WHY IS INCOME INEQUALITY SO HIGH IN SPAIN?

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Abstract

We investigate the reasons why income inequality is so high in Spain in the EU context. We first show that the differential in inequality with Germany and other countries is driven by inequality among households who participate in the labor market. Then, we conduct an analysis of different household income aggregates. We also decompose the inter-country gap in inequality into characteristics and coefficients effects using regressions of the Recentered Influence Function for the Gini index. Our results show that the higher inequality observed in Spain is largely associated with lower employment rates, higher incidence of self-employment, lower attained education, as well as the recent increase in the immigration of economically active households. However, the prevalence of extended families in Spain contributes to reducing inequality by diversifying income sources, with retirement pensions playing an important role. Finally, by comparing the situations in 2008 and 2012, we separate the direct effects of the Great Recession on employment and unemployment benefits, from other more permanent factors (such as the weak redistributive effect of taxes and family or housing allowances, or the roles of education and the extended family).

Keywords: Income inequality, employment, Spain, Gini, RIF, decomposition.

JEL Classification: D63, I32, J21, J82.

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1. Introduction

Right before the recent Great Recession started, Spain already exhibited a relatively high level of inequality within the EU, but its level has increased after the collapse of the labor market, as recent studies have already documented (e.g. ILO, 2015; Ayala, 2014). In this paper, we follow a comparative approach to investigate why inequality is so high in Spain using EU-SILC data in 2012 and in 2008. For that, we exploit existing inter-country differences in the level and nature of inequality between Spain and Germany (and other countries), as well as changes over time.

Although Germany is not the champion of low inequality in Europe, it is the leading European economy and exhibits a level of inequality below the EU average and the level of other large economies in the area.[1] Furthermore, Germany went through the financial crisis with better records in terms of income distribution, and functioning of the economy, especially in keeping its employment levels. Many of the recent economic reforms implemented in Spain regarding labor market flexibility, fiscal consolidation, retirement age, dual vocational training, etc. go in the direction of the German model.

Any comparative analysis will be influenced by the particularities of the reference country. Germany lived several structural transformations after the reunification that, for example, implied a large process of decentralization in wage setting. These had a large influence on the ability of the country to cope with the current recession but might not be easily reproduced in countries with more centralized settings such as Spain or Italy (Dustmann et al., 2014). In order to provide a more precise view of the situation of Spain within the EU, we extend the comparison with other countries (i.e. France, Italy, Sweden, and the UK). We thus compare Spain with five countries exhibiting diverse situations regarding the composition of the labor force (e.g. by education), the structure of the economy (e.g. employment rates, economic sectors, non-standard jobs), family size and structure, immigration profile, tax-benefit models or other institutional settings (e.g. labor relations). Exploiting all these inter-country differences will allow us to assess the importance of each of these factors in explaining higher inequality in Spain, but with lessons that might apply to other EU countries as well.

In order to assess the particular nature of inequality in Spain, we first analyze the role of different sources of income, like the labor market and the tax-benefit system, in shaping inequality. We then concentrate on people living in economically active households (i.e. with at least one member in the labor market during the reference year). It is for this group that we observe an inter-country gap in inequality which increased between 2008 and 2012. We also analyze the role on household income inequality of different socioeconomic factors such as location, household composition by age, gender, or immigration status, as well as education or employment level and characteristics. For that, we use a Blinder-Oaxaca-type decomposition of the inter-country gap in inequality based on the Recentered Influence Function (RIF) of the Gini index (Firpo, Fortin, and Lemieux 2007 and 2009). This approach allows us to assess how inequality in each country and period is determined by households' characteristics using a linear approximation of the relationship they have with

[1] Inequality, measured by the Gini index with EU-SILC 2014 statistics, is actually lowest in the Nordic countries, in Belgium, the Netherlands, Slovenia, Czech Republic, or Slovakia. However, Germany displays the lowest level of inequality amongst the largest EU countries (after France), followed by Poland, the UK, and Italy, with Spain standing out with the highest level.

inequality. For the analysis we estimate a counterfactual distribution in which we give Spanish households the same average characteristics of German households, while keeping constant how these characteristics affect inequality. Using this counterfactual distribution, we are able to decompose the inter-country difference in inequality into characteristics (explained) and coefficients (unexplained) effects.

In this context, the characteristics effect is the differential in inequality that can be explained by the lower employment levels, the lower attained education, higher recent immigration, or the particular sectorial composition of Spanish workers, among other things. This compositional effect is evaluated using the Spanish returns to characteristics, the specific association between characteristics and inequality prevailing in Spain, as if nothing else changed, other than the average composition of households. The coefficients effect is the remaining unexplained inequality differential (evaluated using the average characteristics of German households) that could be attributed to differences in the way these characteristics differentially affect incomes at different points of the income distribution. This distributional pattern is influenced by the local institutional framework, such as wage setting and other labor market regulations, the tax-benefit system, living arrangements, etc.

The same exercise is used to decompose the gap with other countries, as well as the change in inequality over time in Spain. In the last case, we take 2008 as the reference distribution to assess the impact of the deep recession that affected the EU, but with particular disastrous consequences in the Spanish economy, especially on employment levels. Combining these comparisons between countries and over time will allow us to discriminate between more structural factors of high inequality and the direct effects of the Great Recession.

In what follows, the next section describes the data, then Section 3 discusses the level and trend of inequality in Spain, while Section 4 analyzes the role of the labor market and the tax-benefit system. After that, Section 5 presents the decomposition methodology and the following two sections discuss the results. The last section provides some final remarks.

2. Data and variables

2.1 Data

For our analysis, we use the 2008 and 2012 waves of Eurostat's cross-sectional microdata from the *EU Statistics on Income and Living Conditions*.[2] The original sources of this database are the Living Conditions Survey (*Encuesta de Condiciones de Vida base 2004*) from the National Statistical Institute in Spain and microdata based on an access panel (*Dauerstichprobe*) to the Microcensus from the German Federal Statistical Office. The former is the main source for the analysis of income distribution in Spain since it started in 2004, the latter is used here for the sake of comparability within the EU-SILC project.[3] The Spanish 2012 sample is made of 33,573 (12,714) individual

[2] We use the March 2014 version of EU-SILC. Other recently released revised versions break the series for Spain regarding how income was collected (using register data instead of the survey answers as the main source), and regarding the construction of sampling weights. They do not allow to properly compare 2008, right before inequality abruptly started to raise, and 2012.

[3] There are some concerns about how some particular groups are represented in this panel in Germany. In particular, Frick and Krell (2010) report differences with respect to the other main longitudinal source in the

(household) unweighted observations. Out of them, 27,751 individuals live in 9,170 economically active households (those with at least one adult, 16 years or older, in the labor force), the main focus of our analysis. In the case of Germany the figures of individuals (households) are 27,938 (13,145), 20,893 (8,758) in active households.[4] EU-SILC provides rich information about households' characteristics, including income and demographic, educational and labor market related variables that are needed in our study. We also use the 2012 EU-SILC samples for France, Italy, Sweden, and the UK.

Our main variable of interest is *disposable income*, that is, total income obtained by the household over the income reference period (calendar year previous to the interview, i.e. 2007 and 2011 respectively) from any source (earnings, cash social transfers, and capital income), after subtracting taxes and social contributions.[5] Equivalized household income is obtained after dividing the total amount by the number of equivalent adults to consider differences in household needs. We use the standard modified OECD scale that assigns a weight of 1 to the first adult, .5 to consecutive adults, and .3 to each child (13 years old or younger), which is also the scale used by Eurostat in its reported statistics.

In our analysis, we keep a few observations reporting zero or negative household disposable income in both countries because these are also used in all Eurostat reported statistics on income distribution. This imposes a limit on the indices of inequality that can be used because some measures based on logarithms (members of the Generalized Entropy and Atkinson families) are not defined for zero or negative incomes. This does not represent a problem for the Gini index, the one used here. The inclusion or not of these incomes does not significantly affect the results or the interpretation of the numbers of the Gini index.[6] Furthermore, the results about the higher inequality level in Spain are shown to be quite robust to the choice of a specific inequality index.

2.2 Households' characteristics

We include in the regression model explanatory variables that might affect the equivalized household disposable income, and thus inequality, because they either affect the opportunities of the household to obtain income, or its needs. We define most of these characteristics as continuous variables (within-household proportions) in order to take into account the situation of all household members and not only the household head or the spouse. These characteristics of economically active households are defined as follows. Location is approximated using categorical variables for the degree of urbanization: densely populated areas (omitted), intermediate areas, and thinly

country (German Socio-Economic Panel Study, SOEP) in terms of the level and trends of measured inequality and poverty in 2005-07.

[4] The Spanish 2008 sample is made of 35,970 (13,014) individual (household) unweighted observations, with 30,339 individuals living in 9,677 active households. In the case of Germany: 28,904 (13,312) individuals (households), 21,549 (8,770) in active households.

[5] In the German case, household income is inflated by a within-household non-response inflation factor.

[6] Although the Gini index does not have an upper bound in the presence of negative incomes, this does not significantly alter its interpretation in our context because only a few incomes are negative. Thus, we do not apply any correction, such as the one proposed by Chen, Tsaur, and Rhai (1982). The number of individual observations with zero/negative disposable income in active households in 2012 is 26 in Germany and 467 in Spain (representing 0.12% and 1.82% of the corresponding populations). In 2008: 87 (0.40%) in Germany and 209 (0.76%) in Spain.

populated areas. We measure household size (the number of members in the household) and household composition by different dimensions. Household composition by age is accounted for by measuring the number of 0-15 year-old children as a proportion of all household members, as well as the proportion of adults (aged 16 or older) falling in each interval: 16-24, 25-34, 35-44 (omitted), 45-54, 55-64, 65 or older. Other demographical variables are defined as the proportion of adults who are married or in consensual union, women, immigrants with less/more than 10 years of residence, and experiencing limitations from health problems.[7] Similarly, education is accounted for by the proportion of adults with primary (omitted), lower secondary, upper secondary or non-tertiary post-secondary, and tertiary education.

Regarding labor-related variables of household members we consider the activity and employment rates, the level of experience, and job characteristics, such as occupation, industry, and type of contract. The activity rate is constructed as the proportion of months during the income reference year spent by household members in the labor market out of household's potential (the number of adults multiplied by 12). Employment rates are obtained by computing the number of months worked by household members (separately as full-time and part-time, and in each case distinguishing if as employee or self-employed), as a proportion of the total number of months in the labor force.[8] We measure the proportion of active household members falling in each interval of paid work experience (none –omitted-, up to 1 year, 1-2 years, 3-5 years, 6-9 years, 10 or more years), as well as reporting each occupation (ISCO 2008 classification at 1 digit), industry (Eurostat compact classification based on NACE groups), or having a temporary contract.[9] The size of the working unit is considered using the proportion of active members falling in each interval of the number of workers at the local unit: 1-2 (omitted), 3-5, 6-10, 11-49, 50 or more.

The calendar year previous to the interview is the reference period for income, as well as for other variables such as age and months spent in activity or in each type of employment. The rest of variables refer to the current situation (at the time of the interview, first months of 2008/2012), such as the degree of urbanization, household size, civil status, health limitations, and worker's characteristics, such as experience, working unit size, and industry; or they refer to the current/last situation (e.g. temporary contract and occupation).[10,11]

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[7] In 2008 there is no information about immigration by time of residence, so the variable for this sample (as well as for 2012 when compared with 2008) refers to the proportion of foreign citizens instead.

[8] In 2008 there is no distinction between months worked as self-employed and as employees. In this year and in the comparison over time, self-employment is measured as the proportion of active adults reporting that status as the current/last situation at the time of the interview (distinguishing whether with or without employees).

[9] The omitted categories are Elementary occupations (ISCO group 9) and Manufacturing and other activities such as fishing, mining, or energy (NACE groups B-E).

[10] The use of longitudinal information to link two consecutive samples would partially correct this problem as it would allow the date of the interview to fall within the income reference year. However, this would not imply a great advantage in this case because we would still ignore the relevant information (e.g. job characteristics) month by month. And this would be obtained at the price of losing at least a quarter of the sample because of the rotating nature of the survey.

[11] A particular implication of this is that we do not have information regarding the industry and the size of the working unit for those who reported to be unemployed at the time of the interview but worked during the

3. Inequality in Spain

3.1 General trend

The discontinuity in the data surveys used to measure households living conditions in Spain during the last decades makes it a difficult task to trace the long-term trend in inequality of disposable income across households. Cantó, Gradín and Del Río (2000) have reviewed the early literature of inequality in Spain. Ayala (2014) and Ferrer-i-Carbonell, Ramos and Oviedo (2014) are examples of more recent reviews. There is a certain consensus, however, that points to a reduction of inequality during the transition to democracy and the consolidation of the welfare state that started in the mid'1970s and ended with the recession in the early 1990s.[12] This particular trend made Spain a special case in the context of generalized long-term increases in inequality among most OECD countries (e.g. OECD, 2008, 2011). Regarding the most recent period, according to EU-SILC statistics, the Gini index of disposable income increased from 0.310 in 2004, to 0.319 in 2006-08. Right after the break of the current Great Recession, inequality substantially increased again to 0.350 in 2012, with much of the increase accounted for by changes in the distribution of wages and job losses (ILO, 2015).[13]

What is clear, is that right before the recession, Spain was a country with high levels of inequality compared with other EU countries. This was so even after a long-lasting economic boom between 1995 and 2007 that brought a strong reduction in unemployment and a massive expansion of sectors, such as construction and services, which significantly increased the economic opportunities of low-skilled workers and brought to the country an unprecedented number of immigrants. With the outbreak of the Great Recession, inequality could only be aggravated as the precarious situation of the labor market and an ineffective redistribution of the tax-benefit system were dramatically deteriorated. The labor market suddenly collapsed, unemployment rocketed to above 20 percent, with much larger rates among young people, unskilled workers, and immigrants (e.g. Gradín and Del Río, 2013). The unemployment spells, typically very short, significantly increased in duration, and a larger share of households faced severe employment deprivation (e.g. Gradín, Cantó and Del Río, 2015a,b).

The response of many households was an intensification of family support, an increase in the number of hours available for work (the added worker effect, especially from women), and a radical change in the direction of migration flows.[14] The successive labor market reforms made firing easier

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previous calendar year. For that reason we also include a new variable that reports the proportion of active people in this particular situation (labeled as labor unknown).

[12] Torregrosa-Hetland (2016) has recently challenged this consensus, claiming that it was the result of the bias of underreported income not being homogeneous across income levels. After performing a two-step correction procedure, identifying under-reporting first with an Engel's curve approach and then with an aggregate adjustment to National Accounts, income inequality turned out to be higher and more persistent during the 1973-90 period than previously reported.

[13] These data correspond with the EU-SILC data version of March 2014. The new updated EU-SILC data recently reported by Eurostat website broke the previous series for Spain since 2009 (based on the new *Encuesta de Condiciones de Vida*, base 2013). According to this, inequality in Spain was 0.329 in 2009 and picked up to 0.347 in 2014.

[14] Some symptoms point to the added-worker effect having affected both the extensive and intensive margin, such as an increase in women's activity rate, a reduction in the proportion of women inactive because of

and cheaper, but the chronic duality between temporary and permanent workers was essentially preserved with a more intensive use of short-term and (unwanted) part-time contracts.[15] This was combined with several budget cuts and tax raises to achieve fiscal consolidation constrained by the sovereign debt crisis, the restructuring of the financial sector, and the Euro membership. As a result, Spain is now one of the countries with the largest inequality across households in the EU, jointly with other countries strongly affected by the recession like the Baltics, Portugal, and Greece.

Many other developed countries were affected by the recession, but the reaction of unemployment to the contraction of the GDP was larger in countries like Spain (or the US) in which the recession was caused by a boom-bust pattern in the housing market, while was much smaller in countries like Germany where the downturn was driven by a sharp decline in exports (OECD, 2010). This produced a wide range of unemployment rates in the EU (e.g. OECD, 2010, European Commission, 2010; Gradín, Cantó and Del Río, 2015a,b). In some countries, especially Germany, the number of hours of work was widely reduced, thus avoiding a deeper reduction of employment (e.g. Brenke, Rinne and Zimmermann, 2013; Gradín, Cantó and Del Río, 2015a; OECD 2010). Indeed, the income distribution in Germany had shown growing inequality since the re-unification. But it exhibited a more stable picture after the second half of the 2000s, despite the strong initial shock produced by the recession. The role of the expansion of part-time jobs on this trend is still controversial (e.g. Rehm, Schmid, and Wang, 2014). Eurostat data shows that Germany, after increasing inequality from 0.261 in 2005 to around 0.304 in 2007, had a small decrease until 2012, 0.283 (later increasing to 0.297 in 2013 and 0.307 in 2014). As a result, the Gini gap between Spain and Germany increased from 0.017 in 2008 to 0.067 in 2012 (the period under analysis here). As for the other countries considered in our study, the short-term impact of the recession in GDP (at market prices in euros) was even deeper in the UK or Sweden than in Spain, but the recovery was also much faster, with a more limited fall in employment rates. While France, Italy and Sweden show a stable pattern (or with small increases) in inequality after the start of the recession, the UK reduced its level since 2008.

