5%	0.1	1.3%	0.0	1.4%	0.1	1.8%	0.2	1.8%	0.3	1.4%	0.0	1.3%	
of which: Top 0.01%	0.4%	0.0	0.4%	0.0	0.3%	0.0	0.4%	0.0	0.3%	0.0	0.4%	0.0	0.6%	0.1	0.5%	0.1	0.4%	0.0	0.3%	
Bottom 40%	14.3%	0.7	14.8%	1.4	15.6%	1.0	13.9%	1.0	15.3%	0.6	15.9%	0.8	13.9%	1.7	14.6%	2.5	15.4%	0.4	15.4%	
Top 60-10%	54.6%	2.6	55.5%	5.3	53.7%	3.5	54.8%	4.1	54.7%	2.1	53.5%	2.8	55.0%	6.7	54.5%	9.2	56.0%	1.4	55.3%	
Total (in % and billion euros)	100%	4.8	100%	9.6	100%	6.5	100%	7.5	100%	3.9	100%	5.2	100%	12.1	100%	16.8	100%	2.4	100%	
	Castile and León										Castile-La Mancha					Catalonia				
	Ávila	Burgos	León	Palencia	Salamanca	Segovia	Soria	Zamora	Valladolid	Albacete	Ciudad Real	Cuenca	Guadalajara	Toledo	Barcelona	Girona	Lleida	Tarragona		
Decile 1	0.7%	0.0	1.4%	0.1	1.2%	0.1	1.3%	0.0	1.0%	0.0	1.2%	0.0	0.7%	0.0	0.8%	0.0	1.3%	0.0	1.0%	
Decile 2	3.4%	0.0	3.8%	0.2	3.8%	0.2	3.8%	0.1	3.4%	0.1	3.6%	0.1	3.6%	0.1	3.6%	0.1	3.6%	0.2	3.3%	
Decile 3	4.5%	0.1	4.9%	0.2	5.0%	0.3	5.1%	0.1	4.6%	0.2	4.8%	0.1	4.9%	0.1	4.7%	0.3	4.4%	3.2	4.6%	
Decile 4	5.6%	0.1	6.1%	0.3	5.9%	0.3	6.1%	0.1	5.6%	0.2	5.8%	0.1	6.0%	0.2	5.8%	0.4	5.6%	4.1	5.8%	
Decile 5	6.7%	0.1	7.5%	0.3	7.1%	0.4	7.3%	0.1	6.7%	0.2	7.0%	0.1	7.3%	0.2	7.0%	0.4	6.9%	5.0	7.0%	
Decile 6	8.2%	0.1	8.9%	0.4	8.6%	0.4	8.8%	0.2	8.3%	0.3	8.5%	0.1	8.8%	0.2	8.5%	0.5	8.3%	6.0	8.5%	
Decile 7	10.0%	0.1	10.5%	0.5	10.2%	0.5	10.4%	0.2	10.0%	0.4	10.2%	0.2	10.5%	0.1	10.0%	0.3	10.2%	7.3	10.3%	
Decile 8	12.8%	0.2	12.7%	0.6	12.7%	0.7	12.8%	0.2	12.6%	0.4	12.7%	0.2	12.8%	0.4	12.6%	0.8	12.2%	8.9	12.6%	
Decile 9	17.3%	0.3	16.2%	0.8	16.5%	0.8	16.4%	0.3	16.9%	0.3	16.7%	0.3	16.3%	0.2	16.9%	1.0	15.5%	11.3	16.3%	
Decile 10 (Top 10%)	30.8%	0.5	27.9%	1.3	29.0%	1.5	28.0%	0.5	30.7%	1.1	29.6%	0.5	28.4%	0.3	30.9%	0.5	29.4%	1.9	30.8%	
of which: Top 5%	19.4%	0.3	17.7%	0.8	18.4%	0.9	17.4%	0.3	19.4%	0.7	18.6%	0.3	17.9%	0.2	19.5%	0.3	18.6%	1.2	19.4%	
of which: Top 1%	6.6%	0.1	6.3%	0.3	6.2%	0.3	5.9%	0.1	6.4%	0.2	6.3%	0.1	6.1%	0.1	6.9%	0.1	6.3%	0.4	6.5%	
of which: Top 0.1%	1.6%	0.0	1.5%	0.1	1.4%	0.1	1.3%	0.0	1.3%	0.0	1.4%	0.0	1.9%	0.0	1.1%	0.0	1.3%	0.1	1.3%	
of which: Top 0.01%	0.5%	0.0	0.4%	0.0	0.3%	0.0	0.3%	0.0	0.3%	0.0	0.4%	0.0	0.4%	0.0	0.3%	0.0	0.3%	0.0	0.3%	
