Wealth inequality and household structure: US vs. Spain*

Olympia Bover†

June 19, 2007

Abstract

We study the link between family demographics and wealth distribution in international comparisons using household data for the US and Spain (the SCF and the EFF). We estimate counterfactual US distributions relying on the Spanish household structure. Our results show that differences in household demographics account for most of the differences in the lower part of the distribution between the two countries, but mask even larger differences in the upper part of the distribution. We report some evidence of an association between these wealth distribution differences and wealth composition. We also present results for the within-group differences between the two countries using quantile regressions and find a reversing pattern by age. Finally, we discuss potential problems of using concentration measures in international comparisons.

JEL Classification: D31.
Keywords: Household structure, wealth distribution, international comparisons.

*I wish to thank Manuel Arellano, Juan F. Jimeno, and Ernesto Villanueva for useful comments and suggestions, and Miguel Ampudia for helping with the data.
†Banco de España, IFS, IZA, and CEPR.

1 Introduction and summary

Differences in wealth distribution across developed countries are large. The estimated share of the nation's wealth held by the top 1 percent of the population, an often cited inequality measure, may vary from 15 to 35 percent.[1] Documenting these differences is important in at least two different contexts.

Firstly, distributional comparisons of net worth are obviously of interest in the literature on inequality measurement. Such interest comes from the fact that real and financial marketable assets can be readily used for consumption smoothing and intergenerational transmission. The quality of wealth data based on household surveys available in many countries is such that international comparisons of wealth distributions are now feasible.[2]

Secondly, the nature of these differences may help to discriminate between alternative economic theories of the distribution of wealth. The literature on computable general equilibrium models has tried to develop theories of saving behaviour that can endogenously produce the form of distribution encountered in wealth data, given household-specific shocks from an exogenous earnings process. Since the basic models fail to account for the facts, additional features have been considered in the literature.[3] Understanding international differences can be important for establishing which of these features matter if the features themselves are associated with institutional differences across countries in, for example, business regulations, welfare programs, bequests, or taxation.

However, there is potentially a lot more heterogeneity in the nature of households across countries than in the nature of individuals. For example, if two countries differ in the pattern of household formation by young adults, not only the age distribution of households will differ but also the distribution of household size and type. This raises the question to what extent the differences we observe in wealth distributions across countries persist for comparable households, and to what extent they are due to differences in household structure between countries. This is important to elucidate because wealth magnitudes in micro surveys are usually measured for households as opposed to individuals and the economic interpretation of the disparities in the distribution can be very different in one case and the other. From an equity point of view differences due to family demographics should probably be netted

[1] See for example the evidence in Davies and Shorrocks (2000).

[2] See Bover et al. (2005) for a comparison, based on micro data, between Italy, the UK, the US, and Spain, using harmonized definitions of asset holdings from individual-country household surveys.

[3] For useful summaries see for example Quadrini and Ríos-Rull (1997) and Cagetti and De Nardi (2006).

out.

Previous work on international comparisons treated households as homogeneous across countries (except when trying to equivalize wealth by the number of household members). This could be a good strategy when comparing countries such as the UK and the US where demographic structure may be relatively similar.[4] However, for general cross-country comparisons taking into account differences in household demographics becomes a more important consideration.

Tables 1a and 1b show some characteristics of the wealth distributions for the US and Spain, the countries we consider in this paper. It is noticeable that the sizeable differences in the summary measures for all households are considerably reduced when comparing more homogeneous demographic groups, as for example households with head aged 35 to 54 and living with a partner.

A related but separate concern is whether household wealth should be equivalized or not. In this paper we aim to estimate to what extent the demographic structure of households accounts for the differences we observe in wealth distributions, as opposed to trying to approximate personal wealth distributions (for an attempt on the latter see Sierminska and Smeeding 2005).[5] We argue that the differences in household structure we consider are not just a question of size of household. In Tables 1a and 1b we also report results when normalizing household wealth using a square root equivalence scale or per capita wealth. As we can see, these standardizations reduce the difference in a measure of position like the median (although by less than in comparisons of demographically comparable households), but not the difference in measures of inequality.[6]

The age at which young people leave the parental home to establish their own household is one key reflection of long standing differences in family systems between Western countries. Other indicators are the prevalence of lone parent households or of elderly persons living with their children. The sociology literature (see Reher 1998) identifies two clearly different geographical areas regarding family systems, one where family ties are strong (mostly Mediterranean countries) and another where these ties are weak (Northern Europe and the US).

[4] Nevertheless, Banks, Blundell, and Smith (2003) condition on three age bands when conducting part of their UK vs. US comparison.

[5] Hyslop and Maré (2005) point out the influence of changes in household types on the increase in income inequality in New Zealand since the 1980s.

[6] Other normalizations, like wealth divided by number of adult members of the household (as chosen by Davies, Sandstrom, Shorrocks, and Wolff 2006) provide similar results.

In the former, children tend to leave home coinciding with marriage and may save up until then, while in the latter they settle for an independent life as they reach maturity. These differences exist at least since the 17th century when the earliest data are available. According to the first modern censuses, in the mid 19th century in Northern Europe between 30 and 55% of 15 to 24 years old of both sexes would leave the parental home and be servants with another family, while only 5 to 20% of them would do so in Southern Europe where family labour was much preferred. The factors shaping up these differences could be partly traced to the Germanic vs. Muslim and Oriental influence, the Reformation in contrast to Catholicism, and the earlier and more profound effects of the Industrial Revolution in Northern Europe (Reher 1998). Moreover, despite the fact that some convergence has occurred lately, a clear divide remains. In Table 2 we report, for several Western countries, the proportion of single person households, of lone parents families, and of 25-29 years old still living with their parents. The divide between Northern and Southern countries is clear, and at the extremes we observe Sweden with 44% of single person households and Spain with 16.9%.

In this paper we argue that the prevailing family systems in each country are important to understand differences in wealth inequality between countries. We study the implications of the differences in family structure for the comparison of wealth inequality between two countries, one with weak family ties, the US, and another with strong family ties, Spain. Moreover, for these two countries we have quite comparable wealth micro data (the SCF2001 and the EFF2002, respectively). We believe this approach could be useful more generally when comparing wealth data across countries.

We take cross-country differences in family structure as given. If these differences were endogenously determined to first-order by differences in wealth, our results, though still valid from a descriptive point of view, would be less informative. Marriage and divorce decisions are known to be influenced by economic motives (Becker 1973). Moreover, recent work by Guner and Knowles (2004) has considered a general equilibrium model of the joint determination of marriage, divorce, and household savings, and compares its predictions with those from more traditional macro models with exogenous marriages. In contrast, the motivation of this paper is in conditioning on slow-moving aspects of household structure, possibly generated by values or social norms. We emphasize the more exogenous fact that young adults leaving their parents home at a later age in Spain (and other Southern type countries) than in the US implies that certain types of households are rarer in Spain (and others more abundant). It is noteworthy that strong family ties may override to a large extent divorce outcomes. Reher (1998) describes that despite an increase in lone-parenthood in recent years everywhere due to divorce and teenage pregnancies, there continue to be important differences in the levels between North and South-type countries. In Spain around 30% of all lone mothers with children co-reside with their own mother while only 15% of single mothers live with their parents in the US (from Reher 1998, and London 1998, respectively).[7]

To assess the impact of household structure on the differences in wealth distribution between the US and Spain, we estimate non-parametrically the counterfactual distribution that would have prevailed in the US if the demographic characteristics of households had been similar to those prevailing in Spain. Following DiNardo, Fortin, and Lemieux (1996)'s study for earnings, we assess graphically what part of the differences are attributable to differences in household structure for the entire wealth distribution. However, in contrast to those authors, our main instrument of analysis is the evaluation of counterfactual cumulative distribution functions rather than counterfactual densities. An advantage of comparing conditional distributions rather than conditional densities is that one avoids the critical issue of choice of smoothing method and the differences in the results that may ensue. This is particularly relevant in the case of wealth (as compared to income), given that there is often a marked spike at zero because a non-negligible proportion of the population has no wealth. Capturing these spikes complicates the estimation of densities and the results often depend on the smoothing method adopted.

Furthermore, from the estimated counterfactual US distribution, we easily derive summary counterfactual distribution measures and compare them to the actual measures for the US and Spain. Using them, we can decompose the difference between the two countries in measures of position and dispersion into a part due to differences in household composition and another part holding household composition constant. We also study concentration measures and comment on their use in international comparisons.