3.2 Trends in earnings inequality

Inequality in disposable income is inherently linked to the functioning of the labor market, although also affected by the formation of households, and by the redistributive effect of the tax-benefit

family reasons, or an increase in the proportion of women involuntarily working part-time. The presence of the added worker effect during the recession was confirmed for Spain by Addabbo, Rodríguez-Modroño, and Gálvez-Muñoz (2013), for the Mediterranean countries in general (characterized by relatively low women activity rates and a weaker welfare state) by Bredtmann, Otten and Rulff (2014); or for the US (Starr, 2014).

[15] Spain followed since 1984 a strategy of relaxing employment protection using flexibility-at-the-margin reforms by expanding fixed-term contracts, exhibiting the highest incidence among EU countries, with strong implications on the functioning of the labor market (Dolado, García-Serrano and Jimeno, 2002). Right before the recession, about a third of workers had a temporary job in Spain, more than twice the EU average. This percentage was later reduced to its minimum of 23 percent in 2013 because these workers were the first to be laid off in the recession. However, the great majority of contracts signed during the last years are temporary and with an increasingly shorter duration. Part-time workers were 15 percent of all workers in the second quarter of 2015 (8 percent of men; 25 percent of women), of which 63 percent wished a full-time job, but could not find any (1,785 thousands, compared with only 744 in 2007).

system (e.g. OECD, 2011).[16] Earnings inequality in Spain has been extensively analyzed during the last years using different methodologies and different datasets (see a survey in García-Serrano and Arranz, 2014). A certain consensus emerged stating that earnings inequality in Spain has shown a clear counter-cyclical trend.

Earnings inequality was declining in the years previous to the recession mostly driven by changes in the returns to worker's characteristics, although there were also important changes in the composition of the labor force and industries. For example, using the Structural Earnings Survey Lacuesta and Izquierdo (2012) found that changes in the composition of the workforce, such as the increase in the proportion of women, the increase in university degree-holders, the aging of the population, and the reduction in accumulated experience, would have generated a significant increase in wage inequality between 1995 and 2002. If inequality indeed decreased, was due to a major decrease in wage differentials between different ages and educational levels that was not compensated for by a higher value on seniority over time. As a possible factor behind this trend, the authors point to the large coverage of centralized collective agreements that do not allow much differentiation within demographic groups.

Earnings inequality abruptly increased after the start of the recession as different studies have shown using the structural wage surveys and administrative records before and after the recession started (with coverage until 2010). Among them, Arranz and García-Serrano (2012, 2014), García-Serrano and Arranz (2013), and Bonhomme and Hospido (2013a) using Social Security records; Bonhomme and Hospido (2013b) using tax files; and Casado and Simón (2013) using the Structural Earnings Survey. All these studies consistently point out that this trend was the result of a large compositional effect following the massive destruction of jobs. For example, Bonhomme and Hospido (2013a) found that age and occupation, immigrant status, and type of contract explain a relatively small part of the evolution, while when accounting for changes in sectoral composition, changes explain up to half of the increase in inequality during the beginning of the recession for males (slightly less for females).

4. Inequality and income sources: the labor market and the tax-benefit system

We first analyze the extent to which the higher level of income inequality in Spain is related with earnings inequality, the low employment rates, or the tax-benefit model.

4.1 Inequality among active and inactive households

If we classify households according to whether they have any member engaged in the labor force (active households) or not (inactive households), we can easily check that the gap in inequality of disposable income between Spain and Germany is concentrated in economically active households (making up 85 and 76 percent of the total population in 2012, respectively). Figures 1.a-c display the density and Lorenz curves of disposable income for people in all households (a) and separately for individuals in inactive and active households (b and c) in 2012. The corresponding Gini indices are reported in Table 1. The densities and Lorenz curves of disposable income among inactive households in both countries are almost undistinguishable and inequality is slightly lower in Spain

[16] A recent detailed analysis of how the labor market influences income inequality in Spain can be found in Davia (2013). The weak redistributive impact of the Spanish tax-benefit system has already been stressed in recent studies (e.g. Cantó, 2014; Ayala, Martínez, and Ruiz-Huerta, 2013; Ruiz-Huerta, 2014).

(0.276 versus 0.286).[17] It is when we focus on inequality within active households that the level of inequality in disposable income stands above in Spain (0.358 versus 0.276, a gap of 0.083), with the Lorenz curve always falling below that of Germany (except at the very top).[18]

Figures 2.a-2.f display the Lorenz curves comparing Spain and Germany in 2008, and Spain in 2012 and 2008, with the corresponding Gini indices reported in Table 1. It becomes clear that the increase in inequality in Spain was driven by the labor market (the 2008 Lorenz curve dominates that of 2012 for active but not for inactive households, except for very low incomes). This pushed the inter-country gap in inequality among active households from 0.014 to 0.083. Its impact on overall inequality (the gap went from 0.017 to 0.067) was partially offset by the decline in inequality among inactive households.

4.2 The contribution of income sources to inequality

The analysis of inequality for different income aggregates among economically active households and employed or economically active workers, reported in Table 1, helps to separate the role of the labor market and the tax-benefit system in shaping higher inequality in Spain in comparison with Germany. Let us first analyze the situation in 2012 and then see the changes over time.

We start by checking that inequality in the distribution of individual (annual) gross earnings among employed workers is similar in both countries (first row of Table 1).[19] The gap significantly increases to 0.068 after we extend the sample to the entire labor force. This suggests that after including the population with no labor income the inequality gap arises because of massive unemployment in Spain. The gap increases to 0.080 when we measure (equivalized) household gross earnings after pooling income within households and including household members out of the labor force. The addition of capital income to obtain (equivalized) market income does not affect the inter-country Gini gap.[20] We now sequentially add social benefits and subtract taxes to obtain our main aggregate, disposable income.

The inter-country gap is substantially reduced (from 0.080 to 0.054) after adding old-age and survivors' pensions to market income, because the resulting reduction in inequality among active households is much larger in Spain (0.040) than in Germany (0.014). These pensions are known to be providing a substantial relief in families shocked by unemployment, indeed they reduce the relative inter-country gap in income by 3.4 percentage points – see average income values in Table A1 in the Appendix. This is the result of extended families being more common in Spain, with a higher proportion of elderly people cohabiting with younger generations.

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[17] The level of inequality between active and inactive households (when each person is given the average income of her type) is also lower in Spain in 2012: 0.018 versus 0.037 in Germany (Gini). It was, however, larger in 2008: 0.047 versus 0.034.

[18] This means that the result is robust to the use of other Lorenz-consistent inequality indices such as Generalized Entropy or Atkinson families –most of them defined only for positive incomes-, except when they are extremely sensitive to inequality at the top of the income distribution. Other usual inequality indices based on specific quantiles (e.g. S80/S20, p90/p10, etc.) also generally imply higher inequality across active households in Spain than in Germany.

[19] This refers to annual income from wages and self-employment before taxes and social contributions, for people who reported at least one month of employment during the reference year.

[20] It is a well-known fact that households surveys tend to underestimate income from capital.

Although social benefits as a whole do not affect the inter-country income inequality gap, their composition is different in each case: Spain devotes much more resources to unemployment, and less to protect children and disable people, or to promote affordable housing.[21] Thus, the addition of unemployment and other social benefits reduces further income inequality in Spain by 0.030 and 0.015 respectively, while the impact of these benefits is reversed in Germany (0.014 and 0.034). Finally, after subtracting taxes and social contributions from gross income, the reduction in inequality among economically active households in Spain (0.011) is much smaller than in Germany (0.037). As a consequence, the inter-country gap in inequality raises from 0.057 to its final level of 0.083.

The main conclusions discussed here do not vary much if we change the reference country to France, Italy, Sweden, or the UK (Table 2). Higher income inequality in Spain is explained by the inequality among active households. This is larger in Spain because it starts with a higher level of households' earnings inequality. The redistributive effect of the tax-benefit system among active households is similar to that in the other countries, but with a different composition. Spain exhibits the largest impact of pensions and unemployment benefits in reducing inequality, but the shortest impact of other social benefits (after Italy) and taxes. However, it is important to note that the weaker redistributive effect of the tax-benefit model does help to explain higher inequality across all households in Spain. Indeed, the redistributive effect is the lowest among the selected countries. We only find that the redistributive effect is the largest in Spain for unemployment benefits, intermediate in the case of pensions (after Germany and Italy), but the lowest for taxes and the second lowest for other social benefits (after Italy).

How much of this picture changed during the recession? Table 1 also shows that inequality in disposable income was higher in 2012, compared with 2008, because inequality in gross earnings largely increased, while the equalizing effect of taxes was reduced. This trend was only partially compensated by an increase in the equalizing effect of pensions and benefits, especially those for unemployment.

5. Methodology: Decomposing the gap in inequality using the Recentered Influence Function

5.1 RIF decomposition

To obtain a decomposition of the gap in inequality between Spain and Germany (or Spain in 2008 and 2012) we use a generalization of the well-known Blinder (1973) and Oaxaca (1973) approach, proposed by Firpo, Fortin, and Lemieux (2007, 2009), based on the Recentered Influence Function.[22] This method applies the conventional Blinder-Oaxaca decomposition when the dependent variable in the regression (e.g. log income) is replaced by the Recentered Influence function (RIF) of the target statistic (e.g. a quantile, or an inequality measure). The advantage of this approach is that it

[21] According to our data, but consistently with Eurostat statistics about social benefits by function, Spain devotes most of its resources to unemployment (57% of the total amount), and then to disability (22%), social exclusion (10%), with small amounts to child (6%) and housing (1%) benefits. In Germany the largest amounts are for child allowances (57%), unemployment (20%), disability (11%), and housing (7%). More detailed data about the redistributive effect of benefits by type can be found in EUROMOD's website for statistics on the Distribution and Decomposition of Disposable Income

[22] A throughout discussion of this methodology, comparing its econometric properties with other regression-based decomposition methods available in the literature, can be found in Fortin, Lemieux, and Firpo (2011a).

allows the decomposition of any distributional statistic for which the RIF exists, and becomes the conventional Blinder-Oaxaca approach when this statistic is the mean (whose RIF is the income variable). Most applications of this approach referred so far to quantiles of the income distribution, but some also have decomposed the differential of Gini indices between two distributions (e.g. Becchetti, Massari, and Naticchioni, 2014; Ferreira, Firpo, and Messina, 2014; Firpo, Fortin, and Lemieux, 2007, 2011b; Groisman, 2014). We devote this section to discuss the details of the implementation of this approach.

The decomposition for the inter-distributional gap in the Gini index is done using a linear approximation based on its influence function. The influence function IF (or Gâteaux or directional derivative, Gâteaux, 1913) is a tool used for robustness analysis in Statistics (introduced by Hampel, 1974) and measures the influence that a small contamination in y has on a particular statistic. By construction it has zero expectation, and by adding the value of the target statistics we obtain the recentered influence function RIF. The RIF of the Gini index for income y, $RIF(y;G)$, is discussed in detail in the technical appendix, where we show that it is a non-monotonic transformation of incomes, in which extremely high/low incomes will have a disproportionally large influence in the Gini coefficient.

The simplest version of the RIF decomposition approach assumes that the conditional expectation of $RIF(y;G)$ can be modelled as a linear function of the explanatory variables, given by matrix X, such that the β coefficients can be estimated by OLS:

$$E(RIF(y;G)|X) = X'\beta. \quad \textbf{(1)}$$

Then, by the law of iterative expectations:

$$G = E\big(RIF(y;G)\big) = E_X[E(RIF(y;G)|X)] = E(X)'\beta. \quad \textbf{(2)}$$

Thus, the β coefficients can be interpreted as the marginal impact of a small change in $E(X)$ on the Gini index. These coefficients indicate, on average, how characteristics impact on income, taking into account the distributional pattern of what incomes are affected most.

Given that income and explanatory variables – described in the data section - are defined at the household level but observations are individuals, we obtained the estimations and standard errors allowing (perfect) correlation within households (clusters), which in this context is equivalent to use household observations weighted by their household size.

Based on **(2)** we can produce a linear decomposition of the Gini index into the total contribution W_k of each characteristic (including the intercept) x_k, $k = 0,1,\dots,K$, on inequality:

$$G = \bar{X}'\beta = \sum_{k=0}^{K} W_k = \beta_0 + \sum_{k=1}^{K} \bar{x}_k\beta_k. \quad \textbf{(3)}$$

Where the total contribution of the k^{th} characteristic is the product of its average value ($\bar{x}_k$) and the marginal impact of this characteristic on overall inequality (β_k).

From **(3)**, we can write the difference between the Gini of the reference and target distributions (with superscripts 0 and 1) as the sum of the total contributions of characteristics ($W_k^{\Delta X\beta}, k = 0, \dots, K$):

$$G^1 - G^0 = \bar{X}^{1\prime}\beta^1 - \bar{X}^{0\prime}\beta^0 = \sum_{k=0}^{K} W_k^{\Delta X\beta} = (\beta_1 - \beta_0) + \sum_{k=1}^{K}\left(\bar{x}_k^1\beta_k^1 - \bar{x}_k^0\beta_k^0\right). \quad \textbf{(4)}$$

However, these total contributions do not separate the impact of differences in average characteristics from the impact of differences in coefficients, which is the main purpose of this paper. For that, we necessarily have to follow a comparative approach in which we compare the target distribution with a counterfactual in which either average characteristics or the coefficients are kept constant.

Let us consider the counterfactual situation in which we give households in the target distribution the average characteristics of the reference, while keeping their own coefficients. By adding and subtracting the inequality level in this counterfactual, $G^{01} = \bar{X}^{0\prime}\beta^1$, and re-arranging terms, we can rewrite the inter-distributional differential in income inequality as:

$$G^1 - G^0 = (G^1 - G^{01}) + (G^{01} - G^0) = (\bar{X}^{1\prime} - \bar{X}^{0\prime})\beta^1 + \bar{X}^{0\prime}(\beta^1 - \beta^0). \quad \textbf{(5)}$$

That is, the gap is the sum of $W^{\Delta X} = (\bar{X}^{1\prime} - \bar{X}^{0\prime})\beta^1$, that represents the *aggregate characteristics effect* (inequality gap explained by shifting characteristics valued at the coefficients of the target distribution), and $W^{\Delta\beta} = \bar{X}^{0\prime}(\beta^1 - \beta^0)$, the *aggregate coefficients effect* (unexplained gap due to characteristics having a different impact on inequality for each distribution, valued at the characteristics of the reference distribution).[23]

Therefore, the evaluation of the individual contribution of each variable x_k to the characteristics and coefficients effects can be measured as $W_k^{\Delta X} = \left(\bar{x}_k^1 - \bar{x}_k^0\right)\beta_k^1$ and $W_k^{\Delta\beta} = \bar{x}_k^0\left(\beta_k^1 - \beta_k^0\right)$, so that the individual effects sum up the corresponding aggregate effects. Similarly, the sum of the characteristic and coefficient effect of each characteristic add up to the total contribution of that same characteristic, $W_k^{\Delta X\beta} = W_k^{\Delta X} + W_k^{\Delta\beta}$.

We can find alternative regression-based decompositions of inequality measures in the literature.[24] Different approaches have assumed (log-)linear conditional incomes and proposed a decomposition of the total effect of characteristics on inequality using different decomposition rules. Fields (2003) used the 'natural' decomposition of the variance of logs, arguing that it applied to other indices of inequality under a number of axioms (following Shorrocks, 1982). Morduch and Sicular (2002) also used the 'natural' decomposition rules of inequality measures, including the Gini index, while Wan (2002) applied the Shapley decomposition (Shorrocks, 2007). These approaches, however, have not

[23] Our approach is slightly different to the conventional Blinder-Oaxaca decomposition of the gender wage inequality in which women are typically given the wage structure of men (or equivalently, men are given the characteristics of women). This is done because in that case the convention is to believe that, under the no-discrimination scenario, those would be the returns that would prevail. Although it is also possible the alternative counterfactual, $G^{10} = \bar{X}^{1\prime}\beta^0$, that takes average characteristics in the target distribution and the coefficients of the reference one (Spanish households keep their characteristics but we change how they impact inequality), we believe that using the reference's (German households) characteristics provides us with a more transparent counterfactual. This alternative counterfactual, however, is shown to provide similar qualitative results in our robustness checks.

[24] Classical decompositions of inequality measures by subpopulations into between-group and within-group components do not require the use of regressions, but only allow to control for one single factor. Regression-based techniques can be viewed as a generalization of those decompositions in which we control for several factors at the same time.

separated the characteristics and coefficients effects. In that line, Yun (2006), following Juhn, Murphy, and Pierce (1993), extended the Fields' (2003) approach. However, this is valid only for the case of the variance of logs, an index of inequality that does not verify the main inequality property (the Pigou-Dalton principle of transfers, saying that a small progressive transfer always reduces inequality).

In this context, the RIF decomposition is quite general, valid for any measure of inequality for which the RIF exists, including the most popular Gini index. Given the linearity assumption, it is path-independent, it is straightforward to compute (including the standard errors), and invariant to the level of aggregation of explanatory factors. Furthermore it can be seen as a generalization of the conventional Oaxaca-Blinder decomposition which is the particular case in which the target statistic is the mean.