Bottom 40%	14.2%	0.2	16.2%	0.8	15.9%	0.8	16.3%	0.3	14.6%	0.5	15.1%	0.2	15.9%	0.2	14.8%	1.0	14.6%	0.5	14.6%	
Top 60-10%	55.1%	0.8	55.9%	2.6	55.1%	2.8	55.7%	1.0	54.7%	1.9	55.3%	0.9	55.7%	0.6	54.3%	2.2	54.6%	1.9	54.7%	
Total (in % and billion euros)	100.00%	1.5	100%	4.6	100%	5.1	100%	1.8	100%	3.5	100%	1.6	100%	1.1	100%	1.6	100%	6.5	100%	
	Valencian Community			Extremadure				Galicia			Madrid		Murcia	Rioja	Ceuta	Melilla				
	Alicante	Valencia	Castellón	Badajoz	Cáceres	A Coruña	Lugo	Ourense	Pontevedra	Madrid	Murcia	Rioja	Ceuta	Melilla						
Decile 1	0.9%	0.1	1.0%	0.3	1.1%	0.1	1.1%	0.0	0.9%	0.1	0.6%	0.0	0.7%	0.0	0.9%	0.1	1.2%			
Decile 2	3.3%	0.5	3.3%	0.9	3.4%	0.2	3.6%	0.2	3.5%	0.1	3.4%	0.1	3.3%	0.1	3.3%	0.3	3.2%			
Decile 3	4.5%	0.6	4.5%	1.2	4.6%	0.3	4.6%	0.2	4.6%	0.6	4.8%	0.1	4.7%	0.1	4.7%	0.4	4.2%			
Decile 4	5.6%	0.8	5.4%	1.5	5.6%	0.3	5.7%	0.3	5.7%	0.7	5.7%	0.2	5.6%	0.2	5.8%	0.5	5.4%			
Decile 5	6.7%	1.0	6.6%	1.8	6.8%	0.4	6.8%	0.4	6.7%	0.2	6.9%	0.8	6.8%	0.2	6.7%	0.6	6.6%			
Decile 6	8.2%	1.2	8.1%	2.2	8.2%	0.5	8.1%	0.4	8.0%	0.3	8.3%	1.0	8.3%	0.3	8.1%	0.2	8.4%			
Decile 7	9.9%	1.4	9.9%	2.7	9.9%	0.6	9.9%	0.5	9.8%	0.3	9.9%	1.2	10.1%	0.3	9.9%	0.3	10.2%			
Decile 8	12.5%	1.8	12.4%	3.3	12.6%	0.8	12.4%	0.6	12.4%	0.4	12.2%	1.5	12.7%	0.4	12.7%	0.3	12.7%			
Decile 9	16.8%	2.4	16.5%	4.4	16.6%	1.0	17.1%	0.9	17.2%	0.6	16.4%	2.0	17.2%	0.5	16.8%	0.5	16.5%			
Decile 10 (Top 10%)	31.7%	4.5	32.4%	8.7	31.2%	1.9	30.8%	1.6	31.2%	1.1	31.7%	3.8	30.6%	0.9	31.3%	0.8	30.3%			
of which: Top 5%	20.5%	2.9	21.4%	5.8	20.3%	1.2	19.1%	1.0	19.5%	0.7	21.0%	2.5	19.1%	0.6	19.9%	0.5	19.4%			
of which: Top 1%	7.5%	1.1	8.6%	2.3	7.8%	0.5	6.2%	0.3	6.5%	0.2	8.4%	1.0	6.5%	0.2	7.2%	0.2	7.1%			
of which: Top 0.1%	2.1%	0.3	3.0%	0.8	2.4%	0.1	1.2%	0.1	1.4%	0.1	2.9%	0.4	1.6%	0.0	2.1%	0.1	1.9%			
of which: Top 0.01%	0.8%	0.1	1.4%	0.4	1.1%	0.1	0.3%	0.0	0.4%	0.0	1.4%	0.2	0.4%	0.0	0.9%	0.0	0.6%			
Bottom 40%	14.3%	2.0	14.2%	3.8	14.7%	0.9	14.9%	0.8	14.8%	0.5	14.6%	1.8	14.5%	0.4	14.4%	0.4	14.9%			
Top 60-10%	54.0%	7.7	53.4%	14.4	54.2%	3.2	54.3%	2.8	54.1%	1.9	53.6%	6.5	55.0%	1.7	54.4%	1.5	54.8%			
Total (in % and billion euros)	100%	14.3	100%	26.9	100%	6.0	100%	5.2	100%	3.5	100%	12.1	100%	3.0	100%	2.7	100%			

