Differences in Portfolios across Countries: Economic Environment versus Household Characteristics

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Abstract

We document and study international differences in participation and holdings of stocks, private businesses, homes, and mortgages among households aged 50 or more in thirteen countries, using new, comparable, survey data. We employ recent counterfactual techniques to decompose observed differences across the Atlantic, within the US, and within Europe into those arising from differences in population characteristics and differences in the economic environment. We then correlate estimated effects of differences in environment to country-level indicators. Ownership across the range of the assets considered tends to be more widespread among US households. European owners tend to invest smaller amounts in stocks and larger amounts in homes, even controlling for characteristics. While differences in characteristics often play no role, differences in economic environment are seen to explain most of the observed differences in ownership rates and in amounts held. Effects of the latter differences are much more pronounced among European countries than among US regions, suggesting further potential for harmonization. With a view to the current crisis, we document that, US households have tended to hold substantially higher mortgage amounts, as well as smaller home values, relative to their European counterparts shortly prior to the crisis that created negative equity for many homeowners.

Keywords: Household finance, aging, stockholding, private business, housing, mortgages, counterfactual decompositions.

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1. Introduction

Public discussions on the European Union 'single market' and on US federalism often stress the objective to ensure that participants or potential entrants in markets for goods and services, labor, assets, and debts face similar market conditions or economic environment, regardless of the country (or region) in which they are located. Such similarity, for which the metaphor of a 'global' or European 'village' is sometimes used, can be promoted through progressive harmonization of policies and institutional frameworks within which economic agents in different countries operate; and by improving access to markets located in other countries (or regions) within a Union. If such similarity in economic environments has been achieved, it should be reflected in similar market outcomes, at least among mature market participants sharing common characteristics. Yet, international comparisons of such market outcomes are often impossible because of lack of comparable detailed data; or complicated because they refer to populations with different configuration of characteristics. Thus, when we do have detailed data at hand, it is important to decompose observed differences into those arising from economic environments and from agent characteristics.

This paper uses newly available and internationally comparable micro-data to document and decompose international differences in asset market participation and in the levels of asset holdings among mature market participants in the US and in 12 European countries. It focuses on stock holdings (direct plus indirect in the form of mutual funds and retirement accounts[1]), private business ownership, and ownership of primary residence, as well as on associated mortgages in 2004/5, immediately preceding

the start of the current financial crisis. The paper asks to what extent older households of similar characteristics located in these countries exhibit similar tendencies to hold these assets and mortgages and hold similar (PPP-adjusted) asset and mortgage amounts. It does so by using econometric techniques and counterfactual analysis to decompose observed differences in asset market outcomes into those arising from differences in household characteristics and in the economic environment faced by households of similar characteristics.

The paper has three novel features. First, it uncovers previously unknown patterns of cross-country and interregional differences using a set of new, internationally comparable survey data. These are: for the US, the Health and Retirement Study (HRS); for England, the English Longitudinal Study of Aging (ELSA); and for eleven additional European countries, data from the Survey of Health, Aging and Retirement in Europe (SHARE). Data from these surveys share a common questionnaire design that facilitates the direct cross-country comparison of asset holdings and of the influence of given household characteristics on investment decisions. They span mature market participants, those aged 50 or more, who control a large share of society's resources and wealth and face the challenges of retirement financing.

Second, the paper introduces to household finance methods of counterfactual analysis previously used in the labor literature to study discrimination or international differences in the relationship between worker characteristics and wages. The common thread that runs across these different strands of literature has to do with differences in market conditions faced by agents of given remaining characteristics: men versus women, minorities versus the rest, workers or households in one country or region versus another.

Our findings point to considerable differences in observed asset market participation rates and levels of participant holdings, within Europe but also across Europe and the US, that are not traced to differences in population characteristics but predominantly to differences in economic environments that households of similar characteristics face. The third contribution is to link these estimated differences in economic environments faced by similar households to a set of commonly used indicators of the institutional and policy environment in the countries under consideration.

Econometric analysis suggests that US households of given characteristics tend to have greater participation probabilities than their European counterparts, often across the range of assets considered. However, European asset owners tend to invest smaller (adjusted for PPP) amounts in stocks and larger amounts in real assets (private businesses and primary residence) than US households at comparable positions of the distribution of holdings, even after controlling for differences in the configuration of characteristics in the asset holder pools. In most cases, international differences in the configuration of characteristics play a minimal or no role at all in generating observed international differences in asset market behavior. In some cases, estimated differences in market conditions are so pronounced that they would result in even larger differences if it were not for the partly mitigating effect of differences in household characteristics.

In Section 2, we briefly highlight the three different and quite extensive strands of literature to which our current exercise relates. Section 3 describes the data. In Section 4, we study differences in participation rates in the three assets and in mortgages. In Section 5, we focus on asset owners and decompose observed international differences in amounts of holdings at various percentiles of the distribution of such holdings into (i)

those related to household characteristics, and (ii) those that arise from a different relationship between characteristics and amounts. We link results to existing indicators of the state of relevant asset markets and of government policy throughout. Section 6 offers concluding remarks.

2. Related Literature

Our paper offers an approach to economic integration based on household finances. Studying household finance has recently become both more informative and more interesting in its own right, given the availability of new data, the increased complexity of household portfolios, and the increased requirements for retirement financing imposed by population aging.[2]

In our analysis, we employ counterfactual techniques that have been used to study race wealth gaps, gender income differentials, and the evolution of income inequality over time.[3] Recently, such techniques were used to examine international differences in gender wage gaps or labor status dynamics and relate them to country differences in population characteristics or in policies and institutions (see Arulampalam et al., 2007; and Kapteyn et al., 2007). Our counterfactual analysis is based on quantile regressions and allows us to study differences across the entire distribution of wealth holdings, as opposed to just the mean or median.[4] We first compare the US against European countries; then, different regions within the US, primarily to develop a yardstick by which to judge the final part, namely intra-European differences.

The broad existing literature on economic integration has followed three main approaches, each focused on a different feature of a fully integrated group of countries.

One approach is based on the idea that integration should be reflected in considerable international *flows* across markets. Depending on which market is chosen for study, emphasis is placed on cross-border flows of goods and services,[5] claims to financial[6] or real assets,[7] or labor with its implications for immigration policy.

A second approach focuses on *prices* instead of quantities. In a fully integrated market for goods, the law of one price should hold.[8] In a fully integrated asset market, the price of risk should be the same, i.e. expected returns should be the same across assets that have the same covariance with world risk.[9] As market segmentation diminishes, expected returns in a country should depend more on the covariance with world risk and less on the variance of that country's returns.

A third approach has focused on *consumption* behavior. In a fully integrated world, households would insure against output risks idiosyncratic to their countries by holding securities in other countries subject to different shocks. Under perfect risk sharing, country-specific shocks to consumption growth would bear no correlation to country-specific output growth shocks; and consumption growth rates would have high correlations internationally even if output growth rates did not.[10] Our approach offers a different angle, based on major assets accumulated by households facing retirement.

3. The Data

We use the three most comprehensive data sets on portfolios of households aged 50 and above currently available. These surveys share a common questionnaire design. The HRS surveys US older households every two years since 1992; the ELSA surveys older households in England with waves in 2002 and in 2004; the SHARE, modeled after the

HRS and ELSA, collected its first wave of data in 2004 in Sweden, Denmark, Germany, the Netherlands, France, Switzerland, Austria, Italy, Spain, and Greece; and in 2005 in Belgium. We use the 2004/5 wave for all countries and information on assets and household characteristics derived from a harmonized set of questions.

Table 1 reports participation rates and levels, by quartile of holdings, for three main asset types (stocks,[11] private business, and principal residence); as well as levels of net worth, all in PPP-adjusted thousands of 2004 dollars. Taking Europe as a whole, net worth is slightly higher than in the US at the median, but lower at the lower and upper quartiles. There is considerable variation of net worth within Europe, and country rankings change as we move along the distribution. The lowest median net worth is observed in Sweden and the largest in England. For the lowest quartile, Austria and Belgium provide the two extremes. Switzerland comes top for the richest quartile, with Sweden at the bottom.

Ownership of stocks, either direct or indirect through mutual funds and retirement accounts, is greatest in Sweden, Denmark, and in the US. It is smallest in Austria, Italy, Spain, and Greece. Homeownership is highest in Spain, and lowest in Germany, Netherlands, Switzerland, and Austria. The highest rates of business ownership are observed in Sweden and Switzerland, with the US and Denmark a short distance behind them. The lowest rates are observed in Austria and England. There is immense variation in the incidence of outstanding mortgages in older age across Europe. Although the European average incidence is about half than that in the US, certain European countries (Switzerland, Denmark, Netherlands, and Sweden) exhibit rates higher than the US, and in great distance from those in southern European countries. Ownership rates of all four

instruments differ also by US region, but the range of variation is substantially smaller.

Turning to the size of asset holdings, we find a stark contrast between real and financial assets. The US dominates every European country in stockholding, and is dominated by the vast majority of European countries in values of primary residence, both measured in real terms, PPP adjusted. In terms of values of mortgages outstanding in older age, US averages are considerably above European averages, and the US has higher amounts than the majority of European countries in our sample. US regions also exhibit some heterogeneity in asset and mortgage holdings, but over a much smaller range than that applicable to European countries.

4. Sources of International Differences in Asset Market Participation

4.1 Estimation Model and Methodology

In this section, we decompose differences in observed participation rates into those resulting from different configuration of characteristics in the population and those resulting from international differences in the influence of a given set of characteristics. We will refer to the former as 'covariate effects' and to the latter as 'coefficient effects'. This decomposition is based on a set of probit regressions, where participation in a given asset is regressed on a number of household characteristics.

We use as regressors the following variables, defined using questions harmonized across the three surveys: 2nd order age polynomial, gender, household size, education (high school certificate, and post secondary degree), work status (retired/working/unemployed-other inactive),[12] marital status (couple/widow/never married), recall ability[13], self-reported bad health (includes responses 'fair' and 'poor' in

HRS), subjective probability to leave a bequest, whether the household provides help to relatives/neighbors, whether it engages in volunteering, income quartiles and wealth quartiles (where wealth excludes the asset in question).

We first run one probit for each asset in the country used as the 'base'. Table A.1 presents a representative set of coefficient estimates. We then construct the counterfactual, $\hat{p}^{i,base}$, namely the average predicted probability of participation that the population in country *i* would exhibit if they faced the coefficients that were estimated for the base country. The difference in participation rates between the base and country *i* is then decomposed into two components:

$$pr^{base} - pr^{i} = \left\{pr^{base} - \hat{p}^{i,base}\right\} + \left\{\hat{p}^{i,base} - pr^{i}\right\} \quad (1)$$

The first is due to the difference in participation rates that would have been observed if residents of the base country had the same configuration of characteristics as in country *i*; it represents the contribution of household characteristics ('covariate effects'). The second is due to the difference that would have prevailed in participation if residents of country *i* had been faced with the same coefficients as in the base country: it reflects the contribution of differences in coefficients ('coefficient effects'). The decomposition yields point estimates of the two effects. We compute bootstrap standard errors by drawing (with replacement) from the full sample for both countries and repeating this estimation and decomposition two hundred times.

The more integrated a set of countries or regions, the more similar the prevailing market conditions (which include institutional and policy environment) are, implying similar participation probabilities for households with a given configuration of characteristics and attitudes. Coefficient effects would speak directly to this question.

Covariate effects show the extent to which differences in participation probabilities are due to a relatively unfavorable composition of the population in a particular country or region. We first use the US as 'base' and compare to it European countries. In order to set a realistic standard, we then consider coefficient and covariate effects among US regions (using the Midwest as the base region), which share a common federal government but also allow state discretion, especially on fiscal matters. Finally, we examine integration among European countries, using Germany as the base.

While precise attribution of coefficient effects to specific features of the market environment in each country is beyond the scope of our paper, we find that the pattern implied by our estimates is consistent with the pattern of various widely-used indicators of institutional and policy features. This in turn implies that harmonized institutions and policies can lead to greater similarity in the link between household characteristics and asset market behavior.

4.2 US-Europe Comparisons

Table 2a shows differences in participation rates in three assets and in mortgage debt between the US and 12 European countries, and their decomposition into coefficient and covariate effects relating to the economic environment and to population characteristics, respectively. Observed differences in participation rates vary across financial instruments and countries, not only in magnitude but also in sign. In the face of this rich variation in observed differences, population effects are remarkably unidirectional. With only one exception, US households have characteristics that make them more, or at least no less, likely to participate in any of the three assets and in

mortgages on the primary residence. It is differences in economic environment that are key to generating the rich pattern of sign variation in observed participation differences.

Only Sweden and Denmark exhibit higher stockholding participation rates than the US, and these arise because households of given characteristics are more likely to participate in the stock market if they live in these two countries. Such is the effect of the environment as to overcome the opposing influence of population characteristics. In France, the effect of the economic environment is also positive, but not sufficient to overcome the covariate effects, yielding overall lower participation than in the US. The special position of Sweden, Denmark and France seems to be related in part to the state of pension systems. In Sweden and Denmark, retirement accounts are mandatory.[14] Moreover, these are 3 of the 5 European countries in our sample where defined-contribution, occupational pension plans were already available in 2004, possibly creating spillovers to forms of stockholding included in our data.[15]

Table 3 presents a number of stock market indicators. According to these, the US has the lowest transactions costs in the stock market, the greatest spending on information and communication technology as a percentage of GDP, and the highest stockholder protection. All three factors have been shown in existing literature on stockholding participation to encourage participation. The extremely high Internet penetration in Sweden and the US may have fostered stockholding by lowering information and transaction costs.[16]

Table 5 presents estimates of a regression of estimated effects of the economic environment on a set of aggregate indicators, informative about the economic environment in each country. For the case of stocks we consider the following indicators:

market capitalization to GDP ratio, the number of Internet connections, a measure of shareholder rights, and an aggregate index of prevailing trust.