5.2 Some limitations of the approach

Fortin, Lemieux and Firpo (2011a) already stressed that most aggregate decompositions like this one assume the invariance of the conditional income distribution. This requires two main conditions: the simple counterfactual treatment and ignorability. The first condition implies that there are no general equilibrium effects. The second one, that there is no selection of individuals based on unobservables. Detailed decompositions usually require stronger assumptions, such as linearity in the relationship between RIF and characteristics, or exogeneity of household characteristics.

In our context, we are mostly interested in the detailed characteristics effects valued at the coefficients estimated for Spain in 2012 (although we also look at the coefficients effects). This means that we look at the immediate expected effect on inequality of increasing the level of employment or education of households, for example, before they could possibly affect wages. It means also that we treat the many household outcomes, such as their level of working intensity, their composition by occupation or industry, or the number of children they have, among other things, as if they were independent of the distribution of unobservables. For example, part of the equalizing effect that we attribute to attained education could be in fact the effect of people with different levels of education differing in other abilities or effort. This is also problematic in the case of the coefficients' effects if the distribution of conditional unobservables differs across countries or over time (otherwise they cancel out).

Thus, we are looking at the observed statistical association of households characteristics with inequality, ceteris paribus, in a reduced form, and cannot claim causality or aim at producing a realistic prediction of how inequality would change with specific changes in the characteristics. We, however, still believe that this type of exercise allows us to identify which are the main drivers of inequality in Spain and how they changed during the recession. This global picture does not preclude the need for more detailed analysis of the specific mechanisms of transmission of this inequality, in which dealing with general equilibrium effects or endogeneity issues would be more viable.

Furthermore, another specific caution must be considered regarding the detailed coefficients effects because they suffer from an identification problem (Oaxaca and Ransom, 1999). This is because the contribution of a dummy variable (and of the intercept) to this effect will vary with the choice of the omitted category, while the contribution of continuous variables will vary with affine

transformations that involve a location parameter. There are some solutions for dummies in the literature. For example, Yun (2005, 2008) normalized the coefficients for the categorical variables, such that the sum of the coefficients of each set of dummies is 1. The only solution for continuous variables is to rely on specifications that are widely accepted in the literature. However, as pointed out by Fortin, Lemieux, and Firpo (2011a), there is no general solution to this problem and those proposed in the literature are all ad-hoc. In our case, we only have one dummy set (degree of urbanization). The rest are continuous variables such as household size and a number of proportions across household members that have a natural normalization. However, these proportions come from dummy variables and we need to exclude some of them to avoid multicolinearity (e.g. the proportion of men in the household when we include the proportion of women), and there is no clear solution for this. For that reason, we are not using any correction here. Note, however, that the main focus of our study is to identify the detailed characteristics effect, which is not affected by this identification problem (neither is the overall coefficients effect).

6. Empirical results: RIF regressions

We first discuss the auxiliary RIF regressions used for the decompositions. The dependent variable in the regressions is the $RIF(y;G)$. The distribution of the average values of this variable by income percentile in Spain and Germany in 2012 are displayed in Figure 3. A horizontal line indicates the value of the overall average (the Gini index) in each country to identify income percentiles whose RIF lie above or below that average. As expected, RIF values tend to be highest at both ends of the income scale, but the proportion of people with values above the mean is much larger at the bottom (below the 29th percentile in Spain) than at the top (above the 91st percentile). Thus, the way characteristics distinctly affect these observations will have a larger impact on inequality. In what follows we discuss the explanatory variables and the estimated coefficients.

6.1 Households' characteristics

Table 3 shows the extent to which Spanish and German active households differ across a number of relevant dimensions. It reports the average and standard deviation of the explanatory variables across individuals in both countries and years, although all the characteristics, like income, are determined at the household level.

In 2012, Spain has a higher proportion of people living in active households residing in densely populated areas (50 versus 34 percent in Germany). The proportion of married adults and women are pretty similar in both countries, but they have a different demographic profile. On average, Spanish people live in larger active households (3.4 versus 3 members), with a higher proportion of adults in their middle-age (25-44 years old) or 65 or older (7 versus 2.5 percent), a similar proportion of children (up to 16 years old), and fewer adults with health limitations (14 versus 21 percent). There is also a higher proportion of recent immigrants (less than 10 years of residence, 13 versus 2 percent) and a smaller proportion of immigrants with longer time of residence (3 versus 5 percent) in Spanish active households. The main demographic changes observed in Spain between 2008 and 2012 refer to the decline in the average household size, driven by a reduction in the proportion of young adults (16-34 years old).[25] Compared with Germany, Spanish households also exhibit in 2012

[25] There was a net increase of about 0.25 million of individuals in active households between 2008 and 2012, with a substantial increase of almost 1.3 million people in the range of 35-64 years old and 0.3 of children, but

a lower proportion of adults who attained upper-secondary/postsecondary education (23 versus 52 percent) and tertiary education (32.5 versus 39 percent).[26]

The activity rate in 2012 is lower in Spanish households (75 versus 80 percent of months spent in the labor force) with also lower employment rates as employees either part-time (9 percent of moths in Spain, 24 percent in Germany) or full-time (54 versus 62 percent). The proportion of months worked as self-employed is, however, higher in Spain (12 versus 6 percent, including part- and full-time). The average proportion of adults with temporary contracts in Spain doubles that in Germany (29 versus 14.5 percent), while the average proportion of workers with 6 or more years of experience is larger in Germany. Regarding the structure of the economy, Spanish households have a higher proportion of adults in low-skilled occupations (elementary; craft and related trades; services and sales workers) and a smaller proportion of professionals and technicians. Similarly, a lower proportion of adults work in Spain in manufacturing, and a relatively higher number work in accommodation and food services or wholesale and retail trade. A higher proportion of adults are working in smallest firms (1-2 employees: 13 versus 5 percent) and a lower share in larger firms (above 50 workers: 20 versus 48 percent).

The changes observed between 2008 and 2012 in the labor market in Spain are, not surprisingly, important. There is a small increase in the activity rate (2 percentage points, driven by higher women's participation), with a fall in full-time employment rates of 14 percentage points, and an increase in part-time (6 percentage points). Employment losses were not random and also changed the structure of jobs, with a reduction of workers in larger working units and in elementary occupations, especially in the construction and manufacturing sectors. There was only a small 1-percentage-point reduction in the proportion of temporary contracts, while more experienced workers represent a larger share in 2012.[27]

6.2 Gini-RIF coefficients

The coefficients in the RIF regressions indicate the magnitude and direction of the expected change in the Gini index after a small increase in the average value of the corresponding variable, ceteris paribus. Given that $RIF(y;G)$ is a non-monotonic transformation of incomes whose average is the Gini index, a marginal increase in the average value of a characteristic will increase inequality whenever it increases the relative income of the rich or decreases that of the poor. This will be clearly the case of characteristics with an association with conditional income following a U shaped curve. The reverse will decrease inequality instead (inverted-U shaped curves). Figure 4 shows the examples of the association between activity/employment rates with unconditional income and RIF in Spain. Household disposable income inequality is the result of the interplay between the

a reduction of near 1.4 million of 16-34 year-old people. Similar changes are observed in the entire population (which increased by about 1 million), probably the result of the inversion of migration flows.

[26] The gap in education is smaller for youngest cohorts. Spain exhibits a similar proportion of people with tertiary education (42%) among those between 25-34 years old, but still a much higher proportion of people who did not reached upper-secondary studies (32% versus 7%).

[27] In the case of Germany there is a reduction in the proportion of middle-aged members (35-44), an increase in part-time and temporary work, also with more workers in the manufacturing sector and less in trade. There was also a reduction in the population living in densely populated areas. This might be associated with the change in the construction of this variable by Eurostat since 2012 (based on *Eurostat Labour Market Working Group* in 2011)

earnings generation process, the tax-benefit model, and the formation of households. Thus, the exact mechanisms that produce these coefficients might not always be obvious.

The estimated coefficients of the Gini-RIF regressions are reported in Table 4 for Spain and Germany in 2012. While there are important coincidences, it is clear that the labor market and demographics work differently in both countries in terms of how they shape inequality as we now discuss in more detail. There is a large intercept in both countries. This is the expected Gini for the limit case in which all explanatory variables are set to zero. It reflects the net effect on inequality of unobservables and variables omitted to prevent multicolinearity (implying no activity/employment, lowest education, etc.). A marginal increase in most characteristics included as explanatory variables, such as education or employment, produce an equalizing effect, given how the model was specified.

Inequality in both countries decreases, ceteris paribus, with the size of the household (which allow to diversify income sources). We do not find any statistically significant relationship between inequality and gender or civil status (although the effects are also negative), while health limitations significantly decrease inequality only in Germany. Regarding age composition, inequality increases more intensely in Spain with the proportion of children. This might be the result of the failure of family policies to compensate the increase in needs. In Spain, unlike in Germany, inequality increases also with the proportion of young adults (16-24 years old). Inequality in Spain, however, is strongly and negatively associated with the proportion of 65 year-old people, a group with higher incidence among intermediate income deciles, consistent with the equalizing effect of old-age and survivors' pensions already mentioned. This effect is positive but statistically not significant in Germany (it is however positive and significant for the proportion of 55-64 years old). Inequality increases in Spain with a higher presence of recent immigrants, who are over-represented at the bottom of the distribution even after controlling for other characteristics (probably induced by their lower wages, over-education, etc.).[28] Inequality in Spain (but not in Germany) decreases with the proportion of people living in less densely populated areas, what might reflect the fact that the distribution of income in less densely populated areas tends to be more homogenous.[29]

In Spain, there is also a negative relationship between inequality and the proportion of active household members that went beyond primary education –the omitted category. In Germany, the negative educational effect on inequality is only statistically significant in the cases of upper/post-secondary studies.

Regarding labor variables, inequality is reduced in both countries with the proportion of time spent in the labor force. As figure 4 shows, the activity rate tends to be increasing with households' income (and decreasing with RIF): in Spain from 68 percent in the third decile to 82 percent in the top one. Inequality is even more intensely reduced with the proportion of months spent as full-time and part-time employees. However, inequality increases in Spain with the proportion of time spent in full-

[28] For example, Canal-Domínguez and Rodríguez-Gutiérrez (2008) found a significant unexplained wage gap between native and immigrants in Spain after controlling for differences in productivity.

[29] In the case of Germany we do find a locational effect in 2008 but not in 2012. This might be associated with the change in the construction of this variable mentioned earlier.

time self-employment.[30] The negative association between employment rates and inequality is higher in the case of full-time employees, although the differential with part-timers is small. To be more precise, an increase in one percentage point in the average full-time (part-time) employment rate, reduces the Gini index in Spain around 0.7 (0.5) percent, while a similar increase in the activity rate produces a smaller decline of 0.2 percent in inequality. The omitted category is the unemployment rate, so what the employment coefficients predict is a decline in inequality, after an increase of employment at the expense of unemployment (while keeping constant the activity rate and the other type of employment among other things) which is a bit larger in the case of a full-time job. While part-time employment has a lower impact on income, it mostly benefits poor and middle incomes (see Figure 4). The effect of an increase in full-time employment on income is much larger, but its impact on inequality is attenuated because it is more likely to benefit relatively higher incomes.

We do not find much evidence of a significant relationship between experience and inequality. The proportion of temporary workers increases inequality in Germany but not in Spain. This lack of association between the share of temporary workers and inequality in Spain might be surprising, as the duality between temporary and permanent contracts has been profusely identified as one of the major weaknesses of the labor market. There is a strong negative correlation between the share of temporary jobs and income and thus a negative correlation with RIF. It is after we control for other characteristics that this effect vanishes. A possible explanation is that temporary jobs are expected to affect inequality mostly through their impact on employment because they imply a rotation of workers between jobs and unemployment during short periods. Thus, this main effect on inequality will be captured by the employment rates, which are controlled for here. Temporary jobs are also highly correlated with unskilled workers, low-paid occupations, etc., variables also controlled for in the regression.[31]

Inequality is associated with the structure of the economy in Spain more strongly than in Germany. Inequality in Spain increases with the proportion of managers and professionals, or people working in the financial sector, and to decrease with the proportion of technicians and clerks, and people in other services.

Table A2 in the Appendix reports the coefficients for the regressions that allow to compare 2008 and 2012 in Spain. They are pretty similar. Among the most salient differences, the positive effect of the proportion of young adults on inequality and the negative effect of tertiary education did not appear in 2008, while the negative association of the proportion of elderly was already present but smaller. In 2008, however, the proportion of women in the household had a positive association with higher inequality that disappeared in 2012. We also observe important changes in the contribution of industries (financial sector, and other services) and occupations (technicians and

[30] Alvarez, Gradín and Otero (2013) have shown with evidence for 1994-2001 in Spain that self-employment was the only alternative for some people to become employed due to constraints in the labor market. Considering the previous working status, the unemployed were the most likely to become self-employed, while employees were the least likely to do so.

[31] However, there remains a direct and significant effect on income after controlling for all those other characteristics but not on inequality. In the case of a log-linear regression of household disposable income on the same set of characteristics the coefficient associated with temporary jobs is -0.097 in Spain (-0.126 in Germany) and statistically significant.

associate professionals, and craft and related trades workers).[32] These trends are likely reflecting the deep changes during the recession such as the larger contribution of elderly's pensions and women's earnings to households' income, the lack of opportunities of the youngest members of the household, or the relative situation of some economic activities.

7. Empirical results: Decomposing the inter-country inequality gap among active households

More than three quarters of the Gini differential in income inequality among active households between Spain and Germany in 2012 (0.063 out of 0.083) are explained by inter-country differences in average characteristics (Table 5, left panel). This is the inequality that would be gone if active households in Spain had German average characteristics, while keeping Spanish coefficients, and corresponds with a Gini of 0.295 in Spain. The remaining unexplained effect (that would be gone only after additionally shifting the coefficients) is significant but much smaller: 0.020.

7.1 The detailed explained or compositional effect in 2012

The largest explained effect (0.054, 66 percent of the total Gini gap) is related with differences in the set of labor market variables. The largest contribution (0.055) comes from the low work intensity of Spanish households as the result of the recession (proportion of months spent in activity and employment). More specifically, a small portion of the gap (0.003, 4 percent) is explained by a lower activity rate; the shorter time spent working as employees makes the largest contributions either part-time (0.026, 32 percent) or full-time (0.019, 23 percent). The higher proportion of months spent in full-time self-employment explained another significant 0.006 or 7 percent of the gap. Other job or worker' characteristics, such as type of contract, unit size, experience, or occupation do not help to explain the higher inequality in Spain, however, because these differences valued with Spanish coefficients are small and statistically not significant. We, however, found a negative and significant effect of the industrial mix (e.g. the smaller size of the financial sector) that helps to reduce inequality in Spain as compared with Germany (-0.006, 8 percent).

After the labor market, the lower attained education is the main driving factor of higher inequality in Spain: it explains another 0.012 Gini points differential (14 percent of the gap), while the different degree of urbanization plays only a marginal role (0.004, 5 percent). We will turn back later to the role of education and labor characteristics when we analyze how their impact change across households with different employment rates.

The difference in the demographic composition of households has a net negative contribution of -0.007 (9 percent if the gap). If household size and composition by age in Spain were similar to those in Germany, inequality would increase by about 0.016 Gini points (20 percent of the observed gap). The fact that Spain has larger economically active households and these cohabit with more people above 65 years old, make the largest negative contributions (each factor explaining -0.007, equivalent to 9 percent of the gap). These two demographic effects are, however, partially offset by

[32] In Table A2, we do not distinguish the proportion of months spent as employee or as self-employee because that information is not available in 2008. We use instead the proportion of people in self-employment at the time of the interview. The effect of using this poorer information is that it reduces the absolute magnitude of the coefficients associated with months spent in full- or part-time employment, and increases the contribution of the proportion of temporary contracts, among other effects.

the positive effect of immigration on the inequality gap, due to a higher proportion of recent immigrants in Spain (0.008; 10 percent of the gap).[33]

On summary, lower working intensity and attained education, and a more recent immigration profile jointly explain almost entirely the observed higher inequality in Spain compared with Germany, although the equalizing role of Spanish extended families makes this gap smaller. One obvious limitation of comparative approaches is to assess how much of this depends on the specific choice of the reference. For that reason, we now extend the analysis to other countries, and we will check as well how much of the nature of inequality in Spain changed during the recession.

7.2 Comparison with other countries

The results when other countries (France, Italy, Sweden and the UK) are taken as the reference are reported in Table 6 (mean characteristics and estimated coefficients can be found in Tables A3-A4). All these countries exhibit lower inequality than Spain, but only Sweden has lower inequality than Germany. The characteristics of households explain to a large extent the higher inequality of Spain, going from only 0.013 Gini points with Italy to 0.047 with Sweden. In relative terms, characteristics account for the entire gap with the UK, for 71 percent with France, 39 percent with Sweden, and 34 percent with Italy. The results generally point in the same direction to those found when Germany was the reference.