Finally, it is also of interest to study in some detail the distributional differences between the US and Spain for given household types. To do so, we present quantile regressions pooling the data for the two countries. We also provide plots of the within groups wealth distributions for the different household types we consider in the paper.

The paper is organized as follows. In Section 2 we describe the data used and the demo-

[7] These figures refer to 1991 for both countries.

graphic structure of households adopted. We discuss as well the role of oversampling. In Section 3 we derive the counterfactual US distribution from the US within-group wealth distribution and the Spanish structure of households, and compare graphically the three distributions. To further characterize the differences between the two countries we also look at portfolio composition. The counterfactual US density is also shown. In Section 4 we summarize the differences in the three distributions using measures of position, dispersion, and concentration, and quantify how much of the differences are due to household composition. We also identify which particular types of households contribute most to the estimated compositional differences. In Section 5 we provide information about the differences in wealth distribution for given household types. Finally, Section 6 concludes.

2 Data and demographic groups

The data come from the US Survey of Consumer Finances (SCF) 2001 and the new Spanish Survey of Household Finances (EFF) 2002.[8] The focus of both surveys is to collect rich information on household assets and debts together with socioeconomic variables relative to households and their members. An important feature for a wealth survey that they have in common is that the wealthy are oversampled. We construct comparable assets and debt definitions from the variables in both surveys.

Measure of wealth. The wealth measure we use throughout this paper is net worth defined as non-human assets minus debts. Assets include financial assets, pension wealth, main residence and other real estate wealth, business equity, vehicles and jewels and other comparable valuables.[9] Debts include all kinds of outstanding debts. All monetary amounts are expressed in 2002 euros and have been adjusted for inflation in the US and for purchasing power parity for 2002.[10]

This is a measure of marketable wealth, as opposed to conceptually wider measures that would include human wealth or Social Security type pension entitlements. In contrast with income, marketable wealth comparisons provide information on differences in consumption

[8]For a full description of this survey see Bover (2004).

[9]Except Social Security pension provisions and, for the US, employer-sponsored defined-benefit plans.

[10]2002 US inflation figure 1.6%; 2002 purchasing power parity for the US vis-a-vis of Spain 0.743. If instead of adjusting for purchasing power parity we adjust only for the exchange rate the differences between Spain and the US are smaller when US wealth is below the Spanish one (but larger when above) since no allowance is made for higher US prices.

smoothing possibilities over the life-cycle (specially when households are subject to liquidity constraints) and in the scope for intergenerational transfers and inheritances.

We checked that our results are not driven by potential differences in the definition of the unit of analysis in the two surveys. To this end we experimented with alternative definitions taking into account the information provided for the US on the wealth of household members who are outside the primary economic unit but share the same residence. Our results are unchanged.

Demographic groups. In Table 3 we see that in the data used we observe the differences pointed out in the previous section: more single person households in the US (40 vs. 29%), more lone parent households, in particular in the case of single female parent, 8% in the US vs. 2% in Spain (the percentage of single male parent being very small in both countries). Moreover the larger proportion of households headed by young in US is also clear.

To characterize the structure of households in both countries, we consider 16 types of households which differ in the age of the household head, marital status, gender of the head of household in case of single households, and presence of children. The choice of groups is based on the differences in households structure between the two countries, as explained in the previous section, making sure that a sufficient number of observations is available for each group in each country. Furthermore, some robustness analysis with small variations around this characterization were performed. The 16 groups considered may be found in Table 4 which shows for each one its population share in both countries and the number of observations available in our data.

In this paper we take the differences in the mix of groups to reflect mainly differences in household formation and structure but differentials in gender mortality across countries could also be thought to affect the share of single women households among those over 54. However, if we take for example the death rates of those born between 1930 and 1939 (i.e. aged 63 to 72 in 2002) at 63, male death rates are higher than female rates by a larger amount in Spain (.0090) than in the US (.0068).[11] Therefore, gender mortality differences could not be behind the higher share of single women among households aged over 54 in the US (29.7%) as compared to Spain (21%).

[11] Death rates by cohorts from the *Human Mortality Database.*

The US is ethnically and culturally more heterogeneous than Spain. It is well known that race and religious attitudes correlate with demographic variables such as divorce rates or the number of children. Differences in demographic structures across countries may well be associated with ethnic, religious or cultural differences. However, we believe there is a more direct association between wealth accumulation and household structure, operating, for example, through household economies of scale or household dissolution. Establishing a link between household structure and cultural or ethnic diversity is outside the scope of this paper.

The critical role of oversampling in international wealth comparisons. In Table 5 (second and fifth row) we report standard errors for most of the distribution measures we calculate in the paper. As we mentioned when describing the data, an important common feature of the SCF and the EFF is that in both surveys the wealthy are oversampled. This sampling feature is crucial for the precision of some wealth distribution statistics routinely reported. To illustrate this point we also report bootstrap standard errors that would have resulted from randomly sampling the US population (third row of Table 5).[12] As can be seen, for some of the statistics the difference in precision is very substantial. For example, the 95% confidence interval for the percentage of wealth held by the top 1% of the population in the absence of oversampling is almost as large as the international variation in this figure of 20 percentage points reported in Davies and Shorrocks (2000). In the absence of oversampling we believe international comparisons should place the emphasis on less extreme points of the distribution like quartiles or interquartile ranges, although this is not the case in our SCF vs. EFF comparison.[13]

3 Counterfactual US wealth with Spanish household structure

Estimation of the counterfactual US distribution. To estimate the counterfactual US distribution we proceed by first estimating the US empirical wealth distribution as follows:

$$\widehat{F}_{US}(r) = \widehat{\Pr}_{US}(w \leq r) = \sum_{j=1}^{J} \widehat{\Pr}_{US}(w \leq r | z = j) \widehat{\Pr}_{US}(z = j)$$

[12] US population obtained from the SCF sample and its population weights.

[13] Cowell and Flachaire (2007) examine the statistical performance of inequality indices, including the Gini coefficient, and show that these are very sensitive to the presence of extreme values.

$$= \sum_{j=1}^{J} \left[\left(\sum_{s=1}^{S^{US}} \frac{\psi_s^{US}}{\sum_{i=1}^{S^{US}} \psi_i^{US} \mathbf{1}(z_i^{US} = j)} \mathbf{1}(w_s^{US} \leq r) \mathbf{1}(z_s^{US} = j) \right) \left(\sum_{s=1}^{S^{US}} \frac{\psi_s^{US}}{\sum_{i=1}^{S^{US}} \psi_i^{US}} \mathbf{1}(z_s^{US} = j) \right) \right]$$

where j $(j = 1, ..., J)$ denotes the different types of households considered (in this case $J = 16$, see Table 4), S is the sample size, and ψ_i are the population weight factors. For each group j (i.e. for each type of household) we evaluate the conditional probability (first term). This term reflects the US within groups wealth distribution. To obtain the US empirical distribution function, this conditional probability for each group is weighted by its US population marginal probability. Similarly, we evaluate the empirical wealth distribution for Spain, $\widehat{F}_{SP}$.

The counterfactual US distribution, i.e. he US within groups distribution with the Spanish structure of household is given by

$$\widehat{F}_{US}^{SP}(r) = \sum_{j=1}^{J} \widehat{\Pr}_{US}(w \leq r | z = j) \widehat{\Pr}_{SP}(z = j),$$

i.e. we replace the marginal US probabilities by the Spanish ones.

Our aim in this paper is to evaluate up to what extent the larger wealth inequality observed in the US relative to Spain is due to differences in the structure of households between the two countries. To this end, we study if the differences between the US and Spain are reduced or amplified when the Spanish distribution is compared with a counterfactual US distribution with the same structure of households.

Of course one could also evaluate the counterfactual Spanish distribution but the interpretation would be different (and consequently the results too). By focusing on the US counterfactual we are aiming at looking how the US distribution would change if the structure of households was similar to the Spanish one while looking at the Spanish counterfactual would reflect an interest in studying how the Spanish distribution would change. Given that the US is a reference country and that there are less differences between groups in Spain, in this paper we study the former.