A frequenty used measure of shareholder protection is the Antidirector Rights Index (ADRI) introduced by Laporta et al. (1997). Giannetti and Koskinen (2003), using aggregate data from 26 countries, found a positive association between ADRI and stock market participation. We employ a revised version of ADRI for 2005, recently proposed by Spamann (2009). Our trust measure is a world index of trust constructed from questions in the World Values Survey, which provides internationally comparable data on household values and norms. Guiso et al. (2008) show that the level of trust prevailing in each country is positively associated with aggregate stock market participation.

Results from OLS regressions of our estimated coefficient effects on these aggregate indicators suggest that, controlling for other factors, stronger shareholder rights and higher trust are associated with smaller differences attributable to the economic environment (see panel A of Table 5). .

Turning to ownership of (at least a share in a) private business, we find that only in Sweden and Switzerland are observed participation rates higher than in the US. Based on our decompositions, however, it is Sweden and Denmark that exhibit significantly higher participation rates for households of a given configuration of characteristics compared to the US. In Switzerland, estimated coefficient effects are negative but statistically insignificant. Five European countries exhibit conditions in their economic environment that favor participation in private business of similar households compared to the US.This is a richer pattern of variation in effects of the economic environment than for stockholding.

We have examined a number of supply-side indicators, summarized in Table 4, to see if they are consistent with this estimated pattern of coefficient effects. The World Bank 'Ease of Doing Business' overall index points to the US as the country where it is easiest to do business, whereas rankings for its various components do not always put the US at the top. Our estimates suggest that the overall summary index, though useful, may be masking the true underlying variation in environmental conditions by netting out relevant conflicting differences. Upon close inspection, the index takes a rather simple approach to aggregating rankings across different criteria, namely straight averaging of rankings, without considering distances and differences in the relative importance of each criterion For example, Sweden ranks above the US in dealing with licenses, registering property, trading across borders, and enforcing contracts. The specific averaging and netting out process puts the US on top, but our estimates imply that certain underlying factors, possibly those suggested by components of the index, dominate and make older Swedish households more likely to participate in private business than their US counterparts.

We also run OLS regressions to correlate estimated coefficient effects with some aggregate indices denoting a European country's rank in: i) tax burden; ii) difficulty in getting credit, and iii) difficulty in trading across borders. Results are presented in panel B of Table 5. We find that our estimated differences in economic environment are systematically (positively) related to the tax burden and to the extent of difficulties in getting credit in the European country .

Turning to homeownership, we find that Belgium, Spain, and Greece exhibit higher homeownership rates among older households than the US. While US older population

characteristics would result in higher (or at any rate not lower) homeownership rates than in any European country, all three southern European countries, Belgium, and England exhibit higher ownership rates of the primary residence once we compare households with the same configuration of characteristics.

The next panel of Table 2a presents a similar decomposition for mortgages, to see if the pattern we discovered for homeownership is mirrored in the pattern of mortgage participation in older age. Comparing first the observed raw differences in participation, we find that all European countries that exhibit higher homeownership than the US exhibit lower incidence of mortgages. In fact, only Sweden, Denmark, the Netherlands, and Switzerland exhibit higher participation in mortgages than the US.

Secondly, we compare coefficient effects for homeownership and for mortgages. Is it the case that countries with more favorable economic environment for homeownership are also shown to have more favorable environment for mortgages outstanding, at least as far as older households are concerned? In all cases of European countries exhibiting favorable conditions for homeownership relative to the US, the tendency of given older households to have mortgages outstanding is lower than in the US, not higher. In fact, nine of the twelve country pairs exhibit a reversal of signs between coefficient effects for homeownership and for mortgages. Countries in which older households of given characteristics are more likely to own their home than in the US are also those in which such households are more likely to have paid off their mortgage (if they ever got one) by the time they are included in the sample. Rather than ability to keep owing until old age, it is ability to have paid off any mortgages by the time the household reaches the 50+ age cohort that is linked to more favorable conditions for homeownership in Europe.

Note that we are controlling for non-home wealth, so being generally wealthier is not the mechanism generating more limited dependence on mortgages in older age. Shorter duration of mortgages, greater down-payment ratios and even smaller incidence of ever having had a mortgage (e.g., because of housing gifts) could all contribute to a lower probability of still owing in older age. We discuss the economic environment further below, when we look at the value of the home

4.3 Similarity of Economic Conditions within the US and within Europe

In this section, we carry out analysis of differences within Europe (with Germany as the benchmark); and across four US regions, Midwest (MW, used as the base region), Northeast (NE), South (S), and West (W). We do so for two main reasons. First, coefficient effects across the Atlantic look sizeable, but it is useful to put them into perspective by comparing them to an actual case of a homogeneous economic environment in the context of a federal country, such as the US. Clearly, zero coefficient effects represent an extreme theoretical benchmark unlikely to be achieved even in such a case. Second, while the US enjoys mobility of labor and capital across geographical regions, a common monetary policy and stock market, and common federal institutions, it also exhibits variation across its States, e.g. with respect to fiscal matters. It is thus worthwhile to see if our method is sensitive enough to pick up significant differences in market conditions arising from such considerations, and how large these effects are compared to those across the Atlantic and across European countries that are part of the European Union (with the exception of Switzerland).

Table 2b shows regional differences in average participation probabilities for each asset and for mortgages within the US. Households in the MW exhibit higher participation rates across the board, with two exceptions: the NE has greater stockownership, and the West greater participation in mortgages in older age. The bottom panel shows corresponding differences between Germany and each of the European countries in our sample. We see that observed differences in participation within the US are on a much smaller scale compared to inta-European differences, except for the case of business ownership.

Our method is sensitive enough to pick up statistically significant differences in market conditions across US regions for a subset of the instruments and region pairs. Market conditions in the MW are typically estimated to be more conducive to participation in any of these instruments, with two exceptions: stocks, where the NE dominates; and home, where the South offers conditions more conducive to ownership. However, these intra-US differences pale in comparison to the estimated intra-European differences in the tendency of similar households to own stocks or their primary residence, and to have mortgages outstanding in older age.

As can also be seen from the Table, these sizeable differences in participation rates within Europe are typically not due to statistically significant effects of population characteristics in different European countries relative to Germany. We find that most of the covariate effects are statistically insignificant, while the vast majority of coefficient effects are statistically significant, pointing to the relevance of differences in economic environment for observed differences in participation rates.

Germany (the base country) is about in the middle of the ranking regarding stockholding participation rates. Interestingly, the sign pattern of observed differences in participation is fully reflected in the sign pattern of coefficient effects, with most covariate effects statistically insignificant. The position of Germany in the ranking seems to be reflecting the tendency of given households to participate, rather than a poor composition of the population in terms of characteristics conducive to stockholding.

Germany has the lowest homeownership rate among European countries, as indicated by negative observed differences in participation rates in Table 2b. It is interesting that this negative sign is mirrored in statistically significant negative effects of the economic environment (with the exception of Switzerland), while the pattern of covariate effects is much more mixed and largely insignificant. On the side of mortgages, it is noteworthy that Germany is not the country with uniformly best or worst economic environment: negative coefficient effects on ownership of primary residence are accompanied by coefficient effects for mortgages of mixed sign. This lack of symmetry makes clear that the low homeownership rate in Germany does not simply reflect limited ability to maintain an outstanding mortgage to older age.

It seems likely that part of the differences in homeownership rates for households of given characteristics has to do with cultural factors that we cannot control for by making use of the variables at our disposal: e.g., the importance attributed to homeownership, or to giving houses as marriage gifts to children. Another part could be due to differential transactions costs, tax treatments, and credit market conditions across Europe. This is indeed suggested by the high transactions costs in Germany and the inability of owners-occupiers to deduct mortgage interest, unlike what applies to owners who rent to others.

When there is substantial interaction between culture, institutions, and policies, progress towards harmonization of the economic environment is likely to be slower and more cumbersome.

Our findings for private business ownership suggest greater similarity of market conditions in Europe than for the other assets. Coefficient effects are insignificant for about half the country pairs. However, comparison between coefficient and covariate effects for business ownership among older households suggests that the economic environment once again plays a dominant role in determining the sign and overall size of differences in participation rates within Europe.

All in all, we find that although US regions do not show complete uniformity in economic conditions affecting ownership of different assets, intra-European differences are quantitatively significantly larger for stockholding, home ownership, and mortgages outstanding in older age, though often not for private business ownership. The role of population differences in shaping the overall observed differences in participation rates within the US and within Europe appears much more limited, in terms of statistical significance, sign, and size.

5. Sources of International Differences in Levels of Asset Holdings

We turn now to real, PPP-adjusted levels of asset holdings across the thirteen countries, document their differences, and perform an equivalent decomposition into the part that arises from differences in economic environment and in characteristics of the pool of holders of the four instruments. We employ quantile regressions in order to study the entire distribution of holdings across the holder pool in each country, and are thus

able to examine whether market conditions facing relatively small holders show greater similarity across countries compared to conditions facing large holders. In the tables, we present results for three percentiles only (25^{th}, 50^{th}, 75^{th} percentile) to save space and indicate the general nature of results. In the Web Appendix (also available from the authors on request), we present a full set of graphs depicting the entire distribution of holdings for each instrument and country pair examined.

5.1 Estimation Model and Methodology

We employ a variant of the Machado and Mata (2005) quantile-regression decomposition.[17] We first estimate nineteen vectors *j* of quantile regression coefficients at every 5^{th} percentile, θ_j, of the distribution of the instrument in the base country:

$$Q_{\theta j}^{base}\left[y^{base} \mid X^{base}\right] = X^{base} b^{base}\left(\theta_j\right) \tag{2}$$

We control for the same set of regressors as in the participation probit described in Section 3.1. Table A.2 presents sets of median regression estimates, by instrument, for the three reference countries or regions: US, used for US-Europe comparisons; MW, used for within-US comparisons; and Germany, used for comparisons across Europe.

We then make *m* random draws, with replacement, of characteristics and corresponding weights from the European country *i*, where *m* is the number of owners of the instrument in question in the sample from country *i*. This process is repeated nineteen times. Each outcome of these draws, containing m observations, is denoted by X_j^i. We generate nineteen counterfactual samples of size *m* from the desired conditional distribution: $y_j^* = X_j^i b^{base}\left(\theta_j\right)$. We use these values to generate the unconditional

counterfactual distribution: $f^{*}\left(y; X^{i} b^{base}\right)$. Finally, for each of the three sequences of variables (log holdings in the 'base', in country *i*, and counterfactual values), we calculate percentiles using population weights.

The decomposition can be written as:

$$f\left(y^{Base}\right) - f\left(y^{i}\right) = \left\{f\left(y^{Base}\right) - f^{*}\left(y; X^{i} b^{Base}\right)\right\} + \left\{f^{*}\left(y; X^{i} b^{Base}\right) - f\left(y^{i}\right)\right\} \qquad (3)$$

The densities without asterisk represent the actual levels of the instrument in question across their distribution among owners. The starred density is the counterfactual we construct.[18]

In interpreting this decomposition, we can think of starting with the distribution of holdings in a particular country or region *i* and comparing it to what would have been observed if the population of holders were confronted with the same economic environment facing holders in the base country. The resulting difference (in the second bracket) represents these coefficient effects. We then compare the counterfactual to the actual density in the base country. This difference (in the first bracket) represents covariate effects, i.e. those attributable to differences in configuration of characteristics between holders in country or region *i* and in the 'base' one.

We also compute and present confidence bands for covariate and coefficient effects based on bootstrapped standard errors. To construct them, we first derive one hundred bootstrapped samples from the original sample of holders used in step 1. Then, by repeating the process described above one hundred times, we generate a series of one hundred bootstrapped counterfactual distributions and use them to estimate standard errors.

We have performed several robustness checks, which have yielded results consistent with those presented here (details can be found in Appendix 2). An issue of potential concern is selectivity and its possible effects on the estimates of the covariate and coefficient effects. Given the lack of a generally accepted method of handling selectivity in quantile regression, we examined whether decompositions of mean differences in instrument levels are sensitive to selectivity. Specifically, we applied the selectivity-corrected decompositions proposed by Neuman and Oaxaca (2004) and found that they give quite similar results to decompositions of mean differences that ignore selectivity (see Appendix 2 for a fuller discussion). Thus, we doubt that our main conclusions about holdings are affected by this issue.

5.2 Europe versus the US

Table 6a shows coefficient and covariate effects for stockholding, private businesses, primary residence, and mortgage levels in older age. Before going into details for each instrument, two important general observations can be made. First, we find effects of the economic environment that are typically large (in absolute value) and almost always statistically significant. Our estimation also picks up a number of instances with statistically significant effects of characteristics of the holder pools, but estimates are typically smaller and, in several instances, statistically insignificant.

Second, unlike population effects, those of the economic environment are always of the same sign as overall observed differences in holding levels, sharing a common pattern. Indeed, in some cases (such as primary residence), effects of owner characteristics point in the opposite direction of overall observed differences, but

estimated effects of the economic environment are sufficiently large to overwhelm the opposing influence of characteristics, often by a large margin. It is in this sense that conditions of the economic environment are estimated to set the pattern of overall international differences in levels of holdings.