Of these countries, Italy outstands as a particular case. Spain exhibits higher inequality to some extent due to the lower attained education (0.007), a higher recent immigration (0.003), and the occupational mix (0.002), only partially compensated by a higher activity rate (-0.004). Regarding employment rates, there is no overall effect because the positive effect of the shorter time Spanish households spent in full-time employment is compensated by the opposite effect of the lower intensity in full-time self-employment (which increases rather than decreases inequality). Household size and composition by age are pretty similar in both Mediterranean countries and play no role in explaining differences in inequality.

The results in the other cases are more similar to those found in the case of Germany. Lower activity and employment rates in Spain explain the gap to a large extent, while the size and composition of Spanish households tend to attenuate that differential. The main difference among these countries is the role of part- and full-time jobs. The effect of time spent in part-time jobs is largest in the comparison with the UK (0.020) and smallest with France (0.011), while the effect of full-time jobs is largest with Sweden (0.031) and smallest with the UK (0.018). The higher recent immigration is only relevant in the comparison with France (0.006). Among the other labor variables, the only relevant effect is that the occupational mix tends to reduce inequality in Spain as compared with the UK and Sweden.

The contribution of lower attained education in Spain on inequality is always large, varying between 0.007 (the UK) and 0.011 (Sweden). On the other hand, the overall effect of the size and age composition of households when the reference is France (-0.017) or Sweden (-0.019) is similar to the case of Germany (-0.016), but it is substantially smaller for the UK (-0.008). However, the role of

[33] Lacuesta and Izquierdo (2012), for example, found that increasing immigration between 1995 and 2002 contributed to increase heterogeneity in earnings among men in Spain, consistently with previous results for the US and Germany.

each factor varies. While the effect of the differential in households' size is smaller in these countries than in the comparison with Germany, the importance of the proportion of children is much larger in the comparison with France (-0.004) and with Sweden (-0.006), because these countries have higher fertility rates.

7.3 The recession and the explained effect

Our next step is to ask how much of the nature of inequality in Spain changed between 2008 and 2012. This allows to separate more permanent factors from those strongly associated with the recession. For that, we first obtain the decomposition for the inter-country gap between Spain and Germany in 2008 in Table 7 (left panel). The gap was much smaller (0.014) and entirely associated with the lower activity and part-time employment rates in Spain, and the higher level of self-employment. These effects were only partially compensated by the higher full-time employment rates. The occupational distribution and the size of working units contributed to reduce the gap in 2008, effects that vanished during the recession after the asymmetric destruction of jobs. On the other hand, the role of education increased between 2008 and 2012, while the effect of the demographic factors remained at a similar level.

Table 6 (first two columns in right panel) also reports the results when we compare inequality in Spain in 2008 and in 2012 (the counterfactual has 2008 characteristics and 2012 coefficients). Our results identify the fall in employment as the main responsible factor for the rise in inequality over time. Of the total increase in inequality between 2008 and 2012, near 60 percent (0.025) is associated with the reduction in the time households spent in full-time jobs, with an additional effect (0.004) associated with the larger loss of jobs in bigger working units. These effects were only partially offset by the opposite effect of the increases in the activity rate and time spent in part-time jobs, as well as the decrease in the importance of self-employment (summing up -0.006). The reduction in the average size of households (likely following a long-term demographic trend) accounted for a small 6 percent (0.012) of increase in inequality. We do not find evidence of the change in the composition of jobs by sector or occupation to have affected inequality of households' disposable income in Spain during the recession, contrary to what was found in the (individual) earnings inequality literature using other data sources for earlier years.[34]

7.4 The detailed unexplained effects

An inspection of the coefficients effects in Table 5 (left panel) highlights the fact that the different impact of household characteristics on inequality in Spain and Germany in 2012 (valued at the average characteristics in Germany) is also playing a role, but with some counterbalancing effects. We need to take these effects with caution given that they suffer from well-known identification problems. By main dimensions, the only significant effect is that of location, -0.021, because the less densely populated areas contribute to reduce inequality in Spain, but not in Germany as was

[34] If with our EU-SILC data, we undertake the decomposition analysis for the 2008-12 increase (0.015) in the Gini of individual gross earnings (conditional on individual characteristics) for people employed all 12 moths during the reference period, we only find evidence of a small reduction in inequality associated with the smaller proportion of temporary workers (-0.002), and an increase in inequality (0.005) due to the higher proportion of part-timers. We still do not find any effect of the change in occupation or industry unlike other studies using alternative datasets.

previously discussed. The overall effects of labor and education are positive and large but statistically not significant, indicating a high degree of heterogeneity.

At the more detailed level of disaggregation, we observe some statistically significant effects. In the labor market, the more disequalizing effect of temporary workers in Germany, would produce, if brought to Spain, an increase in inequality (the contribution has a negative sign) of 0.007 (about 8 percent of the gap). On the other hand, the effects associated with industry composition of the labor force helps to explain a substantial gap of 0.023. Among the demographic factors, we also find that, as expected, the gap in inequality would be a 6 percent larger (0.005) if we import the effect of the share of elderly people in active households (which attenuates inequality in Spain but not in Germany), a similar effect is found in 2008.

Comparing the situation in Spain in 2008 and 2012, we find that most aggregate coefficient effects are poorly significant. Only at the most detailed level we find statistically significant negative changes, characteristics associated with a more (less) equalizing (disequalizing) effect in 2012, for tertiary education, large working units, or the percentage of women. The opposite is found for employment, which was less effective in 2012 to lower inequality, and immigration, which increased its disequalizing effect.

Regarding the comparison with other countries, the overall coefficients effects were also found to be positive and statistically significant in the cases of France (0.017), Italy (0.025), and, especially, Sweden (0.074), but barely zero in the case of the UK, indicating that the distribution of the relevant characteristics and local institutions also matter for explaining the higher level of inequality in Spain. However, the presence of large fixed effects of the intercept in the cases of France and Sweden makes it difficult to identify what factors might be behind this. The large and positive effects of (full-time) self-employment (except with France) indicate that these type of jobs are strongly associated with higher inequality in Spain but not in these countries. The negative effects of part-time jobs (except for Italy) indicate that they reduced inequality more intensely in Spain. In all cases (except with France), we find a negative and significant coefficients effect associated with the proportion of elderly in the household, which reinforces the strong equalizing effect of pensioners cohabiting in active households in Spain.

7.5 Households heterogeneity in employment rates

Working intensity of active households is quite heterogeneous, going from households fully employed during the reference year (making up 56 and 87 percent of the target population in Spain and Germany), to households fully deprived from employment (9 and 5 percent respectively).[35] In order to better assess the importance of the factors determining inequality we now evaluate how much the relevance of each factor changes in explaining inequality within economically active households when starting with the subsample of those in households with the maximum employment rate equal to 1 (implying 12 moths worked in any type of job) we sequentially lower this limit to $> 0.75, > 0.5, > 0.25, > 0$, and ≥ 0 (the case previously analyzed). Results are reported in Table 8.

[35] Gradín, Cantó and Del Río (2015a) provide an extensive analysis of patterns of employment deprivation of households across the EU at the beginning of the recession.

The results show the increasing importance of the full-time employment effects that raise the inter-country inequality gap as we sequentially include households with lower employment rates. They also show that the lower proportion of time spent in part-time jobs in Spain (compared with Germany) reduces inequality among highly employed households (because the alternative of full-time jobs is more effective in reducing inequality). However, it contributes to explain higher inequality in Spain as we include households with low employment rates (as part-time jobs reduce inequality when the alternative is unemployment). At the same time, the importance of self-employment (and to a much lower extent the size of working units) in explaining higher inequality in Spain decreases as we include households with lower employment rates.

Particularly interesting is to note that education and industry increase their relevance (with a positive and negative effect respectively) as we reduce the working intensity threshold. We do not find a significant effect of education to explain higher inequality among yearly employed households in Spain. This is in line with previous results in the earnings inequality literature that have shown that the educational premium declined in Spain before the recession, unlike in other countries. Felgueroso et al. (2015) associated this trend with a large level of over-education and to the extraordinary share of tourism and the construction sector in the Spanish economy. However, we find that the effect of education becomes more important to explain the inter-country inequality gap as we include people in households with lower or none employment. The same trend (but with the opposite sign) can be found with the industrial composition that prevents the gap in inequality to be even higher in Spain, mostly due to the lower proportion of workers in the financial sector. The change in the importance of these two variables is reflecting that they probably affect between-group inequality for households with very low employment rates and the rest, rather than within-group inequality among those actually employed.[36] The importance of other labor variables such as experience, unit size, or contract type remain very low at all employment rates. The impact of occupation is a bit larger at the extremes but poorly significant.[37]

7.6 Using an alternative counterfactual

Finally, we address the question of robustness with the choice of the counterfactual in the comparison with Germany. Would these results be different if we had chosen instead a counterfactual in which Spanish households in 2012 were given German coefficients while keeping their own average characteristics? The corresponding coefficients effect (comparing the original Spanish distribution and the counterfactual) is even smaller (0.007) and statistically not significant (Table 5, right panel). Thus, bringing to Spain the German association between characteristics and inequality, but maintaining the distribution of characteristics would not reduce any inequality at all. All the reduction in inequality would be produced going from this counterfactual to the German

[36] They could also affect the degree of overlapping of both groups over incomes. When population groups overlap over the space of incomes, the overall Gini index can be written as the sum of the between-group Gini and the weighted sum of the product of each within-group Gini and an index of overlapping with the other groups (see Gradín, 2000).

[37] Similarly, if we decompose the increase in inequality between 2008 and 2012 in Spain for households employed all the year around, we only find a small increase in inequality (0.010), and the only significant explained effects are those associated with the decline in households' size (increasing inequality by 0.004) and the smaller proportion of temporary workers (reducing inequality by 0.002). These results are consistent with the earnings inequality decomposition explained earlier in footnote 34.

distribution of income (0.075, 91 percent of the gap), confirming the importance of the characteristics effect regardless of whether this is valued with Spanish or with German coefficients.

The detailed characteristics effects show that the main contribution is, again, associated with the shortage in employment, especially part-time, and to a much lower extent the industrial structure (0.005). An important novelty of using German coefficients is the significant contribution of the higher proportion of temporary workers in Spain. In the case of demographic variables, the contribution is larger for household size (-0.010) but smaller and not significant for age composition and immigration. This is because German coefficients show a smaller equalizing effect of the share of elderly people, a larger equalizing effect of household size, and less disequalizing effect of recent immigration. The contribution of education would be still positive and significant (0.011). Regarding the coefficients effect (now valued using Spanish characteristics) we would still find negative and significant values for degree of urbanization, elderly population, and temporary contract.

Similarly, if we compare Spain in 2012 and 2008, but using as the counterfactual the distribution that keeps the 2008 coefficients and 2012 characteristics (Table 7, last two columns), the characteristics effect is larger, 0.037 (86 percent of the increase in inequality over time), with most accounted by the fall in full-time employment (0.034), again only partially compensated by the increases in activity, part-time and the fall in self-employment like in our previous results.

8. Concluding remarks

In this paper we have investigated the reasons explaining why inequality in Spain is higher than in other EU countries, and why it has sharply increased in recent years. Using a comparative approach, we have analyzed the role of earnings and the tax-benefit model, as well as that of the composition of households by characteristics. We show that the high level of inequality in Spain in 2012 was the result of a combination of circumstantial factors, especially the low level of employment after the recession, and factors already present before the recession, such as the low level of education, the recent immigration profile, or the weakness of the redistributive effect of taxes and family or housing benefits. We have also shown that other factors help to lower the level of inequality. That is the case of the higher prevalence of extended households, or the increase in unemployment benefits during the recession. The structure of employment by occupation or industry (with an underrepresentation of high-skilled jobs, or jobs in the financial sector) seem also to help to reduce rather than increase income inequality.

An important lesson from all these results is that there are three main sources through which inequality could be reduced in Spain. The main way is by increasing the level of employment. Our results suggest that increasing part-time employment may have a significant impact on reducing inequality, provided it is the alternative to unemployment or inactivity, and provided it keeps its current distributional pattern. Increasing full-time employment, especially at the bottom of the distribution where it is currently scarce, is likely to have a much larger effect, however.

A second way to push inequality down is by increasing the level of education. This necessarily calls for a reduction of the large drop-out rates in secondary education and the recycling of those who abandoned the educational system to work during the housing bubble. The huge youth unemployment rates imply that a large part of the Spanish labor force is neither in education nor accumulating experience, while students in tertiary education face increasing costs with fewer

scholarships. After a long debate about the convenience of the intense immigration flows, the country has witnessed a sudden flow of outmigration with especial incidence among young people with higher education.

Finally, inequality can be reduced through a more redistributive tax-benefit system. Most social benefits are devoted to unemployment and very few to child or housing support in comparison to Germany and other EU countries. The current equalizing effect of social benefits in Spain is strongly linked to the low employment levels and the extension of unemployment benefits. A reduction in unemployment if the economy returns to a normal situation, would then be accompanied by a reduction in social protection and its equalizing effect. Direct taxes, although nominally very progressive, are full of loopholes and face large evasion levels, reducing its effectiveness in reducing inequality.

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Technical Appendix: The (Recentered) Influence Function of Gini

Let F be the cumulative distribution of income y, with mean μ and Gini index $G(F)$. For $0 < \varepsilon < 1$, $T = (1-\varepsilon)F + \varepsilon\delta_y$ is the mixture distribution[38] obtained by the contamination of F in y, where δ_y is the cumulative distribution function for a probability measure which gives mass 1 to income y. Then, the influence function of the Gini index, $IF(y;G)$, first obtained by Monti (1991), is the directional derivative of $G(T)$ with respect to ε at $\varepsilon = 0$, has zero expectation, and can be represented as follows (e.g. Essama-Nssah and Lambert, 2012):

$$IF(y,G) = \frac{d}{\varepsilon}G(T)\Big|_{\varepsilon=0} = \lim_{\varepsilon\to 0}\frac{G(T)-G(F)}{\varepsilon} = 1 - \frac{\mu+y}{\mu}G - \frac{y}{\mu} + \frac{2}{\mu}\int_0^y F(x)dx. \quad \textbf{(6)}$$

Integrating by parts, $\frac{1}{\mu}\int_0^y F(x)dx = \frac{y}{\mu}F(y) - L_{F(y)}$, where $L_{F(y)}$ is the Lorenz curve at $F(y)$:

$$IF(y,G) = 2\frac{y}{\mu}\left[F(y) - \frac{1+G}{2}\right] + 2\left[\frac{1-G}{2} - L_{F(y)}\right]. \quad \textbf{(7)}$$

As Monti (1991) mentioned, the variability in $IF(y,G)$ increases with the distance between the abscissa (F) and ordinate (L) of the Lorenz curve from their corresponding weighted averages, that is, the areas above and below the Lorenz curve: $\frac{1+G}{2}$ and $\frac{1-G}{2}$. The first term is unbounded because it is increased by the factor $\frac{y}{\mu}$, while the second one is bounded between $G-1$ and $1+G$. These two terms cancel out each other in the case of perfect equality.

The recentered influence function, $RIF(y;G)$, is just obtained by adding G to $IF(y;G)$, so that its expected value $E(RIF(y,G)) = G$:

$$RIF(y,G) = IF(y,G) + G = 1 - \frac{y}{\mu}G - \frac{y}{\mu} + \frac{2}{\mu}\int_0^y F(x)dx. \quad \textbf{(8)}$$

The $IF(y,G)$ (and RIF) of a continuous function is continuous and convex in y, reaching its minimum when $F(y) = \frac{1+G}{2}$.[39] Given the usual ranges in developed countries for the Gini index of disposable income (around 0.3) and the rank of the average income (around the 60-70 percentiles), this minimum will typically happen near the mean. The function is unbounded from above.[40] As a result, extremely high incomes (and to a lower extent also low incomes) will have a disproportionally large influence in the Gini coefficient, like in other inequality measures.[41] However, our empirical

[38] The mixture distribution attaches a probability $1-\varepsilon$ of y being generated by the distribution F and ε of being generated instead by δ_y.

[39] Note that the first and second derivatives of the IF are $\frac{2}{\mu}\left(F(y) - \frac{1+G}{2}\right)$, and $\frac{2}{\mu}\frac{dF}{dy} \geq 0$.

[40] This property was used by Cowell and Victoria-Feser (1996) to show that the Gini index, like other inequality measures, is not robust to data contamination in high incomes. Cowell and Flachaire (2007) compared the rate of increase to infinity of the influence function of different inequality indices when y goes to infinity, which is equal to y in the cases of Gini, Atkinson, and Generalized Entropy ($\alpha \leq 1$). Note that the IF is usually defined for non-negative incomes. In our case, we have to take into account that the income distributions of Germany and Spain have a limited number of negative incomes that are going to be used in the analysis. In this context, the influence function is also unbounded from below.