One important component of household wealth which differs markedly across countries is owner occupied housing. An illustrative and interesting example of the previous general method is to look at differences in the proportion of owner occupied housing. In the US 68% of households own their main residence while 82% do so in Spain. However the differences across different types of households are substantial. In the US house-ownership varies from

4% for single males aged under 25 to 89% for couples over 55. When weighting the US shares of owner occupiers for each household type (column 1 in Table 6a) by the Spanish population probabilities for each group type (column 2 in Table 4), the counterfactual US percentage of the population owning their main residence goes up to 75%. Therefore, half of the difference in the proportion of owner occupied housing between the US and Spain could be attributed to differences in the types of households prevailing in both countries.

The empirical cumulative distribution functions for the US, Spain, and the counterfactual US are plotted in Figure 1. The differences between the US and Spain distributions and between the US and the counterfactual US are shown in Figure 2.[14] Household wealth in the US is lower than in Spain up to approximately the 67th percentile. At this point the two distributions cross and the situation is reversed.

These figures make clear that there are considerably more households with zero or very low wealth in the US as compared to Spain. However, the household structure prevailing in the US as compared to Spain explains a large part of this difference, as the counterfactual US distribution reveals. Indeed, the difference between the US and Spain is greatly reduced when looking at the difference between the US and the US counterfactual up to approximately the 50 to 60th percentiles. For the first part of the distribution the counterfactual US lies between the US and the Spanish ones. In contrast, for the upper half of the distribution counterfactual US wealth is higher than both the US and the Spanish ones. This indicates that if the structure of households in the US was the same as in Spain, the differences in household wealth between the US and Spain would be even larger than the observed ones for the upper half of the distribution. The likely explanation is that there are more households in Spain of the type that in the US have high wealth (e.g. couples over 54, as we will see later).

To further characterize the difference between the two countries we look at portfolio composition. The proportion of owner occupied housing by groups and the counterfactual US rate presented in Table 6a point to an association between the differences in the lower part of the wealth distribution (and in the earlier part of the life-cycle) and home ownership. In Tables 6b and 6c we report the proportion of wealth invested in financial assets and the percentage of households that own financial assets (other than bank accounts and deposits).[15]

[14] The figures reflect wealth values up to 99% of the Spanish wealth distribution for the scale to be visually meaningful.

[15] Bank accounts and deposits are held by 91% of households in the US and 98% in Spain.

Table 6b shows the overall rates for the US, Spain, and the US counterfactual while in Table 6c we provide more details on these rates for the 16 groups considered. From Table 6b we see that counterfactual US participation in financial assets other than bank accounts (73.9%) and portfolio share in financial assets (41.8%) would be more similar to US figures (71% and 41.2%, respectively) than to Spanish ones (35% and 12%) and even higher than in the US. This result, together with the detailed rates by groups in Table 6c, are taken as indicating an association between the importance of financial wealth in household portfolios and the differences between the two countries observed in the upper part of the wealth distribution (and in the later part of the life-cycle).

Counterfactual US density and density differences. Additionally we provide plots for the three estimated wealth densities. These are derived as the difference between consecutive points in the cumulative distribution and using the smoothing Stata defaults for width and kernel (i.e. Epanechnikov). Figure 3 displays the densities and Figure 4 directly the differences in densities. These provide an alternative to the cumulative distributions for looking at the overall differences in the wealth distributions and the same conclusions emerge. However, they are more dependent on the smoothing assumptions adopted.

4 Summary measures for the counterfactual US distribution

In this Section we provide some measures to summarize the differences in the overall distributions and to quantify for these measures the difference when only household composition changes and the difference for the same household composition.

Differences in measures of position and dispersion when only household structure differs. From the previously estimated counterfactual distribution the calculation of percentiles is straightforward (e.g. the median, p50, is the smallest value of r for which $\widehat{F}_{US}^{SP}(r) \leq 0.5$). In Table 7 we report various measures of position and dispersion for the three distributions. In Table 8 we decompose the differences between the US and Spain for the previous summary measures in the following way:

$$m_{SP} - m_{US} = (m_{SP} - m_{US}^{SP}) + (m_{US}^{SP} - m_{US})$$

(m representing any of those measures). The first term reflects the difference in wealth for the same household composition and the second the differences when only household composition changes.

The numbers in Tables 7 and 8 reflect what was anticipated from looking at the graphs of the three cdf's (Figure 1). Firstly, we can quantify to what extent applying the Spanish marginal probabilities to the within groups US wealth distribution reduces the observed differences in wealth distribution between the US and Spain for the first part of the distribution (up to approximately the 60th percentile). For example, the percentage of households with zero or negative net worth for the US would go from 9.6% to 6.4%. The role of household composition is the largest around the median where the US median would increase from the actual 65800 to the counterfactual 91600, much closer to the Spanish 101900 value when changing only household composition, reducing the difference with the US by 71.5%. Furthermore, household composition accounts for 55% of the difference in inter-quartile range. More in detail, it is more relevant for the difference between the median and the lower quartile (63%) than of the difference between the median and the upper quartile (13%).

However, for the upper part of the distribution the situation is reversed and the differences in household structure between the US and Spain are instead masking differences in the distribution of wealth between the two countries that are larger when the same household composition is considered. These differences are the largest around the 75th percentile. At that point, where the US p75 is larger than the Spanish one, the counterfactual US would exceed both. If it weren't for the difference in household composition (columns 5 and 6 in Table 8) the difference between Spain and the (counterfactual) US would be 2.75 times the actual US vs. Spain difference. These differences diminish further up in the distribution, as the corresponding values for the 90th percentile show.

Types of households that make the compositional difference. In what follows we try to learn more about where these differences come from, namely which particular types of households among the 16 considered are behind these estimated composition differences. To this end in Table 9 we vary the proportion of types of households in the US one type at a time. Specifically, we divide households in two types: the group of interest and the rest and see how US wealth at various percentiles (p25, median, and p75) would change if only the proportion of households in the US of that particular type would change to be the Spanish one. Thus, we obtain counterfactual medians (and p25, p75) from distributions of the form:

$$\widehat{F}^{SP}_{US[j]}(r) = \widehat{\Pr}_{US}(w \leq r|z = j)\widehat{\Pr}_{SP}(z = j) + \widehat{\Pr}_{US}(w \leq r|z \neq j)\widehat{\Pr}_{SP}(z \neq j) \qquad (j = 1, ..., J).$$

The results in the table show that it is mostly (i) couples aged 55 and over followed by (ii) very young single women and couples (<25), (iii) single women under 55 with children and (iv) couples aged 35 to 55 with children that are responsible for the changes in the counterfactual US distribution. For example, if we single out the group of single female households with children aged between 25 and 34 vs. the rest and change their relative weights in the US population (2.4% and 97.6%, see Table 4) by the Spanish weights (0.3% and 99.7%) the US median would increase by 4100 euros. In the cases of couples aged under 25 the increase in the US median would be 3800. Households in (ii) and (iii) have typically low wealth in both countries (see for example the median by groups in Table 4) and the higher incidence of those types of households in the US as compared to Spain is responsible for a large part of the estimated increase in counterfactual US wealth as compared to US wealth. In contrast we see that the low incidence of couple households over 55 in the US (19.7%) compared to Spain (28.2%) and of couples with children aged 35 to 55 (16% vs. 20.9%) pushes down the US quantiles, proportionately more at the median and above. These are typically rich households and if their share in the US were to be the one prevailing in Spain the US median would go up by 10900 and 3800 euros, respectively, and the US 75th percentile by 28400 and 6900 (see Table 9).

Other measures: Lorenz and Gini. Other summary measures usually reported in the literature are the Lorenz curve and the Gini coefficient. We report them for completeness although they may not be very informative about where in the distribution differences occur and being expectational measures suffer from sensitivity to extreme values.

The Lorenz curve is given by:

$$L(F(r)) = \frac{E(W|w \leq r)F(r)}{\mu} \equiv \frac{H(r)}{\mu}$$

where $\mu = E(W)$

The Gini coefficient is defined as the ratio of the areas on the Lorenz curve diagram:

$$G = 1 - 2\int_0^1 L(p)dp \equiv 1 - 2\frac{E[H(W)]}{\mu}.$$

The counterfactual US Lorenz curve can be calculated as the empirical counterpart to:

$$L_{US}^{SP} = \frac{H_{US}^{SP}(r)}{\mu_{US}^{SP}}$$

where

$$H_{US}^{SP}(r) = \sum_{j=1}^{J} E_{US}[\mathbf{1}(W \leq r)W|z=j] \Pr{}_{SP}(z=j)$$

and

$$\mu_{US}^{SP} = \sum_{j=1}^{J} E_{US}[W|z=j] \Pr{}_{SP}(z=j).$$

Similarly, the counterfactual US Gini coefficient is given by:

$$G_{US}^{SP} = 1 - \frac{2}{\mu_{US}^{SP}} \sum_{j=1}^{J} E_{US}[H_{US}^{SP}(W)|z=j] \Pr{}_{SP}(z=j).$$

Note that to evaluate the cumulative net wealth share for the US counterfactual, the US population weight factor for each household has to be corrected by the relative number of households in the group for Spain relative to the US, i.e. $\frac{\sum_{i=1}^{S^{SP}} \mathbf{1}(z_i^{SP}=j)}{\sum_{i=1}^{S^{US}} \mathbf{1}(z_i^{US}=j)}$.