5.2.1 Stockholding

The first panel of the Table 6a shows results on stock holdings, direct and indirect. US stockholders hold greater amounts of stock wealth across the distribution of stock holdings compared to any European country (except for Switzerland that exhibits larger holdings; and for Denmark, where holdings are similar). With the exception of Sweden (and possibly Spain), this difference is fundamentally attributable to effects of differences in economic environment across all quantiles, with covariate effects close to zero. This means that, despite typically lower European stock holdings, European stockholders would achieve considerably higher levels if they were confronted with the US economic environment. Sweden also exhibits significant coefficient effects in this direction, but a large part of its observed difference in amounts invested in stocks relative to the US is attributable to the characteristics of its stockholder pool. This is an important consequence of the fact that stock market participation is more widespread in Sweden than in the US, and thus the composition of the Swedish stockholder pool is more diluted by households whose characteristics are less conducive to stockholding compared to their US counterparts. In Denmark, participation is also greater than in the US, but differences in holdings among owners are very small. In all countries, except for Sweden, Denmark, and Switzerland, the size of coefficient effects is largest among small holders and goes down as we move higher up in the distribution of holdings. The largest holders are

estimated to be influenced very little by differences in the economic environment relevant for stockholding; it is the small and medium owners whose holdings are mostly affected.

Our findings for the dominant role of coefficient effects seem quite consistent with equity market indicators compiled by the World Bank and other sources (Table 3). Denmark, Austria and Greece exhibit the three lowest scores in terms of the World Bank stock market size indicator, which comprises market capitalization, value of stocks traded and turnover ratios. At the other extreme, Switzerland ranks at the top of this index. Low stockholding levels are observed in countries exhibiting poor institutional characteristics, such as high transactions costs and limited shareholder rights, rather than being closely linked to properties of stock returns (as reflected in the volatility and market stability measures).

Table 7, panel A summarizes regression results from regressing coefficient effects estimated at different points of the asset amount distribution on a set of country level indicators. Results suggest that shareholder rights and aggregate indicators of trust contribute to explaining the pattern of estimated coefficient effects across countries: higher ADRI and trust indicators in Europe tend to lead to narrowing of differences in economic environment that contribute to differences in stock holdings of small and medium investors. Relevant differences in economic environment can also be linked to the scale of stock markets (measured by the market capitalization to GDP ratio) and to the number of internet connections in the European country. Both reduce differences in stockholding amounts from the US at comparable points in the distributions of holdings.

5.2.2 Private Businesses

The second panel of Table 6a shows observed differences and counterfactual decompositions for private business holdings among older owners. There is considerable variety in observed differences in holdings across the Atlantic. Swedish and Danish older owners of private businesses invest more than US owners across the entire distribution of holdings, but US holdings dominate in a much larger number of other countries. All possible patterns of relationship between size of holdings and size of differences are observed. There are cases, such as England or France, where differences are largest at the low end of holdings, vanishing at the upper end. There are other cases, where differences seem quite uniform over the distribution, such as Italy. Finally, in countries such as Spain, these differences increase with the size of holdings. Differences in economic environment tend to have statistically significant effects for smaller holders in the vast majority of countries, while statistical significance is attenuated for median and large holdings, with about half the countries exhibiting significant effects.

The lack of definite pattern in Europe-US comparisons of pivate business holdings is consistent with the observation made in the section on participation that the top place of the US in the overall index of ease of doing business masks considerable diversity of rankings in the various components of the index.

Regression of coefficient effects on aggregate indicators (panel B, Table 7) suggest that differences in the amounts invested in a business are partly explained by differences in tax system and difficulties in trading across borders, especially for median investors.

5.2.3 Value of Main Residence

The third panel of Table 6a shows differences between the US and European countries in real gross values of another real asset, primary residence. In eight of the twelve countries considered, European homeowners invest larger PPP-adjusted amounts in their primary residence than US homeowners at the same point in the home value distribution. In only two cases (Sweden and Greece) are amounts invested larger among US owners than among European owners. The picture is even more striking when we decompose differences into coefficient and covariate effects. In all cases, characteristics of US homeowners push in the direction of larger investments in the primary residence. However, in ten of the twelve cases, Europeans of given characteristics tend to invest larger real amounts in the primary residence than US households with similar characteristics. Of the remaining two cases (Sweden and Denmark), only Swedish households tend to invest strictly less in the home than US homeowners of similar characteristics.

To be sure, Table 8 illustrates that larger real holdings do not represent, on average, larger homes in Europe than in the US: there is a quantum leap in average size of dwelling when crossing the Atlantic. Europeans simply tie up larger real amounts in their primary residence compared to US homeowners of similar characteristics and position in the distribution of home values.

We view this as an intriguing finding unlikely to have a simple explanation, primarily because of how widespread the tendency is for Europeans to have larger amounts invested in the house. It seems unlikely that the difference is simply price-related. While there are areas in the US where land is abundant and house prices

relatively low, the data include also homeowners from the W and the NE, where land is highly priced. While there are countries in Europe with particular land shortage (such as the Netherlands), and a number of countries that have experienced strong booms in real housing prices (especially Spain, UK, and Italy), the finding applies even to Germany, with stagnant or even declining house prices.

Another possibility would be a uniformly more favorable tax treatment of housing in Europe. However, Table 9, which gives details on the taxation of residential property, does not suggest a favorable treatment, except perhaps in terms of not taxing capital gains, but again this applies only to some European countries. Paying larger amounts for the house (given household resources) is also unlikely to be linked to greater availability of large mortgages in Europe: loan to value ratios in mortgage markets are generally lower - or at least no higher - in Europe compared to the US (Table 10). We return to mortgages below. Finally, the possibility that the European preference for greater housing investment is linked to bequest motives or receipts of housing gifts or inheritance that tend to be more widespread in Europe than in the US is weakened by the fact that we are already controlling for survey responses indicating the probability to leave a bequest. Greater prevalence of such factors would thus be captured in the configuration of covariates, which is kept constant when deriving coefficient effects.

Regression analysis of the association of the mortgage debt to GDP ratio and of the typical loan to value ratio with the coefficient effects in the housing market (panel C, Table 7) suggests that a higher mortgage debt to GDP ratio leads to even bigger (more negative) differences with respect to the US. In other words, thicker mortgage markets in

Europe are likely to be associated with even larger home investments by households therein, thus widening even further the distance from similar US households.

5.2.4 Value of Mortgages for Main Residence

Is the European tendency to invest more in the home mirrored by a tendency to hold larger mortgages in older age? The fourth panel of Table 6a compares mortgage holders in Europe and in the US and suggests that the answer to this question is No. The only country that exhibits such a tendency is Switzerland, while levels of outstanding mortgages in Denmark hardly differ from those of US mortgage holders.

Going one step beyond observed differences, we see that mortgage owner characteristics contribute next to nothing to the larger outstanding mortgages of US mortgagees. Virtually the whole of the differences is linked to the environment faced by holders of given characteristics. Mortgage holders in the US end up holding significantly larger mortgages to older age compared to European households with similar characteristics. As these are equilibrium holdings, they reflect both a tendency of the US financial sector to allow larger mortgages for owners of similar characteristics, and a tendency of homeowners to maintain larger mortgages in ages 50 or above.

These larger mortgages may in turn reflect longer durations of mortgages (e.g., 30 versus 15 or 20 years), larger initial loan-to-value ratios, or more pronounced tendencies to move to more expensive homes, taking mortgages to finance the upgrade. Regardless of the precise mechanism, our findings suggest that US households were more exposed to the risk of negative equity in 2004/5, immediately prior to the current financial crisis, than their European counterparts, as they tended to have both smaller home values and

larger outstanding mortgages for given household characteristics. Prospects of US house prices had to be significantly better than those in Europe if this combination of factors were not to lead to troubled mortgages in the US.

5.3 Similarity of Economic Conditions within the US and within Europe

Table 6b shows in its first panel and for each instrument, PPP-adjusted levels of holdings for owners at the 25^{th}, 50^{th}, and 75^{th} percentiles located in four regions of the US. The second panel refers to differences between Germany and each of the remaining European countries. A number of patterns emerge. First, observed differences in amounts held tend to be smaller and less likely to be significant within the US than across European countries. Second, coefficient effects are more likely to be significant when comparing real assets (homes and private businesses) than when comparing financial instruments (stocks and mortgages).

This is consistent with intuition, as financial markets tend to be more integrated than housing markets or markets for private businesses. Those with primary residence in a particular region face the local housing market conditions. In order for these to be similar across regions, households need to be willing and able to move to where the housing market offers better terms. Even if the policy and institutional framework governing housing markets were fully harmonized across states or countries, differences could still arise because of differential employment opportunities or quality of factors complementary to housing (e.g. school quality). It is also expected that market conditions governing private business holdings turn out to be less homogeneous than those for stockholding and more homogeneous than housing. This market is less segmented than

the housing market, because a household does not need to own a private business where its members want to live. However, supervision, control, and any participation in management of the business are considerably facilitated by geographical proximity. This results in some market segmentation, the effects of which show up in our findings.

The US is a federal country with fiscal federalism and monetary policy run by the Fed. In Europe, monetary union encompasses most of the countries in our sample (except for Switzerland and England), while fiscal policies (determining, inter alia, the tax treatment of homes and of private businesses) are far less integrated, with fiscal union being a very remote prospect.

Table 11 shows divergent indicators of housing market conditions within the US, such as lower prices and higher vacancy rates in the MW and in the S. Stocks are the asset for which coefficient effects were largely insignificant within the US, but this is not the case for Europe. The vast majority of countries exhibit strongly significant effects, both statistically and economically. Very few covariate effects turn out to be significant, practically all in favor of the German stockholder pool being conducive to larger holdings. Strong coefficient effects for financial assets suggest that European households neither invest in the same stock market nor do they consider the full spectrum of European markets as equally accessible to them. This European home equity bias (even after the adoption of the euro) is noteworthy, as it does not seem to be confined to small holders: coefficient effects tend to persist at the upper end of the distribution.

For private businesses, we find statistically significant coefficient effects across Europe at various parts of the distribution. Coefficient effects for home values are statistically significant across the whole distribution. However, their estimated size and

sign exhibit much greater variation across European countries. This is so, even though Germany has the lowest homeownership rate in the group and one might a priori assume that it offers uniformly less favorable conditions to homeowners. Analysis of mortgage levels in older age suggests that Germany does not offer the worst prospects for large mortgages in older age compared to several countries in Europe, despite its very low homeownership rate. This reinforces the points made in the participation section above, pointing to the observation that Germany did not have the lowest incidence of mortgages among the European countries, nor the worst conditions for households of given characteristics to obtain a mortgage.

6. Concluding Remarks

In this paper, we have used internationally comparable survey data across thirteen countries to document and study sources of differences in portfolios of older households across the Atlantic, within the US, and within Europe. We focused on the question of whether households possessing a given configuration of characteristics tend to have similar patterns of asset market participation and of asset and mortgage holdings across these countries. We applied counterfactual analysis, previously employed in the labor literature to study discrimination in earnings of different groups of workers in the same country, to examine similarities in conditions of the economic environment governing participation, asset, and mortgage holdings of households across different countries or regions. Our approach is likely to provide a fresh perspective on comparing economic conditions for asset and debt market participation and exposure.

Our findings suggest that households of given characteristics tend to have quite different probabilities of participating in a given asset, and also quite different PPP-adjusted holdings, both across the Atlantic and within Europe. In most cases, participation probabilities are greater in the US than in Europe. However, the same is not true for the levels of asset holdings. European asset owners tend to hold smaller real amounts in stocks and larger amounts in the primary residence than US households at comparable positions of the distribution of holdings, even after controlling for any differences in the configurations of characteristics in the owner pools. In most cases, international differences in the configuration of owner pools play minimal or no role in generating observed differences in asset holdings. Moreover, differences in conditions of the economic environment are substantially more pronounced among European countries than among US regions, suggesting a substantial potential for further integration.

Our analysis is positive rather than normative. Finding differences in economic environment does not necessarily imply that they should be eliminated through institutional reform and policy harmonization. Promoting holdings of particular assets or debts can be a political choice. Our findings, however, provide a check on consistency between stated objectives and observed outcomes and point to statistically significant and pronounced differences in economic environment, both across the Atlantic and within Europe, much more so than within the US.

Our study could encourage work in various directions. The pattern of coefficient effects between Europe and the US, signaling reversals between financial and real assets, as well as the pattern for smaller country groups present compelling challenges for future research aimed at further identifying their sources, likely persistence, and amenability to

policy interventions. Our approach could be applied to analyzing market conditions for other assets or debts; other country groupings (for example, comparable surveys are currently designed or collected in Japan, Korea, China and India); and demographic groups of interest, both within a given country and across countries.

Recently available data and modern counterfactual methods of analysis can contribute to our understanding of the extent to which 'single market programs' aimed at the creation of areas without internal frontiers and with free movement of goods, persons, services, and capital have succeeded in transforming national residents into citizens of a global – or at least international – 'village', facing similar economic environments, policies and constraints regardless of the country in which they reside.

Appendix 1: Probit and Quantile Regressions

Counterfactual analysis of participation is based on probit regressions for participation in the base country or region. Participation probits for the US, the Midwest, and Germany are presented in Table A.1. Counterfactual analysis of amounts held is based on quantile regressions for the base country or region. As an example, Table A.2 lists results for median regressions.