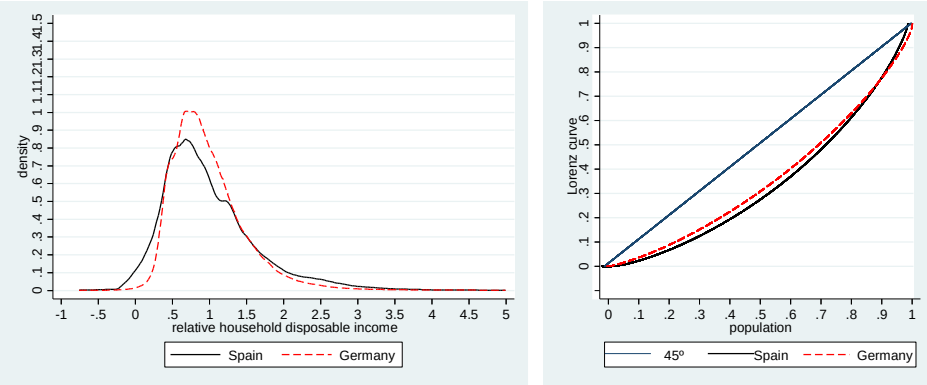
[41] As Cowell and Victoria-Feser (1996) pointed out, this has not to be confused with the fact that the impact of a progressive transfer produces the largest increase in the Gini index when it takes place around the mode of the distribution.

analysis shows that given that low incomes with a disproportionally influence on Gini are more common than extremely high incomes, the former as a whole will more strongly influence the Gini index, and so their characteristics will be determinant.

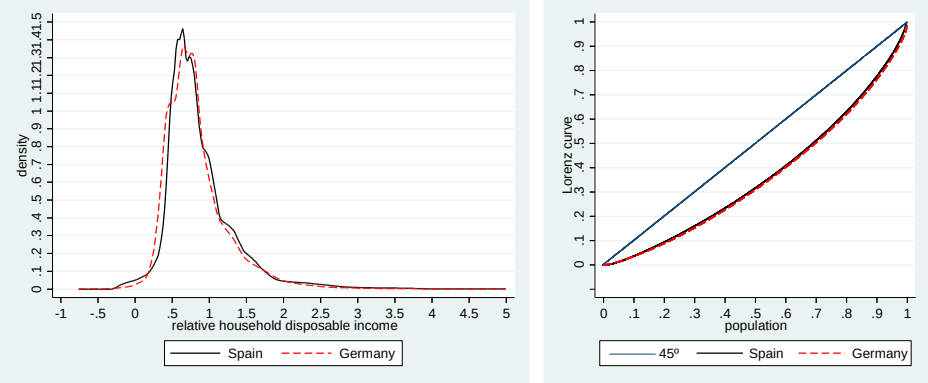
FIGURES AND TABLES

Figure 1. Household disposable income in Spain and Germany: Densities and Lorenz curves, 2012

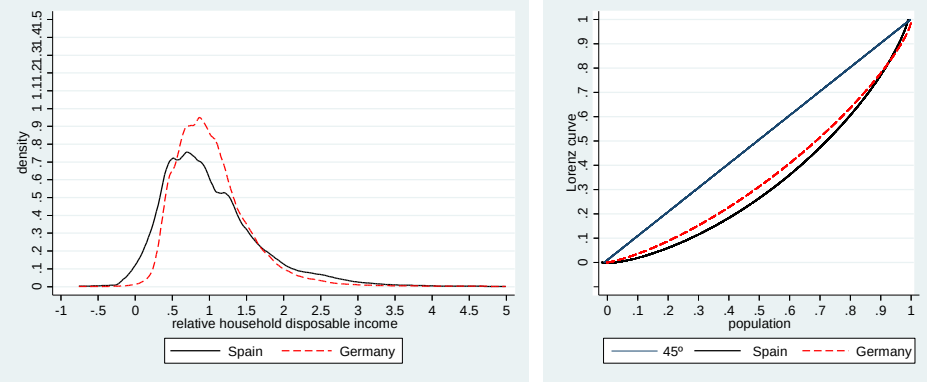
1.a All



1.b Population in inactive households



1.c Population in active households

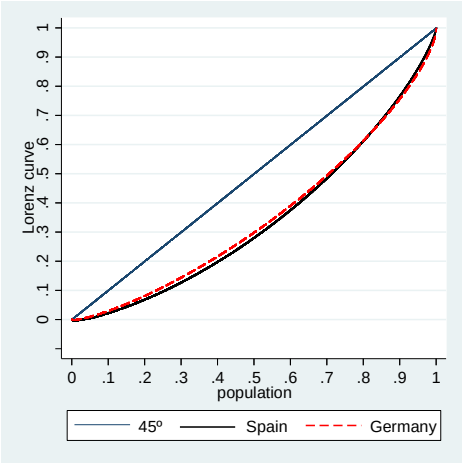


Notes:
- Relative household disposable income (equivalized using the OECD-modified scale) divided by country's average.
- A household is considered to be active (inactive) if it has at least one member (none) in the labor force in income reference year.
- Adaptive kernels with variable optimal bandwidth using a Gaussian kernel function.

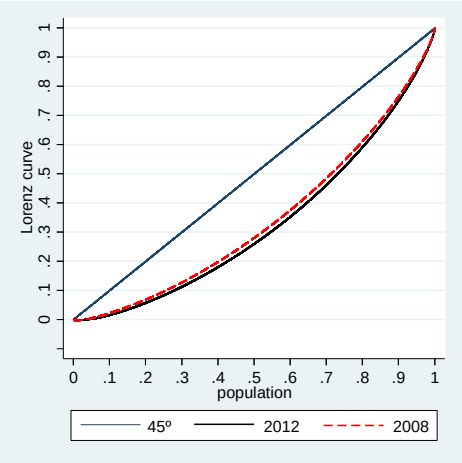
Source: Own construction using EU-SILC 2012 (2011 income).

Figure 2. Household disposable income in Spain and Germany in 2008, and Spain 2008-12

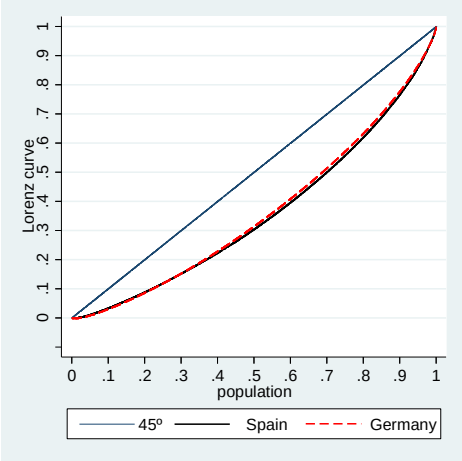
2.a All, 2008



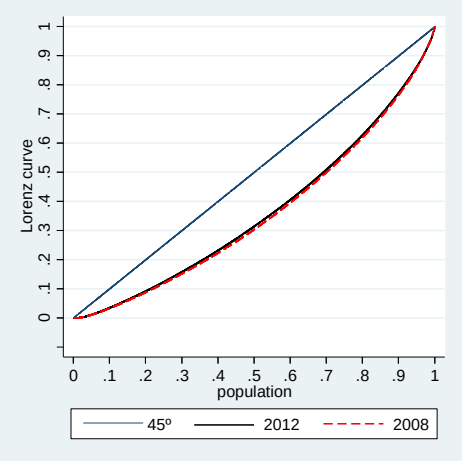
2.b All, Spain 2008-12



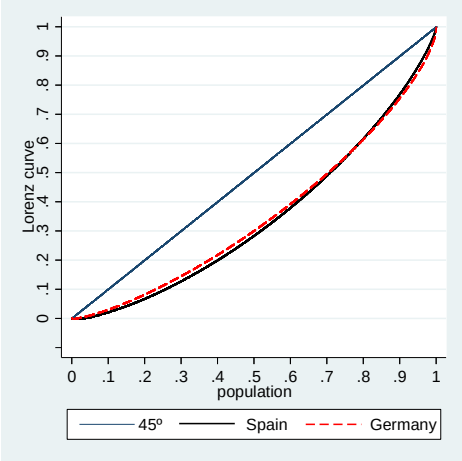
2.c Inactive households, 2008



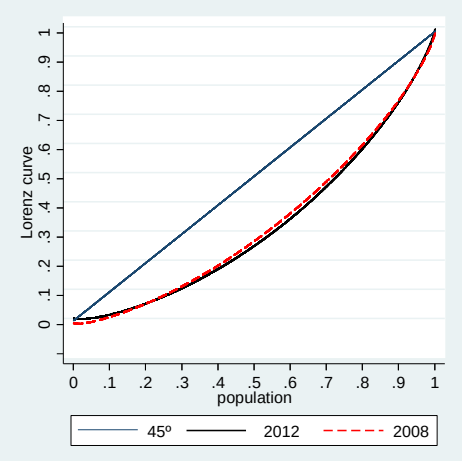
2.d Inactive households, Spain 2008-12



2.e Active households, 2008



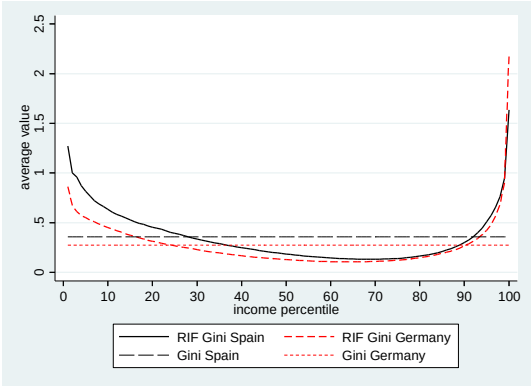
2.f Active households, Spain 2008-12



Notes:
- Relative household disposable income (equivalized using the OECD-modified scale) divided by country's average.
- A household is considered to be active (inactive) if it has at least one member (none) in the labor force in income reference year.
- Adaptive kernels with variable optimal bandwidth using a Gaussian kernel function.

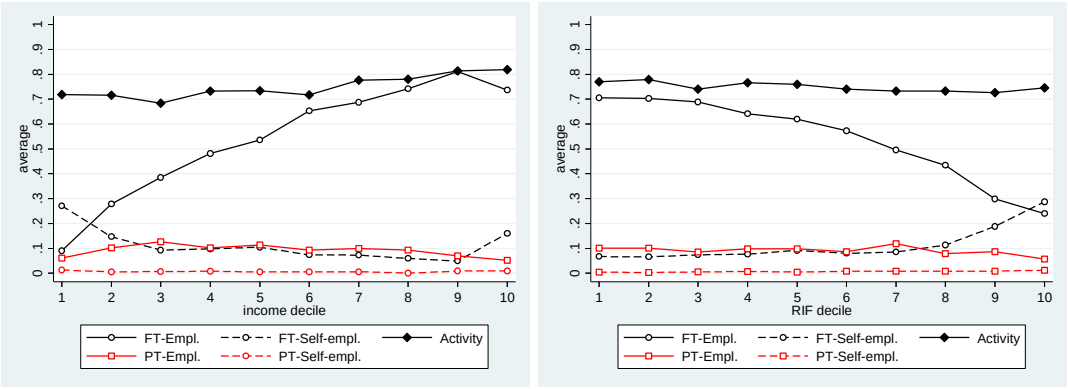
Source: Own construction using EU-SILC 2008, 2012 (2007, 2011 income).

Figure 3. Average $RIF(y; G)$ in Spain and Germany by income percentile, 2012



Notes:
- Equivalized household disposable income among active households (OECD-modified scale).
- Active households (at least one member in the labor force).
Source: Own construction using EU-SILC 2012 (2011 income).

Figure 4. Employment by income and RIF deciles in Spain, 2012



Notes:
- Equivalized household disposable income (OECD-modified scale) among active households (at least one member in the labor force)
- See Section 2.3 for a description of variables.
Source: Own construction using EU-SILC 2012 (2011 income).

Table 1. Income inequality (Gini) in Spain and Germany

		2008			2012			
		Spain (ES)	Germany (DE)	Gap (ES08-DE08)	Spain (ES)	Germany (DE)	Gap (ES12-DE12)	Gap (ES12-ES08)
Individual income								
Employed workers	**Labor income**	0.384	0.426	-0.042	0.407	0.409	-0.002	0.023
		(0.004)	(0.004)	(0.006)	(0.004)	(0.004)	(0.006)	(0.006)
Labor force	**Labor income**	0.424	0.478	-0.054	0.518	0.450	0.068	0.094
		(0.004)	(0.004)	(0.006)	(0.005)	(0.004)	(0.006)	(0.006)
Equivalized household income								
Inactive households	**Disposable**	0.290	0.277	0.013	0.276	0.286	-0.009	-0.013
		(0.006)	(0.005)	(0.008)	(0.007)	(0.006)	(0.010)	(0.009)
Active households	**Labor income**	0.390	0.407	-0.018	0.459	0.380	0.080	0.070
		(0.004)	(0.004)	(0.006)	(0.004)	(0.004)	(0.006)	(0.006)
	+ capital income (Market income)	0.387	0.402	-0.015	0.455	0.375	0.080	0.067
		(0.004)	(0.005)	(0.006)	(0.004)	(0.004)	(0.006)	(0.006)
	+ pensions	0.354	0.386	-0.032	0.415	0.360	0.054	0.060
		(0.004)	(0.004)	(0.006)	(0.004)	(0.004)	(0.006)	(0.006)
	+ unempl. benefits	0.343	0.364	-0.021	0.385	0.346	0.039	0.042
		(0.004)	(0.005)	(0.006)	(0.004)	(0.004)	(0.006)	(0.005)
	+ other social benef. (Gross income)	0.332	0.333	-0.001	0.370	0.312	0.057	0.037
		(0.004)	(0.004)	(0.006)	(0.004)	(0.004)	(0.005)	(0.005)
	- taxes (Disposable income)	0.315	0.301	0.014	0.358	0.276	0.083	0.043
		(0.004)	(0.004)	(0.006)	(0.004)	(0.004)	(0.005)	(0.005)
All population	**Labor income**	0.472	0.544	-0.072	0.538	0.525	0.013	0.067
		(0.004)	(0.004)	(0.006)	(0.004)	(0.004)	(0.006)	(0.006)
	+ capital income (Market income)	0.462	0.520	-0.058	0.527	0.504	0.024	0.065
		(0.004)	(0.004)	(0.006)	(0.004)	(0.004)	(0.006)	(0.006)
	+ pensions	0.363	0.391	-0.028	0.409	0.372	0.037	0.046
		(0.003)	(0.004)	(0.005)	(0.004)	(0.004)	(0.005)	(0.005)
	+ unempl. benefits	0.353	0.372	-0.019	0.384	0.360	0.023	0.030
		(0.003)	(0.004)	(0.005)	(0.004)	(0.004)	(0.005)	(0.005)
	+ other social benef. (Gross income)	0.340	0.342	-0.002	0.365	0.326	0.040	0.025
		(0.003)	(0.004)	(0.005)	(0.003)	(0.003)	(0.005)	(0.005)
	- taxes (Disposable income)	0.319	0.302	0.017	0.350	0.283	0.067	0.031
		(0.003)	(0.004)	(0.005)	(0.003)	(0.003)	(0.005)	(0.005)

Notes:
- Bootstraps standard errors (1,000 replications) in parentheses (individuals clustered within households).
- A household is active (inactive) if any (none) member was in the labor force in the income reference year.
- Household income has been divided by the number of equivalent adults (OECD-modified scale).
- Income aggregates as defined in Section 2.2.
- Employed individuals are those who ever worked during 2011. Individuals in the labor force, also include those that were ever unemployed in 2011.

Source: Own construction using EU-SILC 2008, 2012 (2007, 2011 income).