Note: All shares are computed using total market income excluding capital gains in rankings.

Table A8. Average income and thresholds by region in Spain, 2011

Gross income groups	Decile 1	Decile 2	Decile 3	Decile 4	Decile 5	Decile 6	Decile 7	Decile 8	Decile 9	Decile 10 (Top 10%)	of which: Top 5%	of which: Top 1%	of which: Top 0.1%	of which: Top 0.01%	Average income (in euros)
Madrid	-5482130	6859	9960	12933	15939	19497	23576	29247	36329	49849	67072	133890	440959	1570123	26929
Ceuta	-61488	7273	10263	12864	16166	19494	22562	27407	34817	43702	55933	94243	295189	700169	24107
Catalonia	-3755837	6080	9076	11607	14464	17799	21304	25911	32155	43035	58102	109302	290464	920374	23279
Melilla	-119335	6097	9101	11723	15127	18373	21787	26385	34514	43805	53306	94137	242673	533692	22996
Non-residents	-16315	1008	4175	7227	10716	14733	18465	23607	31819	45673	68147	142202	335131	730900	21870
Balearic Islands	-491709	5661	8650	10891	13233	15826	19170	22835	29039	39193	52947	95524	234601	742632	20899
Cantabria	-448171	5475	8481	10500	12694	15276	18045	22152	27965	37420	47455	82854	194496	621180	19607
Asturias	-930153	5257	8452	10782	13091	15668	18434	22221	27636	36964	46383	78765	176415	540700	19438
Aragon	-565496	5628	8379	10342	12735	15565	18605	22871	28396	37500	48262	83997	196974	495575	19892
Rioja	-244053	5354	7959	9976	12237	14852	17798	21615	27371	36546	45760	81539	206772	624270	19183
Canary Islands	-396047	5289	7720	9689	11717	14013	16874	20674	26825	36420	47038	82133	193644	474681	18670
Castile and Leon	-430056	5260	7742	9583	11592	14141	16979	20610	26290	35415	44547	76650	162787	380726	18198
Valencian Community	-2195514	4747	7116	9032	10998	13278	16141	19931	25597	35404	45810	82397	202789	688263	18111
Galicia	-337165	4689	7360	9143	11153	13464	16147	19803	25244	34944	44326	78767	187523	583047	17825
Murcia	-1616945	4672	7036	8823	10637	12695	15308	18826	24202	34201	43707	77765	171279	489793	17179
Andalusia	-8198250	4498	6622	8494	10228	12255	14917	18425	24014	33766	42800	73366	155329	407744	16608
C. La Mancha	-865753	4618	6577	8512	10146	12259	14993	18422	23806	33406	42056	70287	140368	315595	16376
Extremadure	-333554	4262	5966	7528	9083	10740	13111	16040	21141	30620	38782	66710	123440	282926	14726

Table A9. Sensitivity shares on income shares, 2011

	Benchmark distribution		Distribution including non-filers		Distribution using tax units	
	as a % of total market income including capital gains	in billion euros	as a % of total market income including capital gains	in billion euros	as a % of total market income including capital gains	in billion euros
Decile 1	1.3%	5.9	1.1%	5.2	1.1%	5.3
Decile 2	3.3%	15.6	3.2%	15.4	3.4%	16.2
Decile 3	4.4%	20.9	4.4%	20.7	4.6%	22.0
Decile 4	5.4%	25.7	5.4%	25.6	5.8%	27.7
Decile 5	6.6%	31.5	6.6%	31.4	7.1%	33.7
Decile 6	8.1%	38.4	8.0%	38.2	8.5%	40.4
Decile 7	9.9%	46.9	9.8%	46.8	10.2%	48.4
Decile 8	12.4%	58.9	12.4%	58.8	12.4%	58.9
Decile 9	16.3%	77.7	16.3%	77.4	15.6%	74.2
Decile 10 (Top 10%)	32.3%	153.7	32.8%	155.9	31.2%	148.4
of which: Top 5%	21.5%	102.3	22.0%	104.4	21.0%	99.6
of which: Top 1%	8.7%	41.2	9.1%	43.1	8.7%	41.5
of which: Top 0.1%	2.8%	13.2	3.1%	14.8	3.0%	14.4
of which: Top 0.01%	1.0%	4.7	1.2%	5.8	1.2%	5.7
Total (in % and billion euros)	100%	475.3	100%	475.3	100%	475.3

Note: All shares are computed using total market income excluding net capital gains in rankings.