Appendix 2: Robustness Exercises

We have performed a variety of checks for the robustness of our results. First, we have estimated different specifications of the quantile regression models estimated in the base country or region (US, Germany and MW). In particular, we have experimented with specifications that use a non-linear (inverse hyperbolic sine) continuous transformation of income and wealth variables instead of quartiles and the patterns derived are similar to those we present.[19]

Second, we evaluated alternative counterfactual distributions that combine the configuration of characteristics of asset holders in the base country with the coefficients on those characteristics estimated for each comparison country or region *i*. This reverses the order of the decomposition in Section 4.1 in the following way:

$$f\left(y^{Base}\right) - f\left(y^{i}\right) = \underbrace{\left\{f\left(y^{Base}\right) - f^{*}\left(y; X^{Base} b^{i}\right)\right\}}_{Coefficients} + \underbrace{\left\{f^{*}\left(y; X^{Base} b^{i}\right) - f\left(y^{i}\right)\right\}}_{Covariates} \quad (4)$$

In the Machado-Mata decomposition, the relative contribution of coefficient and covariate effects can vary depending on the choice of base. A general way to address this problem is to use the Shapley-Shorrocks generalization (Shorrocks, 1999), according to which coefficient and covariate effects can be derived as averages of effects calculated from both possible choices. We have estimated coefficient and covariate effects according to the Shapley-Shorrocks generalization and the decomposition in (4) and they are both similar to those we present, with differences appearing only at high and low quantiles of business holdings. It is likely that these differences are due to the small samples of business owners in all European countries (less than 150 observations).

Third, we have implemented the original Machado-Mata decomposition[20]:

$$f\left(y^{Base}\right) - f\left(y^{i}\right) = \underbrace{\left\{f^{*}\left(X^{Base} b^{Base}\right) - f^{*}\left(y; X^{i} b^{Base}\right)\right\}}_{Covariates} + \underbrace{\left\{f^{*}\left(y; X^{i} b^{Base}\right) - f^{*}\left(X^{i} b^{i}\right)\right\}}_{Coefficients} + error \quad (5)$$

Again, coefficient and covariate effects are qualitatively similar to the ones we present.

Finally, we investigate the potential effects of selectivity in the counterfactual decompositions we present. To the best of our knowledge, the only method that corrects quantile regression estimates for selectivity is due to Buchinsky (1998). In his method however, identification of the constant term (which is necessary for our decompositions) rests on the assumption that there is a subset of observations for which participation

probability is very close to one. Unfortunately, there is no such subset of observations for any of the assets we consider, and thus we perform our quantile regression without taking selectivity into account.

In order to investigate the effects of ignoring selectivity, we examine its effects on the coefficient and covariate effects at the mean instead of different quantiles. To this end, we estimate coefficient and covariate effects from a standard Oaxaca-Blinder decomposition (see Blinder (1973) and Oaxaca (1973)) and we compare them with those derived from decompositions computed after taking into account selectivity through a Heckman-type model. There are various such decompositions (for a detailed discussion, see Neuman and Oaxaca, 2004, henceforth NO). We choose the decomposition that corresponds to eqn. 14 in NO, which represents the most encompassing view for integration in the sense that country differences in the estimated parameters from the asset ownership equation and differences in the effects of selectivity in the amounts invested are viewed as reflecting lack of integration. On the other hand, differences in the configuration of characteristics determining asset ownership are treated as covariate effects. We perform selectivity–corrected decompositions only for holdings of stocks and the main home, since we find no evidence of selectivity for private business holdings.

Following the notation in NO the conditional expectation of the asset amount among owners derived from a Heckman-type model is equal to[21]:

$$E(Y_i \mid L_i = 1) = \overline{X}_i'\hat{\beta} + \hat{\theta}\hat{\lambda}_i \tag{6}$$

where L is an index of participation, $\overline{X}$ denotes the mean of X, $\hat{\lambda}$ is an estimate of the mean (inverse) Mill's ratio evaluated from the asset participation stage, and $\hat{\theta}$ is its estimated coefficient. Then, we perform the following two decompositions:

$$\overline{Y}_{Base} - \overline{Y}_i = \underbrace{\overline{X}'_i(\hat{\beta}_{Base} - \hat{\beta}_i)}_{Coefficients} + \underbrace{(\overline{X}'_{Base} - \overline{X}'_i)\hat{\beta}_{Base}}_{Covariates} \tag{7}$$

$$\begin{aligned}\overline{Y}_{Base} - \overline{Y}_i = &\underbrace{\overline{X}'_i(\hat{\beta}_{Base} - \hat{\beta}_i) + \hat{\theta}_{Base}(\hat{\lambda}^0{}_i - \hat{\lambda}_i) + (\hat{\theta}_{base} - \hat{\theta}_i)\hat{\lambda}_i}_{Coefficients} \\ &+ \underbrace{(\overline{X}'_{Base} - \overline{X}'_i)\hat{\beta}_{Base} + \hat{\theta}_{Base}(\hat{\lambda}_{Base} - \hat{\lambda}^0{}_i)}_{Covariates}\end{aligned} \tag{8}$$

where $\hat{\lambda}^0{}_i$ represents the mean value of the inverse Mill's ratio if households in country i faced the same coefficients for participation in a given asset category as households in the base country. The decomposition in (7) is the traditional Oaxaca-Blinder one and thus does not take into account selectivity, while the one in (8) does. Results are summarized in Table A.3, and we observe that accounting for selectivity has practically no impact on the estimates of the covariate and coefficient effects. These findings lead us to believe that our counterfactual decompositions using quantile regressions are unlikely to be affected by the omission of any correction for selectivity.

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Table 1: Asset ownership rates and amounts by quantiles

Country/ Region	Number of Households	NET WORTH			STOCKS				OWN BUSINESS				HOME				MORTGAGE			
		Quantiles			Prevalence (%)	Quantiles among owners			Prevalence (%)	Quantiles among owners			Prevalence (%)	Quantiles among owners			Prevalence (%)	Quantiles among holders		
		25	50	75		25	50	75		25	50	75		25	50	75		25	50	75
United States	***13,073***	***40.0***	***162.1***	***437.0***	***49.7***	***11.0***	***49.5***	***169.0***	***9.8***	***40.0***	***100.0***	***350.0***	***77.3***	***80.0***	***150.0***	***250.0***	***38.3***	***32.0***	***70.0***	***125.0***
Midwest	3,170	52.0	178.2	428.1	54.5	10.0	45.0	150.2	13.8	50.0	150.0	400.0	80.9	82.0	132.0	200.0	39.3	30.0	65.0	105.0
Northeast	2,125	39.7	193.5	475.9	54.7	11.0	52.0	172.5	6.8	40.0	100.0	300.0	70.6	92.0	190.0	340.0	32.5	32.0	70.0	124.0
South	5,138	29.9	113.0	326.0	42.6	10.0	43.9	153.0	9.3	25.0	90.0	250.0	78.3	63.0	100.0	180.0	36.5	28.5	58.0	102.0
West	2,399	53.0	228.5	582.0	52.1	14.0	53.3	182.5	8.6	30.0	100.0	300.0	76.9	140.0	250.0	400.0	46.0	50.0	100.0	178.7
Europe	***25,394***	***28.4***	***147.6***	***307.5***	***27.0***	***3.6***	***10.6***	***31.0***	***6.4***	***21.4***	***63.8***	***206.9***	***68.3***	***109.8***	***178.3***	***291.1***	***14.9***	***12.3***	***36.0***	***76.6***
Sweden	2,140	22.5	90.6	219.7	70.8	4.0	12.1	33.3	12.9	72.6	343.1	939.3	68.9	51.2	92.1	153.5	40.2	15.2	30.7	57.0
Denmark	1,176	14.7	102.9	258.6	56.1	2.7	8.3	22.7	9.6	84.4	337.7	1,688.4	69.2	90.8	136.2	204.2	44.3	28.4	56.7	90.8
Germany	2,002	11.8	95.4	272.6	25.4	3.5	9.4	26.2	6.5	21.0	52.4	151.7	51.2	136.3	209.7	314.6	14.8	12.6	36.7	83.3
Netherlands	1,954	9.6	140.4	336.4	24.9	4.6	15.2	42.1	6.9	18.2	75.9	505.9	55.2	192.3	253.0	374.4	43.1	23.8	54.6	110.4
Belgium	2,532	96.6	199.4	370.0	37.7	5.1	20.4	69.6	5.5	63.7	128.5	308.3	80.0	127.4	173.6	254.8	11.9	5.2	14.4	32.7
France	2,110	49.4	177.1	348.9	43.0	2.7	8.5	26.6	6.0	9.8	61.7	208.8	72.2	124.1	186.2	310.4	11.9	7.9	23.7	51.7
Switzerland	712	35.5	198.4	419.3	36.3	7.2	25.5	89.3	10.9	54.6	117.1	351.9	54.8	229.5	317.4	459.1	45.3	51.0	104.6	201.3
Austria	1,409	9.4	112.5	244.5	10.2	3.0	8.1	27.4	4.1	45.9	81.0	216.0	56.7	108.0	162.0	270.0	9.2	1.9	10.8	43.2
Italy	1,778	46.4	149.5	297.2	10.4	4.7	14.1	36.1	6.5	15.4	58.3	120.0	75.1	95.4	168.7	281.2	5.6	9.6	27.0	56.2
Spain	1,753	73.2	140.7	254.1	12.8	3.9	11.0	24.7	6.7	30.2	57.7	117.1	86.9	84.1	131.3	219.7	9.7	9.5	30.2	58.6
Greece	1,982	55.8	111.7	215.6	10.6	1.1	4.7	12.4	6.6	37.2	93.1	437.7	84.3	62.0	95.5	148.9	5.5	5.0	18.6	37.2
England	5,721	75.7	257.4	443.3	39.4	4.6	15.6	52.1	2.5	6.1	38.3	268.1	76.1	191.5	275.7	398.3	16.8	10.7	27.6	63.3

Note: Weighted statistics using 2004 HRS, SHARE and ELSA data. All amounts are in thousand of PPP-adjusted dollars. PPP exchange rates are taken from the Penn World Tables, version 6.2 (Heston et al., 2007).

Table 2a. Decompositions of Differences in Asset Ownership Rates between the US and Europe

Country/ Region	Stocks			Own Business			Home			Mortgage		
	Total Difference	Difference due to Coefficients	Difference due to Covariates	Total Difference	Difference due to Coefficients	Difference due to Covariates	Total Difference	Difference due to Coefficients	Difference due to Covariates	Total Difference	Difference due to Coefficients	Difference due to Covariates
Sweden	-0.211	-0.346 ***	0.135 ***	-0.031	-0.061 ***	0.030 ***	0.083	0.066 ***	0.018 ***	-0.019	-0.082 ***	0.062 ***
Denmark	-0.064	-0.132 ***	0.068 ***	0.003	-0.018 *	0.020 ***	0.080	0.072 ***	0.008	-0.060	-0.095 ***	0.035 ***
Germany	0.243	0.133 ***	0.110 ***	0.033	0.010	0.024 ***	0.260	0.195 ***	0.066 ***	0.234	0.146 ***	0.088 ***
Netherlands	0.248	0.112 ***	0.136 ***	0.029	0.008	0.021 ***	0.221	0.149 ***	0.071 ***	-0.049	-0.112 ***	0.063 ***
Belgium	0.120	0.047 ***	0.073 ***	0.044	0.055 ***	-0.011 **	-0.027	-0.038 ***	0.011	0.264	0.218 ***	0.046 ***
France	0.067	-0.041 ***	0.108 ***	0.038	0.025 ***	0.013 ***	0.051	0.003	0.048 ***	0.264	0.200 ***	0.063 ***
Switzerland	0.134	0.048 **	0.086 ***	-0.011	-0.014	0.003	0.225	0.230 ***	-0.005	-0.070	-0.110 ***	0.040 ***
Austria	0.395	0.266 ***	0.128 ***	0.057	0.031 ***	0.026 ***	0.205	0.127 ***	0.078 ***	0.291	0.207 ***	0.084 ***
Italy	0.393	0.169 ***	0.223 ***	0.033	0.011	0.022 ***	0.022	-0.034 **	0.056 ***	0.327	0.240 ***	0.088 ***
Spain	0.369	0.104 ***	0.264 ***	0.031	0.008	0.023 ***	-0.096	-0.183 ***	0.087 ***	0.286	0.221 ***	0.065 ***
Greece	0.391	0.178 ***	0.213 ***	0.032	0.015 *	0.017 ***	-0.070	-0.094 ***	0.024 ***	0.328	0.257 ***	0.071 ***
England	0.103	0.027 **	0.076 ***	0.073	0.072 ***	0.002	0.012	-0.042 ***	0.054 ***	0.215	0.150 ***	0.064 ***

Note: All decompositions differences calculated with respect to the US. ***, **, * denote significance at 1%, 5% and 10%, respectively. Standard errors have been computed using 200 bootstrap replications.