Table 2. Income inequality (Gini) and marginal change by income sources in selected countries, 2012

	Spain	Germany	France	Italy	Sweden	UK
All households						
Earnings	0.538	0.525	0.513	0.516	0.453	0.585
	(0.004)	(0.004)	(0.005)	(0.004)	(0.005)	(0.007)
Market income	0.527	0.504	0.492	0.503	0.437	0.567
	(0.004)	(0.004)	(0.006)	(0.004)	(0.005)	(0.007)
Marginal change in Gini:						
+ pensions	-0.118	-0.131	-0.115	-0.124	-0.099	-0.099
	(0.005)	(0.005)	(0.008)	(0.005)	(0.007)	(0.010)
+ unemployment benefits	-0.025	-0.012	-0.013	-0.008	-0.009	-0.005
	(0.005)	(0.005)	(0.008)	(0.005)	(0.006)	(0.010)
+ other social benefits	-0.018	-0.035	-0.034	-0.012	-0.046	-0.071
	(0.005)	(0.005)	(0.008)	(0.004)	(0.006)	(0.010)
- taxes	-0.016	-0.043	-0.026	-0.040	-0.034	-0.064
	(0.005)	(0.004)	(0.007)	(0.004)	(0.005)	(0.009)
+/- total taxes/benefits	-0.178	-0.221	-0.188	-0.184	-0.188	-0.238
	(0.005)	(0.005)	(0.008)	(0.005)	(0.006)	(0.009)
Disposable income	0.350	0.283	0.305	0.319	0.249	0.328
	(0.003)	(0.003)	(0.005)	(0.003)	(0.003)	(0.006)
Inter-country gap		0.067	0.045	0.031	0.101	0.022
(Spain-country)		(0.005)	(0.006)	(0.004)	(0.005)	(0.007)
Inactive households						
Disposable income	0.276	0.286	0.319	0.302	0.258	0.270
	(0.007)	(0.007)	(0.008)	(0.005)	(0.006)	(0.006)
Inter-country gap		-0.009	-0.042	-0.026	0.018	0.007
(Spain-country)		(0.010)	(0.011)	(0.008)	(0.009)	(0.009)
Active households						
Earnings	0.459	0.380	0.380	0.403	0.329	0.487
	(0.004)	(0.004)	(0.005)	(0.004)	(0.005)	(0.008)
Market income	0.455	0.375	0.397	0.404	0.330	0.479
	(0.004)	(0.004)	(0.007)	(0.004)	(0.005)	(0.008)
Marginal change in Gini:						
+ pensions	-0.040	-0.014	-0.020	-0.026	-0.005	-0.032
	(0.006)	(0.006)	(0.009)	(0.005)	(0.008)	(0.011)
+ unemployment benefits	-0.030	-0.014	-0.016	-0.010	-0.010	-0.005
	(0.006)	(0.006)	(0.009)	(0.005)	(0.007)	(0.011)
+ other social benefits	-0.015	-0.034	-0.036	-0.011	-0.044	-0.053
	(0.005)	(0.005)	(0.009)	(0.005)	(0.007)	(0.011)
- taxes	-0.011	-0.037	-0.025	-0.036	-0.034	-0.061
	(0.005)	(0.005)	(0.009)	(0.005)	(0.006)	(0.010)
+/- total taxes/benefits	-0.097	-0.099	-0.097	-0.083	-0.094	-0.151
	(0.006)	(0.005)	(0.009)	(0.005)	(0.007)	(0.010)
Disposable income	0.358	0.276	0.300	0.320	0.236	0.328
	(0.004)	(0.004)	(0.006)	(0.003)	(0.004)	(0.007)
Inter-country gap		0.083	0.058	0.038	0.122	0.030
(Spain-country)		(0.005)	(0.007)	(0.005)	(0.006)	(0.008)

Notes:
- Starting from equivalized gross market income, we sequentially add pensions, other social benefits, and subtract taxes to obtain disposable income.
- A household is active if any member was in the labor force in the income reference year.
- Household income has been divided by the number of equivalent adults (OECD-modified scale).
- Income aggregates as defined in Section 2.2.

Source: Own construction using EU-SILC 2012 (2011 income).

Table 3. Mean and Standard deviation (SD) among active households: Explanatory variables

	Spain				Germany			
	2008		2012		2008		2012	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Densely populated area (omitted)	0.516	0.500	0.504	0.500	0.484	0.500	0.337	0.473
Intermediate area	0.226	0.418	0.237	0.425	0.356	0.479	0.393	0.489
Thinly populated area	0.258	0.437	0.259	0.438	0.159	0.366	0.270	0.444
Household size	3.604	1.359	3.434	1.279	3.022	1.349	2.962	1.370
Age 0-16	0.180	0.211	0.188	0.217	0.191	0.232	0.186	0.233
Age 16-24	0.132	0.198	0.117	0.192	0.142	0.228	0.137	0.225
Age 25-34	0.240	0.335	0.210	0.320	0.191	0.350	0.196	0.355
Age 35-44 (omitted)	0.275	0.365	0.293	0.378	0.313	0.396	0.273	0.388
Age 45-54	0.176	0.267	0.200	0.286	0.214	0.318	0.237	0.333
Age 55-64	0.106	0.225	0.110	0.238	0.114	0.272	0.132	0.291
Age 65+	0.071	0.173	0.070	0.174	0.027	0.120	0.025	0.116
Married	0.660	0.344	0.659	0.363	0.661	0.401	0.642	0.410
Women	0.499	0.195	0.503	0.205	0.508	0.241	0.512	0.248
Foreign citizens	0.131	0.320	0.131	0.319	0.028	0.136	0.034	0.149
Immigrant (10 or less years)	-	-	0.129	0.314	-	-	0.020	0.120
Immigrant (>10 years)	-	-	0.029	0.132	-	-	0.046	0.175
Health limitations	0.161	0.255	0.139	0.244	0.207	0.317	0.209	0.324
Activity rate	0.730	0.258	0.749	0.259	0.773	0.250	0.795	0.245
Full-time employment rate	0.794	0.294	0.653	0.371	0.679	0.365	0.672	0.361
Part-time employment rate	0.092	0.207	0.098	0.222	0.217	0.307	0.252	0.322
Self-employment rate (with employees)	0.051	0.188	0.048	0.181	0.026	0.136	0.024	0.128
Self-employment rate (without employees)	0.102	0.250	0.090	0.240	0.049	0.189	0.039	0.165
Months as full-time employee (rate)	-	-	0.540	0.393	-	-	0.622	0.380
Months as full-time self-employee (rate)	-	-	0.113	0.269	-	-	0.050	0.186
Months as part-time time employee (rate)	-	-	0.091	0.214	-	-	0.237	0.315
Months as part-time self-employee (rate)	-	-	0.007	0.064	-	-	0.015	0.096
Managers	0.050	0.186	0.047	0.178	0.055	0.195	0.049	0.181
Professionals	0.113	0.272	0.126	0.290	0.185	0.347	0.203	0.353
Technicians and associate professionals	0.098	0.241	0.098	0.243	0.257	0.369	0.256	0.368
Clerical support workers	0.112	0.250	0.109	0.257	0.120	0.270	0.128	0.279
Services and sales workers	0.160	0.290	0.176	0.309	0.106	0.252	0.120	0.273
Skilled agriculture, forestry, fishery workers	0.029	0.144	0.034	0.161	0.015	0.104	0.012	0.089
Craft and related trades workers	0.159	0.294	0.157	0.294	0.127	0.275	0.100	0.242
Plant and machine operators and assemblers	0.072	0.207	0.066	0.202	0.054	0.190	0.075	0.223
Elementary occupations (omitted)	0.185	0.323	0.149	0.294	0.060	0.204	0.045	0.177
Agriculture, forestry and fishing	0.038	0.163	0.036	0.162	0.010	0.088	0.015	0.106
Mining; manufacturing; electricity, gas and water supply (omitted)	0.143	0.286	0.112	0.262	0.154	0.308	0.209	0.343
Construction	0.105	0.247	0.049	0.175	0.046	0.173	0.039	0.158
Wholesale and retail trade; repair vehicles	0.116	0.261	0.097	0.243	0.109	0.265	0.070	0.212
Transport, storage and communications	0.038	0.157	0.042	0.166	0.042	0.170	0.037	0.162
Accommodation and food service	0.056	0.190	0.047	0.176	0.017	0.109	0.022	0.123
Information and communication	0.024	0.125	0.019	0.114	0.034	0.160	0.044	0.178
Financial and insurance	0.025	0.126	0.022	0.121	0.044	0.176	0.042	0.173
Real state, professional, scientific, administrative and support service	0.061	0.193	0.062	0.199	0.076	0.225	0.066	0.211
Public administration and defense; social security	0.069	0.209	0.055	0.191	0.083	0.236	0.099	0.256
Education	0.051	0.184	0.050	0.179	0.068	0.218	0.071	0.219
Human health and social work	0.049	0.177	0.055	0.187	0.104	0.255	0.111	0.266
Other services	0.061	0.188	0.054	0.178	0.083	0.238	0.046	0.175
Unit size: 1-2 workers (omitted)	0.145	0.289	0.132	0.281	0.057	0.202	0.052	0.189
Unit size: 3-5 workers	0.110	0.254	0.094	0.241	0.062	0.200	0.055	0.189
Unit size: 6-10 workers	0.093	0.235	0.071	0.208	0.076	0.220	0.080	0.225
Unit size: 11-49 workers	0.221	0.334	0.193	0.324	0.207	0.344	0.196	0.335
Unit size: 50+ workers	0.236	0.353	0.201	0.337	0.466	0.426	0.483	0.428
Temporary contract	0.298	0.375	0.289	0.374	0.074	0.221	0.145	0.293
Experience <1 year	0.051	0.181	0.037	0.146	0.028	0.135	0.022	0.125
Experience 1-2 years	0.055	0.161	0.044	0.150	0.042	0.148	0.045	0.164
Experience 3-5 years	0.086	0.208	0.064	0.187	0.066	0.199	0.064	0.198
Experience 6-9 years	0.101	0.236	0.097	0.236	0.083	0.239	0.074	0.222
Experience 10+ years	0.707	0.350	0.758	0.338	0.781	0.344	0.794	0.338
Labor unknown	0.026	0.120	0.125	0.265	0.032	0.146	0.071	0.212
Primary (omitted)	0.196	0.324	0.154	0.296	0.013	0.098	0.012	0.092
Lower secondary	0.245	0.352	0.267	0.366	0.078	0.215	0.079	0.221
Upper secondary, non-tertiary postsecondary	0.231	0.335	0.233	0.338	0.496	0.428	0.518	0.424
Tertiary	0.301	0.391	0.325	0.401	0.412	0.432	0.392	0.427

Notes:

- Active households (at least one member in the labor force).
- See Section 2.3 for a description of variables.

Source: Own construction using EU-SILC 2008 and 2012 (2007 and 2011 income).

Table 4. Gini-RIF Regressions of disposable household income for active households, 2012

	Spain		Germany	
	Coeff.	St. E.	Coeff.	St. E.
Intermediate area	-0.023**	0.008	0.009	0.008
Thinly populated area	-0.027***	0.008	0.003	0.007
Household size	-0.016***	0.004	-0.021***	0.005
Age 0-16	0.084**	0.027	0.053*	0.026
Age 16-24	0.069*	0.030	-0.022	0.019
Age 25-34	0.007	0.013	-0.010	0.012
Age 45-54	0.006	0.013	0.015	0.011
Age 55-64	-0.015	0.018	0.037*	0.018
Age 65+	-0.163***	0.026	0.033	0.064
Married	-0.011	0.010	-0.011	0.009
Women	-0.014	0.016	-0.015	0.012
Immigrant (10 or less years)	0.084***	0.012	0.074	0.048
Immigrant (>10 years)	0.067	0.040	-0.010	0.015
Health limitations	-0.011	0.014	-0.021*	0.009
Activity rate	-0.064***	0.017	-0.046*	0.022
FT-E employment rate	-0.237***	0.018	-0.213***	0.028
FT-SE employment rate	0.096***	0.026	0.062	0.039
PT-E employment rate	-0.179***	0.020	-0.179***	0.028
PT-SE employment rate	-0.039	0.064	-0.043	0.051
Managers	0.089**	0.029	0.182***	0.045
Professionals	0.075***	0.020	0.014	0.016
Technicians and associate professionals	-0.068***	0.015	-0.038**	0.014
Clerical support workers	-0.071***	0.015	-0.032	0.018
Services and sales workers	-0.041**	0.012	-0.011	0.014
Skilled agric., forestry, fishery workers	-0.006	0.039	-0.058	0.039
Craft and related trades workers	-0.012	0.013	-0.048**	0.015
Plant and machine operators/assemblers	-0.072***	0.014	-0.012	0.015
Agriculture, forestry and fishing	-0.031	0.033	-0.023	0.036
Construction	-0.035	0.019	-0.020	0.023
Wholesale and retail trade; repair vehicles	-0.002	0.017	-0.041**	0.016
Transport, storage, communications	-0.009	0.019	0.025	0.024
Accommodation and food service	-0.016	0.019	0.001	0.023
Information and communication	0.014	0.034	-0.023	0.020
Financial and insurance	0.189***	0.043	0.005	0.023
Real state, professional, …	-0.035	0.019	0.005	0.028
Public adm. and defense; soc. sec.	-0.005	0.017	-0.063***	0.013
Education	-0.037	0.023	-0.091***	0.017
Human health and social work	0.030	0.023	-0.032	0.018
Other services	-0.049*	0.021	-0.027	0.024
Unit size: 3-5 workers	-0.014	0.020	0.029	0.034
Unit size: 6-10 workers	-0.020	0.018	0.062	0.037
Unit size: 11-49 workers	-0.024	0.017	0.012	0.029
Unit size: 50+ workers	-0.006	0.016	0.003	0.027
Temporary	0.013	0.011	0.059***	0.015
Experience 1-2 years	-0.032	0.031	-0.021	0.039
Experience 3-5 years	0.022	0.029	-0.073*	0.036
Experience 6-9 years	-0.012	0.026	-0.031	0.036
Experience 10+ years	0.002	0.023	-0.058	0.035
Labor unknown	-0.011	0.015	0.010	0.029
Lower secondary	-0.035**	0.012	-0.045	0.026
Upper secondary, non-tertiary postsecondary	-0.056***	0.013	-0.057*	0.025
Tertiary	-0.037**	0.014	-0.042	0.026
Intercept	0.657***	0.033	0.661***	0.046
N	27,751	p-value	20,893	p-value
F	27.56	0	32.75	0
R^2	0.214		0.104	

Notes:
- The dependent variable is Gini-RIF of equivalized household disposable income (OECD-modified scale) among active households (at least one member in the labor force).
- See Section 2.3 for a description of variables.
- * p<0.05; ** p<0.01; *** p<0.001.

Source: Own construction using EU-SILC 2012 (2011 income).

Table 5. RIF Decomposition of the Gini Gap between Spain and Germany 2012

Characteristics and coefficients effects

		Spain's counterfactual with German characteristics (C)		Spain's counterfactual with German coefficients (C*)	
Gap		0.083*** (0.005)		0.083*** (0.005)	
		Characteristics (ES12-C)	**Coefficients (C-DE12)**	**Characteristics (C*-DE12)**	**Coefficients (ES12-C*)**
Total effect		0.063*** (0.006)	0.020** (0.007)	0.075*** (0.010)	0.007 (0.012)
Urbanization		0.004** (0.001)	-0.021** (0.006)	-0.001 (0.001)	-0.016** (0.005)
Demographic		-0.007* (0.003)	0.029 (0.022)	0.000 (0.008)	0.021 (0.026)
	Household size	-0.007*** (0.002)	0.015 (0.019)	-0.010*** (0.002)	0.018 (0.022)
	Age 0-55	-0.001 (0.001)	0.012 (0.015)	-0.001 (0.001)	0.012 (0.014)
	Aged 65+	-0.007*** (0.001)	-0.005** (0.002)	0.002 (0.003)	-0.014** (0.005)
	Married	0.000 (0.000)	0.000 (0.009)	0.000 (0.000)	0.000 (0.009)
	Women	0.000 (0.000)	0.001 (0.010)	0.000 (0.000)	0.001 (0.010)
	Immigrant	0.008*** (0.002)	0.004 (0.002)	0.008 (0.005)	0.003 (0.006)
	Health	0.001 (0.001)	0.002 (0.003)	0.001* (0.001)	0.001 (0.002)
Labor		0.054*** (0.005)	0.013 (0.043)	0.066*** (0.004)	0.001 (0.042)
	Employment	0.055*** (0.004)	-0.027 (0.037)	0.050*** (0.006)	-0.023 (0.033)
	Activity	0.003*** (0.001)	-0.015 (0.022)	0.002* (0.001)	-0.014 (0.021)
	FT-E	0.019*** (0.002)	-0.015 (0.020)	0.017*** (0.003)	-0.013 (0.018)
	FT-SE	0.006*** (0.002)	0.002 (0.002)	0.004 (0.002)	0.004 (0.005)
	PT-E	0.026*** (0.003)	0.000 (0.008)	0.026*** (0.004)	0.000 (0.003)
	PT-SE	0.000 (0.001)	0.000 (0.001)	0.000 (0.000)	0.000 (0.001)
	Occupation	0.004 (0.003)	-0.009 (0.016)	0.001 (0.003)	-0.006 (0.013)
	Industry	-0.006** (0.002)	0.023* (0.011)	0.005** (0.002)	0.011 (0.010)
	Unit size	0.001 (0.004)	-0.020 (0.026)	0.000 (0.007)	-0.019 (0.018)
	Contract	0.002 (0.002)	-0.007* (0.003)	0.008*** (0.002)	-0.013* (0.005)
	Experience	0.000 (0.001)	0.055 (0.040)	0.001 (0.001)	0.053 (0.040
	Unknown	-0.001 (0.001)	-0.001 (0.002)	0.001 (0.002)	-0.003 (0.004)
Education		0.012** (0.003)	0.003 (0.027)	0.011* (0.005)	0.004 (0.023)
Intercept			-0.004 (0.057)		-0.004 (0.057)

Notes:
- Equivalized household disposable income (OECD-modified scale) among active households (at least one member in the labor force).
- FT = full-time, PT=part-time, E=employee, SE=self-employee.
- Counterfactuals: (C) Spanish coefficients, German characteristics; (C*) Spanish characteristics, German coefficients.
- See Section 2.3 for a description of variables. Average characteristics in Table 2 and regression coefficients in Table 3.
- Standard errors in parentheses; * p<0.05; ** p<0.01; *** p<0.001.

Source: Own construction using EU-SILC 2012 (2011 income).