In Figure 6 the Lorenz curves for the US, Spain and counterfactual US wealth distributions are plotted. As expected, the curve for the Spanish distribution is nearer to the line of perfect equality than the US curve. The Lorenz curve for the counterfactual US distribution is distinctly nearer to the perfect equality curve than the US, but closer to the US curve than to the Spanish one. Although too small to be noticeable in the graph, some negative values for the cumulative net wealth shares are observed (the minimum being -0.15 for Spain and -0.44 for the US) given the existence of negative values for net wealth. A useful discussion on how to apply the methods commonly used to summarize income distributions to the study of wealth distributions given the peculiarities of wealth (i.e. non-negligible zero and negative values etc.) is Jenkins and Jäntti (2005). As for the values of the Gini coefficient these are 0.80 for the US, 0.56 for Spain, and 0.78 for the US counterfactual.[16] In Table 10 we report some additional concentration measures for the three distributions, namely the percentage of total wealth held by some top percentiles. We see that in contrast to what we found with position and dispersion measures but in line with Gini and Lorenz curve results, concentration measures (which are very sensitive to the tails of the distributions) do not vary as much between the US and the counterfactual US distributions.

[16] In the presence of negative values the Gini coefficient is not bounded by one. Chen et al. (1982) propose a normalization.

However, given that the means of the distributions considered are not the same, these measures may be misleading about the similarity between these two distributions. When means differ, a more appropriate type of criterion could be the Generalized Lorenz curve defined as

$$H(r) = E(W|w \leq r)F(r).$$

That is, the Lorenz curve multiplied by the mean or, equivalently, the cumulative mean wealth at each point of the cumulative population share. While Lorenz type of criteria ignore the size of overall wealth, this is not the case for the Generalized Lorenz.

Figure 7 contains the Generalized Lorenz curves for the three distributions. When size is taken into account, the Generalized Lorenz curve for the counterfactual US distribution lies closer to the Spanish one for 90% of the population and only for the top 10% it resembles more the US one. Furthermore, since the Generalized Lorenz curve for the US and the counterfactual US distributions do not cross, there is unambiguous social welfare ordering in favour of the counterfactual US as compared to the US. Comparing Spain to the US or the counterfactual US there are trade-offs between gains for the lower percentiles and losses for the wealthier given the observed crossing of its the curve with the other two. In the case of Spain vs. the US there are gains for 90% of the population in Spain as compared to the US and losses for the wealthier 10%.

Sampling design has a large impact on the statistical precision of Gini coefficients. In parallel with the calculations reported in Table 6, we obtained bootstrap standard errors for the US Gini coefficient (0.8) using the SCF with oversampling and an equivalent random sample. The former is .003 and the latter is almost five times larger (.014). The Gini coefficient for Spain is 0.56 with a bootstrap standard error with oversampling of .011.

5 Within group differences

Comparing within-group distributions across countries. Finally, we provide information about differences across countries in the wealth distribution for given household types. In Figure 5 we plot the conditional wealth distributions in the US and in Spain, for each of the 16 types of households. We observe that for some types of households the conditional distributions are very similar in the two countries. This is the case for example of groups 1 (couples less than 25) or 8 (single female with children age 25 to 34). On the contrary for some other groups (e.g. couples 55 or over and single females without children aged 35 to 54 -groups 14 and 12, respectively) they are quite different.

To have more precise measures of the differences in conditional distributions between the two countries in Table 11 we present quantile regressions for the 25th percentile, the median, and the 75th percentile. Sample sizes on which these conditional distributions are based prevent us to explore more extreme quantiles. The specification of these quantile regressions is the following:

$$Q_\tau(W|z_i) = \alpha_{1\tau}\mathbf{1}(z=1) + \gamma_{1\tau}\mathbf{1}(z=1)D_{SP} + ... + \alpha_{16\tau}\mathbf{1}(z=16) + \gamma_{16\tau}\mathbf{1}(z=16)D_{SP}$$

where $\tau = 0.25$, 0.50, and 0.75 and D_{SP} is a zero-one dummy for Spain.

In the Table we report only the coefficients measuring the difference of the Spanish conditional quantiles with respect to the US for each of the 16 groups (i.e. the γ's). Couples aged 25-34 with children have significantly higher wealth in Spain than in the US at all quantiles considered; namely 20900 euros at p25, 44300 at the median, and 56400 at p75. In contrast, couples over 54 have significantly less wealth in Spain than in the US at all points of the distribution (i.e. 14500 less at p25, 98500 at the median, and 301900 at p75). Interestingly, couples aged in between (i.e. aged 35 to 54) with children are better off in Spain in the first part of the distribution, worse off in the upper half, and not significantly different at the median.

Another group for which significant differences occur at all points of the conditional distribution are single females aged 35 to 54, specially those without children, who have significantly less wealth in the US. For other groups where differences in the conditional distributions between the two countries occur, these are more limited to certain parts of the distribution.

6 Concluding remarks

In this paper we highlight the link between family demographics and wealth distribution. To this end we compare two countries with very different family structures, the US and Spain, using the US Survey of Consumer Finances 2001 and the Spanish Survey of Household Finances (EFF) 2002 and construct the US counterfactual wealth distribution.

We find that for the first part of the distribution controlling for household demographics explains a great deal of the observed difference between the US and Spain. It accounts for

71% of the difference in the median between the two countries and for 55% of the difference in inter-quartile range. In contrast, for the upper part of the distribution the differences in family structure are masking the extent of the differences between the two countries. Indeed, these differences become larger when the same household structure is assumed. For example, at the 75th percentile the difference between Spain and the counterfactual US would be 2.75 times the actual US vs. Spain difference.

As an illustrative example of the importance of differences in household structure we calculate the percentage of owner occupied housing that would prevail in the US if the demographic structure of households was similar to the one in Spain. We estimate it to be 75%, in between the 68% of the US and the 82% of Spain. Furthermore, we present some evidence of an association between the observed differences in wealth distribution and the shares of real and financial wealths.

We identify the main groups of households that are behind the differences between the counterfactual and the actual US distributions. These are (i) couples aged 55 and over, (ii) very young single women and couples (aged < 25), (iii) single women under 55 with children and (iv) couples aged 35 to 54 with children. For example, if the percentage of households with a couple older than 54 in the US was the one prevailing in Spain (i.e. 28.2% instead of 19.7%) the US median would increase by 10900 euros, and the 25th and 75th percentiles by 3300 and 28400 euros, respectively.

Looking at comparable household groups, the main feature that emerges is how differences between the US and Spain in household wealth change over the life-cycle for a large group of the population, namely couples (with children when young), giving rise to an interesting reversing pattern.[17] In the US they are significantly worse off at all quartiles when young (aged 25-34), significantly better off at all quartiles when old (over 54), and worse off in the first part of the distribution but better off in the upper part when aged in between (i.e. aged 35 to 54).

We also consider measures of wealth concentration in the two countries as well as counterfactual US ones. We point out two relevant considerations when looking at those measures for international wealth comparisons. First, if survey data with no oversampling of the wealthy are used, the estimated concentration measures may be too imprecise to be meaningful. Second, given the large differences in mean wealth across countries, concentration

[17] Given the cross-section nature of our data we cannot distinguish between life-cycle and cohort effects.

measures that do not take into account the size of overall wealth may be misleading about the similarity of two distributions.

Overall we believe that international comparisons may be useful to construct models that uncover the mechanisms that generate observed wealth data. Theoretical models that try to explain observed wealth distributions have traditionally focused on the US and compared the predictions from their models to US household wealth data using mostly the SCF data (see for example Quadrini and Ríos-Rull 1997, De Nardi 2004, and references therein). As household survey data become available for other countries, the differences observed between countries may provide useful information on the mechanisms governing household wealth accumulation. However, differences in household structures and properties of the data at hand must be considered. Moreover, theoretical models have traditionally focused on trying to explain observed Gini coefficients and concentration wealth measures, like the share of wealth held by the upper percentiles of the population. As we have argued, we believe it is relevant to look at how the models fare for other measures of the distribution.