Table 2b: Decompositions of Differences in Asset Ownership Rates within the US and Europe

Country/ Region	Stocks			Own Business			Home			Mortgage		
	Total Difference	Difference due to Coefficients	Difference due to Covariates	Total Difference	Difference due to Coefficients	Difference due to Covariates	Total Difference	Difference due to Coefficients	Difference due to Covariates	Total Difference	Difference due to Coefficients	Difference due to Covariates
US Northeast	-0.002	-0.023 ***	0.021 ***	0.070	0.057 ***	0.014 ***	0.102	0.063 ***	0.039 ***	0.069	0.054 *	0.014 *
US South	0.119	0.040 ***	0.079 ***	0.045	0.023 ***	0.023 ***	0.025	-0.030 ***	0.055 ***	0.028	0.019	0.009
US West	0.025	0.045 ***	-0.020 ***	0.053	0.052	0.001	0.041	0.023 ***	0.018 ***	-0.065	-0.053	-0.012
Sweden	-0.454	-0.454 ***	0.000	-0.064	-0.077 ***	0.012 **	-0.177	-0.173 ***	-0.004	-0.254	-0.216 ***	-0.038 **
Denmark	-0.307	-0.271 ***	-0.035 ***	-0.031	-0.028 **	-0.003	-0.180	-0.136 ***	-0.044 ***	-0.294	-0.257 ***	-0.038 ***
Netherlands	0.005	0.019	-0.014	-0.005	-0.003	-0.001	-0.040	-0.092 ***	0.052 ***	-0.283	-0.241 ***	-0.042 ***
Belgium	-0.122	-0.080 ***	-0.042 ***	0.010	0.018 *	-0.007	-0.288	-0.263 ***	-0.025	0.029	0.080 ***	-0.050 ***
France	-0.176	-0.160 ***	-0.015	0.005	0.005	-0.001	-0.210	-0.221 ***	0.011	0.029	0.073 ***	-0.044 ***
Switzerland	-0.109	-0.067 **	-0.043 **	-0.045	-0.037 **	-0.008	-0.036	-0.009	-0.026	-0.304	-0.266 ***	-0.039 **
Austria	0.152	0.146 ***	0.006	0.023	0.026 ***	-0.003	-0.055	-0.101 ***	0.046 ***	0.057	0.064 ***	-0.007
Italy	0.150	0.115 ***	0.035	-0.001	-0.019	0.019 **	-0.239	-0.279 ***	0.040	0.093	0.123 ***	-0.030
Spain	0.126	0.080 ***	0.046 *	-0.003	-0.026 **	0.023 **	-0.357	-0.422 ***	0.066 **	0.051	0.071 **	-0.020
Greece	0.149	0.124 ***	0.025	-0.002	-0.016	0.014 *	-0.331	-0.363 ***	0.032	0.093	0.096 ***	-0.003
England	-0.140	-0.081 **	-0.059 *	0.040	0.030 ***	0.010	-0.248	-0.333 ***	0.084 ***	-0.020	-0.010	-0.010

Note: All decompositions differences calculated with respect to the US. ***, **, * denote significance at 1%, 5% and 10%, respectively. Standard errors have been computed using 200 bootstrap replications.

Table 3: Indicators Relevant to Stockholding

Country	Equity Mrket Size Index	Equity market Stability Index	Equity Return Volatility (%)	Equity Market Turnover Ratio (%)	Market Cap to GDP Ratio (%)	Trade Volume to GDP Ratio (%)	Antidirector Rights Index	Internet Connections (per thousand)	Information and Communication Technology Expenditure (% of GDP)	Country Index of Interpersonal Trust
Austria	5.3	5.3	10.0	34.0	29.6	8.2	4	486	5.5	70.2
Belgium	6.4	5.1	19.3	14.9	219.6	20.1	2	458	5.8	63.0
Denmark	6.3	5.0	16.0	71.4	62.3	40.1	4	527	6.0	131.9
France	6.6	4.7	22.8	81.7	92.7	65.5	5	430	6.3	37.9
Germany	6.5	4.3	27.1	123.7	44.0	51.8	4	455	6.1	75.8
Greece	5.6	5.2	15.8	37.5	61.6	21.4	3	180	4.1	54.6
Italy	6.5	5.0	17.7	114.5	47.2	48.1	4	478	4.3	60.8
Netherlands	7.3	4.6	23.8	108.8	107.8	104.7	4	739	6.3	90.6
Spain	7.7	4.9	18.8	143.3	94.9	120.5	6	348	3.7	40.9
Sweden	7.6	4.8	23.1	123.7	108.8	119.1	4	764	7.4	134.5
Switzerland	9.0	4.8	19.4	93.7	229.7	202.3	3	498	7.5	107.4
UK	8.6	5.0	18.3	140.5	131.5	173.2	5	473	7.3	61.7
USA	8.3	5.0	18.2	126.5	139.9	165.9	2	630	8.8	78.8

Notes: For columns 2-7: World Bank, data for 2004. Equity Market - Size Index: A composite index on equity market size is created on the basis of (1) market capitalization to GDP, (2) value traded to GDP and (3) turnover ratio. Each of the above component indicators are standardized by subtracting the median of the distribution of the variable and scaling by the standard deviation of the variable. Equity Market - Stability Index: A composite index on equity market stability is created on the basis of (1) skewness, (2) volatility of market returns. Each of the above component indicators are standardized by subtracting the median of the distribution of the variable and scaling by the standard deviation of the variable. Equity Return Volatility (%): Volatility is the standard deviation of the market index returns. This measure is annualized to give a measure of the annual volatility. Volatility is reported as three year moving averages. (Source: Datastream and Emerging Market Database). Equity Market Turnover Ratio (%): The indicator is defined as the total value of shares traded during the period divided by the average market capitalization for the period. Average market capitalization is calculated as the average of the end-of-period values for the current period and the previous period (Source: World Bank, World Development Indicators. Market Cap to GDP Ratio (%): The indicator is defined as the ratio of market capitalization to GDP (Source: World Development Indicators). Trade Volume to GDP ratio (%): Stock Traded to GDP is the total value traded divided by GDP. Value traded is the total value of shares traded during the period (Source: World Development Indicators). Column 8: Antidirector rights index: revised version for 2005 by Spamann (2009) of the originally computed index by La Porta et al. (1998) that aggregates the shareholder rights. The index is formed by adding 1 when: (1) the country allows shareholders to mail their proxy vote to the firm; (2) shareholders are not required to deposit their shares prior to the General Shareholders' Meeting; (3) cumulative voting or proportional representation of minorities in the board of directors is allowed; (4) an oppressed minorities mechanism is in place; (5) the minimum percentage of share capital that entitles a shareholder to call for an Extraordinary Shareholders' Meeting is less than or equal to 10 percent (the sample median); or (6) shareholders have preemptive rights that can only be waved by a shareholders' vote. The index ranges from 0 to 6. Columns 9-10: 2005 Data. (Source: World Bank, World Development Indicators 2007). The country index of interpersonal trust is from the ASEP/ JDS Databank.

Table 4: Indicators Relevant to Business Ownership

Country	Ease of Doing Business Rank	Starting a Business	Dealing with Licenses	Employing Workers	Registering Property	Getting Credit	Protecting Investors	Paying Taxes	Trading Across Borders	Enforcing Contracts	Closing a Business
US	3	3	18	1	10	7	5	55	10	4	16
UK	5	8	42	16	19	1	9	11	14	22	10
Denmark	7	15	8	14	31	19	18	19	3	1	24
Sweden	14	20	17	95	6	33	114	37	9	2	17
Switzerland	16	30	36	23	11	19	156	7	47	9	32
Belgium	20	41	43	41	157	41	12	62	38	21	9
Germany	21	53	30	129	33	3	81	70	6	29	29
Netherlands	22	42	81	86	20	13	96	81	16	30	8
Austria	30	68	45	104	26	19	141	102	13	14	19
Spain	38	94	54	163	36	19	81	103	24	41	15
France	47	12	34	135	158	96	58	92	81	17	31
Italy	69	46	109	102	50	41	81	112	103	147	43
Greece	111	134	53	166	146	76	156	100	119	48	33

Notes: World Bank, Doing Business (http://www.doingbusiness.org), rankings for 2005. The ease of doing business index is calculated as the ranking on the simple average of country percentile rankings on each of the 10 topics covered in Doing Business. The ranking on each topic is the simple average of the percentile rankings on its component indicators. Starting a business: Procedures, time, cost and paid-in minimum capital to open a new business. Dealing with licenses: Procedures, time and cost of business inspections and licensing (construction industry). Employing workers: Difficulty of hiring index, rigidity of hours index, difficulty of firing index and firing cost. Registering property: Procedures, time and cost to register commercial real estate. Getting credit: Strength of legal rights index, depth of credit information index. Protecting investors: Indices of the extent of disclosure, extent of director liability and ease of shareholder suits. Paying taxes: Number of tax payments, time to prepare tax returns and total taxes as a share of commercial profits. Trading across borders: Documents, time and cost to export and import. Enforcing contracts: Procedures, time and cost to resolve a commercial dispute. Closing a business: Recovery rate in bankruptcy.

Table 5: Coefficient Effects Related to Selected Economic Indicators (ownership)

	Differences due to Coefficients	
Indicator	Coefficient	Std. Error
	Panel A. Stocks	
Market capitalization to GDP ratio	-0.0008	0.0007
Internet Connections	0.0000	0.0004
Antidirector Rights Index	-0.0566	0.0251 **
Country Index of Interpersonal Trust	-0.0035	0.0020 *
R2	*0.55*	
	Panel B. Own Business	
Paying Taxes	0.0003	0.0001 ***
Getting Credit	0.0003	0.0001 **
Trading Across Borders	-0.0002	0.0001
R2	*0.53*	
	Panel C. Home	
Mortgage Debt to GDP ratio	0.0036	0.0017 **
Typical Loan to Value Ratio	-0.0068	0.0070
R2	*0.63*	

Note: Robust regression estimates of estimated differences in ownership rates due to coefficients on various indicators. ***, **, * denote significance at 1%, 5% and 10%, respectively.

Table 6a: Decomposition of Differences in Asset Distributions between the US and Europe

Country	25th Quantile			50th Quantile			75th Quantile		
	Total Difference	Difference due to Coefficients	Difference due to Covariates	Total Difference	Difference due to Coefficients	Difference due to Covariates	Total Difference	Difference due to Coefficients	Difference due to Covariates
Panel A. Stocks									
Sweden	1.024	0.185 ***	0.839 ***	1.407	0.428 ***	0.979 ***	1.625	0.748 ***	0.877 ***
Denmark	1.407	0.974 ***	0.432 ***	1.788	1.233 ***	0.555 ***	2.008	1.528 ***	0.480 ***
Germany	1.138	0.982 ***	0.156 **	1.657	1.339 ***	0.318 ***	1.864	1.570 ***	0.294 ***
Netherlands	0.882	0.681 ***	0.201 ***	1.182	0.896 ***	0.286 ***	1.391	1.143 ***	0.248 ***
Belgium	0.761	0.671 ***	0.090	0.887	0.659 ***	0.228 ***	0.887	0.677 ***	0.210 ***
France	1.406	1.090 ***	0.316 ***	1.758	1.297 ***	0.460 ***	1.848	1.439 ***	0.409 ***
Switzerland	0.421	0.148	0.273 ***	0.663	0.238 **	0.425 ***	0.638	0.240	0.398 ***
Austria	1.293	1.508 ***	-0.215 ***	1.810	1.846 ***	-0.036	1.818	1.801 ***	0.016
Italy	0.845	0.574 ***	0.271 ***	1.253	0.800 ***	0.453 ***	1.543	1.132 ***	0.411 ***
Spain	1.026	0.504 ***	0.523 ***	1.506	0.890 ***	0.616 ***	1.923	1.411 ***	0.511 ***
Greece	2.288	1.935 ***	0.353 ***	2.365	1.891 ***	0.474 ***	2.612	2.229 ***	0.383 ***
England	0.873	0.851 ***	0.022	1.153	1.025 ***	0.128 ***	1.177	1.082 ***	0.096 **
Panel B. Own Business									
Sweden	-0.596	-0.877 ***	0.281	-1.233	-1.445 ***	0.212 **	-0.987	-1.428 ***	0.441 ***
Denmark	-0.747	-1.084 ***	0.337 *	-1.217	-1.370 ***	0.153	-1.574	-1.877 ***	0.303 ***
Germany	0.646	0.371	0.275	0.646	0.501 ***	0.145	0.836	0.489 ***	0.347 ***
Netherlands	0.787	0.620 ***	0.167	0.276	0.308	-0.032	-0.369	-0.623	0.254 **
Belgium	-0.465	-0.341 ***	-0.124	-0.251	-0.048	-0.203 **	0.127	0.040	0.087
France	1.405	1.280 ***	0.125	0.484	0.458	0.025	0.517	0.231	0.285 **
Switzerland	-0.312	-0.336 **	0.024	-0.158	-0.118	-0.039	-0.006	-0.126	0.121
Austria	-0.138	-0.531	0.394 **	0.211	-0.071	0.281 ***	0.483	-0.062	0.545 ***
Italy	0.956	0.866 ***	0.089	0.540	0.448 ***	0.092	1.070	0.640 ***	0.431 ***
Spain	0.281	0.094	0.187	0.551	0.397 ***	0.154	1.095	0.658 ***	0.437 ***
Greece	0.072	-0.548 ***	0.620 ***	0.072	-0.389 *	0.461 ***	-0.224	-0.971 ***	0.747 ***
England	1.876	2.154 ***	-0.278	0.960	1.433 ***	-0.474 ***	0.267	0.591 *	-0.324 ***
Panel C. Home									
Sweden	0.447	0.178 ***	0.269 ***	0.488	0.162 ***	0.326 ***	0.488	0.227 ***	0.261 ***
Denmark	-0.126	-0.264 ***	0.138 ***	0.097	-0.085 **	0.182 ***	0.202	0.089 *	0.114 ***
Germany	-0.533	-0.741 ***	0.208 ***	-0.335	-0.603 ***	0.268 ***	-0.230	-0.432 ***	0.202 ***
Netherlands	-0.877	-1.084 ***	0.207 ***	-0.523	-0.776 ***	0.253 ***	-0.404	-0.591 ***	0.187 ***
Belgium	-0.465	-0.833 ***	0.368 ***	-0.146	-0.538 ***	0.392 ***	-0.019	-0.324 ***	0.305 ***
France	-0.439	-0.827 ***	0.388 ***	-0.216	-0.642 ***	0.426 ***	-0.216	-0.567 ***	0.351 ***
Switzerland	-1.054	-1.196 ***	0.142 ***	-0.750	-0.943 ***	0.193 ***	-0.608	-0.738 ***	0.130 ***
Austria	-0.300	-0.651 ***	0.351 ***	-0.077	-0.470 ***	0.393 ***	-0.077	-0.417 ***	0.340 ***
Italy	-0.176	-0.834 ***	0.657 ***	-0.118	-0.799 ***	0.681 ***	-0.118	-0.713 ***	0.596 ***
Spain	-0.050	-0.815 ***	0.766 ***	0.133	-0.605 ***	0.739 ***	0.129	-0.476 ***	0.605 ***
Greece	0.254	-0.345 ***	0.599 ***	0.451	-0.141 ***	0.592 ***	0.518	0.048 **	0.470 ***
England	-0.873	-1.260 ***	0.387 ***	-0.609	-1.044 ***	0.436 ***	-0.466	-0.825 ***	0.360 ***
Panel D. Mortgages									
Sweden	0.746	0.440 ***	0.306 ***	0.824	0.519 ***	0.306 ***	0.785	0.495 ***	0.291 ***
Denmark	0.121	-0.049	0.170 ***	0.210	0.027	0.183 ***	0.320	0.140 ***	0.180 ***
Germany	0.933	0.918 ***	0.016	0.646	0.569 ***	0.077 ***	0.406	0.312 ***	0.094 ***
Netherlands	0.296	0.351 ***	-0.055	0.248	0.253 ***	-0.006	0.124	0.119 ***	0.004
Belgium	1.821	1.874 ***	-0.053	1.580	1.564 ***	0.015	1.342	1.290 ***	0.053 *
France	1.404	1.303 ***	0.101 **	1.085	0.933 ***	0.152 ***	0.882	0.696 ***	0.186 ***
Switzerland	-0.466	-0.427 ***	-0.040	-0.401	-0.381 ***	-0.020	-0.477	-0.456 ***	-0.020
Austria	2.812	2.777 ***	0.035	1.869	1.778 ***	0.091 ***	1.063	0.933 ***	0.130 ***
Italy	1.208	0.981 ***	0.228 ***	0.953	0.718 ***	0.235 ***	0.799	0.580 ***	0.219 ***
Spain	1.213	0.916 ***	0.297 ***	0.842	0.593 ***	0.249 ***	0.758	0.530 ***	0.228 ***
Greece	1.864	1.716 ***	0.148 ***	1.325	1.136 ***	0.189 ***	1.211	0.997 ***	0.215 ***
England	1.093	1.148 ***	-0.055	0.932	0.930 ***	0.002	0.681	0.650 ***	0.031