Table 6. RIF decomposition of the Gini Gap between Spain and selected countries, 2012

Characteristics and coefficients effects

		France		Italy		Sweden		UK	
Gap		0.058*** (0.007)		0.038*** (0.005)		0.122*** (0.005)		0.030*** (0.008)	
		Characteristics (ES-C)	**Coefficients (C-FR)**	**Characteristics (ES-C)**	**Coefficients (C-IT)**	**Characteristics (ES-C)**	**Coefficients (C-SE)**	**Characteristics (ES-C)**	**Coefficients (C-UK)**
Total effect		0.041*** (0.005)	0.017* (0.008)	0.013** (0.005)	0.025*** (0.006)	0.047*** (0.008)	0.074*** (0.009)	0.033*** (0.006)	-0.003 (0.009)
Urbanization		0.001* (0.001)	0.014 (0.007)	0.001 (0.001)	0.006 (0.005)	0.008** (0.003)	0.004 (0.010)	-0.002* (0.001)	-0.010 (0.006)
Demographic		-0.010** (0.003)	-0.055 (0.030)	0.003 (0.002)	-0.024 (0.022)	-0.020*** (0.004)	-0.011 (0.030)	-0.007* (0.003)	0.019 (0.033)
	Household	-0.002** (0.001)	-0.007 (0.023)	-0.001 (0.000)	0.045* (0.021)	-0.004*** (0.001)	0.032 (0.020)	-0.003** (0.001)	0.004 (0.025)
	Age 0-55	-0.007** (0.002)	0.005 (0.024)	0.000 (0.001)	-0.044** (0.015)	-0.007** (0.003)	-0.038 (0.022)	-0.004* (0.002)	0.021 (0.023)
	Age 65+	-0.008*** (0.001)	-0.008 (0.005)	0.000 (0.000)	-0.012*** (0.003)	-0.007*** (0.001)	-0.007** (0.002)	-0.001 (0.001)	-0.009** (0.003)
	Married	0.000 (0.000)	-0.032* (0.013)	0.000 (0.000)	-0.014 (0.009)	0.000 (0.000)	0.003 (0.011)	0.000 (0.000)	-0.006 (0.012)
	Women	0.000 (0.000)	-0.014 (0.014)	0.000 (0.000)	-0.011 (0.010)	0.000 (0.000)	-0.002 (0.011)	0.000 (0.000)	0.000 (0.017)
	Immigrant	0.006** (0.002)	0.000 (0.004)	0.003** (0.001)	0.007** (0.002)	-0.001 (0.002)	0.002 (0.004)	0.001 (0.002)	0.006 (0.005)
	Health	0.000 (0.000)	0.001 (0.004)	0.000 (0.001)	0.006 (0.003)	-0.001 (0.001)	-0.001 (0.001)	0.000 (0.000)	0.002 (0.003)
Labor		0.041*** (0.004)	-0.093** (0.034)	0.003 (0.003)	0.074* (0.036)	0.048*** (0.007)	-0.055 (0.036)	0.036*** (0.005)	-0.015 (0.041)
	Employment	0.040*** (0.003)	-0.089** (0.033)	-0.003 (0.003)	0.050 (0.027)	0.061*** (0.004)	-0.054 (0.034)	0.044*** (0.004)	-0.054 (0.043)
	Activity	0.003*** (0.001)	0.008 (0.022)	-0.004*** (0.001)	0.016 (0.016)	0.006*** (0.002)	0.015 (0.026)	0.003** (0.001)	-0.011 (0.025)
	FT-E	0.023*** (0.002)	-0.069*** (0.017)	0.006** (0.002)	-0.009 (0.015)	0.031*** (0.003)	-0.066*** (0.019)	0.018*** (0.002)	-0.040 (0.022)
	FT-SE	0.002** (0.001)	-0.010 (0.005)	-0.006*** (0.002)	0.040*** (0.006)	0.005*** (0.001)	0.010*** (0.003)	0.003** (0.001)	0.013* (0.006)
	PT-E	0.011*** (0.002)	-0.017** (0.006)	0.001 (0.001)	0.003 (0.003)	0.018*** (0.002)	-0.012* (0.006)	0.020*** (0.002)	-0.017* (0.008)
	PT-SE	0.000 (0.000)	-0.001 (0.001)	0.001 (0.001)	0.000 (0.002)	0.000 (0.000)	-0.001 (0.002)	0.001 (0.002)	0.001 (0.003)
	Occupation	0.000 (0.002)	0.006 (0.016)	0.002* (0.001)	0.010 (0.013)	-0.010*** (0.003)	0.023 (0.016)	-0.011*** (0.003)	-0.004 (0.015)
	Industry	0.000 (0.002)	0.040 (0.024)	0.000 (0.001)	-0.007 (0.010)	-0.002 (0.003)	-0.005 (0.010)	-0.002 (0.003)	-0.020 (0.020)
	Unit size	0.000 (0.002)	-0.048** (0.018)	0.002 (0.002)	-0.007 (0.014)	-0.003 (0.002)	-0.010 (0.012)	0.001 (0.003)	0.034 (0.022)
	Contract	0.002 (0.002)	-0.003 (0.003)	0.002 (0.002)	-0.004 (0.002)	0.003 (0.002)	-0.005** (0.002)	0.003 (0.003)	-0.001 (0.002)
	Experience	- -	- -	0.000 (0.000)	0.034 (0.035)	- -	- -	0.000 (0.000)	0.035 (0.036)
	Unknown	-0.001 (0.001)	0.001 (0.002)	-0.001 (0.001)	-0.002 (0.002)	0.000 (0.000)	-0.004 (0.003)	-0.001 (0.001)	-0.006** (0.002)
Education		0.009** (0.003)	-0.116*** (0.032)	0.007** (0.002)	-0.038* (0.017)	0.011** (0.003)	-0.046 (0.032)	0.007** (0.002)	-0.051* (0.021)
Intercept			0.267*** (0.063)		0.006 (0.049)		0.182** (0.053)		0.054 (0.063)

- Equivalized household disposable income (OECD-modified scale) among active households (at least one member in the labor force). Standard errors in parentheses; * p<0.05; ** p<0.01; *** p<0.001.
- FT = full-time, PT=part-time, E=employee, SE=self-employee.
- Counterfactual (C): Spanish coefficients, other country characteristics. See Section 2.3 for a description of variables. Average characteristics in Table 3 and regression coefficients in Table 4.

Source: Own construction using EU-SILC 2012 (2011 income).

Table 7. RIF decomposition of the Gini Gap between Spain and Germany 2008 and over time

Characteristics and coefficients effects

		Spain-Germany 2008		Spain 2012-2008			
		Spain's counterfactual with German characteristics (C)		2012 counterfactual with 2008 characteristics (C^+)		2012 counterfactual with 2008 coefficients (C')	
Gap		0.014*		0.043***		0.043***	
		(0.006)		(0.005)		(0.005)	
		Characteristics (ES08-C)	**Coefficients (C-DE08)**	**Characteristics (ES12- C^+)**	**Coefficients (C^+-ES08)**	**Characteristics (C^*-ES08)**	**Coefficients (ES12-C^*)**
Total effect		0.013*	0.002	0.022***	0.021***	0.037***	0.006
		(0.006)	(0.008)	(0.004)	(0.006)	(0.006)	(0.008)
Urbanization		0.001	-0.002	0.000	-0.001	0.000	-0.001
		(0.001)	(0.006)	(0.000)	(0.005)	(0.000)	(0.005)
Demographic		-0.008**	0.075**	0.003	-0.041	0.003**	-0.042
		(0.003)	(0.027)	(0.002)	(0.026)	(0.001)	(0.025)
	Household size	-0.007**	0.056**	0.003**	-0.012	0.002**	-0.012
		(0.002)	(0.019)	(0.001)	(0.020)	(0.001)	(0.019)
	Age 0-55	-0.002	0.008	0.000	0.007	0.001	0.006
		(0.001)	(0.019)	(0.001)	(0.017)	(0.001)	(0.017)
	Aged 65+	-0.005***	-0.006**	0.000	-0.003	0.000	-0.003
		(0.001)	(0.002)	(0.000)	(0.003)	(0.000)	(0.003)
	Married	0.000	-0.006	0.000	-0.016	0.000	-0.016
		(0.000)	(0.011)	(0.000)	(0.010)	(0.000)	(0.010)
	Women	0.000	0.021	0.000	-0.023*	0.000	-0.023*
		(0.000)	(0.012)	(0.000)	(0.011)	(0.000)	(0.011)
	Immigrant	0.005***	-0.001	0.000	0.006*	0.000	0.006*
		(0.001)	(0.001)	(0.001)	(0.003)	(0.000)	(0.003)
	Health	0.001	0.002	0.000	0.000	0.000	0.000
		(0.001)	(0.004)	(0.000)	(0.003)	(0.000)	(0.003)
Labor		0.012*	-0.072	0.022***	0.062	0.034***	0.049
		(0.006)	(0.042)	(0.004)	(0.037)	(0.005)	(0.037)
	Employment	0.022***	-0.133***	0.019***	0.094**	0.027***	0.086**
		(0.003)	(0.034)	(0.003)	(0.031)	(0.003)	(0.028)
	Activity	0.004***	-0.064**	-0.001**	0.023	-0.002**	0.023
		(0.001)	(0.024)	(0.000)	(0.017)	(0.001)	(0.018)
	Full-time	-0.027***	-0.034*	0.025***	0.047*	0.034***	0.038*
		(0.003)	(0.019)	(0.003)	(0.023)	(0.003)	(0.019)
	Part-time	0.032***	-0.020**	-0.001	0.010**	-0.002	0.011**
		(0.003)	(0.007)	(0.001)	(0.003)	(0.001)	(0.003)
	Self-empl.	0.013***	-0.015**	-0.004**	0.015**	-0.003**	0.014**
		(0.002)	(0.005)	(0.002)	(0.005)	(0.001)	(0.004)
	Occupation	-0.007*	0.021	0.001	0.000	0.000	0.001
		(0.004)	(0.018)	(0.001)	(0.011)	(0.001)	(0.012)
	Industry	0.000	0.026	0.002	-0.011	-0.001	-0.009
		(0.002)	(0.016)	(0.002)	(0.011)	(0.001)	(0.010)
	Unit size	-0.007*	0.016	0.004*	-0.034*	-0.001	-0.029*
		(0.003)	(0.024)	(0.002)	(0.014)	(0.001)	(0.012)
	Contract	0.005*	0.000	0.000	0.003	0.000	0.003
		(0.002)	(0.001)	(0.000)	(0.004)	(0.000)	(0.004)
	Experience	0.001	-0.005	0.000	0.013	0.000	0.013
		(0.001)	(0.034)	(0.001)	(0.030)	(0.001)	(0.030)
	Unknown	-0.001	0.001	-0.003	-0.003*	0.009*	-0.015*
		(0.000)	(0.002)	(0.002)	(0.001)	(0.004)	(0.006)
Education		0.008*	0.020	-0.002**	-0.019	-0.001	-0.020
		(0.004)	(0.042)	(0.001)	(0.012)	(0.001)	(0.013)
Intercept			-0.019		0.020		0.020
			(0.064)		(0.050)		(0.050)

Notes:
- Equivalized household disposable income (OECD-modified scale) among active households (at least one member in the labor force).
- Counterfactuals: (C) Spanish coefficients, German characteristics; (C^+) Spanish 2012 coefficients, Spanish 2008 characteristics.
- See Section 2.3 for a description of variables. Average characteristics in Table 2 and regression coefficients in Table 3.
- Standard errors in parentheses; * p<0.05; ** p<0.01; *** p<0.001.

Source: Own construction using EU-SILC 2012 (2011 income).

Table 8. Characteristics effects in the Gini Gap between Spain and Germany for different employment rates, 2012

Characteristics effects

	Household employment rate:					
	$= 1$	> 0.75	> 0.50	> 0.25	> 0	≥ 0 (All)
Gap	0.053***	0.056***	0.056***	0.069***	0.075***	0.083***
Total explained effect	0.041***	0.038***	0.038***	0.048***	0.054***	0.063***
Urbanization	0.005**	0.006***	0.005**	0.004**	0.005***	0.004**
Demographic	-0.009*	-0.008*	-0.008*	-0.005	-0.006	-0.007*
Household size	-0.008***	-0.006**	-0.007***	-0.008***	-0.008***	-0.007***
Age 0-55	-0.002	-0.003	-0.002	-0.002	-0.002	-0.001
Age 65+	-0.007***	-0.006***	-0.005***	-0.005***	-0.005***	-0.007***
Married	0.000	0.000	0.000	0.000	0.000	0.000
Women	0.000	0.000	0.000	0.000	0.000	0.000
Immigrant	0.008***	0.007***	0.007***	0.008***	0.008***	0.008***
Health	0.000	0.000	0.000	0.001	0.001	0.001
Labor	0.042***	0.037***	0.036***	0.041***	0.047***	0.054***
Employment	0.030***	0.027***	0.028***	0.037***	0.045***	0.055***
Activity	0.008***	0.007***	0.005***	0.003***	0.003***	0.003***
FT-E	(omitted)	0.001	-0.001	0.008***	0.012***	0.019***
FT-SE	0.033***	0.034**	0.019***	0.012***	0.009***	0.006***
PT-E	-0.010***	-0.013	0.006	0.015***	0.021***	0.026***
PT-SE	-0.001*	-0.002	-0.001	0.000	0.000	0.000
Occupation	0.005	0.004	0.004	0.002	0.003	0.004
Industry	0.001	-0.001	-0.001	0.004	-0.005*	-0.006**
Unit size	0.004	0.004	0.002	0.003	0.001	0.001
Contract	0.001	0.001	0.002	0.002	0.002	0.002
Experience	0.000	0.000	0.000	0.000	0.000	0.000
Unknown	0.000	0.000	0.001	0.000	0.001	-0.001
Education	0.004	0.003	0.005	0.009*	0.009**	0.012**

- Household employment rate is the proportion of months worked by active household members during the reference year (out of their potential).
- Equivalized household disposable income (OECD-modified scale) among active households (at least one member in the labor force). Significance: * p<0.05; ** p<0.01; *** p<0.001.
- FT = full-time, PT=part-time, E=employee, SE=self-employee.
- Counterfactual (C): Spanish coefficients, other country characteristics. See Section 2.3 for a description of variables. Average characteristics in Table 3 and regression coefficients in Table 4.

Source: Own construction using EU-SILC 2012 (2011 income).

APPENDIX

Table A1. Average income, current amounts in €

Equivalized household income		2008 Spain (ES)	2008 Germany (DE)	2008 Ratio ES/DE (x 100)	2012 Spain (ES)	2012 Germany (DE)	2012 Ratio ES/DE (x 100)
All households	Disposable income	14,214	21,086	67.4	13,885	22,022	63.1
		(114)	(149)		(114)	(147)	
	Gross income	16,745	28,503	58.7	16,151	29,998	53.8
		(144)	(216)		(140)	(223)	
	Market income + pensions	16,040	26,432	60.7	14,989	27,832	53.9
		(148)	(223)		(143)	(230)	
	Market income	13,681	21,901	62.5	12,089	22,915	52.8
		(150)	(232)		(146)	(237)	
Inactive households	Disposable income	10,665	16,926	63.0	12,208	18,632	65.5
		(143)	(161)		(173)	(232)	
Active households	Disposable income	14,777	22,405	66.0	14,181	23,094	61.4
		(129)	(189)		(130)	(174)	
	Gross income	17,604	31,346	56.2	16,711	32,605	51.3
		(164)	(276)		(161)	(268)	
	Market income + pensions	16,870	28,908	58.4	15,484	30,138	51.4
		(167)	(285)		(165)	(279)	
	Market income	15,645	27,958	56.0	14,022	29,209	48.0
		(166)	(283)		(164)	(278)	
	Labor income	15,231	26,848	56.7	13,654	28,266	48.3
		(162)	(272)		(162)	(267)	
Individual income							
Labor force	Labor income (annual)	16,281	28,243	57.6	14,681	28,988	50.6
		(161)	(275)		(167)	(254)	
Employed workers	Labor income (annual)	18,007	31,147	57.8	18,007	31,147	57.8
		(160)	(282)		(179)	(259)	

Notes:
- Bootstraps standard errors (1,000 replications) in parentheses (individuals clustered within households).
- A household is active (inactive) if any (none) member was in the labor force in the income reference year.
- Household income has been divided by the number of equivalent adults (OECD-modified scale).
- Income aggregates as defined in Section 2.1 .
- Employed individuals are those who ever worked during 2011. Individuals in the labor force, also include those that were ever unemployed in 2011.

Source: Own construction using EU-SILC 2008, 2012 (2007, 2011 income).