References

[1] Banks, J., Blundell, R., and J.P. Smith (2003): "Understanding differences in household financial wealth between the United States and Great Britain", *The Journal of Human Resources,* 38(2), 241–279.

[2] Becker, G. S. (1973): "A theory of marriage: part I", *Journal of Political Economy*, 81, 813–846.

[3] Bover, O. (2004): "The Spanish Survey of Household Finances (EFF): Description and Methods of the 2002 Wave", occasional paper nº 0409, Banco de España.

[4] Bover, O. (2005): "Wealth effects on consumption: microeconometric estimates from the Spanish survey of household finances", Banco de España, working paper nº. 0522.

[5] Bover, O., Martínez-Carrascal, C. and P. Velilla (2005): The wealth of Spanish households: a microeconomic comparison with the United States, Italy and the United Kingdom. *Economic Bulletin*, July.

[6] Cagetti, M. and M. De Nardi (2006): "Wealth inequality: data and models", NBER working paper nº 12550.

[7] Chen C., Tsaur, T. and T. Rhai (1982): "The Gini coefficient and negative income", *Oxford Economic Papers*, 34(3), 473–478.

[8] Cowell F. A. and E. Flachaire (2007): "Income distribution and inequality measurement: the problem of extreme values", *Journal of Econometrics*, forthcoming.

[9] Davies, J. B. and A. F. Shorrocks (2000): The distribution of wealth. In A. B. Atkinson and F. Bourguignon, esitors, *Handbook of income distribution*, 605–675, Elsevier.

[10] Davies, J. B., Sandstrom S., Shorrocks A., and E. N. Wolff (2006): "The world distribution of household wealth", mimeo.

[11] De Nardi, M. (2004): "Wealth inequality and intergenerational links", *Review of Economic Studies*, 71(3), 743–768.

[12] DiNardo, J., Fortin N. M., and T. Lemieux (1996): "Labor market institutions and the distribution of wages, 1973-1992: a semiparametric approach", *Econometrica*, 64(5), 1001–1044.

[13] Fernández-Cordón, J. A. (1997): "Youth residential independence and autonomy: a comparative study", *Journal of Family Issues,* vol. 18, nº. 6, 576–607.

[14] Fernández-Cordón, J. A. and C. Tobío-Soler (1998): "Las familias monoparentales en España", *Revista Española de Investigación Sociológica,* 83/98, 51–85.

[15] Guner, N. and J. Knowles (2004): "Marital Instability and the Distribution of Wealth", mimeo.

[16] *Human Mortality Database.* University of California, Berkeley (USA), and Max Planck Institute for Demographic Research (Germany). Available at www.mortality.org downloaded on [15 May 2007]).

[17] Hyslop, D. R. and D. C. Maré (2005): "Understanding New Zealand's changing income distribution, 1983-1998: a semi-parametric analysis", *Economica*, 72, 469–495.

[18] Jenkins, S. P. and M. Jäntti (2005): "Methods for summarizing and comparing wealth distributions", ISER working paper 2005-05.

[19] London, R. A. (1998): "Trends in single mothers' living arrangements from 1970 to 1995: correcting the Current Population Survey", *Demography,* 3(1), 125–131.

[20] Quadrini, V. and J.V. Ríos-Rull (1997): "Understanding the U.S. distribution of wealth", *Federal Reserve Bank of Minneapolis Quarterly Review,* 21(2), 22–36.

[21] Reher, D. S. (1998): "Family ties in Western Europe: persistent contrasts", *Population and Development Review,* 24(2), 203–234.

[22] Sierminska, E. and T. Smeeding (2005): "Measurement issues: equivalence scales, accounting framework, and reference unit", mimeo.

[23] Sierminska, E., Brandolini A., and T. Smeeding (2006): "Comparing wealth distribution accross rich countries: first results from the Luxembourg Wealth Study", LWS working paper nº. 1.

Table 1a. Summary statistics for US and Spanish wealth distributions, all and selected groups (1)

	Gini	Median[1]	N^o of observations
All households			
US	0.80	66	4442
Spain	0.56	102	5143
Households with head aged 35 to 54			
US	0.77	79	1994
Spain	0.54	114	1717
Households with head aged 35 to 54 and couple			
US	0.74	118	1427
Spain	0.52	121	1293
Households with head aged 35 to 54, couple, one child <16			
US	0.74	121	297
Spain	0.50	118	417
All households, using square root equivalence scale ($\sqrt{\text{n}^o}$ of hh members)			
US	0.80	45	4442
Spain	0.56	62	5143
All households, per capita (scaling by n^o of hh members)			
US	0.81	31	4442
Spain	0.58	37	5143

[1]In thousands of euros.

Sources: United States: Survey of Consumer Finances (SCF) 2001

Spain: Spanish Survey of Household Finances (EFF) 2002

Table 1b. Summary statistics for US and Spanish wealth distributions, all and selected groups (2)

	p75/p25	p25/p50	p75/p50	p90/p50
All households				
US	22.7	0.15	3.4	8.5
Spain	4.3	0.42	1.8	3.2
Households with head aged 35 to 54				
US	13.6	0.21	2.9	6.7
Spain	3.8	0.46	1.8	2.9
Households with head aged 35 to 54 and couple				
US	8.1	0.32	2.6	5.6
Spain	3.6	0.50	1.8	2.9
Households with head aged 35 to 54, couple, one child <16				
US	8.1	0.31	2.5	4.9
Spain	3.5	0.52	1.8	2.7
All households, using square root equivalence scale ($\sqrt{\mathrm{n^o}}$ of hh members)				
US	22.5	0.15	3.4	8.6
Spain	4.3	0.44	1.9	3.3
All households, per capita (scaling by $\mathrm{n^o}$ of hh members)				
US	22.5	0.15	3.3	9.0
Spain	4.5	0.43	1.9	3.7

Sources: SCF 2001 and EFF 2002

Table 2. Household types: indicators for some Western countries

	% of single person households (1990/1991)[1]	% of lone parent families (of fam. with children <18) (1989/1991)[2]	% aged 25-29 still living with parents (1994)[3]	
			Men	Women
Sweden	44.0	22.3	-	-
Denmark	38.1	22.0	-	-
Netherlands	37.7	18.1	-	-
Germany	37.7	15.7	28.8	12.7
UK	30.0	-	20.8	10.8
US	29.2	23.5	15.6	8.8
France	29.2	11.9	22.5	10.3
Italy	23.7	-	66.0	44.1
Greece	21.1	-	62.6	32.1
Spain	16.9	8.6	64.8	47.6

[1]Reher (1998) from Eurostat for Europe; CPS US Census Bureau

[2]Fernández-Cordón and Tobio (1998) from INSEE

[3]Fernández-Cordón (1997) from Eurostat for Europe; CPS US Census Bureau

Table 3. Household types in the US and Spain, by demographic characteristics (%)

	US	Spain
Couple vs single		
couples	60	71
single male	14	10
single female		
no children	18	17
with children	8	2
Age of household head		
<25	6	2
$25\leq <35$	17	12
$35\leq <55$	43	42
≥ 55	34	44
Presence of children under 16		
no	66	69
yes	34	31

Sources: SCF 2001 and EFF 2002

Table 4. Information on the 16 household groups considered

	Percentage in population		Median net wealth[1]		N° of observ. in the sample	
	US	Spain	US	Spain	US	Spain
Age < 25						
1. couple	2.4	0.6	5.8	12.0	78	18
2. single male	1.4	0.6	2.0	3.2	52	20
3. single female	1.8	0.4	0.3	6.5	57	18
25≤ Age <35						
couple						
4. no children	3.4	4.0	34.5	71.0	121	98
5. children	6.9	5.4	26.0	70.2	242	149
6. single male	2.6	1.7	9.7	62.6	94	62
single female						
7. no children	1.9	1.1	6.1	30.4	72	47
8. children	2.4	0.3	1.8	10.8	89	10
35≤ Age <55						
couple						
9. no children	12.0	12.0	118.6	130.0	560	486
10. children	16.0	20.9	117.5	116.1	867	807
11. single male	5.2	3.6	36.5	78.5	215	163
single female						
12. no children	5.4	3.9	25.0	108.1	203	190
13. children	4.2	1.3	11.7	68.4	149	71
Age ≥ 55						
14. couple	19.7	28.2	220.9	122.4	1102	1938
15. single male	4.4	3.8	85.0	86.1	191	283
16. single female	10.2	12.1	60.7	78.6	350	783

[1]In thousands of euros.