Note: All decompositions differences calculated with respect to the US. ***, **, * denote significance at 1%, 5% and 10%, respectively. Standard errors have been computed using 500 bootstrap replications.

Table 6b: Decomposition of Differences in Asset Distributions within the US and Europe

Country/ Region	25th Quantile			50th Quantile			75th Quantile		
	Total Difference	Difference due to Coefficients	Difference due to Covariates	Total Difference	Difference due to Coefficients	Difference due to Covariates	Total Difference	Difference due to Coefficients	Difference due to Covariates
Panel A. Stocks									
US Northeast	-0.095	0.048	-0.143 *	-0.145	-0.022	-0.122 *	-0.139	0.039	-0.178 *
US South	0.000	0.082	-0.082	0.025	0.052	-0.027	-0.019	0.095	-0.114
US West	-0.337	0.038	-0.375 ***	-0.168	0.186 ***	-0.354 ***	-0.195	0.184 **	-0.379 ***
Sweden	-0.114	-0.719 ***	0.604 ***	-0.251	-0.791 ***	0.540 ***	-0.239	-0.810 ***	0.572 ***
Denmark	0.269	0.035	0.233 **	0.131	-0.048	0.178 *	0.144	-0.032	0.176 *
Netherlands	-0.256	-0.430 ***	0.174 *	-0.475	-0.493 ***	0.018	-0.473	-0.522 ***	0.049
Belgium	-0.377	-0.442 ***	0.066	-0.770	-0.745 ***	-0.025	-0.976	-1.006 ***	0.030
France	0.268	0.006	0.262 ***	0.100	-0.137 **	0.238 **	-0.016	-0.285 ***	0.269 ***
Switzerland	-0.717	-0.766 ***	0.049	-0.994	-1.025 ***	0.031	-1.225	-1.376 ***	0.151
Austria	0.155	0.329	-0.174 *	0.153	0.383	-0.230 **	-0.046	0.104	-0.150
Italy	-0.293	-0.517 ***	0.225 **	-0.404	-0.580 ***	0.175 *	-0.320	-0.559 ***	0.239 ***
Spain	-0.112	-0.429 ***	0.317 ***	-0.152	-0.359 ***	0.207 **	0.059	-0.212 *	0.271 ***
Greece	1.150	1.020 ***	0.129	0.707	0.614 ***	0.094	0.748	0.580 ***	0.168 *
England	-0.265	-0.302 ***	0.037	-0.504	-0.339 ***	-0.165 *	-0.687	-0.564 ***	-0.123
Panel B. Own Business									
US Northeast	0.223	0.309	-0.086	0.406	0.460 ***	-0.054	0.288	0.341	-0.053
US South	0.693	0.798 ***	-0.105	0.511	0.514 ***	-0.003	0.470	0.420 ***	0.050
US West	0.511	0.653 **	-0.142	0.406	0.461 **	-0.056	0.288	0.325	-0.037
Sweden	-1.242	-1.067 ***	-0.174	-1.879	-1.669 ***	-0.210 *	-1.823	-1.705 ***	-0.118
Denmark	-1.393	-1.416 ***	0.023	-1.863	-1.731 ***	-0.132	-2.410	-2.417 ***	0.007
Netherlands	0.141	0.109	0.032	-0.370	-0.261	-0.109	-1.205	-1.098 **	-0.107
Belgium	-1.111	-1.016 ***	-0.095	-0.896	-0.737 ***	-0.159	-0.709	-0.609 ***	-0.101
France	0.759	0.572 *	0.188	-0.162	-0.181	0.019	-0.319	-0.417 **	0.097
Switzerland	-0.957	-1.100 ***	0.142	-0.803	-0.737 ***	-0.066	-0.842	-0.845 **	0.003
Austria	-0.783	-0.768 **	-0.016	-0.435	-0.177	-0.258 **	-0.353	-0.092	-0.261
Italy	0.310	0.305	0.005	-0.106	-0.085	-0.021	0.234	0.229	0.005
Spain	-0.365	-0.591 ***	0.226	-0.095	-0.310 ***	0.215 *	0.259	-0.195	0.453 **
Greece	-0.574	-0.764 ***	0.190	-0.574	-0.739 ***	0.165	-1.060	-1.427 ***	0.367 **
England	1.230	1.844 ***	-0.614 **	0.314	0.914 ***	-0.600 ***	-0.569	-0.224	-0.345 *

(contd.)

Table 6b: Decomposition of Differences in Asset Distributions within the US and Europe (contd.)

Country/ Region	25th Quantile			50th Quantile			75th Quantile		
	Total Difference	Difference due to Coefficients	Difference due to Covariates	Total Difference	Difference due to Coefficients	Difference due to Covariates	Total Difference	Difference due to Coefficients	Difference due to Covariates
Panel C. Home									
US Northeast	-0.115	-0.114 ***	-0.001	-0.364	-0.346 ***	-0.019	-0.531	-0.479 ***	-0.052 **
US South	0.264	0.134 ***	0.129 ***	0.278	0.194 ***	0.084 ***	0.105	0.077 ***	0.029
US West	-0.535	-0.532 ***	-0.003	-0.639	-0.622 ***	-0.016	-0.693	-0.651 ***	-0.042 **
Sweden	0.980	0.938 ***	0.042	0.823	0.776 ***	0.047	0.718	0.701 ***	0.017
Denmark	0.407	0.372 ***	0.035	0.432	0.416 ***	0.016	0.432	0.413 ***	0.019
Netherlands	-0.344	-0.378 ***	0.034	-0.188	-0.222 ***	0.035	-0.174	-0.199 ***	0.024
Belgium	0.068	-0.027	0.095 *	0.189	0.097 **	0.092 ***	0.211	0.143 ***	0.067 *
France	0.094	-0.021	0.115 **	0.119	0.007	0.112 ***	0.014	-0.081 ***	0.095 ***
Switzerland	-0.521	-0.478 ***	-0.043	-0.414	-0.408 ***	-0.006	-0.378	-0.390 ***	0.012
Austria	0.233	0.085 ***	0.148 ***	0.258	0.147 ***	0.112 ***	0.153	0.059 ***	0.094 ***
Italy	0.357	0.159 *	0.198 ***	0.217	0.002	0.215 ***	0.112	-0.062 ***	0.174 ***
Spain	0.483	0.242 ***	0.241 ***	0.469	0.231 ***	0.237 ***	0.359	0.167 ***	0.192 ***
Greece	0.787	0.592 ***	0.196 ***	0.786	0.588 ***	0.198 ***	0.748	0.600 ***	0.148 ***
England	-0.340	-0.410 ***	0.070	-0.274	-0.360 ***	0.086 ***	-0.236	-0.276 ***	0.040
Panel D. Mortgages									
US Northeast	-0.065	-0.025	-0.040	-0.074	-0.022	-0.052	-0.166	0.002	-0.168 ***
US South	0.051	-0.039	0.090 *	0.114	0.028	0.086	0.029	0.029	0.000
US West	-0.511	-0.431 ***	-0.080	-0.431	-0.337 ***	-0.094 *	-0.532	-0.339 ***	-0.193 ***
Sweden	-0.188	-0.493 ***	0.305 *	0.179	-0.206 ***	0.384 ***	0.380	-0.033	0.413 ***
Denmark	-0.813	-0.892 ***	0.079	-0.436	-0.639 ***	0.203 **	-0.086	-0.286 ***	0.200 **
Netherlands	-0.638	-0.608 ***	-0.029	-0.398	-0.504 ***	0.106	-0.282	-0.368 ***	0.086
Belgium	0.888	0.851 ***	0.037	0.934	0.920 ***	0.014	0.937	0.947 ***	-0.010
France	0.470	0.417 ***	0.053	0.439	0.341 **	0.098	0.477	0.388 ***	0.089
Switzerland	-1.400	-1.195 ***	-0.205	-1.047	-1.106 ***	0.059	-0.882	-0.999 ***	0.117
Austria	1.879	1.899 ***	-0.020	1.223	1.177 ***	0.046	0.657	0.698 **	-0.041
Italy	0.275	0.150	0.125	0.307	0.169	0.138	0.393	0.163	0.231 **
Spain	0.279	0.095	0.184	0.196	-0.054	0.250 **	0.353	0.117	0.235 **
Greece	0.930	0.990 ***	-0.060	0.679	0.651 ***	0.028	0.806	0.708 ***	0.098
England	0.160	0.298 **	-0.138	0.286	0.175 **	0.111	0.275	0.074	0.202 **

Note: All decompositions for US regions refer to differences with respect to the Midwest, while for European countries to differences with respect to Germany. Quantiles are computed among owners of each asset. ***, **, * denote significance at 1%, 5% and 10%, respectively. Standard errors have been computed using 500 bootstrap replications.

Table 7: Coefficient Effects Related to Selected Economic Indicators (amounts)

	Differences due to Coefficients					
	10th percentile		50th percentile		90th percentile	
Indicator	Coefficient	Std. Error	Coefficient	Std. Error	Coefficient	Std. Error
			Panel A. Stocks			
Market capitalization to GDP ratio	-0.0052	0.0006 ***	-0.0069	0.0015 ***	-0.0072	0.0007 ***
Internet Connections	-0.0010	0.0004 ***	-0.0008	0.0005	-0.0014	0.0002 ***
Antidirector Rights Index	-0.1375	0.0246 ***	-0.1648	0.0763 **	0.0002	0.0314
Country Index of Interpersonal Trust	-0.0051	0.0014 ***	-0.0043	0.0025 *	0.0001	0.0017
R2	*0.94*		*0.87*		*0.96*	
			Panel B. Own Business			
Paying Taxes	0.0097	0.0040 **	0.0063	0.0062	0.0131	0.0049 ***
Getting Credit	-0.0017	0.0200	-0.0505	0.0167 ***	-0.0192	0.0130
Trading Across Borders	-0.0004	0.0095	0.0212	0.0084 **	0.0048	0.0079
R2	*0.21*		*0.66*		*0.46*	
			Panel C. Home			
Mortgage Debt to GDP ratio	-0.0092	0.0026 ***	-0.0089	0.0046 *	-0.0085	0.0032 ***
Typical Loan to Value Ratio	0.0110	0.0076	0.0244	0.0183	0.0277	0.0093
R2	*0.71*		*0.50*		*0.62*	

Note: Robust regression estimates of estimated differences in asset distribution due to coefficients on various indicators.
***, **, * denote significance at 1%, 5% and 10%, respectively.