Table A2. RIF **Regressions of disposable household income for active households, 2008-12**

	Germany 2008		Spain 2008		Spain 2012*	
	Coeff.	St. E.	Coeff.	St. E.	Coeff.	St. E.
Intermediate area	-0.016	0.010	-0.022*	0.009	-0.022**	0.008
Thinly populated area	-0.023*	0.009	-0.023**	0.008	-0.027***	0.008
Household size	-0.030***	0.005	-0.011**	0.004	-0.015***	0.004
Age 0-16	0.048	0.030	0.112***	0.028	0.080**	0.029
Age 16-24	-0.001	0.026	0.007	0.026	0.055	0.033
Age 25-34	-0.017	0.016	-0.014	0.015	0.005	0.014
Age 45-54	0.008	0.017	-0.004	0.015	0.011	0.013
Age 55-64	0.017	0.022	-0.008	0.021	-0.013	0.019
Age 65+	0.103	0.077	-0.124***	0.029	-0.167***	0.027
Married	0.020	0.013	0.011	0.011	-0.014	0.010
Women	-0.004	0.017	0.037*	0.016	-0.009	0.016
Foreign citizens	0.089	0.046	0.053***	0.013	0.102***	0.016
Health limitations	-0.023*	0.012	-0.013	0.013	-0.011	0.014
Activity rate	-0.017	0.026	-0.101***	0.016	-0.070***	0.018
FT-E employment rate	-0.188***	0.019	-0.238***	0.020	-0.180***	0.021
FT-SE employment rate	-0.165***	0.021	-0.257***	0.022	-0.148***	0.023
PT-E employment rate	0.768***	0.134	0.166***	0.028	0.278***	0.042
PT-SE employment rate	0.136***	0.038	0.162***	0.020	0.254***	0.023
Managers	0.081*	0.035	0.127***	0.035	0.118***	0.030
Professionals	0.009	0.023	0.074**	0.024	0.086***	0.020
Technicians and associate professionals	-0.058***	0.017	-0.019	0.018	-0.060***	0.015
Clerical support workers	-0.045*	0.022	-0.054***	0.016	-0.064***	0.015
Services and sales workers	-0.028	0.019	-0.053***	0.013	-0.038**	0.012
Skilled agric., forestry, fishery workers	-0.024	0.066	0.016	0.027	-0.006	0.042
Craft and related trades workers	-0.050**	0.019	-0.039**	0.013	-0.010	0.014
Plant and machine operators/assemblers	-0.017	0.026	-0.043**	0.015	-0.067***	0.015
Agriculture, forestry and fishing	0.020	0.104	0.027	0.027	-0.029	0.036
Construction	0.012	0.030	0.014	0.017	-0.025	0.020
Wholesale and retail trade; repair vehicles	-0.039	0.022	-0.003	0.016	0.003	0.017
Transport, storage, communications	-0.036	0.024	-0.029	0.017	-0.006	0.019
Accommodation and food service	-0.050	0.036	0.018	0.021	-0.011	0.019
Information and communication	-0.022	0.029	0.019	0.037	0.014	0.034
Financial and insurance	0.041	0.035	0.096*	0.038	0.182***	0.042
Real state, professional, ...	0.003	0.037	0.048	0.027	-0.034	0.019
Public adm. and defense; soc. sec.	-0.081***	0.023	-0.027	0.016	-0.006	0.017
Education	-0.084**	0.026	-0.033	0.026	-0.043	0.023
Human health and social work	-0.013	0.033	0.019	0.024	0.026	0.023
Other services	-0.032	0.021	-0.003	0.018	-0.058**	0.020
Unit size: 3-5 workers	-0.060	0.034	0.014	0.016	-0.036	0.024
Unit size: 6-10 workers	0.022	0.041	-0.002	0.016	-0.037	0.020
Unit size: 11-49 workers	-0.009	0.028	-0.003	0.013	-0.052**	0.019
Unit size: 50+ workers	0.005	0.029	0.032*	0.013	-0.030	0.018
Temporary	0.023	0.014	0.022*	0.009	0.031**	0.012
Experience 1-2 years	0.005	0.032	-0.011	0.029	-0.052	0.034
Experience 3-5 years	-0.030	0.031	-0.042	0.027	0.001	0.029
Experience 6-9 years	-0.010	0.034	-0.052*	0.026	-0.034	0.026
Experience 10+ years	-0.034	0.028	-0.034	0.022	-0.020	0.023
Labor unknown	0.065	0.045	0.092*	0.045	-0.030	0.016
Lower secondary	0.003	0.044	-0.028**	0.011	-0.032**	0.012
Upper secondary, non-tertiary postsecondary	-0.053	0.042	-0.051***	0.012	-0.062***	0.013
Tertiary	-0.045	0.042	0.007	0.016	-0.045**	0.014
Intercept	0.648***	0.053	0.629***	0.036	0.649***	0.034
N	21,549	p-value	30,339	p-value	27,751	p-value
F	22.1	0	16.6	0	24.2	0
R^2	0.105		0.132		0.206	

Notes:
- The dependent variable is Gini-RIF of equivalized household disposable income (OECD-modified scale) among active households (at least one member in the labor force).
- See Section 2.2 for a description of variables.
- Standard errors in parentheses; * p<0.05; ** p<0.01; *** p<0.001.
- * 2012 regression used for the comparison over time.

Source: Own construction using EU-SILC 2008 and 2012 (2007 and 2011 income).

Table A3. Mean and Standard deviation (SD) among active households: Explanatory variables

	FR		IT		SE		UK	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Densely populated area (omitted)	0.464	0.499	0.435	0.496	0.218	0.413	0.571	0.495
Intermediate area	0.191	0.393	0.418	0.493	0.161	0.367	0.296	0.456
Thinly populated area	0.345	0.475	0.146	0.353	0.621	0.485	0.134	0.340
Household size	3.290	1.402	3.387	1.233	3.156	1.392	3.222	1.321
Age 0-16	0.239	0.242	0.189	0.218	0.252	0.248	0.201	0.235
Age 16-24	0.151	0.244	0.121	0.193	0.148	0.259	0.160	0.248
Age 25-34	0.224	0.369	0.186	0.298	0.215	0.373	0.210	0.352
Age 35-44 (omitted)	0.286	0.383	0.291	0.371	0.290	0.392	0.244	0.361
Age 45-54	0.195	0.304	0.216	0.292	0.193	0.313	0.198	0.302
Age 55-64	0.120	0.276	0.116	0.232	0.129	0.296	0.122	0.270
Age 65+	0.023	0.112	0.071	0.181	0.025	0.129	0.066	0.216
Married	0.699	0.388	0.654	0.358	0.683	0.414	0.672	0.394
Women	0.511	0.226	0.500	0.212	0.503	0.240	0.508	0.220
Immigrant (10 or less years)	0.034	0.151	0.080	0.246	0.090	0.283	0.090	0.263
Immigrant (>10 years)	0.064	0.195	0.045	0.161	0.088	0.280	0.064	0.194
Health limitations	0.158	0.279	0.181	0.288	0.060	0.193	0.135	0.264
Activity rate	0.793	0.252	0.693	0.266	0.847	0.244	0.796	0.250
Months as full-time employee (rate)	0.638	0.385	0.564	0.415	0.674	0.436	0.614	0.394
Months as full-time self-employee (rate)	0.090	0.240	0.178	0.334	0.063	0.232	0.083	0.229
Months as part-time time employee (rate)	0.156	0.275	0.096	0.228	0.195	0.368	0.203	0.316
Months as part-time self-employee (rate)	0.013	0.094	0.021	0.117	0.011	0.096	0.033	0.146
Managers	0.076	0.222	0.046	0.183	0.054	0.175	0.088	0.232
Professionals	0.137	0.296	0.127	0.294	0.246	0.359	0.221	0.352
Technicians and associate professionals	0.184	0.317	0.139	0.296	0.151	0.286	0.133	0.276
Clerical support workers	0.096	0.239	0.117	0.271	0.050	0.170	0.084	0.222
Services and sales workers	0.154	0.292	0.148	0.300	0.186	0.314	0.187	0.311
Skilled agriculture, forestry, fishery workers	0.027	0.143	0.025	0.136	0.015	0.104	0.011	0.082
Craft and related trades workers	0.093	0.235	0.173	0.328	0.089	0.223	0.087	0.226
Plant and machine operators and assemblers	0.063	0.198	0.066	0.211	0.070	0.210	0.061	0.200
Elementary occupations (omitted)	0.121	0.281	0.105	0.267	0.044	0.174	0.101	0.255
Agriculture, forestry and fishing	0.029	0.147	0.029	0.150	0.017	0.103	0.009	0.079
Mining; manufacturing; electricity, gas and water supply (omitted)	0.132	0.279	0.179	0.332	0.068	0.205	0.114	0.260
Construction	0.096	0.243	0.063	0.212	0.030	0.145	0.065	0.200
Wholesale and retail trade; repair vehicles	0.080	0.224	0.127	0.287	0.050	0.175	0.118	0.265
Transport, storage and communications	0.045	0.171	0.038	0.165	0.023	0.130	0.044	0.172
Accommodation and food service	0.031	0.151	0.043	0.173	0.011	0.088	0.047	0.178
Information and communication	0.039	0.162	0.018	0.116	0.021	0.121	0.027	0.135
Financial and insurance	0.026	0.134	0.026	0.134	0.009	0.079	0.034	0.146
Real state, professional, scientific, administrative and support service	0.084	0.231	0.082	0.236	0.066	0.203	0.114	0.262
Public administration and defense; social security	0.063	0.201	0.055	0.198	0.021	0.119	0.057	0.191
Education	0.086	0.237	0.054	0.193	0.050	0.177	0.090	0.232
Human health and social work	0.102	0.245	0.062	0.205	0.093	0.232	0.122	0.269
Other services	0.037	0.153	0.048	0.184	0.021	0.119	0.045	0.167
Unit size: 1-2 workers (omitted)	0.112	0.266	0.156	0.317	0.014	0.099	0.135	0.287
Unit size: 3-5 workers	0.066	0.209	0.105	0.264	0.036	0.154	0.049	0.180
Unit size: 6-10 workers	0.070	0.207	0.091	0.245	0.047	0.175	0.069	0.204
Unit size: 11-49 workers	0.188	0.325	0.238	0.367	0.140	0.275	0.230	0.343
Unit size: 50+ workers	0.353	0.404	0.233	0.369	0.213	0.318	0.381	0.407
Temporary contract	0.131	0.281	0.124	0.277	0.082	0.237	0.033	0.149
Experience <1 year	-	-	0.036	0.147	-	-	0.047	0.171
Experience 1-2 years	-	-	0.040	0.147	-	-	0.046	0.162
Experience 3-5 years	-	-	0.066	0.201	-	-	0.066	0.202
Experience 6-9 years	-	-	0.100	0.252	-	-	0.099	0.248
Experience 10+ years	-	-	0.758	0.350	-	-	0.742	0.368
Labor unknown	0.080	0.227	0.068	0.213	0.128	0.267	0.044	0.176
Primary (omitted)	0.065	0.205	0.073	0.204	0.020	0.114	0.000	0.000
Lower secondary	0.096	0.236	0.312	0.388	0.085	0.219	0.101	0.262
Upper secondary, non-tertiary postsecondary	0.493	0.415	0.434	0.409	0.514	0.414	0.425	0.416
Tertiary	0.337	0.416	0.159	0.319	0.375	0.414	0.370	0.424

Notes:
- Active households (at least one member in the labor force).
- See Section 2.2 for a description of variables.

Source: Own construction using EU-SILC 2012.

Table A4. Gini-RIF Regressions of disposable household income for active households, 2012

	France		Italy		Sweden		UK	
	Coeff.	St. E.	Coeff.	St. E.	Coeff.	St. E.	Coeff.	St. E.
Intermediate area	-0.039**	0.014	-0.035***	0.007	-0.034**	0.013	-0.023*	0.012
Thinly populated area	-0.059***	0.013	-0.035***	0.008	-0.031**	0.011	0.049	0.026
Household size	-0.014*	0.005	-0.029***	0.004	-0.026***	0.005	-0.017**	0.006
Age 0-16	0.051	0.047	0.191***	0.024	0.162***	0.031	0.022	0.041
Age 16-24	0.016	0.033	0.130***	0.024	0.102***	0.020	0.020	0.030
Age 25-34	-0.033	0.018	0.018	0.013	0.005	0.016	-0.015	0.023
Age 45-54	0.050*	0.025	0.011	0.011	0.023	0.019	0.009	0.027
Age 55-64	0.081**	0.028	0.105***	0.020	0.069**	0.021	0.009	0.040
Age 65+	0.188	0.211	0.002	0.032	0.112	0.085	-0.031	0.041
Married	0.035*	0.015	0.010	0.010	-0.015	0.013	-0.002	0.015
Women	0.016	0.022	0.009	0.012	-0.008	0.016	-0.013	0.029
Immigrant (10 or less years)	0.085*	0.039	0.019	0.012	0.102***	0.021	0.060	0.050
Immigrant (>10 years)	0.063	0.037	0.023	0.016	0.024*	0.012	0.011	0.028
Health limitations	-0.020	0.020	-0.042***	0.011	0.005	0.020	-0.026	0.018
Activity rate	-0.074***	0.022	-0.088***	0.016	-0.082**	0.026	-0.050	0.027
FT-E employment rate	-0.126***	0.020	-0.221***	0.019	-0.136***	0.021	-0.171***	0.032
FT-SE employment rate	0.207***	0.052	-0.126***	0.019	-0.068*	0.033	-0.057	0.070
PT-E employment rate	-0.071*	0.030	-0.208***	0.022	-0.117***	0.022	-0.097**	0.035
PT-SE employment rate	0.047	0.063	-0.055	0.044	0.092	0.144	-0.073	0.065
Managers	0.189*	0.086	0.088**	0.030	0.051	0.031	0.111**	0.039
Professionals	0.048	0.031	0.008	0.019	-0.022	0.022	0.066	0.034
Technicians and associate professionals	-0.089***	0.017	-0.035*	0.018	-0.059**	0.018	-0.038	0.019
Clerical support workers	-0.087***	0.023	-0.067***	0.014	-0.042	0.026	-0.087***	0.019
Services and sales workers	-0.047**	0.015	-0.052***	0.012	-0.035*	0.015	-0.045**	0.016
Skilled agric., forestry, fishery workers	0.029	0.041	0.007	0.024	0.055	0.094	-0.090*	0.044
Craft and related trades workers	-0.073***	0.021	-0.039**	0.013	-0.047*	0.019	-0.033	0.022
Plant and machine operators/assemblers	-0.060***	0.018	-0.077***	0.014	-0.067***	0.017	0.002	0.021
Agriculture, forestry and fishing	-0.111*	0.048	0.005	0.021	0.127	0.086	-0.068	0.047
Construction	-0.028	0.035	0.025	0.019	-0.026	0.029	-0.004	0.038
Wholesale and retail trade; repair vehicles	-0.061	0.037	0.003	0.012	-0.013	0.024	0.027	0.025
Transport, storage, communications	-0.061*	0.030	-0.023	0.015	-0.035	0.024	0.018	0.028
Accommodation and food service	-0.088	0.054	-0.003	0.019	0.070	0.083	-0.001	0.031
Information and communication	-0.020	0.064	0.010	0.026	-0.018	0.033	0.116	0.075
Financial and insurance	0.124	0.162	0.051	0.028	0.178*	0.076	0.086*	0.041
Real state, professional, …	-0.013	0.040	0.069**	0.024	0.044	0.025	0.065	0.041
Public adm. and defense; soc. sec.	-0.086*	0.042	-0.046**	0.015	-0.041	0.028	0.077	0.041
Education	-0.183***	0.034	-0.087***	0.020	-0.040	0.022	-0.047	0.035
Human health and social work	-0.050	0.030	-0.015	0.017	-0.017	0.021	0.003	0.035
Other services	-0.103**	0.039	0.030	0.029	0.112	0.106	-0.016	0.038
Unit size: 3-5 workers	0.036	0.028	-0.001	0.015	0.057	0.062	-0.037	0.032
Unit size: 6-10 workers	0.106**	0.035	0.001	0.020	-0.050*	0.023	-0.052	0.029
Unit size: 11-49 workers	0.089*	0.035	-0.011	0.018	0.019	0.023	-0.062*	0.028
Unit size: 50+ workers	0.033	0.020	-0.002	0.017	0.006	0.020	-0.063*	0.029
Temporary	0.038	0.023	0.044**	0.014	0.072***	0.018	0.029	0.045
Experience 1-2 years	-	-	-0.086*	0.038	-	-	-0.059	0.039
Experience 3-5 years	-	-	-0.054	0.030	-	-	-0.066*	0.031
Experience 6-9 years	-	-	-0.050	0.032	-	-	-0.033	0.032
Experience 10+ years	-	-	-0.028	0.030	-	-	-0.033	0.031
Labor unknown	-0.026	0.022	0.014	0.017	0.015	0.020	0.132**	0.042
Lower secondary	0.091*	0.037	0.003	0.016	0.004	0.033	0.005	0.025
Upper secondary, non-tertiary postsecondary	0.065*	0.029	-0.033*	0.016	-0.009	0.031	-0.007	0.022
Tertiary	0.094*	0.041	0.061**	0.022	0.012	0.035	0.033	0.022
Intercept	0.391***	0.057	0.650***	0.036	0.475***	0.046	0.602***	0.054
N	22,387	p-value	37,449	p-value	13,002	p-value	18,162	p-value
F	12.96	0	20.87	0	13.51	0	7.73	0
R^2	0.043		0.078		0.098		0.048	

Notes:

- The dependent variable is Gini-RIF of equivalized household disposable income (OECD-modified scale) among active households (at least one member in the labor force).
- See Section 2.2 for a description of variables.
- Standard errors in parentheses; * p<0.05; ** p<0.01; *** p<0.001.

Source: Own construction using EU-SILC 2012 (2011 income).