Sources: SCF 2001 and EFF 2002

Table 5. Precision of wealth distribution measures: oversampling vs. random sampling

	p10[1]	p25[1]	p50[1]	p75[1]	p90[1]	$\frac{p75-p25}{p25}$	% of wealth held by top 50%	20%	10%	5%	1%
US											
point estimate	0.05	9.7	65.8	221.1	562.7	21.7	97.1	82.2	69.0	56.9	32.1
standard error with											
oversampling	0.06	0.5	2.1	5.0	14.2	1.1	0.1	0.4	0.5	0.6	0.5
random sample	0.08	0.8	2.9	7.4	24.5	1.7	0.2	1.3	2.2	3.0	4.0
Spain											
point estimate	6.4	43.2	101.9	185.7	330.2	3.3	86.4	58.6	41.8	29.5	13.2
standard error with											
oversampling	1.0	2.0	2.8	3.3	10.3	0.2	0.5	1.0	1.3	1.5	1.6

[1]In thousands of euros.

Table 6a. Percentage of owner occupiers, by type of households

	US	Spain	US with Spanish mix of households
Overall	67.7	81.9	74.9
Age < 25			
couple	21.0	41.7	
single male	3.9	49.2	
single female	11.7	49.4	
$25 \leq$ Age < 35			
couple			
no children	56.4	79.5	
children	63.8	73.9	
single male	35.2	55.6	
single female			
no children	25.4	53.3	
children	25.1	59.6	
$35 \leq$ Age < 55			
couple			
no children	81.4	83.4	
children	83.3	83.3	
single male	54.3	67.0	
single female			
no children	51.2	78.9	
children	48.6	65.9	
Age ≥ 55			
couple	89.3	90.5	
single male	75.4	77.1	
single female	67.1	82.6	

Table 6b. Financial assets: wealth share[1] and participation rates[2] (%)

	US	Spain	US with Spanish mix of households
Financial assets share	41.2	12.0	41.8
Percentage of households holding financial assets			
· All financial assets (excluding bank accounts)	71.0	35.2	73.9
· Stocks	21.7	12.5	24.3
· Mutual funds	21.5	7.2	24.2
· Fixed-income securities	18.9	1.9	20.6
· Pension schemes	61.6	24.1	65.1

[1]Wealth in financial assets (including bank accounts and deposits, stocks, mutual funds, fixed-income securities, and pension schemes) over wealth (including debts).

[2]Percentage of households holding various types of financial assets (excluding bank accounts and deposits).

Table 6c. Financial assets: group composition (%)

	Wealth share		Participation[1]	
	US	Spain	US	Spain
Overall	41.2	12.0	71.0	35.2
Age < 25				
couple	38.2	7.7	56.5	37.7
single male	71.7	13.0	49.8	13.2
single female	16.5	9.0	30.0	23.7
25≤ Age <35				
couple				
no children	31.0	5.0	75.4	26.6
children	29.9	7.8	72.6	39.7
single male	29.1	11.0	64.8	32.5
single female				
no children	42.0	8.8	62.3	24.0
children	47.4	2.3	45.1	9.0
35≤ Age <55				
couple				
no children	40.8	15.9	81.6	47.1
children	34.3	11.6	82.2	48.6
single male	44.8	11.7	77.2	31.7
single female				
no children	44.8	9.8	66.0	42.0
children	34.3	7.6	58.9	15.7
Age ≥ 55				
couple	46.9	13.8	78.3	32.1
single male	48.6	16.7	64.2	22.6
single female	50.5	9.8	54.5	16.4

[1] % of households holding financial assets (including shocks, mutual funds, fixed-income securities, and pension schemes) excluding bank accounts and deposits.

Table 7. Summary wealth distribution measures for the US, Spain, and US with Spanish structure of households

	US m_{US}	Spain m_{SP}	counterfactual US m_{US}^{SP}
% households net worth $\leqslant 0$	9.6	1.4	6.4
p10[1]	0.04	6.4	1.7
p25[1]	9.7	43.2	22.6
Median[1]	65.8	101.9	91.6
Mean[1]	299.8	160.4	367.3
p75[1]	221.1	185.7	282.9
p90[1]	562.7	330.2	664.0
$\frac{\text{p75-p25}}{\text{p25}}$	21.7	3.3	11.5
$\frac{\text{p50-p25}}{\text{p25}}$	5.7	1.4	3.0
$\frac{\text{p75-p50}}{\text{p50}}$	2.3	0.8	2.1
$\frac{\text{p90-p50}}{\text{p50}}$	7.5	2.2	6.2

[1] In thousands of euros.

Table 8. Decomposing the differences in wealth distributions between the US and Spain: Summary measures

	Total difference		Difference for same household composition		Diff. when only household composition changes	
	$m_{SP}-m_{US}^{1}$	%	$m_{SP}-m_{US}^{SP^1}$	%	$m_{US}^{SP}-m_{US}^{1}$	%
% households net worth $\leqslant 0$	-8.2	100	-5.0	61.0	-3.2	39.0
p10	6.3	100	4.6	73.4	1.7	26.6
p25	33.5	100	20.6	61.4	12.9	38.6
Median	36.1	100	10.3	28.5	25.8	71.5
Mean	-139.4	100	-206.9	148.4	67.5	-48.4
p75	-35.4	100	-97.1	274.5	61.7	-174.5
p90	-232.6	100	-333.8	143.5	101.3	-43.5
$\frac{p75-p25}{p25}$	-18.4	100	-8.2	44.6	-10.2	55.4
$\frac{p50-p25}{p25}$	-4.3	100	-1.6	37.2	-2.7	62.8
$\frac{p75-p50}{p50}$	-1.48	100	-1.28	86.5	-0.2	13.5
$\frac{p90-p50}{p50}$	-5.3	100	-4.0	75.5	-1.3	24.5

[1] p10, p25, Median, Mean, p75, and p90 in thousands of euros.

Table 9. Difference due to household composition, by household groups[1]: varying one group at a time

	p25	Diff with[2] US p25	p50	Diff with US p50	p75	Diff with US p75
Age < 25						
couple	11.0	1.3	69.7	3.8	227.8	6.7
single male	10.7	1.0	67.6	1.8	223.1	1.9
single female	11.2	1.5	68.8	3.0	225.3	4.2
25≤ Age <35						
couple						
no children	9.7	-0.03	65.7	-0.15	220.5	-0.6
children	9.9	0.2	67.9	2.0	224.3	3.2
single male	10.1	0.4	66.4	0.6	222.1	1.0
single female						
no children	10.2	0.4	66.6	0.7	222.4	1.3
children	11.3	1.6	70.0	4.1	228.0	6.8
35≤ Age <55						
couple						
no children	9.7	0	66.0	0.1	221.1	0
children	11.2	1.5	69.6	3.8	228.0	6.9
single male	9.7	0	66.3	0.4	222.1	1.0
single female						
no children	10.0	0.3	66.9	1.1	223.2	2.1
children	11.0	1.2	69.6	3.8	228.0	6.9
Age ≥ 55						
couple	13.0	3.3	76.7	10.9	249.5	28.4
single male	9.7	-0.02	65.8	0	221.1	0
single female	9.8	0.05	65.7	-0.1	220.5	-0.6

[1] In thousands of euros.