Table 8: Housing Size

Country	Year	Average m^2 for total dwellings
Austria	2004	97
Denmark	2005[a]	111
France	2002	90
Germany	2002	90
Italy	2001	92
Spain	2001	93
UK	2003	85
US	2003	165

Notes: Data from United Nations Statistics. a) Data refer to average living floor space.

Table 9: Taxation of residential property

Country	Imputed Rental Income Taxed	Tax relief on mortgages		Capital gains on housing assets taxable	Inheritance tax	Stamp duty
		interest	principal payment			
Austria	N	Y (up to ceiling)	N	Y (if sold <10 years)	Y	6%
Belgium	Y (with fixed deduction)	Y (up to imputed rental income)	Y (within limit)	Y (if sold < 5 years) POOD are exempt	Y	10%-12.5% (5%-6% for modest houses)
Denmark	Y	Y	n.a.	Y POOD are exempt	Y	1.50% total trading costs 7.2%
Germany	N	N	N	Y (if sold <10 years) POOD are exempt	Y (lower than for financial assets)	3.50%
Greece	Y (for POOD)	Y (for POOD)	n.a.	N	Y	11%-13%
France	N	N	N	Y POOD are exempt	Y	2%-3%
Italy	N (for POOD)	Y (for POOD)	N	Y (50% for POOD)	Y (until 2001)	10% (3% for POOD)
Netherlands	Y	Y	N	N	Y (above tax free threshold)	6%
Spain	N (for POOD)	Y	Y	Y (exempt if reinvested)	Y	n.a.
Sweden	Y	Y	N	Y	Y	1.5%-3%
Switzerland	Y	Y (up to total property income + fixed amount)	N	Y (cantonal only) POOD are exempt	Y (cantonal only)	n.a.
UK	N	N	N	Y POOD are exempt	Y	1%, 2% or 4% (depends on house value)
US	N	Y (up to ceiling)	N	Y (until 2002) (deduction for POOD if held >2 years)	Y (to be phased out)	n.a

Notes: Information taken from Catte et al. (2004). POOD = principal owner-occupied dwellings.

Table 10: Characteristics of Mortgage Markets

Country	Mortgage debt to GDP ratio	Home ownership ratio*	Loan to value ratio**	Type of Loan***	Typical duration (years)
Belgium	31%	72%	80-85%	F(75%) M(19%) V(6%)	20
Germany	52%	39%	≈70%	Mainly F and M	≤30
Denmark	67%	59%	80%	F (75%) M (10%) V (15%)	30
Greece	21%	80%	70-80%	F(5%) M(15%) V(80%)	15-20
Spain	46%	85%	≈80%	V(≥75%) Rest mainly M	15-25
France	26%	58%	80%	F/M/Other(86%) V(14%)	15
Italy	15%	69%	50%	F(28%) Rest mainly M	10-25
Netherlands	111%	53%	112%	F(74%) M(19%) V(7%)	10
Austria	20%	56%	60%	F(75%) V(25%)	20-30
UK	73%	70%	70%	M(28%) V(72%)	25
US	69%	69%	80%	F(85%) M(15%)	30

Notes: Information taken from Calza et al. (2007). * Share of owner-occupied dwelling. ** Estimated average loan-to-value ratio on new mortgage loans. *** Breakdown of new loans by type. Fixed (F): Interest rate fixed for more than five years or until expiry; Mixed (M): Interest rate fixed between one and five years; Variable (V): Interest rate renegotiable after one year or tied to market rates or adjustable at the discretion of the lender.

Table 11: Housing Market Conditions by US Region in 2004

Period	US	Northeast	Midwest	South	West
Panel A. Median Asking Sales Price (thousand dollars)					
1st Quarter	126.7	232.1	111.0	111.7	183.6
2nd Quarter	124.7	125.0	128.8	99.2	192.3
3d Quarter	113.6	135.0	115.0	94.0	178.4
4th Quarter	121.8	123.5	82.9	122.9	206.2
Annual	122.1	150.0	111.0	104.5	189.6
Panel B. Quarterly Homeowner Vacancy Rate (percentage points)					
1st Quarter	1.7	0.9	2.1	2	1.3
2nd Quarter	1.7	1.1	1.7	2	1.4
3d Quarter	1.7	1.2	2.1	1.9	1.4
4th Quarter	1.8	1.2	2.2	2	1.5

Notes: Data taken from Current Population Survey/Housing Vacancy Survey, Series H-111, Bureau of the Census, Washington, DC.

Table A.1 Asset Ownership probit regressions for the US as whole, US Midwest and Germany

Variable	STOCKS						OWN BUSINESS						HOME						MORTGAGE					
	United States		US Midwest		Germany		United States		US Midwest		Germany		United States		US Midwest		Germany		United States		US Midwest		Germany	
	Coeff.	Std. Error	Coeff.	Std. Error	Coeff.	Std. Error	Coeff.	Std. Error	Coeff.	Std. Error	Coeff.	Std. Error	Coeff.	Std. Error	Coeff.	Std. Error	Coeff.	Std. Error	Coeff.	Std. Error	Coeff.	Std. Error	Coeff.	Std. Error
Age	3.08	1.40	3.22	2.74	2.92	4.28	-3.46	1.81	-0.39	3.25	13.08	6.80	13.99	1.41	11.60	3.00	16.13	4.44	3.94	1.61	-0.09	3.52	11.42	5.53
Age squared	-1.84	1.02	-1.73	1.98	-3.83	3.26	1.68	1.34	-0.31	2.39	-14.34	5.50	-10.19	1.00	-8.87	2.11	-11.08	3.23	-5.78	1.21	-3.15	2.69	-12.34	4.45
Couple	0.05	0.04	0.12	0.09	0.19	0.16	0.40	0.06	0.50	0.12	0.28	0.22	0.73	0.04	0.81	0.09	0.31	0.15	-0.07	0.04	-0.07	0.09	-0.31	0.18
Widow	-0.02	0.05	-0.02	0.10	-0.16	0.18	-0.03	0.07	-0.05	0.13	-0.01	0.28	0.39	0.04	0.52	0.09	0.22	0.16	0.00	0.05	0.12	0.10	-0.18	0.23
Never Married	0.08	0.07	0.17	0.15	0.17	0.20	0.00	0.10	-0.09	0.20	0.16	0.28	-0.06	0.06	0.02	0.13	0.01	0.17	-0.29	0.07	-0.34	0.14	-0.61	0.25
Household Size	-0.11	0.01	-0.10	0.03	-0.06	0.05	-0.10	0.02	-0.08	0.04	-0.01	0.07	-0.05	0.01	-0.02	0.03	0.13	0.06	0.10	0.01	0.15	0.03	0.11	0.06
High School Graduate	0.53	0.04	0.45	0.09	0.07	0.16	0.17	0.06	0.09	0.12	0.76	0.40	-0.02	0.04	0.03	0.08	0.44	0.13	0.03	0.04	0.07	0.10	-0.08	0.22
Post-Secondary Degree	0.89	0.05	0.83	0.11	0.40	0.17	0.19	0.07	0.06	0.14	0.79	0.40	0.01	0.05	0.05	0.11	0.36	0.14	0.18	0.05	0.27	0.11	-0.11	0.23
Self Reported Health Fair or Bad	-0.19	0.03	-0.11	0.06	-0.12	0.07	-0.13	0.04	-0.09	0.07	-0.40	0.11	-0.11	0.03	-0.15	0.07	0.08	0.07	-0.03	0.03	0.00	0.06	-0.04	0.09
Number of ADL	-0.02	0.01	-0.08	0.03	0.02	0.04	0.00	0.02	-0.02	0.04	0.06	0.05	-0.05	0.01	-0.02	0.03	-0.02	0.03	0.04	0.01	0.06	0.03	0.10	0.04
Recall Score	0.07	0.01	0.06	0.02	0.04	0.02	-0.01	0.01	-0.02	0.02	-0.06	0.03	0.03	0.01	0.02	0.02	0.02	0.02	0.03	0.01	0.04	0.02	-0.03	0.02
2nd Income Quartile	0.20	0.04	0.26	0.07	0.09	0.11	-0.34	0.05	-0.35	0.09	-0.32	0.17	0.08	0.04	0.12	0.07	0.06	0.10	0.06	0.04	0.04	0.08	0.22	0.15
3d Income Quartile	0.30	0.04	0.40	0.08	0.08	0.11	-0.50	0.05	-0.54	0.10	-0.44	0.15	0.15	0.04	0.14	0.09	0.03	0.10	0.18	0.04	0.15	0.08	0.24	0.14
4th Income Quartile	0.40	0.05	0.39	0.10	0.21	0.11	-0.55	0.06	-0.58	0.11	-0.12	0.15	0.39	0.06	0.41	0.12	0.29	0.11	0.36	0.05	0.42	0.09	0.29	0.14
2nd Wealth Quartile	0.54	0.04	0.61	0.08	0.60	0.14	0.40	0.07	0.55	0.13	-0.19	0.20	-0.52	0.04	-0.44	0.08	-0.51	0.10	1.24	0.05	0.86	0.09	0.40	0.22
3d Wealth Quartile	1.09	0.04	1.20	0.08	0.88	0.14	0.66	0.07	0.76	0.13	0.18	0.19	-0.21	0.04	0.02	0.09	-0.32	0.10	1.21	0.05	0.68	0.10	1.29	0.21
4th Wealth Quartile	1.52	0.05	1.46	0.09	1.33	0.14	0.93	0.07	1.01	0.13	0.67	0.19	0.05	0.05	0.33	0.10	-0.01	0.10	1.11	0.06	0.51	0.10	1.20	0.22
Working	0.11	0.06	-0.08	0.12	0.12	0.16	-..-	-..-	-..-	-..-	-..-	-..-	-0.07	0.06	0.02	0.12	-0.13	0.14	0.17	0.06	0.29	0.12	0.30	0.19
Retired	0.15	0.05	-0.01	0.11	0.10	0.18	-..-	-..-	-..-	-..-	-..-	-..-	-0.04	0.05	-0.01	0.10	-0.27	0.14	-0.03	0.06	0.02	0.11	0.00	0.21
Probability to leave a bequest	0.58	0.06	0.58	0.13	0.40	0.15	0.63	0.12	0.54	0.22	0.17	0.21	1.20	0.04	1.14	0.10	1.74	0.14	0.06	0.06	0.17	0.13	0.83	0.25
Provides help to others	0.11	0.03	0.06	0.06	0.01	0.07	0.13	0.04	0.11	0.08	-0.02	0.10	0.08	0.03	0.18	0.07	0.13	0.07	-0.03	0.03	-0.06	0.07	0.25	0.08
Engages in voluntary activities	0.09	0.03	0.12	0.06	-0.02	0.07	0.04	0.04	0.09	0.07	-0.06	0.10	0.07	0.03	0.01	0.07	0.22	0.07	-0.02	0.03	-0.01	0.06	0.08	0.09
Constant	-3.74	0.49	-3.53	0.97	-2.56	1.43	-0.86	0.63	-1.74	1.15	-4.71	2.15	-5.30	0.50	-4.57	1.07	-7.91	1.52	-2.06	0.54	-0.55	1.16	-5.20	1.78
Log Likelihood	-6,136.1		-1,577.2		-956.4		-3,384.1		-1,076.7		-407.5		-5,365.4		-1,200.2		-1,073.1		-6,339.9		-1,529.3		-655.3	
Number of obs	13,073		3,170		1,994		13,073		3,170		1,994		13,073		3,170		1,994		13,073		3,170		1,994	

Note: Standard errors computed using 200 bootstrap replications.