[2] Memo:

$p25_{US}=9.7$, $p25_{US}^{SP}=22.6$, $p25_{US}^{SP}-p25_{US}=12.9$

$p50_{US}=65.8$, $p50_{US}^{SP}=91.6$, $p50_{US}^{SP}-p50_{US}=25.8$

$p75_{US}=221.1$, $p75_{US}^{SP}=282.9$, $p75_{US}^{SP}-p75_{US}=61.7$

(note that in the case of quantiles the sum of the differences for each group is not equal to the overall difference)

Table 10. Gini and wealth concentration measures for the US, Spain, and US with Spanish structure of households

		% of total wealth held by top				
	Gini	1%	5%	10%	20%	50%
US	0.80	32.1	56.9	69.0	82.2	97.1
Spain	0.56	13.2	29.5	41.8	58.6	86.4
US with Spanish structure of households	0.78	30.0	55.3	67.1	80.1	96.0

Table 11. Quantile regressions for the conditional distributions[1]

	p25	p50	p75
Age < 25			
couple	1.2	6.3	15.2
single male	2.8	1.1	104.5*
single female	4.6	12.0	52.3
25≤ Age <35			
couple			
no children	29.3**	36.5**	3.6
children	20.9**	44.3**	56.4**
single male	4.8	52.9**	52.0
single female			
no children	3.0	24.3*	76.8*
children	1.1	9.0	27.0
35≤ Age <55			
couple			
no children	26.8**	11.4**	-65.3**
children	18.5**	-1.4	-107.6**
single male	11.8**	42.1**	-8.2
single female			
no children	39.3**	83.1**	73.2**
children	9.8**	56.7**	55.2*
Age ≥ 55			
couple	-14.5**	-98.5**	-301.9**
single male	10.6**	1.1	-32.3
single female	22.0**	17.9**	-2.2

[1] The coefficients reported reflect the difference of the Spanish conditional quantile with respect to the US one for each of the 16 groups. In thousands of euros.