Table A.2 Median regressions for asset amounts for the US as whole, US Midwest and Germany

Variable	STOCKS						OWN BUSINESS						HOME						MORTGAGE					
	United States		US Midwest		Germany		United States		US Midwest		Germany		United States		US Midwest		Germany		United States		US Midwest		Germany	
	Coeff.	Std. Error	Coeff.	Std. Error	Coeff.	Std. Error	Coeff.	Std. Error	Coeff.	Std. Error	Coeff.	Std. Error	Coeff.	Std. Error	Coeff.	Std. Error	Coeff.	Std. Error	Coeff.	Std. Error	Coeff.	Std. Error	Coeff.	Std. Error
Age	-0.05	0.03	-0.04	0.06	-0.23	0.11	0.06	0.06	0.14	0.09	0.27	0.60	-0.01	0.01	-0.01	0.02	0.02	0.04	-0.07	0.02	-0.07	0.03	0.05	0.17
Age squared	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Couple	0.13	0.10	0.02	0.19	0.33	0.33	0.49	0.22	0.44	0.62	-0.06	0.88	-0.01	0.04	0.11	0.06	0.06	0.14	-0.18	0.06	-0.20	0.12	-0.69	0.48
Widow	0.14	0.14	0.16	0.21	0.06	0.37	0.19	0.26	0.06	0.58	0.69	1.31	0.01	0.04	0.14	0.07	0.03	0.17	-0.28	0.08	-0.39	0.16	-0.21	0.61
Never Married	0.21	0.19	0.02	0.34	0.19	0.35	0.33	0.32	0.65	0.78	0.60	1.07	-0.12	0.06	-0.06	0.09	-0.01	0.19	-0.15	0.12	-0.21	0.40	-0.24	0.53
Household Size	-0.10	0.04	-0.16	0.09	-0.03	0.12	0.03	0.08	0.01	0.13	-0.05	0.27	0.07	0.01	0.05	0.02	0.07	0.03	0.05	0.01	0.03	0.03	0.41	0.14
High School Graduate	0.41	0.12	0.35	0.17	0.38	0.46	-0.13	0.30	0.01	0.38	0.59	0.75	0.17	0.03	0.02	0.05	0.15	0.11	0.03	0.08	-0.27	0.13	0.55	0.75
Post-Secondary Degree	1.21	0.13	1.13	0.19	0.82	0.47	-0.24	0.33	0.19	0.45	0.39	0.85	0.43	0.04	0.24	0.07	0.21	0.11	0.15	0.09	-0.13	0.15	0.74	0.72
Self Reported Health Fair or Bad	-0.21	0.06	-0.35	0.14	-0.20	0.16	-0.03	0.16	0.06	0.20	-0.05	0.46	-0.10	0.02	-0.11	0.04	-0.03	0.05	0.04	0.04	0.07	0.08	-0.14	0.22
Number of ADL	-0.06	0.04	-0.05	0.05	-0.03	0.12	-0.01	0.08	0.05	0.12	0.21	0.14	-0.03	0.01	-0.01	0.02	0.04	0.02	0.01	0.02	-0.06	0.06	0.00	0.08
Recall Score	0.06	0.02	0.04	0.04	0.10	0.06	0.02	0.05	0.03	0.08	0.10	0.15	0.05	0.01	0.04	0.01	0.02	0.01	0.03	0.01	-0.01	0.03	-0.01	0.06
2nd Income Quartile	0.10	0.11	0.21	0.18	-0.30	0.26	-0.12	0.20	0.03	0.25	-0.27	0.79	0.10	0.03	0.05	0.06	-0.12	0.08	0.08	0.06	-0.19	0.12	0.49	0.51
3d Income Quartile	0.10	0.09	0.31	0.17	-0.42	0.22	-0.32	0.18	-0.44	0.23	-0.20	0.59	0.15	0.04	0.09	0.06	-0.03	0.08	0.11	0.07	-0.03	0.12	0.10	0.47
4th Income Quartile	0.28	0.12	0.42	0.22	-0.15	0.22	-0.03	0.19	-0.11	0.29	-0.06	0.59	0.43	0.04	0.20	0.07	0.05	0.09	0.29	0.07	0.15	0.12	0.53	0.45
2nd Wealth Quartile	0.57	0.18	0.92	0.36	0.58	0.50	0.23	0.45	0.25	0.52	0.02	1.19	0.18	0.03	0.16	0.05	0.07	0.09	0.87	0.08	0.63	0.14	0.90	1.37
3d Wealth Quartile	1.18	0.17	1.60	0.35	0.59	0.54	0.62	0.45	0.74	0.52	0.85	1.24	0.42	0.03	0.36	0.05	0.06	0.08	1.21	0.08	0.75	0.14	1.47	1.34
4th Wealth Quartile	2.21	0.17	2.78	0.34	1.44	0.56	1.42	0.45	1.37	0.48	0.84	1.31	0.75	0.04	0.63	0.06	0.32	0.08	1.57	0.08	1.09	0.15	1.85	1.31
Working	0.17	0.10	0.43	0.29	0.50	0.40	-..-	-..-	-..-	-..-	-..-	-..-	-0.04	0.04	0.03	0.07	-0.07	0.16	-0.03	0.09	-0.16	0.18	0.88	0.54
Retired	-0.30	0.11	-0.12	0.33	0.09	0.39	-..-	-..-	-..-	-..-	-..-	-..-	-0.06	0.05	0.00	0.08	-0.03	0.15	0.04	0.08	0.01	0.20	0.91	0.50
Probability to leave a bequest	0.59	0.21	0.11	0.41	0.81	0.47	1.33	0.89	-0.41	0.97	-0.96	1.18	0.40	0.06	0.33	0.12	0.32	0.18	-0.09	0.10	-0.02	0.16	-0.48	1.31
Provides help to others	-0.02	0.06	-0.13	0.12	-0.27	0.17	0.13	0.18	0.17	0.27	-0.10	0.40	-0.02	0.02	0.05	0.04	-0.05	0.04	-0.04	0.04	-0.18	0.09	-0.03	0.28
Engages in voluntary activities	0.04	0.06	0.02	0.12	0.13	0.17	0.12	0.14	0.09	0.16	0.19	0.45	-0.03	0.02	0.02	0.03	0.09	0.05	-0.10	0.03	-0.12	0.08	-0.37	0.29
Constant	8.94	0.98	9.04	2.48	13.90	3.62	6.40	2.27	5.50	3.11	0.50	18.11	10.71	0.36	10.87	0.63	10.34	1.26	12.19	0.60	13.70	1.14	5.95	6.00

Note: Standard errors computed using 100 bootstrap replications.

Table A.3: Effects of Selection on Coefficient and Covariate Effects for Mean Holdings

Countries Compared	Decomposition Type	Stocks					Home				
		Mean Difference	Covariate Effect	Coefficient Effect	$\hat{\theta}_{US}$	$\hat{\theta}_i$	Mean Difference	Covariate Effect	Coefficient Effect	$\hat{\theta}_{US}$	$\hat{\theta}_i$
US – Sweden	Oaxaca Standard	1.1155	0.4607	0.6549	1.47***	0.39	0.2662	0.0126	0.2536	-0.708***	1.01
	Neuman-Oaxaca with Selectivity	1.1155	0.4774	0.6382			0.2662	0.0099	0.2563		
US - Denmark	Oaxaca Standard	1.562	0.2866	1.2754	1.47***	-1.14	-0.1023	-0.0373	-0.065	-0.708***	-1.80**
	Neuman-Oaxaca with Selectivity	1.562	0.2891	1.2729			-0.1023	-0.04	-0.0623		
US - Germany	Oaxaca Standard	0.9547	0.057	0.8977	1.47***	-1.48	-0.5545	-0.0734	-0.4811	-0.708***	-1.04
	Neuman-Oaxaca with Selectivity	0.9547	0.0721	0.8827			-0.5545	-0.0782	-0.4764		
US - Netherlands	Oaxaca Standard	0.4561	0.0928	0.3633	1.47***	-10.07	-0.8195	-0.0517	-0.7678	-0.708***	0.52*
	Neuman-Oaxaca with Selectivity	0.4561	0.1171	0.3391			-0.8195	-0.0585	-0.761		
US – Belgium	Oaxaca Standard	0.396	0.1843	0.2118	1.47***	2.63*	-0.388	0.1085	-0.4965	-0.708***	0.50
	Neuman-Oaxaca with Selectivity	0.396	0.2064	0.1896			-0.388	0.1029	-0.4909		
US – France	Oaxaca Standard	1.0993	0.4522	0.6471	1.47***	1.23	-0.5396	0.1541	-0.6938	-0.708***	-1.11**
	Neuman-Oaxaca with Selectivity	1.0993	0.4497	0.6496			-0.5396	0.1498	-0.6894		
US - Switzerland	Oaxaca Standard	0.1473	0.3039	-0.1566	1.47***	3.34	-1.131	0.0198	-1.1508	-0.708***	0.88
	Neuman-Oaxaca with Selectivity	0.1473	0.33	-0.1827			-1.131	0.0139	-1.1449		
US – Austria	Oaxaca Standard	1.2012	-0.2853	1.4866	1.47***	6.88	-0.3873	0.0548	-0.442	-0.708***	0.92
	Neuman-Oaxaca with Selectivity	1.2012	-0.2548	1.456			-0.3873	0.0497	-0.437		
US – Italy	Oaxaca Standard	0.8993	0.2126	0.6867	1.47***	-15.17	-0.3862	0.2585	-0.6447	-0.708***	0.97
	Neuman-Oaxaca with Selectivity	0.8993	0.2511	0.6482			-0.3862	0.2535	-0.6398		
US – Spain	Oaxaca Standard	1.1773	0.4475	0.7298	1.47***	-5.12	-0.3019	0.3662	-0.668	-0.708***	-0.90
	Neuman-Oaxaca with Selectivity	1.1773	0.4824	0.6949			-0.3019	0.3532	-0.6551		
US – Greece	Oaxaca Standard	1.8602	0.2217	1.6386	1.47***	-0.96	0.2054	0.2075	-0.0021	-0.708***	0.33
	Neuman-Oaxaca with Selectivity	1.8602	0.2363	1.6239			0.2054	0.202	0.0033		
US - England	Oaxaca Standard	0.9761	0.2101	0.766	1.47***	1.29	-0.7206	0.0684	-0.789	-0.708***	-0.03
	Neuman-Oaxaca with Selectivity	0.9761	0.2406	0.7354			-0.7206	0.0637	-0.7843		

Notes: See Appendix 2. ***, **, * denote significance at 1%, 5% and 10%, respectively.

Endnotes

[1] Indirect stockholding in the form of stocks in defined-contribution occupational pension plans is not available in the data and is therefore not included in our analysis.

[2] Theory and country-level data on the structure of household portfolios are presented in the contributions contained in Guiso, Haliassos, and Jappelli (2001); and in the review paper of Haliassos (2008). Retirement accounts were a major factor promoting stockholding participation in the US. Limited stockholding participation in the early to mid 1980s was documented in US data by King and Leape (1984), Mankiw and Zeldes (1991), and Haliassos and Bertaut (1995). A number of authors have recently explored determinants of participation in stockholding. See, for example, Haliassos and Bertaut (1995), Cocco et al. (2005), Heaton and Lucas (2000), Gollier (2001), Campbell and Viceira (2002), Haliassos and Michaelides (2003), and Gomes and Michaelides (2005). Bilias et al. (2006 a, b) explore effects of increased participation on the distribution of wealth and stock trading patterns, respectively. Campbell (2006) discusses stockholding participation, as well as under-diversification, and mortgage behavior of households, while reviewing the relevant literature. Campbell and Cocco (2003) study optimal mortgage choice, while Cocco (2005) studies effects of housing on the composition of the financial portfolio.

[3] Scholz and Levine (2003) provide a review of the literature on wealth disparities between Blacks and Whites in the US. Albrecht et al. (2003), using counterfactual decompositions, find evidence that the gender wage gap is increasing at higher percentiles of the wage distribution in Sweden. For a recent study on trends in US wage inequality in the last forty years see Autor et al. (2008).

[4] For recent examples in the labor literature, see Albrecht et al. (2003) and Machado and Mata (2005).

[5] There is a vast literature on import controls and other trade restrictions, but we can point here to studies that find a home bias in trade, namely a tendency for trade to occur within national borders than across them with neighboring countries, even after controlling for tariffs (McCallum, 1995; Helliwell, 1998).

[6] The reference here is to the literature on foreign portfolio investment. Perhaps the most telling subset focuses on the observed tendency of households to under-invest in foreign stocks, the well-known 'home equity bias' (French and Poterba, 1991; Tesar and Werner, 1995; Kang and Stulz, 1997; Pastor, 2000, Christelis and Georgarakos, 2008).

[7] Foreign direct investment is a prime example of acquisition of a foreign real asset extensively studied in the literature. In their seminal paper, Feldstein and Horioka (1980) found that domestic saving rates explain over 90% of the variation in investment rates in a sample ending in 1974. Obstfeld and Rogoff (2000) report similar findings for the more recent period 1990-1997.

[8] For surveys of the vast literature on the law of one price and the purchasing power parity hypothesis, see for example Rogoff (1996) and Taylor and Taylor (2004).

[9] While the international version of the capital asset pricing model, ICAPM, is not rejected for developed countries (with the exception of Japan), it performs much more poorly for emerging markets that are more likely segmented (see Harvey, 1991; Bekaert and Harvey, 1995 and 2000).

[10] Lewis (1999) termed the observed violation of these patterns 'consumption home bias', surveyed the literature, and linked it to home equity bias.

[11] All forms of direct and indirect stockholding are included, except possibly for occupational defined-contribution pension plans, for which respondents are not asked directly in our sources.

[12] Work status is not included in regressions pertaining to private business ownership, in order to avoid potential endogeneity problems arising from the fact that owning a private business typically implies work status.

[13] Survey participants are read 10 words and are then asked to repeat them, with the score in the recall test being equal to the number of correctly remembered words. For the effect of cognitive abilities (including recall) on stockholding see Christelis et al. (2006).

[14] In Sweden, 2.5 percentage units of the 18.5 percentage units of lifetime income that are required as contribution to the public retirement scheme are saved and earn interest in a premium reserve account. The person insured can choose an investment manager for his or her premium reserve account, with the option to invest in stocks. In Denmark, The Special Pension (SP) is a mandatory individual retirement program (second

pillar) with an annual contribution rate of 1% which was introduced in 1999. We are grateful to Julia LeBlanc for providing us with comparative information on pension systems.

[15] Spain and England are missing from this list picked up by our estimates.

[16] See Bogan, 2008, for evidence on the link between stock market participation and Internet use.

[17] See also Albrecht et al. (2003), who use variant similar approach to study gender wage discrimination in Sweden.

[18] The thresholds for income and wealth quartiles are defined for the base country or region over all households in the sample. Households in the country or region under comparison to the base are then placed in quartiles according to those thresholds.

[19] We chose as our baseline specification the one with income and wealth quartiles because it is less subject to measurement error and is found preferable according to both the Akaike and Schwarz information criteria.

[20] Given the computational intensity of this decomposition we estimate 19 quantile regressions (at every 5^{th} percentile).

[21] We estimate a standard Heckman model with selection using the same set of explanatory variables we employ in our baseline specifications (presented in Sections 3.1 and 4.1) in both the first and the second stage. Thus, identification is obtained through the nonlinearity of the Mills ratio.