[2] * 5% significance, ** 1% significance

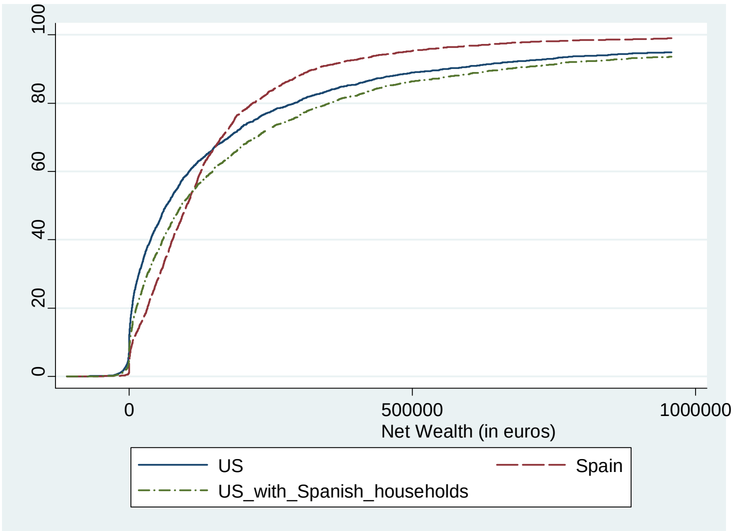


Figure 1: Empirical wealth distributions

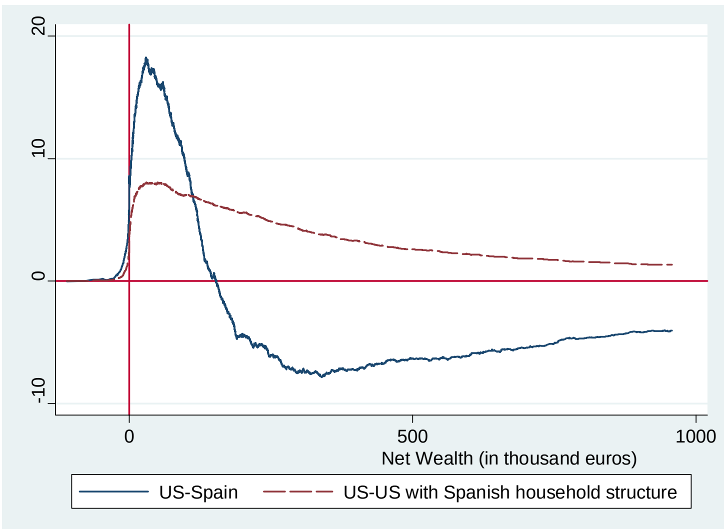


Figure 2: Difference between the empirical distribution functions

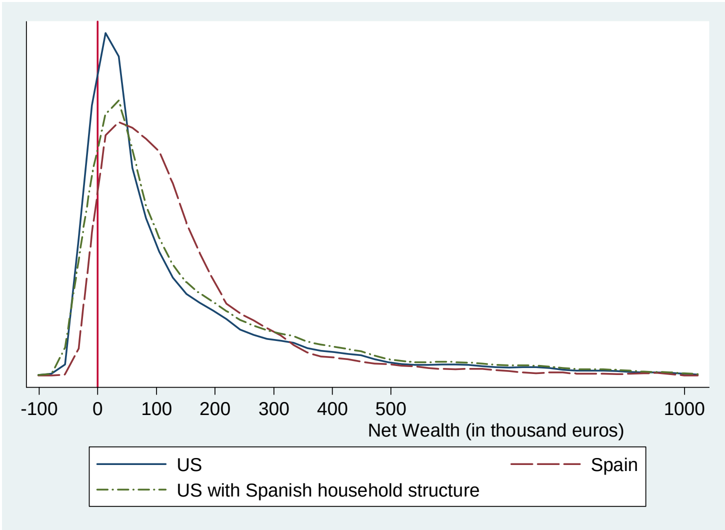


Figure 3: Estimated densities

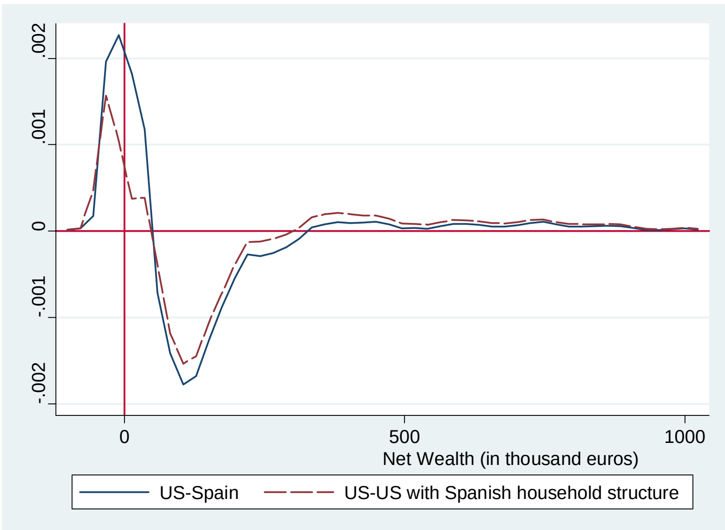


Figure 4: Difference between the estimated densities

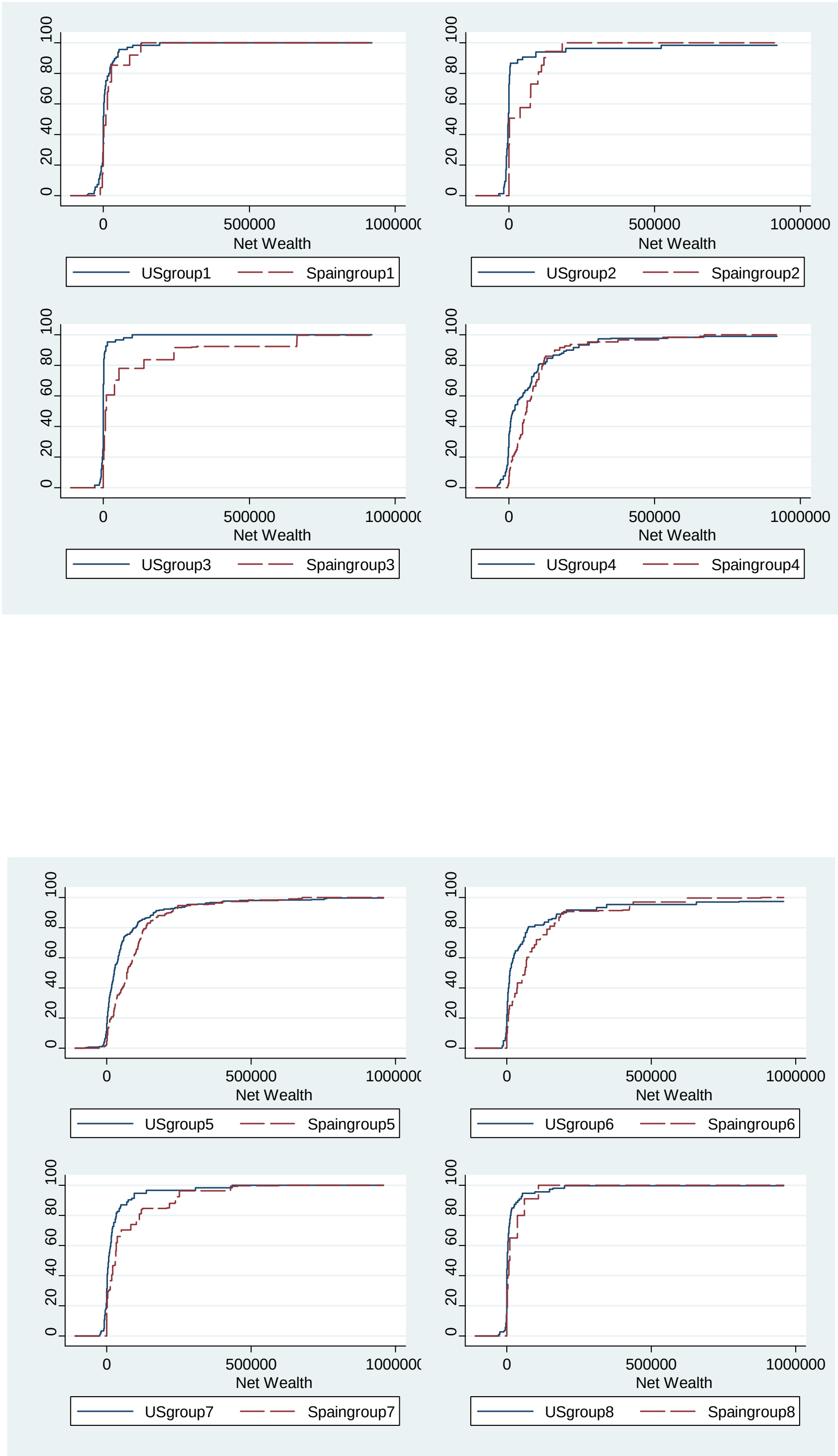
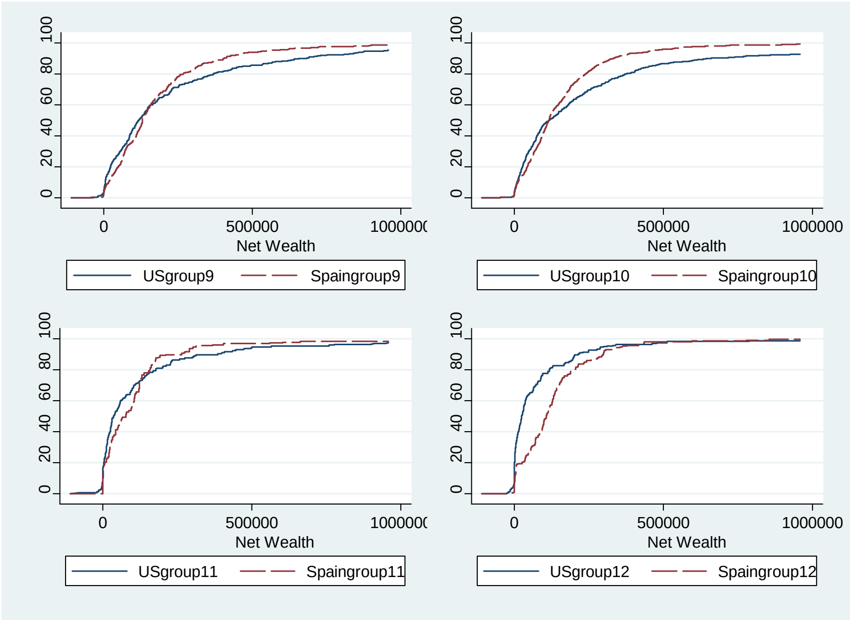
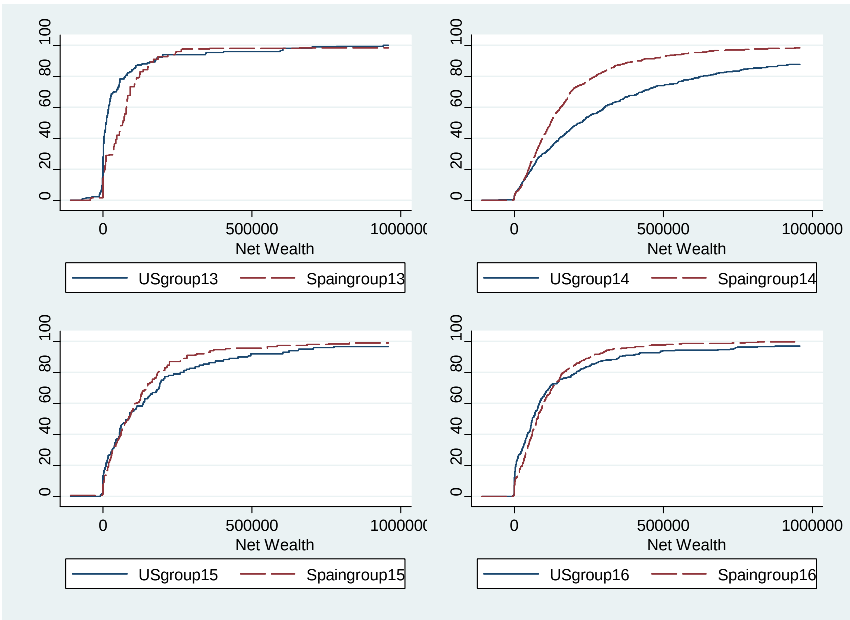


Figure 5: Conditional distributions, by type of household



0 20 40 60 80 100
0 500000 1000000
Net Wealth
USgroup9 Spaingroup9
USgroup10 Spaingroup10
USgroup11 Spaingroup11
USgroup12 Spaingroup12



0 20 40 60 80 100
0 500000 1000000
Net Wealth
USgroup13 Spaingroup13
USgroup14 Spaingroup14
USgroup15 Spaingroup15
USgroup16 Spaingroup16

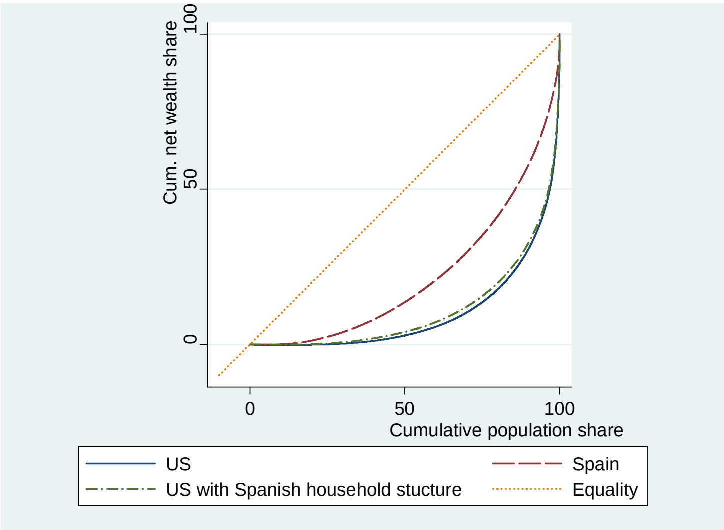


Figure 6: Lorenz curves

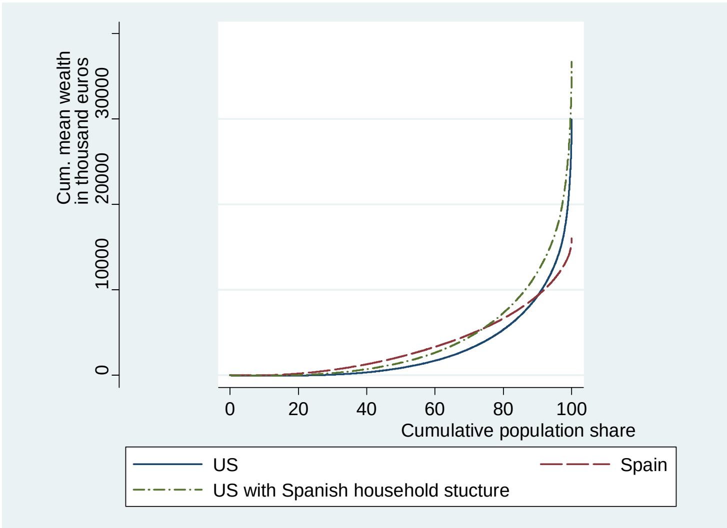


Figure 7: Generalized Lorenz curves